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January 14, 2013

Ms. Sybil Kolon
Michigan Department of Environmental Quality
Environmental Response Division
Jackson District Office Building
301 E. Louis Glick Highway
Jackson, Michigan 49210

Re: **Quarterly Progress Report**
4th Quarter, 2012
October 1, 2012 to December 31, 2012

Dear Ms. Kolon:

Please find enclosed the Quarterly Progress Report for the period of October 1, 2012 to December 31, 2012.

Should you have any questions regarding this document, please contact me at 734-913-6130.

Sincerely,

Farsad Fotouhi
Vice President
Corporate Environmental Engineering

cc: Ms. Celeste R. Gill, MDAG
Michael Caldwell, Esq.

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JACKSON DISTRICT OFFICE



4th Quarter, 2012

(October, November, December)

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Summary of Activity

CEB = Central Environmental Building
C3 = C3 aquifer
D2 = D2 aquifer
E = E aquifer
SW = Southwest Property Area
Maple = Maple Road

Treatment Activities

10/01/12-10/31/12 - Marshy extraction was down most of the month due to low water levels.

10/02/12 - System 2A was shut down briefly for maintenance.

10/03/12-10/05/12 - TW-19 (E) was shut down for maintenance.

10/17/12 - System 1A was shut down briefly for maintenance.

10/18/12-10/19/12 - Extraction & Treatment were shut down due to DTE power failures.

10/20/12-10/23/12 - TW-19 (E) was shut down as result of damage from the DTE power failure.

10/29/12 - System 2A was shut down briefly for maintenance.

10/29/12-10/30/12 - Evergreen extraction (D2) and TW-19 (E) was shut down due to multiple DTE power failures (Hurricane Sandy).

11/01/12 – 11/30/12 - Marshy extraction was down most of the month due to low water levels.

11/05/12 - HW-S (D2), TW-1, TW-10, and TW-14 (C3), TW-1, TW-10, and TW-14 (E) were turned on briefly for sampling.

11/29/12 - Evergreen extraction (D2) was shut down for maintenance.

11/29/12 - TW-19 (E) was shut down briefly for maintenance.

12/01/12-12/31/12 - Marshy extraction was all month due to low water levels.

12/06/12 – System-2A was shut down for maintenance.

12/09/12 - TW-2, TW-20 (C3), TW-18, TW-19 (E) and SW extraction and treatment were shut down due to a DTE power outage in the area

12/10/12 - TW-2, TW-20 (C3), LB-1, LB-2, TW-5, TW-9, TW-21 (D2), TW-18, TW-19 (E) and SW extraction and treatment were shut down due to a DTE power outage in the area.

12/11/12 - TW-2, TW-20 (C3), and SW extraction and treatment were shut down due to a DTE power outage in the area.

12/19/12 – System-2A was shut down for maintenance.

12/24/12-12/26/12 – TW-21 (D2), TW-2 (C3) and TW- 18 & TW-19 (E) were shut down for maintenance. TW-10 (C3) was started and System-2A was shut down to maintain the Pond level.

12/26/12 – System-1A was shut down briefly for maintenance.

Field Activities

Additional wells were plugged in the Expanded PZ: 2720 Valley & 420 Parkwood

10/5/12 MW-1 Replacement installed

Submittals/Responses

10/05/12 PLS re-submitted August Discharge Monitoring Report (DMR) electronically to DEQ
 PLS submitted Monthly Monitoring Report (NPDES) to DEQ (August)

10/22/12 PLS submitted partial Discharge Monitoring Report (DMR) electronically to DEQ (September)

11/05/12 PLS submitted completed Discharge Monitoring Report (DMR) electronically to DEQ (September)
 PLS submitted Monthly Monitoring Report (NPDES) to DEQ
 PLS submitted 3rd Quarter 2012 Report to DEQ

11/20/12 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

11/21/12 PLS submitted Monthly Monitoring Report (NPDES) to DEQ

12/14/12 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

12/17/12 PLS submitted Monthly Monitoring Report (NPDES) to DEQ

Anticipated Major Activities for the Next Quarter

- Increase sampling from quarterly to monthly for MW-103s, MW-76s, MW-112i, and MW-84s
- Increase purge rate at TW-19 to 100 gpm (currently 50 gpm)

Quarterly Performance Analysis

For the months of October, August, December 2012, over 273 pounds of 1,4-dioxane were removed and 69,601,106 gallons of water were extracted from the contaminated aquifers, treated and discharged. The total mass of 1,4-dioxane removed since May 1997 is over 88,500 pounds and the total volume of water discharged since May 1997 is over 6.7 billion gallons.

In general, the performance of the operation was as expected, purging and treating contaminated groundwater to the existing allowable capacities.

Mass Reduction

MASS REDUCTION DETAIL BY AQUIFER

October 1 - October 31, 2012

Extraction Well	Month To Date Gallons Extracted	Month To Date Average Daily Flow Rate GPM	Month To Date Average Daily Pounds Removed	Month To Date Pounds Removed	Month To Date Average Concentration ppb
C3					
TW-1	-	0	0.0	0.0	114
TW-2 (Dolph)	585,079	13	0.0	0.4	74
TW-3	-	0	0.0	0.0	34
TW-6	-	0	0.0	0.0	45
TW-10	-	0	0.0	0.0	519
TW-14	-	0	0.0	0.0	33
TW-20	2,191,880	49	0.5	16.6	906
MW-22	-	0.0	0.0	0.0	1857
<i>Sub-Totals</i>	<i>2,776,959</i>	<i>62</i>	<i>1</i>	<i>17</i>	
Marshy					
PW-1	222	0	0.0	0.0	1300
<i>Sub-Totals</i>	<i>222</i>	<i>0</i>	<i>0</i>	<i>0</i>	
E					
TW-11	-	0	0.0	0.0	180
TW-12	-	0	0.0	0.0	25
TW-17	-	0	0.0	0.0	390
TW-18	7,024,556	157	0.5	15.7	267
TW-19	1,703,118	38	0.4	11.1	782
MW-64	-	0	0.0	0.0	50
<i>Sub-Totals</i>	<i>8,727,674</i>	<i>196</i>	<i>1</i>	<i>27</i>	
Southwest					
Active Wells	1,289,645	29	0.1	4.5	420
MW-10d	-	0.0	0.0	0.0	464
MW-75	-	0	0.0	0.0	132
MW-45d	-	0.0	0.0	0.0	256
<i>Sub-Totals</i>	<i>1,289,645</i>	<i>29</i>	<i>0</i>	<i>5</i>	
D0					
A2 Cleaning	-			0.000	62
<i>Sub-Totals</i>	<i>-</i>			<i>0.000</i>	
D2					
LB-1	2,570,665	58	0.3	10.2	475
LB-3	1,723,490	39	0.2	5.9	413
HW-S	-	0	0.0	0.0	508
TW-5	2,272,802	51	0.5	14.9	786
TW-9	1,089,636	24	0.2	5.6	613
TW-21	2,735,379	61	0.1	3.5	157
MW-11D	-	0	0.0	0.0	123
<i>Sub-Totals</i>	<i>10,391,972</i>	<i>233</i>	<i>1</i>	<i>40</i>	
Overall Totals	23,186,472	519	2.8	88.3	

*SW Active = TW-8, TW-22

MASS REDUCTION DETAIL BY AQUIFER

November 1 - November 30, 2012

Extraction Well	Month To Date Gallons Extracted	Month To Date Average Daily Flow Rate GPM	Month To Date Average Daily Pounds Removed	Month To Date Pounds Removed	Month To Date Average Concentration ppb
C3					
TW-1	212	0	0.0	0.0	104
TW-2 (Dolph)	554,872	13	0.0	0.1	28
TW-3	-	0	0.0	0.0	11
TW-6	-	0	0.0	0.0	44
TW-10	1,585	0	0.0	0.0	328
TW-14	2,603	0	0.0	0.0	21
TW-20	2,154,110	50	0.6	16.5	918
MW-22	-	0.0	0.0	0.0	2000
<i>Sub-Totals</i>	2,713,382	63	1	17	
Marshy					
PW-1	28	0	0.0	0.0	1248
<i>Sub-Totals</i>	28	0	0	0	
E					
TW-11	-	0	0.0	0.0	720
TW-12	-	0	0.0	0.0	22
TW-17	1,848	0	0.0	0.0	416
TW-18	6,874,682	159	0.6	17.0	296
TW-19	2,167,167	50	0.5	15.7	867
MW-64	-	0	0.0	0.0	54
<i>Sub-Totals</i>	9,043,697	209	1	33	
Southwest					
Active Wells	1,162,006	27	0.1	4.4	457
MW-10d	-	0.0	0.0	0.0	752
MW-75	-	0	0.0	0.0	500
MW-45d	-	0.0	0.0	0.0	985
<i>Sub-Totals</i>	1,162,006	27	0	4	
D0					
Ann Arbor Cleaning	-			0.000	72
<i>Sub-Totals</i>	-			0.000	
D2					
LB-1	2,562,512	59	0.4	12.3	575
LB-3	1,726,378	40	0.2	6.5	454
HW-S	1,187	0	0.0	0.0	614
TW-5	2,288,056	53	0.8	16.7	877
TW-9	1,079,863	25	0.2	6.4	715
TW-21	2,583,881	60	0.1	3.5	168
MW-11D	-	0	0.0	0.0	160
<i>Sub-Totals</i>	10,241,877	237	2	46	
Overall Totals	23,160,990	536	3.3	99.2	

*SW Active = TW-8, TW-22

MASS REDUCTION DETAIL BY AQUIFER

December 1 - December 31, 2012

Extraction Well	Month To Date Gallons Extracted	Month To Date Average Daily Flow Rate GPM	Month To Date Average Daily Pounds Removed	Month To Date Pounds Removed	Month To Date Average Concentration ppb
C3					
TW-1	-	0	0.0	0.0	103
TW-2 (Dolph)	613,110	14	0.0	0.3	68
TW-3	-	0	0.0	0.0	8
TW-6	-	0	0.0	0.0	43
TW-10	150,372	3	0.0	0.4	300
TW-14	-	0	0.0	0.0	19
TW-20	1,732,530	39	0.4	13.3	920
MW-22	-	0.0	0.0	0.0	2000
<i>Sub-Totals</i>	<i>2,496,012</i>	<i>56</i>	<i>0</i>	<i>14</i>	
Marshy					
PW-1	-	0	0.0	0.0	1240
<i>Sub-Totals</i>	<i>-</i>	<i>0</i>	<i>0</i>	<i>0</i>	
E					
TW-11	-	0	0.0	0.0	800
TW-12	-	0	0.0	0.0	21
TW-17	-	0	0.0	0.0	420
TW-18	6,655,783	149	0.5	16.4	294
TW-19	2,036,408	46	0.5	14.4	845
MW-64	-	0	0.0	0.0	54
	<i>8,692,191</i>	<i>195</i>	<i>1</i>	<i>31</i>	
Southwest					
Active Wells	1,063,891	24	0.1	3.1	350
MW-10d	-	0.0	0.0	0.0	752
MW-75	-	0	0.0	0.0	500
MW-45d	-	0.0	0.0	0.0	985
<i>Sub-Totals</i>	<i>1,063,891</i>	<i>24</i>	<i>0</i>	<i>3</i>	
D0					
Ann Arbor Cleaning	42,000			0.020	56
<i>Sub-Totals</i>	<i>42,000</i>			<i>0.020</i>	
D2					
LB-1	2,598,706	58	0.3	9.1	419
LB-3	1,755,780	39	0.2	6.8	461
HW-S	-	0	0.0	0.0	630
TW-5	2,274,492	51	0.4	12.7	666
TW-9	1,091,453	24	0.2	6.0	657
TW-21	2,529,385	57	0.1	3.3	163
MW-11D	-	0	0.0	0.0	160
<i>Sub-Totals</i>	<i>10,249,816</i>	<i>230</i>	<i>1</i>	<i>38</i>	
Overall Totals	22,501,910	504	2.8	85.7	

*SW Active = TW-8, TW-22

MASS REDUCTION SUMMARY
Mass Removed Per Month (lb)

A	B	C	D	E	F	G
Month	Mass Removed from Unit E Only	Mass Removed from Southwest Only	Mass Removed from Marshy Only	Mass Removed from Units C3 and D2 Only	Mass Removed from Unit D0	Total Mass Removed from Units E, D2, C3, D0, Southwest and Marshy
Aug-00	0	0	8	366		374
Sep-00	0	0	9	332		341
Oct-00	0	5	9	583		597
Nov-00	0	3	12	1160		1175
Dec-00	0	0	10	1040		1050
Jan-01	0	0	7	816		823
Feb-01	0	0	7	1056		1063
Mar-01	0	0	11	1379		1390
Apr-01	0	0	9	1140		1149
May-01	0	1	8	990		999
Jun-01	0	2	8	933		943
Jul-01	0	2	10	1121		1133
Aug-01	0	2	13	1018		1033
Sep-01	0	1	9	909		919
Oct-01	0	5	8	896		909
Nov-01	0	4	5	827		836
Dec-01	0	6	4	768		778
Jan-02	0	6	5	753		764
Feb-02	0	4	6	691		701
Mar-02	0	7	7	663		677
Apr-02	0	6	7	682		695
May-02	100	9	7	898		1014
Jun-02	94	9	6	889		998
Jul-02	56	10	7	640		713
Aug-02	53	8	6	745		812
Sep-02	51	8	6	860		925
Oct-02	33	6	4	603		646
Nov-02	57	8	5	880		950
Dec-02	48	9	5	842		904
Jan-03	45	8	6	839		898
Feb-03	37	6	6	767		816
Mar-03	44	8	7	763		822
Apr-03	39	8	3	716		766
May-03	36	13	5	725		779
Jun-03	34	15	5	683		737
Jul-03	29	15	5	678		727
Aug-03	31	15	6	676		728
Sep-03	27	16	5	644		692
Oct-03	34	17	5	701		757
Nov-03	26	12	5	663		706
Dec-03	29	14	6	635		684
Jan-04	28	15	6	667		716
Feb-04	8	11	5	485		509
Mar-04	23	14	7	573		617
Apr-04	27	15	6	537		585
May-04	16	10	5	439		470
Jun-04	21	11	5	499		536
Jul-04	36	12	5	506		559

MASS REDUCTION SUMMARY
Mass Removed Per Month (lb)

A	B	C	D	E	F	G
Month	Mass Removed from Unit E Only	Mass Removed from Southwest Only	Mass Removed from Marshy Only	Mass Removed from Units C3 and D2 Only	Mass Removed from Unit D0	Total Mass Removed from Units E, D2, C3, D0, Southwest and Marshy
Aug-04	54	12	5	480		551
Sep-04	34	9	5	382		430
Oct-04	30	10	5	358		403
Nov-04	30	9	5	395		439
Dec-04	33	11	5	442		491
Jan-05	29	11	4	404		448
Feb-05	26	9	4	390		429
Mar-05	27	9	4	409		450
Apr-05	33	4	3	396		436
May-05	27	8	2	364		401
Jun-05	31	9	3	361		404
Jul-05	31	8	1	279		319
Aug-05	12	6	2	275		295
Sep-05	13	8	2	327		350
Oct-05	16	6	3	297		322
Nov-05	13	7	4	291		315
Dec-05	12	8	4	325		349
Jan-06	115	7	3	308		433
Feb-06	144	7	3	290		444
Mar-06	148	8	3	331		490
Apr-06	125	7	3	291		426
May-06	137	9	3	402		551
Jun-06	119	5	2	329		456
Jul-06	107	8	3	310		427
Aug-06	104	8	2	307		421
Sep-06	97	9	3	300		409
Oct-06	93	9	3	327		432
Nov-06	80	7	2	268		357
Dec-06	68	6	2	238		314
Jan-07	91	8	2	305		406
Feb-07	84	8	2	284		378
Mar-07	91	8	3	306		408
Apr-07	84	8	2	280		374
May-07	82	8	2	288		380
Jun-07	81	8	2	279		370
Jul-07	66	8	2	256		332
Aug-07	73	8	2	270		353
Sep-07	77	8	2	247		334
Oct-07	73	8	2	244		327
Nov-07	68	8	2	263		341
Dec-07	69	8	2	260		339
Jan-08	65	7	2	237		311
Feb-08	53	6	2	203		264
Mar-08	56	7	2	220		285
Apr-08	54	7	2	200		263
May-08	55	7	2	206		270
Jun-08	52	6	2	195		256
Jul-08	39	1	2	139		181

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Mass Removed Per Month (lb)

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Month	Mass Removed from Unit E Only	Mass Removed from Southwest Only	Mass Removed from Marshy Only	Mass Removed from Units C3 and D2 Only	Mass Removed from Unit D0	Total Mass Removed from Units E, D2, C3, D0, Southwest and Marshy
Aug-08	50	7	2	198		256
Sep-08	43	5	2	177		227
Oct-08	45	5	2	187		239
Nov-08	45	7	2	197		251
Dec-08	45	5	2	187		239
Jan-09	39	8	2	124		173
Feb-09	34	8	2	122		164
Mar-09	35	8	2	122		166
Apr-09	32	6	1	119		158
May-09	45	7	2	201		254
Jun-09	39	5	1	157		202
Jul-09	38	5	1	152		196
Aug-09	39	7	2	202		250
Sep-09	36	6	2	223		267
Oct-09	36	8	2	206		251
Nov-09	32	7	1	167		208
Dec-09	32	8	1	171		212
Jan-10	34	8	1	175		219
Feb-10	30	7	1	161		198
Mar-10	33	7	1	173		214
Apr-10	33	7	1	175		216
May-10	33	7	1	176		217
Jun-10	29	6	1	130		165
Jul-10	20	7	1	171		200
Aug-10	23	7	1	188		220
Sep-10	21	6	1	148		177
Oct-10	24	7	2	185		218
Nov-10	18	6	2	151		176
Dec-10	26	6	2	164		198
Jan-11	25	6	2	163		195
Feb-11	25	7	2	165		198
Mar-11	27	8	2	174		209
Apr-11	22	6	1	143		171
May-11	20	5	1	138		164
Jun-11	17	5	1	104		127
Jul-11	15	4	1	92		112
Aug-11	14	2	1	80		97
Sep-11	16	6	1	98		121
Oct-11	17	6	1	113		137
Nov-11	33	6	1	105		145
Dec-11	45	6	1	98		150
Jan-12	46	6	1	103		156
Feb-12	40	5	1	89		135
Mar-12	43	5	1	94	0.017	142
Apr-12	47	6	1	105	0.000	159
May-12	47	6	1	100	0.000	154
Jun-12	42	6	0.3	99	0.029	148
Jul-12	30	6	0.1	102	0.000	138

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Aug-12	29	6	0.0	75	0.000	109
Sep-12	32	5	0.1	62	0.029	100
Oct-12	27	5	0.0	57	0.000	88
Nov-12	33	4	0.0	62	0.000	99
Dec-12	31	3	0.0	52	0.020	86
Total to date	5875	1043	516	58616	0	66050