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RECEIVED

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July 10, 2015

DEQ • RD
JACKSON DISTRICT OFFICE

Daniel Hamel
Michigan Department of Environmental Quality
Environmental Response Division
Jackson District Office Building
301 E. Louis Glick Highway
Jackson, Michigan 49210

Re: **Quarterly Progress Report**
2nd Quarter, 2015
April 1, 2015 to June 30, 2015

Dear Mr. Hamel:

Please find enclosed the Quarterly Progress Report for the period of April 1, 2015 to June 30, 2015.

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

Sincerely,

A handwritten signature in cursive script that reads "Farsad Fotouhi".

Farsad Fotouhi
Vice President
Corporate Environmental Engineering

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



2nd Quarter, 2015

(April, May, June)

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Summary of activity during this quarter

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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

04/02/15 - 04/03/15 - TW-21 and LB-4 (D2), TW-16 & TW-19 (E) were shut down for piping changes at Porter pumping station.

04/02/15 - 04/03/15 - System 1A was shut down to maintain the Pond level during piping changes at Porter pumping station.

04/02/15 - System 2A was shut down briefly for maintenance.

04/03/15 & 04/05/15 - PW-1 (Marshy) was shut down briefly for maintenance.

05/08/15 - PW-1 (Marshy) was shut down briefly for maintenance.

05/19/15 - 05/21/15 - TW-20 (C3) was shut down for well rehabilitation.

05/20/15 - 05/21/15 - TW-16 & TW-18 (E) were shut down due to a DTE power outage in the area caused by storms.

05/21/15 - TW-21 (D2) was shut down due to a DTE Energy outage in the area caused by storms.

05/21/15 - 05/22/15 - SW Extraction was down for rehabilitation of TW-8.

06/02/15 - 06/03/15 - PW-1 (Marshy) was shut down for maintenance.

06/05/15 - PW-1 (Marshy) was shut down for maintenance.

06/09/15 - 06/10/15 - LB-4 (D2), TW-16 & TW-19 (E) were shut down due to a DTE power outage in area.

06/15/15 - 06/16/15 - System 1A was shut down for maintenance.

06/23/15 - System 2A was shut down briefly for maintenance.

06/24/15 - TW-21 (D2) and TW-18 (E) were shut down briefly to maintain the Pond level.

06/27/15 - LB-4 (D2), TW-2 (C3), TW-16 & TW-19 (E) were shut down due to a DTE power outage in the area.

Field Activities

04/02/15 – 04/03/15 – Piping changes were made at Porter Pumping Station to facilitate cleaning of the transmission line from Porter Pumping Station to the Red Pond

Submittals/Responses

04/08/15 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ
PLS submitted Monthly Monitoring Report (NPDES) to DEQ

04/15/15 PLS submitted 1st Quarter 2015 Report to DEQ

05/14/15 DEQ correspondence to PLS – Recommendation Report – Quality Assurance

05/15/15 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ
PLS submitted Monthly Monitoring Report (NPDES) to DEQ

06/17/15 PLS submitted Monthly Monitoring Report (NPDES) to DEQ
PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

Anticipated Major Activities for the Next Quarter

- Rehabilitation and cleaning of the Red Pond and the associated pipeline

Quarterly Performance Analysis

For the months of April, May, June 2015, over 240 pounds of 1,4-dioxane were removed and 65,247,027 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 91,000 pounds and the total volume of water discharged since May 1997 is over 7.4 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

April 1 - April 30, 2015

	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-2 (Dolph)	504,007	12	0.0	0.4	95
	TW-20	993,781	23	0.3	8.3	1000
	Sub-Totals	1,497,788	35	0	9	
Marshy	PW-1	70,876	2	0.013	0.4	668
	Sub-Totals	70,876	2	0	0	
E	TW-16	1,344,892	31	0.3	8.4	745
	TW-18	7,478,653	173	0.6	17.5	280
	TW-19	2,924,661	68	0.8	23.2	953
	Sub-Totals	11,748,206	272	2	49	
Southwest	Active Wells	299,845	7	0.1	1.6	654
	Sub-Totals	299,845	7	0	2	
D2	LB-4	4,187,184	97	0.6	17.5	500
	TW-21	2,990,148	69	0.1	2.9	120
	Sub-Totals	7,177,332	166	1	20	
Overall Totals		20,794,047	481	2.7	80.2	

*SW Active = TW-8, TW-22

May 1 - May 31, 2015

	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-2 (Dolph)	513,981	12	0.0	0.4	89
	TW-20	1,260,619	28	0.3	9.4	890
	Sub-Totals	1,774,600	40	0	10	
Marshy	PW-1	76,103	2	0.0	0.3	520
	Sub-Totals	76,103	2	0	0	
E	TW-16	1,403,559	31	0.3	10.8	918
	TW-18	7,565,682	169	0.6	17.7	280
	TW-19	3,114,295	70	0.6	18.2	700
	Sub-Totals	12,083,536	271	2	47	
Southwest	Active Wells	469,696	11	0.1	2.5	634
	Sub-Totals	469,696	11	0	2	
D2	LB-4	4,465,637	100	0.5	16.4	440
	TW-21	2,935,933	66	0.1	2.8	120
	Sub-Totals	7,401,570	166	1	19	
Overall Totals		21,805,505	488	2.5	78.4	

*SW Active = TW-8, TW-22

MASS REDUCTION DETAIL BY AQUIFER

June 1 - June 30, 2015

	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-2 (Dolph)	489,101	11	0.0	0.7	175
	TW-20	1,913,754	44	0.5	14.7	920
	<u>Sub-Totals</u>	<u>2,402,855</u>	<u>56</u>	<u>1</u>	<u>15</u>	
Marshy						
	PW-1	73,147	2	0.0	0.3	510
	<u>Sub-Totals</u>	<u>73,147</u>	<u>2</u>	<u>0</u>	<u>0</u>	
E						
	TW-16	1,318,676	31	0.3	10.1	915
	TW-18	6,759,764	156	0.5	15.8	280
	TW-19	2,892,751	67	0.5	16.0	664
	<u>Sub-Totals</u>	<u>10,971,191</u>	<u>254</u>	<u>1</u>	<u>42</u>	
Southwest						
	Active Wells	933,948	22	0.2	5.1	649
	<u>Sub-Totals</u>	<u>933,948</u>	<u>22</u>	<u>0</u>	<u>5</u>	
D0						
	Ann Arbor Cleaning	42,000			0.0186	53
	<u>Sub-Totals</u>	<u>42,000</u>			<u>0.0186</u>	
D2						
	LB-4	4,215,642	98	0.5	15.5	440
	TW-21	2,360,663	55	0.1	2.4	125
	<u>Sub-Totals</u>	<u>6,576,305</u>	<u>152</u>	<u>1</u>	<u>18</u>	
Overall Totals		<u>20,957,446</u>	<u>485</u>	<u>2.7</u>	<u>80.6</u>	

*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

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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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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
Jan-13	46	3	0.0	54	0.000	103
Feb-13	46	3	0.0	47	0.000	95
Mar-13	53	3	0.0	53	0.029	109
Apr-13	46	5	0.1	61	0.000	113
May-13	57	8	1.0	60	0.000	126
Jun-13	43	7	0.7	52	0.029	102
Jul-13	57	9	0.9	61	0.000	128
Aug-13	48	7	0.8	63	0.000	120
Sep-13	46	7	0.6	60	0.023	113
Oct-13	46	7	0.8	61	0.000	115
Nov-13	52	7	0.7	57	0.000	117
Dec-13	57	8	1.0	72	0.026	138
Jan-14	47	8	0.7	66	0.000	122
Feb-14	37	7	0.4	48	0.000	92
Mar-14	42	6	0.5	58	0.025	107
Apr-14	44	6	0.4	58	0.000	108
May-14	46	6	0.4	61	0.000	113
Jun-14	38	5	0.3	34	0.019	77
Jul-14	41	4	0.3	32	0.000	78
Aug-14	42	4	0.4	33	0.000	79
Sep-14	39	3	0.3	33	0.020	76
Oct-14	42	3	0.3	33	0.000	79
Nov-14	46	3	0.3	33	0.000	82
Dec-14	50	3	0.3	37	0.000	90
Jan-15	45	2	0.3	32	0.016	80
Feb-15	41	2	0.3	28	0.000	72
Mar-15	46	2	0.5	29	0.027	77
Apr-15	49	2	0.4	29	0.000	80
May-15	47	3	0.3	29	0.000	79
Jun-15	42	5	0.3	33	0.019	81
Total to date	7254	1189	530	60024	0.328	68997