



4th Quarter, 2010

(October, November, December)

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MEMO - S.A.D.

JACKSON DISTRICT OFFICE

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Submittals/Responses

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Submittals/Responses

10/14/10 PLS submitted Maple Interim Response Operation Report to DNRE
PLS submitted Monthly Monitoring Report (NPDES) to DNRE
PLS submitted Discharge Monitoring Report (DMR) electronically to DNRE
PLS submitted 3rd Quarter 2010 Report to DNRE

10/21/10 PLS provided CD of well logs to DNRE

10/27/10 DNRE correspondence to PLS re: Well Identification Work Plan, 7/23/10
DNRE correspondence to PLS re: Final Well Identification Report, 3/12/10

11/03/10 PLS submitted correspondence re: batch purging reduction to DNRE

11/12/10 PLS submitted Southwest Property/University of Michigan Saginaw Forest
Property Areas Report to DNRE

11/12/10 PLS submitted Discharge Monitoring Report (DMR) electronically to DNRE

11/15/10 PLS submitted Maple Interim Response Operation Report to DNRE
PLS submitted Monthly Monitoring Report (NPDES) to DNRE

12/14/10 PLS submitted Maple Interim Response Operation Report to DNRE
PLS submitted Monthly Monitoring Report (NPDES) to DNRE
PLS submitted Discharge Monitoring Report (DMR) electronically to DNRE

Anticipated Major Activities for the Next Quarter

- Install monitoring well in Saginaw Forest
- Install monitoring wells in proposed expanded PZ area
- Begin the process for installation of Maple Rd/Allison St. pipeline
- Finalize Global Remediation Plan
- Modify the Consent Judgment (CJ)

Quarterly Performance Analysis

For the months of October, November, and December 2010, over 592 pounds of 1,4-dioxane were removed and 150,830,736 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 83,948 pounds and the total volume of water discharged since May 1997 is over 5.9 billion gallons.

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

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

10/1/10 - TW-9 (D2) and System 2A were shut down for maintenance.

10/5/10 - TW-21 (D2), TW-14 (C3), and TW-18 (E) were shut down to adjust the Pond level.

10/24/10 - 10/25/10 - TW-14 (C3) and TW-17 (E) were shut down to adjust the Pond level and System 2-A was shut down for maintenance.

10/25/10 - TW-9 (D2) was shut down to adjust the Pond level.

11/10/10 – System 1A was shut down briefly for maintenance. TW-9 (D2), TW-10 & TW-14 (C3), and TW-17 (E) were shut down to adjust the Pond level.

11/11/10 – Maple Treatment was shut down for maintenance.

11/17/10 – System 2A was shut down briefly for maintenance. TW-14 (C3) and TW-17 (E) were shut down to adjust the Pond level.

11/22/10 – CEB Systems and discharge were shut down briefly due to a DTE power failure.

12/12/10 – CEB Systems, discharge, TW-1, TW-10, TW-14, & TW-20 (C3), HW-S (D2) and TW-17 (E) were shut down due to a DTE power failure.

12/12/10 - 12/13/10 - TW-9 (D2) and SW extraction were shut down due to a DTE power failure.

12/12/10-12/31/10 - TW-13 (SW) was shut down for repairs.

12/15/10-12/16/10 - Evergreen (D2) extraction was shut down due to a DTE power failure.

12/23/10 - 12/31/10 - TW-9 (D2) was shut down for repairs.

Field Activities

No activity to report.

Mass Reduction

MASS REDUCTION SUMMARY
Mass Removed Per Month (lb)

A	B	C	D	E	F
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	Total Mass Removed from Units E, D2, C3, 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
Total to date	5153	917	496	56144	62710

MASS REDUCTION DETAIL BY AQUIFER

October 1 - October 31, 2010

	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	1,657,685	37	0.1	1.9	141
	TW-2 (Dolph)	2,474,333	55	0.1	1.9	91
	TW-3	-	0	0.0	0.0	44
	TW-6	-	0	0.0	0.0	66
	TW-10	3,799,951	85	0.8	25.8	815
	TW-14	3,948,294	88	0.1	3.7	113
	TW-20	2,458,067	55	1.0	29.8	1452
	MW-22	-	0.0	0.0	0.0	1706
	<u>Sub-Totals</u>	<u>14,338,330</u>	<u>321</u>	<u>2</u>	<u>63</u>	
Marshy						
	PW-1	171,790	4	0.1	1.7	1170
	<u>Sub-Totals</u>	<u>171,790</u>	<u>4</u>	<u>0</u>	<u>2</u>	
E						
	TW-11	2,303,294	52	0.1	4.6	242
	TW-12	-	0	0.0	0.0	20
	TW-17	3,976,283	89	0.1	3.0	90
	TW-18	5,163,335	116	0.5	16.3	378
	MW-64	-	0	0.0	0.0	56
	<u>Sub-Totals</u>	<u>11,442,912</u>	<u>256</u>	<u>1</u>	<u>24</u>	
Southwest						
	Active Wells	1,600,077	36	0.2	7.0	528
	MW-10d	-	0.0	0.0	0.0	1073
	MW-75	-	0	0.0	0.0	49
	MW-45d	-	0.0	0.0	0.0	335
	<u>Sub-Totals</u>	<u>1,600,077</u>	<u>36</u>	<u>0</u>	<u>7</u>	
D2						
	LB-1	4,243,833	95	0.6	17.1	484
	LB-3	3,574,825	80	0.5	15.3	512
	AE-3	666,989	15	0.0	0.8	137
	HW-S	1,187,250	27	0.3	10.4	1046
	TW-5	3,599,902	81	1.0	30.1	1003
	TW-9	3,711,462	83	1.1	33.7	1084
	TW-21	5,079,377	114	0.5	14.8	348
	MW-11D	-	0	0.0	0.0	180
	<u>Sub-Totals</u>	<u>22,063,638</u>	<u>494</u>	<u>4</u>	<u>122</u>	
Overall Totals		<u>49,616,747</u>	<u>1,111</u>	<u>7.0</u>	<u>217.8</u>	

*SW Active = TW-8, TW-13

MASS REDUCTION DETAIL BY AQUIFER

November 1 - November 31, 2010

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	1,647,407	38	0.0	1.2	85
TW-2 (Dolph)	2,382,892	55	0.0	1.4	68
TW-3	-	0	0.0	0.0	18
TW-6	-	0	0.0	0.0	66
TW-10	3,837,338	89	0.8	23.6	737
TW-14	3,764,191	87	0.1	3.5	112
TW-20	2,288,249	53	0.9	27.4	1434
MW-22	-	0.0	0.0	0.0	1706
<i>Sub-Totals</i>	13,920,077	322	2	57	
Marshy					
PW-1	171,133	4	0.1	1.7	1184
<i>Sub-Totals</i>	171,133	4	0	2	
E					
TW-11	2,179,183	50	0.1	3.4	188
TW-12	-	0	0.0	0.0	22
TW-17	3,773,700	87	0.1	2.9	93
TW-18	5,121,068	119	0.4	11.4	267
MW-64	-	0	0.0	0.0	56
<i>Sub-Totals</i>	11,073,951	256	1	18	
Southwest					
Active Wells	1,518,599	35	0.2	5.7	451
MW-10d	-	0.0	0.0	0.0	1073
MW-75	-	0	0.0	0.0	49
MW-45d	-	0.0	0.0	0.0	335
<i>Sub-Totals</i>	1,518,599	35	0	6	
D2					
LB-1	4,107,666	95	0.5	15.4	448
LB-3	3,460,895	80	0.4	12.1	418
AE-3	647,561	15	0.0	0.6	114
HW-S	1,056,808	24	0.3	8.7	987
TW-5	3,493,411	81	0.7	21.0	719
TW-9	3,631,378	84	0.9	27.9	922
TW-21	4,953,764	115	0.3	8.4	203
MW-11D	-	0	0.0	0.0	180
<i>Sub-Totals</i>	21,351,483	494	3	94	
Overall Totals	48,035,243	1,112	5.9	176.2	

*SW Active = TW-8, TW-13

MASS REDUCTION DETAIL BY AQUIFER

December 1 - December 31, 2010

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	1,696,628	38	0.1	1.7	123
TW-2 (Dolph)	2,440,592	55	0.1	1.7	81
TW-3	-	0	0.0	0.0	5
TW-6	-	0	0.0	0.0	66
TW-10	4,040,992	91	0.9	26.8	795
TW-14	3,992,788	89	0.1	4.0	121
TW-20	2,231,416	50	0.9	26.8	1437
MW-22	-	0.0	0.0	0.0	1706
<i>Sub-Totals</i>	14,402,416	323	2	61	
Marshy					
PW-1	173,135	4	0.1	1.9	1283
<i>Sub-Totals</i>	173,135	4	0	2	
E					
TW-11	2,481,509	56	0.1	4.4	211
TW-12	-	0	0.0	0.0	23
TW-17	4,104,538	92	0.1	2.9	85
TW-18	6,356,617	142	0.6	18.4	346
MW-64	-	0	0.0	0.0	56
<i>Sub-Totals</i>	12,942,664	290	1	26	
Southwest					
Active Wells	1,371,410	31	0.2	6.3	556
MW-10d	-	0.0	0.0	0.0	1073
MW-75	-	0	0.0	0.0	49
MW-45d	-	0.0	0.0	0.0	335
<i>Sub-Totals</i>	1,371,410	31	0	6	
D2					
LB-1	4,284,020	96	0.6	18.8	527
LB-3	2,522,260	57	0.3	10.4	503
AE-3	654,739	15	0.0	0.7	127
HW-S	1,142,594	26	0.3	9.3	970
TW-5	3,488,842	78	0.9	26.9	924
TW-9	2,832,948	63	0.8	23.7	1012
TW-21	6,014,417	135	0.4	13.4	266
MW-11D	-	0	0.0	0.0	180
<i>Sub-Totals</i>	20,939,820	469	3	103	
Overall Totals	49,829,445	1,116	6.4	198.1	

*SW Active = TW-8, TW-13