



Pall Corporation

file

Life Sciences
600 South Wagner Road
Ann Arbor, MI 48103-9019 USA

734.665.0651 phone

RECEIVED

NOV - 7 2012

DEQ • RD
JACKSON DISTRICT OFFICE

November 5, 2012

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**
3rd Quarter, 2012
July 1, 2012 to September 30, 2012

Dear Ms. Kolon:

Please find enclosed the Quarterly Progress Report for the period of July 1, 2012 to September 30, 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.



3rd Quarter, 2012

(July, August, September)

Table of Contents

Summary of activity during this quarter

Submittals/Responses

Anticipated activities for the next quarter

Quarterly Performance Analysis

Mass Reduction

Maps

Potentiometric Surface Map – Marshy Area – Peat – September 19, 2012

1,4-Dioxane Isoconcentration Map – Marshy Area – Peat – May 2012-Aug 2012

Potentiometric Surface Map – Marshy Area – Sand & Gravel – September 19, 2012

1,4-Dioxane Isoconcentration Map – Marshy Area – Sand & Gravel – May 2012-Aug 2012

Potentiometric Surface Map – D₀ & C₃ Aquifers – September 19, 2012

Isoconcentration Map – Southwest Property – April 2012 – August 2012

Potentiometric Surface Map – Southwest Property – September 19, 2012

Potentiometric Surface Map – Unit E – September 19, 2012

1,4-Dioxane Isoconcentration Map Unit E – April 2012 – August 2012

Potentiometric Surface Map Units D₂ & E – September 19, 2012

1,4-Dioxane Isoconcentration Map Units C₃, D₀, D₂ & SW – April 2012 – August 2012

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

07/01/12 - 07/31/12 - PW-1 (Marshy) was shut down periodically due to low water levels in the Marshy area.

07/02/12-07/03/12 - TW-18 (E) was shut down for maintenance.

07/05/12-07/06/12 - TW-5 (D2) and TW-11 (E) were shut down due to a DTE power failure.

07/05/12-07/07/12 - Evergreen (D2) extraction was shut down due to a DTE power failure and System-2A was shut down to adjust the Pond level.

07/06/12-07/09/12 - TW-18 (E) was shut down for maintenance.

07/10/12 - LB-3 (D2) was shut down due to a DTE power brown-out.

07/19/12-07/31/12 - TW-19 (E) was shut down for the relocation of the Mobile Treatment Unit.

07/22/12 - TW-5 & TW-9 (D2), TW-10 (C3), and TW-11 (E) were shut down to adjust the Pond level and System-1A was shut down for maintenance.

07/25/12 - Evergreen (D2) extraction was shut down for maintenance.

08/01/12 - 08/31/12 - PW-1 (Marshy) was shut down due to low water levels.

08/01/12 - 08/07/12 - TW-19 (E) was shut down for the relocation of the mobile treatment unit.

08/02/12 - 08/06/12 - System 1A was shut down for maintenance.

08/03/12 - 08/06/12 - TW-5 & TW-9 (D2), TW-10 (C3), and TW-11 (E) were shut down to adjust the Pond level.

08/10/12 - Evergreen (D2) extraction was down due to a DTE power outage in the area.

08/11/12 - Treatment was shut down briefly due to a DTE power outage.

08/14/12 - Treatment was shut down briefly for maintenance.

08/14/12 - 08/31/12 - TW-10 (C3) and TW-11 (E) were shut down to reduce the total extraction

flow.

08/25/12 - TW-2 (C3) and System 2A were down for maintenance.

08/30/12 - TW-19 (E) was shut down for maintenance.

09/07/12 - Treatment was shut down briefly for maintenance.

09/10/12 - TW-20 (C3) was shut down briefly for maintenance.

09/01/12 - 09/30/12 - PW-1 (Marshy) was shut down due to low water levels.

Field Activities

Additional wells were plugged in the Expanded PZ: 584 Allison, 646 Barber (2)

07/20/12 MW-135 was installed in the Expanded PZ.

07/27/12 Mobile treatment unit was relocated from Dexter Road to the main Pall facility

08/13/12 Total purge rates were reduced to 500 gpm.

Submittals/Responses

07/16/12 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

07/17/12 PLS submitted Monthly Monitoring Report (NPDES) to DEQ
PLS submitted 2nd Quarter 2012 Report to DEQ

08/02/12 PLS submitted Evaluation of a Reduction in the Batch Purge Frequency-Little Lake Area to DEQ

08/15/12 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

08/15/12 PLS submitted Monthly Monitoring Report (NPDES) to DEQ

09/20/12 PLS submitted Discharge Monitoring Report (DMR) electronically to DEQ

Anticipated Major Activities for the Next Quarter

- Upgrade lab analysis equipment

Quarterly Performance Analysis

For the months of July, August, September 2012, over 347 pounds of 1,4-dioxane were removed and 82,741,037 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 88,235 pounds and the total volume of water discharged since May 1997 is over 6.6 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 AQUIFIER

July 1 - July 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)	1,108,518	25	0.0	0.7	77
	TW-3	-	0	0.0	0.0	34
	TW-6	-	0	0.0	0.0	45
	TW-10	3,306,184	74	0.5	16.9	613
	TW-14	-	0	0.0	0.0	33
	TW-20	2,156,341	48	0.6	17.5	972
	MW-22	-	0.0	0.0	0.0	1815
	<u>Sub-Totals</u>	<u>6,571,043</u>	<u>147</u>	<u>1</u>	<u>35</u>	
Marshy						
	PW-1	8,200	0	0.0	0.1	1132
	<u>Sub-Totals</u>	<u>8,200</u>	<u>0</u>	<u>0</u>	<u>0</u>	
E						
	TW-11	1,414,922	32	0.1	2.4	205
	TW-12	-	0	0.0	0.0	25
	TW-17	-	0	0.0	0.0	390
	TW-18	4,812,135	108	0.4	12.6	314
	TW-19	2,363,586	53	0.5	15.4	779
	MW-64	-	0	0.0	0.0	51
	<u>Sub-Totals</u>	<u>8,590,623</u>	<u>192</u>	<u>1</u>	<u>30</u>	
Southwest						
	Active Wells	1,417,588	32	0.2	5.8	492
	MW-10d	-	0.0	0.0	0.0	498
	MW-75	-	0	0.0	0.0	25
	MW-45d	-	0.0	0.0	0.0	2
	<u>Sub-Totals</u>	<u>1,417,588</u>	<u>32</u>	<u>0</u>	<u>6</u>	
D0						
	Ann Arbor Cleaning	-			0.000	108
	<u>Sub-Totals</u>	<u>-</u>			<u>0.000</u>	
D2						
	LB-1	2,462,958	55	0.4	12.4	604
	LB-3	1,625,657	36	0.2	6.9	507
	HW-S	-	0	0.0	0.0	508
	TW-5	3,521,403	79	0.7	22.1	753
	TW-9	2,630,738	59	0.6	18.2	829
	TW-21	5,603,332	126	0.2	7.1	156
	MW-11D	-	0	0.0	0.0	112
	<u>Sub-Totals</u>	<u>15,844,088</u>	<u>355</u>	<u>2</u>	<u>67</u>	
Overall Totals		<u>32,431,542</u>	<u>727</u>	<u>4.5</u>	<u>138.1</u>	

*SW Active = TW-8, TW-22

MASS REDUCTION DETAIL BY AQUIFIER

August 1 - August 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)	724,188	16	0.0	0.4	71
TW-3	-	0	0.0	0.0	34
TW-6	-	0	0.0	0.0	45
TW-10	1,156,366	26	0.2	5.4	540
TW-14	-	0	0.0	0.0	33
TW-20	2,560,413	57	0.6	18.3	852
MW-22	-	0.0	0.0	0.0	1815
<i>Sub-Totals</i>	4,440,966	99	1	24	
Marshy					
PW-1	2,177	0	0.0	0.0	891
<i>Sub-Totals</i>	2,177	0	0	0	
E					
TW-11	535,097	12	0.0	0.9	186
TW-12	-	0	0.0	0.0	25
TW-17	-	0	0.0	0.0	390
TW-18	5,993,434	134	0.5	16.3	325
TW-19	1,743,668	39	0.4	11.6	795
MW-64	-	0	0.0	0.0	50
	8,272,199	185	1	29	
Southwest					
Active Wells	1,408,199	32	0.2	5.6	474
MW-10d	-	0.0	0.0	0.0	351
MW-75	-	0	0.0	0.0	25
MW-45d	-	0.0	0.0	0.0	2
<i>Sub-Totals</i>	1,408,199	32	0	6	
D0					
Ann Arbor Cleaning	-			0.000	64
<i>Sub-Totals</i>	-			0.000	
D2					
LB-1	2,658,303	60	0.4	12.5	561
LB-3	1,781,496	40	0.2	6.9	463
HW-S	-	0	0.0	0.0	508
TW-5	2,664,245	60	0.5	16.7	750
TW-9	1,546,687	35	0.3	10.0	776
TW-21	3,621,074	81	0.2	4.7	160
MW-11D	-	0	0.0	0.0	112
<i>Sub-Totals</i>	12,271,805	275	2	51	
Overall Totals	26,395,346	591	3.5	109.2	

*SW Active = TW-8, TW-22

MASS REDUCTION DETAIL BY AQUIFER

September 1 - September 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	-	0	0.0	0.0	114
TW-2 (Dolph)	588,928	14	0.0	0.3	59
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	2,234,800	52	0.6	17.6	945
MW-22	-	0.0	0.0	0.0	1815
<i>Sub-Totals</i>	2,823,728	65	1	18	
Marshy					
PW-1	5,272	0	0.0	0.1	1130
<i>Sub-Totals</i>	5,272	0	0	0	
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	6,609,881	153	0.6	17.4	316
TW-19	2,161,752	50	0.5	14.7	814
MW-64	-	0	0.0	0.0	50
	8,771,633	203	1	32	
Southwest					
Active Wells	1,343,194	31	0.2	5.4	480
MW-10d	-	0.0	0.0	0.0	346
MW-75	-	0	0.0	0.0	25
MW-45d	-	0.0	0.0	0.0	2
<i>Sub-Totals</i>	1,343,194	31	0	5	
D0					
A2 Cleaning	42,000			0.029	84
<i>Sub-Totals</i>	42,000			0.029	
D2					
LB-1	2,578,421	60	0.4	12.1	564
LB-3	1,729,380	40	0.2	6.9	478
HW-S	-	0	0.0	0.0	508
TW-5	2,224,050	51	0.5	14.6	785
TW-9	1,077,634	25	0.2	7.2	795
TW-21	2,400,516	56	0.1	3.4	174
MW-11D	-	0	0.0	0.0	112
<i>Sub-Totals</i>	10,010,001	232	1	44	
Overall Totals	22,953,828	531	3.3	99.6	

*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

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-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

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-12	29	6	0.0	75	0.000	109
Sep-12	32	5	0.1	62	0.029	100
Total to date	5785	1031	516	58445	0	65777

Maps