From: Dailey, Daniel (DEQ)
To: "Crook, Marty (MD)"
Cc: Taylor, Al (DEQ)
Subject: RE: Well replacement notification
Date: Monday, October 17, 2016 11:05:00 AM

Hi Marty,

I checked with Al regarding the replacements and they are acceptable. Replacement of the wells is a minor license modification that does not require the prior approval of the MDEQ. Please send me a notification and pictures once the replacements are complete. Based on our review of this notification, Dow remains in compliance with the groundwater monitoring conditions of its operating license. I will update the license web page with this modification as Amendment 6.

Please let me know if you have any questions. Thanks, Dan.

Daniel P. Dailey, Environmental Engineer
Michigan DEQ, Waste Management and Radiological Protection, Hazardous Waste
Mail: PO Box 30241, Lansing, MI 48909-7741
LOC: 525 West Allegan Street, Lansing, MI 48933
Cell: 517.242.7261

From: Crook, Marty (MD) [mailto:MDCrook@dow.com]
Sent: Friday, October 07, 2016 3:40 PM
To: Dailey, Daniel (DEQ)
Subject: Well replacement notification

Dan,
There are two wells that I believe I am going to need to replace. Piezometer 3285 and Groundwater Monitoring Well 2908 have damaged protective casings and the well risers are no longer plum. This can results in inaccuracies in the measurement of static water level readings from the wells. In order to correct the issue and repair those damaged protective casings, both of the wells will need to be replaced. Each of the replacement wells will be installed immediately adjacent to the existing wells, and the planned well design details are summarized below. The existing wells will be abandoned consistent with Appendix K of the SAP, Attachment 15 of the license.

Pursuant to Condition IX.B.1.(g).(i)., the location and depth of the replacement monitoring well and piezometer will be unchanged and the planned replacement wells is consistent with the specification in Appendix K of the SAP, Attachment 15 of the license. We are therefore notifying the Office, Hazardous Waste Section of this work, and would like to replace both of these wells as soon as possible but at least within the next 14 days.

Existing Design Details

Piezometer 3285

- Facility Shallow Hydraulic Monitoring Program Piezometer
- Shown in Figure 11 from SAP
- Depth = 20’7”
- Screen Interval = 17’7” – 20’7”

- Screen Material = 1 ¼” diameter stainless steel No. 10 slot screen
- Riser Material = 1 ¼” diameter schedule 80 PVC

Monitoring Well 2908

- Poseyville Landfill Groundwater Monitoring Program Monitoring Well
- Shown in Figure 14 from SAP
- Depth = 22’6”
- Screen Interval = 19’6” – 22’6”
- Screen Material = 1 ¼” diameter stainless steel
- Riser Material = 1 ¼” diameter galvanized steel

Proposed Replacement Design

Piezometer 3285 Replacement

- Depth = 20’7”
- Screen Interval = 17’7” – 20’7”
- Screen Material = 2” diameter stainless steel No. 10 slot screen
- Riser Material = 2” diameter schedule 40 PVC

Monitoring Well 2908 Replacement

- Depth = 22’6”
- Screen Interval = 19’6” – 22’6”
- Screen Material = 2” diameter stainless steel with 10-slot opening size
- Riser Material = 2” diameter schedule-40 PVC

Soil boring/well logs for the existing wells are attached, along with a copy of Figures 11 and 14 of the SAP for reference.

Martin Crook
Site Manager
D 1-989-638-9552 C 1-989-942-0406
martin.crook@aecom.com

AECOM
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www.aecom.com

LOG OF SOIL BORING NO. 3285 418

McDOWELL & ASSOCIATES
Geotechnical Engineers

PROJECT Soils Exploration

JOB NO. 84-250

LOCATION Poseyville Landfill
Midland, Michigan

SURFACE ELEV. 80.1 DATE 12-10-84

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows For 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF	Str. %
			0'6" Moist fine sandy topsoil						
	1		Moist fine silty oxidized brown sand						
	2								
	3		2'6" Moist fine silty clayey brown sand, oxidation						
	4		3'3" Moist silty oxidized brown clay, sand content						
	5		4'3" Wet coarse brown sand						
	6		6'0"						
	7								
	8								
	9								
	10		Moist medium coarse clayey gray sand, occasional stones						
	11								
	12								
	13								
	14								
	15								
	16								
	17		17'0"						
	18		Wet medium coarse brown sand, slight gravel content						
	19								
	20								
	21		21'0"						
	22		Moist silty blue clay, sand and pebbles						
	23		23'0"						
	24								
	25								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE
( ) - PENETROMETER

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With 140# Hammer Falling 30"; Count Made At 6" Intervals

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT	4	FT.	3	INS.
G.W. ENCOUNTERED AT	17	FT.	0	INS.
G.W. AFTER COMPLETION	4	FT.	3	INS.
G.W. AFTER	HRS.	FT.		INS.
G.W. VOLUMES	Heavy			

Job No. 84-250 Boring No. 3285 Depth 23'0"

Auger Size 6" From 0 To 9'6"

Casing Size 6" PVC Schedule 40 X 12'0" Set At 10'9"

Wash Boring From _____ To _____ With _____

Size and Type of Well Screen NO. 10 slot stainless steel, 3' long, 2'6" screen, PVC Schedule 80-1¼"

Bottom of Screen Set At 20'7" Riser Pipe 2'5"

Filter Sand From 23'0" To 15'0"
Bentonite Balls from 15'0" to 14'0"

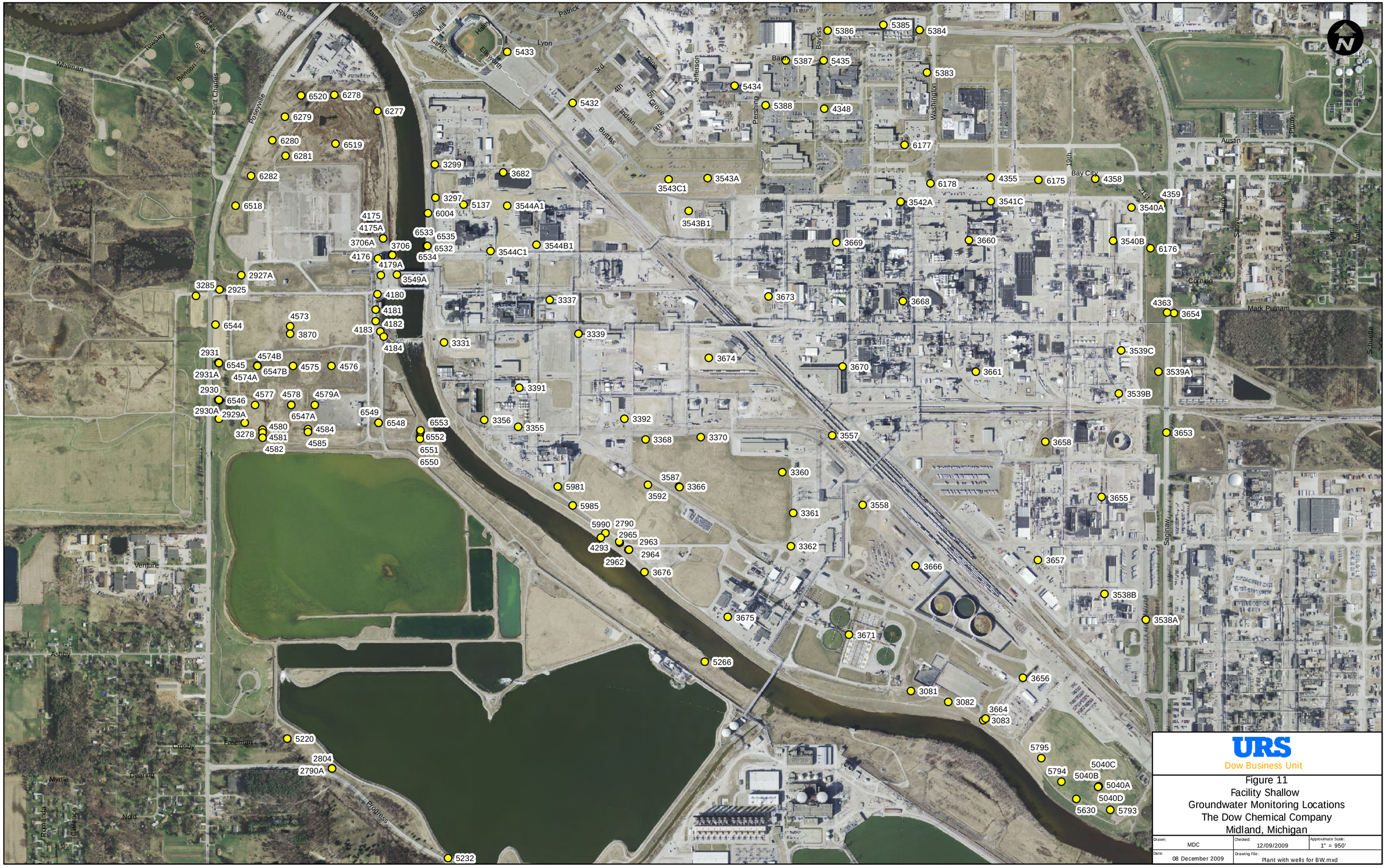
Grout Cement-Bentonite Slurry From 14'0" To Ground

Bailed _____ _____

Pumped _____ _____

Blown Air Compressor for 20 minutes

Remarks Water depth at 10'7" after 1/2 hour blown. Depth taken from ground level.



URS
Dow Business Unit

Figure 11
Facility Shallow
Groundwater Monitoring Locations
The Dow Chemical Company
Midland, Michigan

Drawn:	Checked:	Approximate Scale:
MDC	12/09/2009	1" = 950'
Date: 08 December 2009	Drawing File: Plant with wells for BW.mxd	

LOG OF SOIL BORING NO. 2908

McDOWELL & ASSOCIATES
Geotechnical Engineers

PROJECT Poseyville Landfill

JOB NO. 82-192

LOCATION Dow Facilities

SURFACE ELEV.

DATE 11-3-82

Midland, Michigan

Sample & Type	Depth	Legend	SOIL DESCRIPTION	Penetration Blows For 6"	Moisture %	Natural Wt. P.C.F.	Dry Den Wt. P.C.F.	Unc. Comp. Strength PSF.	Str. %
	1		Moist fine to medium brown sand						
	2								
	3								
	4								
	5								
	6								
	7		6'6" Extremely stiff moist silty blue clay						
	8								
	9								
	10		10'6"						
	11								
	12								
	13								
	14		Wet fine to medium brown sand						
	15								
	16								
	17		Set 1¼" galvanized and brass point at 22'6" with 21'0" of galvanized riser and cap. (30" screen on 36" point).						
	18								
	19								
	20								
	21								
	22								
	23		22'6" Extremely stiff moist silty blue clay, sand and pebbles						
	24		24'0"						
	25								

TYPE OF SAMPLE
D. - DISTURBED
U.L. - UNDIST. LINER
S.T. - SHELBY TUBE
S.S. - SPLIT SPOON
R.C. - ROCK CORE

REMARKS:

Standard Penetration Test - Driving 2" OD Sampler 1' With

GROUND WATER OBSERVATIONS

G.W. ENCOUNTERED AT 10 FT. 6 INS.
G.W. ENCOUNTERED AT FT. INS.
G.W. AFTER COMPLETION Set Well INS.
G.W. AFTER HRS. FT. INS.

Legend

- Purge Well
- Piezometer
- Monitoring Well
- RCRA Facility Boundary
- Poseyville Landfill Extent

URS

Dow Business Unit

Figure 14
Site Location Plan
Poseyville Landfill
The Dow Chemical Company
Midland, Michigan

Drawn:	Checked:	Approximate Scale:
MDC	9/30/2010	1" = 400'
Date: 29 September 2010	Drawing File: Poseyville Landfill Monitoring Points.mxd	