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Mr. John Guerrettaz
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206-2241
Attention: Geology Section Chief, Permits Branch, Office of Land Quality

ENVIRONMENT

Subject:
2015 Extraction Well Summary – Former General Motors Allison Gas Turbine
Surface Impoundment
USEPA ID#INR000021436

Date:
June 16, 2015

Dear Mr. Guerrettaz:

Contact:
Heather Gastineau-
Lyons
Phone:
317.236.2814

This letter has been prepared by ARCADIS U.S., Inc. (ARCADIS) on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust to document the pumping event that occurred at the Former Allison Gas Turbine (AGT) Division Surface Impoundment (Site) in March 2015.

Email:
Heather.gastineau-
lyons@arcadis-us.com

In the interest of readability, we have organized this letter chronologically. After a brief site background description, we present a timeline of events associated with the April 14, 2015 groundwater pumping.

Our ref:
IN000297.2015

Background

RACER Trust is the current landowner of the Site, and has the responsibility for performing post-closure care activities identified in the Post-Closure Care Permit (Permit; last updated on June 4, 2014). The Site is located at 2701 West Raymond Street, Indianapolis, Indiana, and the United States Environmental Protection Agency (USEPA) Identification number is INR000021436.

The Site occupies a 10-acre, land-locked parcel, which includes a closed hazardous waste disposal unit surrounded by a slurry wall that is keyed into an underlying subsurface till unit. There are nine extraction wells and 19 monitoring wells (A-, B-, and C-Series monitoring wells; Figure 1) associated with this Site. The extraction wells are used to pump water from inside the slurry wall to the discharge control building via underground piping. From the discharge building, the water is

Imagine the result

discharged to the sanitary sewer on the north side of Raymond Street. This discharge line is shared with the adjacent Rolls-Royce Corporation.

The A-Series monitoring wells (MW-201A through MW-208A) monitor the upper sand and gravel unit inside the slurry wall of the Site. The B-Series monitoring wells (MW-201B through MW-208B) monitor the upper sand and gravel unit outside the slurry wall of the Site. The C-Series monitoring wells (MW-200C, MW-202C, and MW-203C) monitor the lower sand and gravel unit beneath a confining till unit. Per the Permit, the extraction wells will be manually turned on when groundwater elevations in one or more of the A-series wells reach an elevation within 1 foot of the groundwater elevation observed in either the B or C-series wells. The objective of this requirement is to maintain an inward gradient across the installed slurry wall.

Timeline of Events

March 13, 2015: RACER Trust received a notification letter from the Indiana Department of Environmental Management (IDEM) requesting compliance with the Permit; specifically, the letter stated that the groundwater elevation inside the slurry wall (monitored by the A-Series monitoring wells) was within 1 foot of the groundwater surface elevation outside of the slurry wall (monitored by the B- or C-Series monitoring wells). ARCADIS (on behalf of RACER Trust) submitted a letter to IDEM stating that the extraction wells would be activated in order to lower the groundwater elevation inside the slurry wall (monitored by the A-Series monitoring wells) so that the groundwater elevation in the A-series wells are maintained at levels that are more than 1 foot below that of the B- or C-Series monitoring wells

April 1, 2015: According to the industrial discharge permit termination letter (Attachment 1 and Appendix G of the Permit), the Rolls-Royce Waste Treatment Operations and Rolls-Royce Health, Safety and Environmental Offices were notified prior to the Surface Impoundment discharge event. These contacts were made aware that the discharge event would continue for approximately 1 week, starting on April 6, 2015, weather permitting.

April 7, 2015: Because of heavy rains, the discharge event was delayed, and a message was provided via voicemail to Mr. Tim Heider of the City of Indianapolis (Pre-Treatment Program) stating that the discharge event would begin the following week. Mr. Kim Cussen, also with the City of Indianapolis, confirmed that the discharge event must cease in the event of a 0.25-inch per day rain event.

April 14, 2015: Seven of the nine extraction wells were manually activated to lower the water level inside the slurry wall. According to the Permit, each extraction well operates at approximately 25 gallons per minute (gpm), and the discharge limit is 200 gpm. All 19 monitoring wells were gauged prior to activating the extraction wells (Table 2 and Figure 2a).

April 15, 17, and 19, 2015: Discharge flow meter readings confirmed that the discharge rate was lower than 200 gpm (Table 1). A total of 865,393 gallons of water were discharged to the sanitary sewer between April 14 and April 19, 2015.

April 17 and 22, 2015: Three sets of nested monitoring wells were gauged to document groundwater elevations during and after the pumping event: MW-202A/B/C, MW-203A/B/C, and MW-206A/B coupled with MW-200C (Table 2). A site-wide gauging event of all monitoring wells was required after pumping for comparison to elevations prior to pumping.

April 19, 2015: The extraction wells were manually turned to the 'off' position due to a greater than 0.25-inch rain event.

April 22, 2015: The A-Series monitoring well groundwater elevations confirmed that the water level inside the slurry wall decreased by approximately 2 feet (Table 2). As expected, groundwater elevations in the B-Series monitoring wells remained relatively unchanged. Groundwater elevations in the C-Series monitoring wells fluctuated due to Rolls-Royce's unrelated operation of its production wells, which are located east of the Site and screened in the lower sand and gravel unit.

April 28, 2015: RACER Trust received a notification letter from IDEM requesting a report of the pumping activities to IDEM within 60 days after lowering the ground water level inside the slurry wall.

May 5, 2015: IDEM agreed that the site-wide gauging of all 19 monitoring wells could be conducted by SampleServe.com during the annual site visit scheduled for May 26, 2015.

May 6, 2015: As required by the industrial discharge permit termination letter (Attachment 1), the April 14 to 19 discharge to the City of Indianapolis sanitary sewer was documented on the Statement of Industrial Waste Discharge (SIWD) form for the month of April 2015 submitted to Ms. Dawn Jones with Citizens Energy Group.

May 26, 2015: Groundwater measurements collected on May 26, 2015 illustrate that the groundwater elevation at each of the A-Series monitoring wells was found to be more than 1 foot lower than the groundwater elevations in the B- or C-Series monitoring wells (Figure 2b). Groundwater elevations inside the surface impoundment were lowered by an average of 1.88 feet and ranged from 1.82 (MW-202A and MW-205A) to 1.97 (MW-208A) feet. The groundwater elevations collected on May 26, 2015 were used to generate a groundwater potentiometric map (Figure 3). The groundwater elevation contours show an inward hydraulic gradient in the upper sand and gravel unit at the Site greater than 1 foot.

Based on the actions and evaluation described above, ARCADIS and RACER Trust believe that all requests identified in the notification letters from IDEM have been sufficiently addressed.

If you have any questions or comments regarding this evaluation, please contact Mr. Robert Hare of RACER Trust at 419.277.0815 or the undersigned.

Sincerely,

ARCADIS U.S., Inc.



Heather Gastineau-Lyons, L.P.G.
Project Geologist

Copies:

Paula Bansch, IDEM Project Manager
Harold Templin, IDEM Geologist
Robert Hare, RACER Trust Cleanup Manager

Enclosures:

Table 1: Summary of Discharge Flow

Table 2: Summary of Groundwater Elevations

Figure 1: Site Map

Figure 2a: April 14, 2015 Groundwater Elevations

Figure 2b: May 26, 2015 Groundwater Elevations

Figure 3: Potentiometric Surface – Shallow Sand and Gravel Unit- May 26, 2015

Attachment 1: Industrial Discharge Permit #372403 Termination Letter

Table 1. Summary of Discharge, Surface Impoundment, RACER Trust, Indianapolis, Indiana.

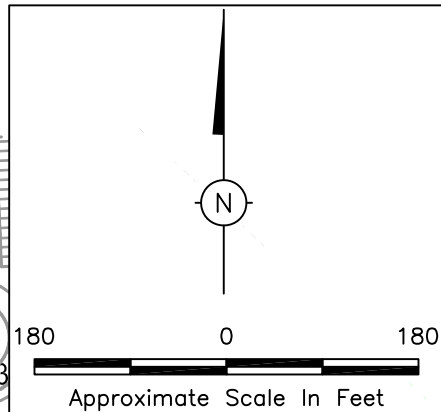
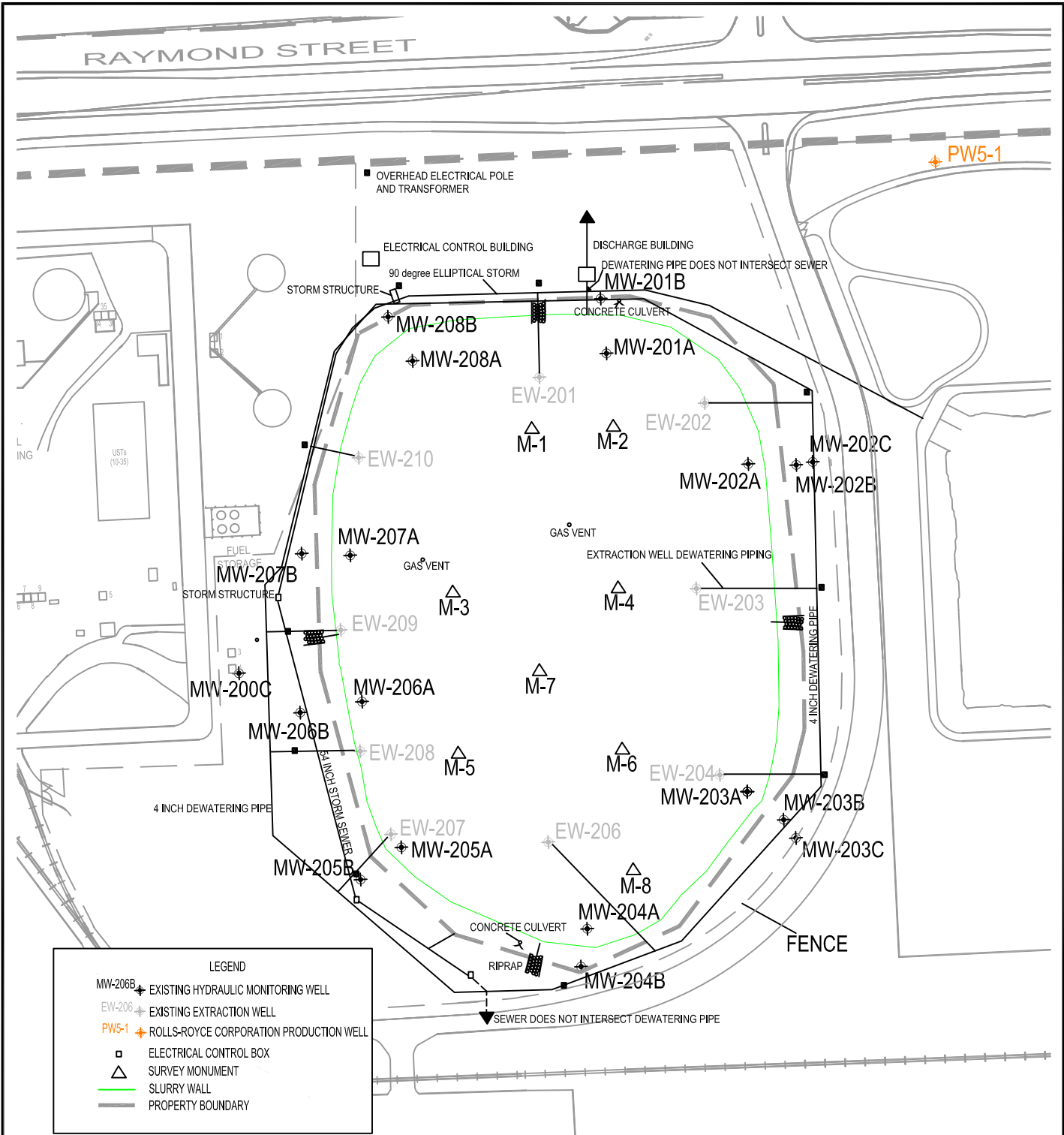
<u>Date</u>	<u>Time</u>	<u>Gallons</u>
4/14/2015	10:20	831,148
4/14/2015	11:45	837,423
4/15/2015	8:40	995,796
4/17/2015	11:10	355,316 ²
4/19/2015	12:00	696,541 ²

Notes:

1. Total gallons discharged to the sanitary sewer was 865,393 gallons.
2. The flow meter starts at 0 (zero) after reaching 1,000,000 gallons.

Table 2. Summary of Groundwater Elevations, Surface Impoundment, RACER Trust, IndiaNMPolis, IndiaNM.

DATE	MW 201A	MW 201B	MW 202A	MW 202B	MW 202C	MW 203A	MW 203B	MW 203C	MW 204A	MW 204B	MW 205A	MW 205B	MW 206A	MW 206B	MW 200C	MW 207A	MW 207B	MW 200C	MW 208A	MW 208B
6/28/1994	NM	668.02	655.53	666.32		657.50	668.24		665.09	670.47	654.81	670.99	659.02	670.95		655.00	670.80		655.27	669.76
7/7/1994	NM	668.29	655.56	666.86		657.36	668.28		655.47	670.39	655.47	671.00	NM	670.95		NM	670.81		655.48	669.82
7/20/1994	NM	668.22	654.80	666.68		657.02	668.16		655.47	670.37	NM	670.86	NM	670.86		655.70	670.69		655.74	669.75
7/27/1994	655.86	668.22	NM	666.30		NM	668.88		654.25	670.10	655.78	670.74	NM	670.72		655.83	670.55		655.84	669.52
8/10/1994	656.00	667.58	NM	666.06		NM	667.59		655.99	669.80	655.86	670.45	NM	670.43		655.97	670.25		656.02	669.16
8/22/1994	656.16	667.50	NM	665.96		656.86	667.40		656.18	669.58	656.06	670.25	NM	670.25		656.12	670.08		656.15	669.18
9/1/1994	656.27	667.44	NM	665.77		656.86	667.30		656.25	668.52	656.16	670.20	NM	670.17		656.23	669.99		656.21	669.06
9/8/1994	656.35	667.69	656.38	666.02		656.86	667.37		656.35	669.46	656.24	670.08	656.35	670.11		656.32	669.96		656.34	669.06
9/15/1994	656.41	669.28	656.43	665.62		NM	667.08		656.41	669.36	656.31	670.00	656.42	670.01		656.37	669.83		656.42	669.92
9/20/1994	656.46	669.28	656.50	665.46		NM	666.94		656.45	669.19	656.36	669.90	NM	669.89		656.44	669.72		656.47	668.77
9/29/1994	656.54	667.00	656.59	665.48		NM	666.78		656.54	669.14	656.45	669.79	656.55	669.80		656.80	669.63		656.57	669.22
10/7/1994	656.64	666.82	656.66	665.26		NM	666.78		656.54	669.02	656.53	669.67	656.63	669.67		656.60	669.49		656.60	668.44
10/13/1994	656.66	666.98	656.68	665.16		NM	666.74		656.69	668.98	656.57	669.60	656.64	669.57		656.62	669.36		656.69	668.42
10/26/1994	656.76	666.47	656.81	664.90		NM	666.64		656.77	669.76	656.68	669.41	656.80	669.37		656.73	669.11		656.78	668.09
11/2/1994	656.84	666.52	656.85	664.96		NM	666.64		656.83	668.66	656.76	669.27	656.88	669.21		656.80	669.02		656.82	668.88
6/29/1995	657.34	667.08	658.31	665.59		658.33	667.16		658.31	669.19	658.28	669.64	658.34	669.56		658.31	669.38		657.83	668.55
1/31/1996	657.14	665.95	659.08	664.84		659.14	666.64		659.09	668.34	659.08	668.65	659.14	668.49		659.10	668.19		658.62	667.32
6/26/1996	658.09	669.14	659.65	667.50		659.70	669.08		659.67	671.21	659.64	671.81	659.70	671.73		659.64	671.49		659.17	670.61
12/18/1996	658.38	669.31	659.35	667.84		659.40	668.90		659.36	670.92	659.34	671.58	659.38	671.57		659.35	671.39		658.87	670.64
5/28/1997	659.21	670.02	660.12	668.41		660.20	669.32		660.17	671.31	660.15	672.08	660.19	672.13		660.16	672.03		659.66	671.34
11/19/1997	659.93	665.74	660.51	663.79		660.57	665.32		660.52	665.95	660.52	668.68	660.57	668.59		660.52	668.33		660.05	666.38
5/12/1998	660.86	667.60	661.11	666.55		660.66	668.77		661.43	670.01	659.28	669.76	662.52	669.66		660.54	669.49		662.03	671.10
11/3/1998	657.25	667.01	658.68	665.67		658.21	668.31		658.22	669.77	656.71	669.72	656.77	669.67		657.89	669.46		658.11	668.22
6/28/1999	657.32	666.92	659.00	665.71	664.90	658.50	668.93	663.92	658.84	670.39	657.49	670.29	659.51	670.19		658.30	669.97		658.63	668.89
11/30/1999	658.82	665.46	659.26	664.11	660.96	658.82	667.26	659.98	659.33	668.68	657.77	668.70	659.82	668.42	660.42	658.90	668.18	660.42	658.90	667.19
5/16/2000	659.09	665.55	659.69	663.63	660.82	659.21	667.12	659.91	659.49	668.82	658.15	668.80	660.00	668.46	660.52	659.27	668.37	660.52	659.22	667.07
11/13/2000	657.70	665.34	658.14	663.54	660.32	657.71	667.22	661.19	657.99	669.22	656.64	669.22	659.69	669.07	661.42	657.73	668.93	661.42	657.78	667.59
5/30/2001	656.88	665.99	657.31	664.53	661.86	656.86	667.92	663.07	657.17	669.46	655.82	669.40	657.88	669.24	662.67	656.93	669.01	662.67	656.96	667.98
11/23/2001	657.45	668.09	657.90	666.70	663.71	657.44	669.84	664.37	657.77	671.21	656.40	671.19	658.46	671.13	664.32	657.51	671.05	664.32	657.55	670.97
5/29/2002	658.27	672.34	658.70	670.70	667.30	658.25	673.70	667.53	658.56	674.77	657.21	676.10	659.27	674.93	668.00	658.33	674.84	668.00	658.35	674.15
11/21/2002	658.72	667.52	659.21	666.01	663.54	658.75	669.16	664.09	659.06	670.99	657.70	670.91	659.76	670.86	664.35	658.81	670.69	664.35	658.85	669.56
5/20/2003	659.20	669.87	659.81	668.22	665.49	659.26	670.98	666.01	659.51	672.77	658.16	672.18	660.45	672.28	666.27	659.28	672.10	666.27	659.29	671.40
11/18/2003	657.83	670.32	658.26	668.63	667.92	657.78	670.97	667.74	658.10	672.39	656.75	672.61	658.85	672.73	667.83	657.87	672.68	667.83	657.91	672.13
5/24/2004	657.21	670.33	659.17	668.88	665.81	658.62	671.52	666.27	658.93	672.84	657.57	672.98	659.80	673.01	666.70	658.69	673.70	666.70	658.06	672.37
11/11/2004	659.07	669.62	659.52	668.26	666.29	659.09	670.80	666.74	659.38	672.10	659.02	672.23	660.08	672.26	667.05	659.14	672.17	667.05	659.07	671.32
5/10/2005	659.16	672.55	659.60	670.32	667.95	659.86	671.03	666.84	659.45	674.13	658.82	673.53	660.81	673.75	664.83	659.88	672.99	664.83	659.81	672.99
11/9/2005	658.72	669.29	659.17	667.87	665.85	658.74	670.22	666.25	659.05	671.34	657.69	671.44	658.74	671.49	666.55	658.78	673.70	666.55	659.61	670.74
5/17/2006	659.54	671.66	660.02	670.29	668.41	659.96	669.63	667.73	659.84	670.72	659.01	670.90	660.56	670.95	667.40	659.61	671.92	667.40	659.59	673.20
11/8/2006	660.00	670.66	660.46	669.55	669.55	660.01	672.03	669.29	660.29	672.70	659.12	672.77	660.04	672.79	669.54	660.07	672.66	669.54	660.14	672.18
5/16/2007	660.72	672.72	661.15	671.28	668.47	660.73	673.53	669.02	661.02	674.72	659.66	674.91	661.72	674.99	669.28	660.77	674.95	669.28	660.81	674.25
11/15/2007	661.14	669.55	661.48	668.54	666.04	661.07	670.98	666.52	661.37	671.99	659.99	672.01	662.04	671.98	666.68	661.10	671.86	666.68	661.14	671.07
5/13/2008	661.79	672.43	662.27	671.36	668.72	662.23	673.53	669.21	662.11	674.34	660.76	674.42	662.80	674.04	669.38	661.88	674.41	669.38	661.93	673.86
11/6/2008	661.19	670.20	661.64	669.10	666.52	661.19	671.75	666.99	661.50	672.86	660.13	672.95	662.20	672.93	666.98	661.25	672.79	666.98	661.30	671.88
5/13/2009	661.90	672.97	662.38	671.88	669.83	661.93	673.79	669.84	662.23	674.43	660.87	674.47	662.93	674.53	670.36	661.99	674.54	670.36	662.07	674.20
11/23/2009	662.42	670.98	662.87	669.70	668.64	662.43	671.87	668.49	662.72	672.96	661.36	673.13	663.42	673.16	668.96	662.49	673.11	668.96	662.54	672.41
6/3/2010	663.06	671.31	663.48	670.13	669.53	663.06	672.48	669.29	663.34	673.70	661.99	673.87	664.05	673.86	669.63	663.04	673.77	669.63	663.15	673.00
10/6/2010	663.39	670.69	663.77	669.71	668.50	663.33	671.84	668.38	663.67	672.64	662.34	673.09	664.32	672.73	668.24	663.42	672.99	668.24	663.50	672.16
5/31/2011	663.98	674.25	664.41	672.90	669.25	664.00	674.94	669.81	664.29	675.85	662.93	675.95	664.98	676.02	670.02	664.05	676.06	670.02	664.12	675.61
11/4/2011	664.31	670.91	664.78	669.78	668.25	664.35	672.04	668.05	664.64	673.16	663.32	673.27	665.32	673.26	669.26	664.37	673.20	669.26	664.42	672.52
6/1/2012	665.12	670.30	665.58	669.36	666.36	665.16	671.59	667.05	665.44	672.43	664.07	672.05	666.12	672.44	NM	665.20	672.37	NM	665.23	671.72
10/16/2012	665.28	671.26	665.69	670.25	666.61	665.27	672.44	667.21	665.56	673.27	664.26	673.27	666.27	673.27	668.47	665.34	672.34	668.47	665.39	672.70
5/21/2013	666.22	673.70	666.57	672.69	672.36	666.14	674.98	672.16	666.41	675.91	665.06	675.94	667.09	675.94	672.41	666.18	675.91	672.41	666.22	674.93
5/28/2013	NM	NM	NM	NM	669.63	NM	NM	670.27	NM	NM	NM	NM	NM	NM	670.32	NM	NM	669.91	NM	NM
9/25/2013	666.15	671.24	666.67	670.22	669.40	666.26	672.29	669.20	666.54	673.21	665.18	673.28	667.22	673.34	669.51					

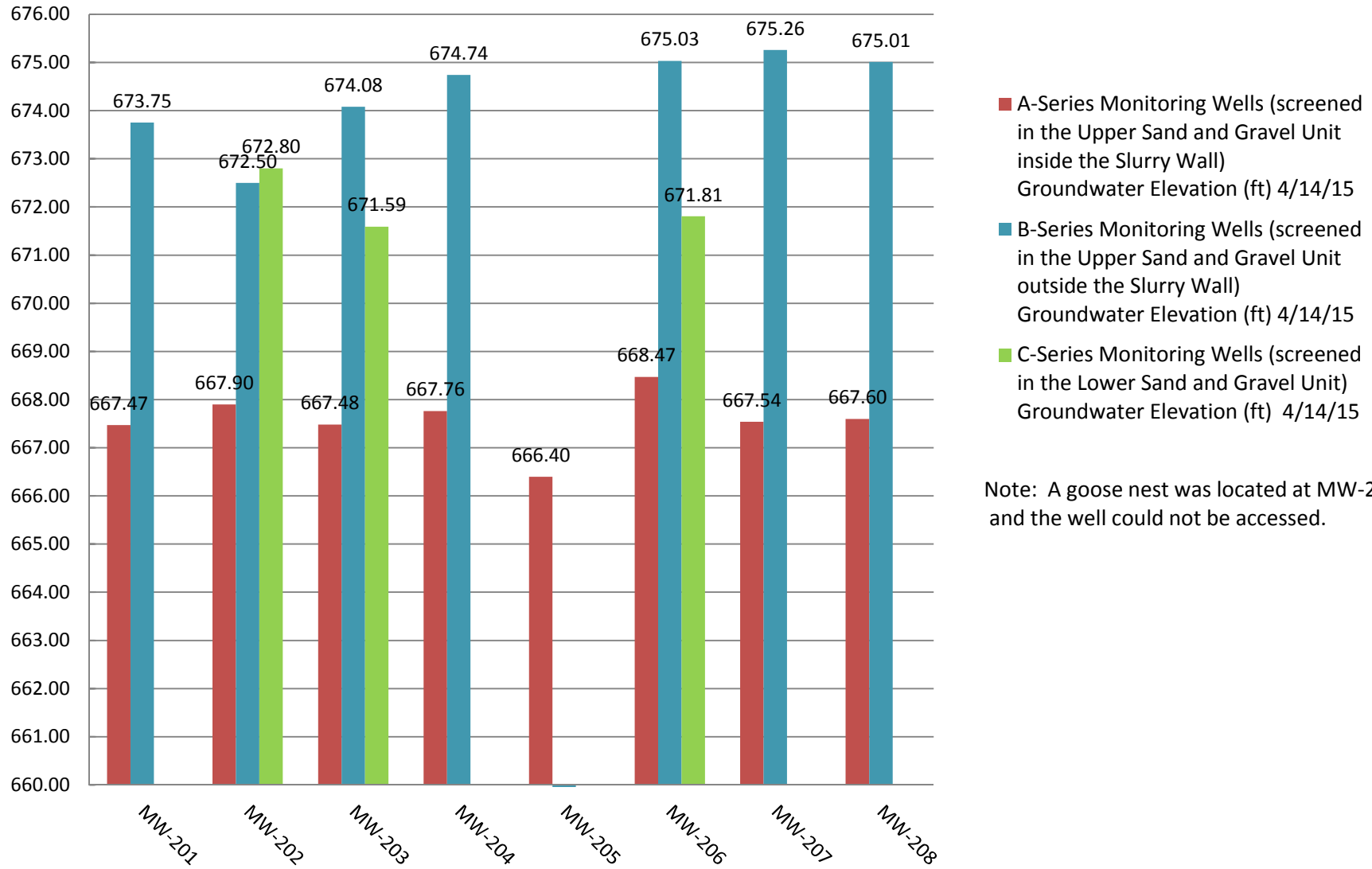


RACER TRUST
 SURFACE IMPOUNDMENT
 INDIANAPOLIS, INDIANA

SITE MAP

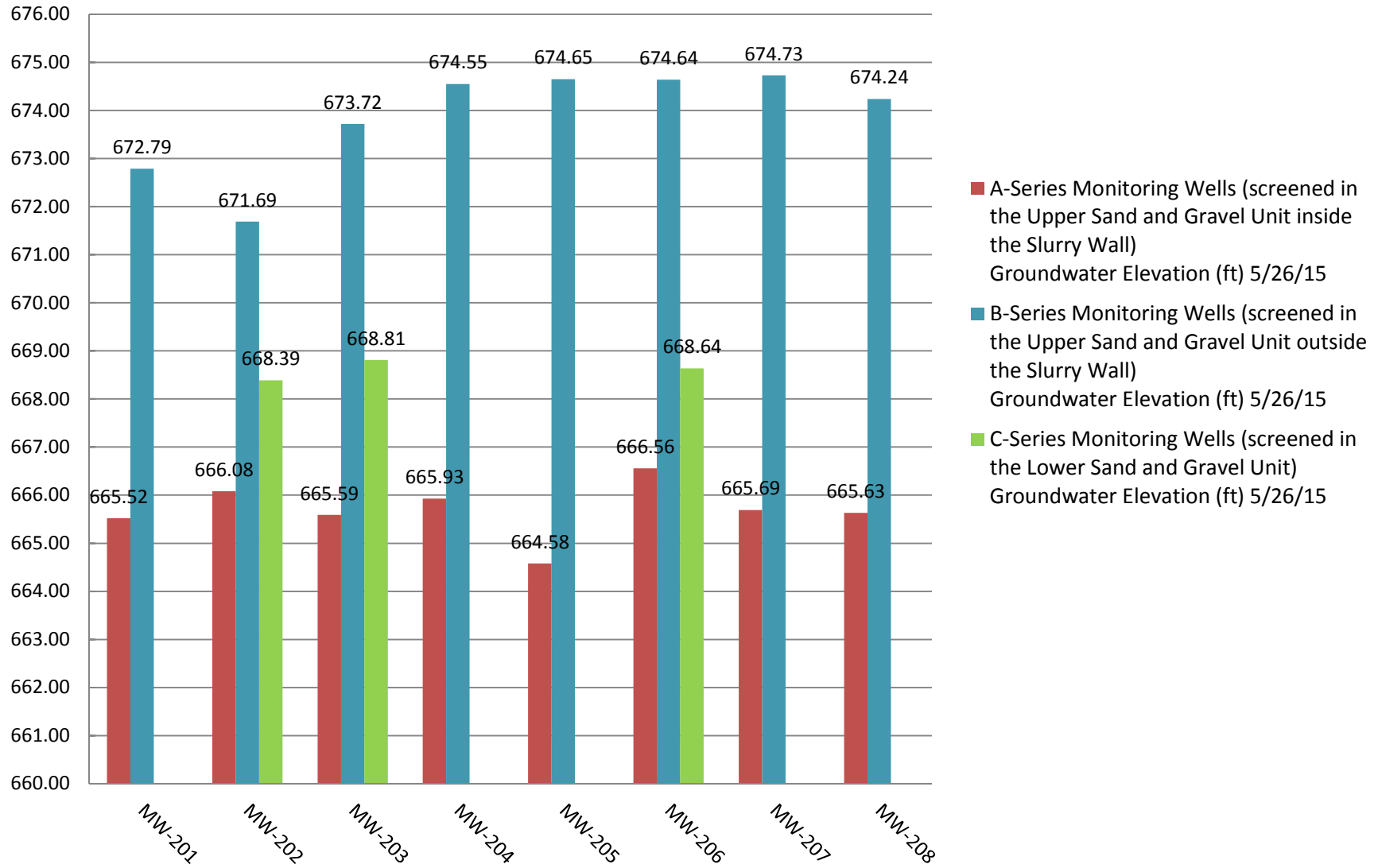
FIGURE
1

**Figure 2a. April 14, 2015 Groundwater Elevations
Surface Impoundment
RACER TRUST**



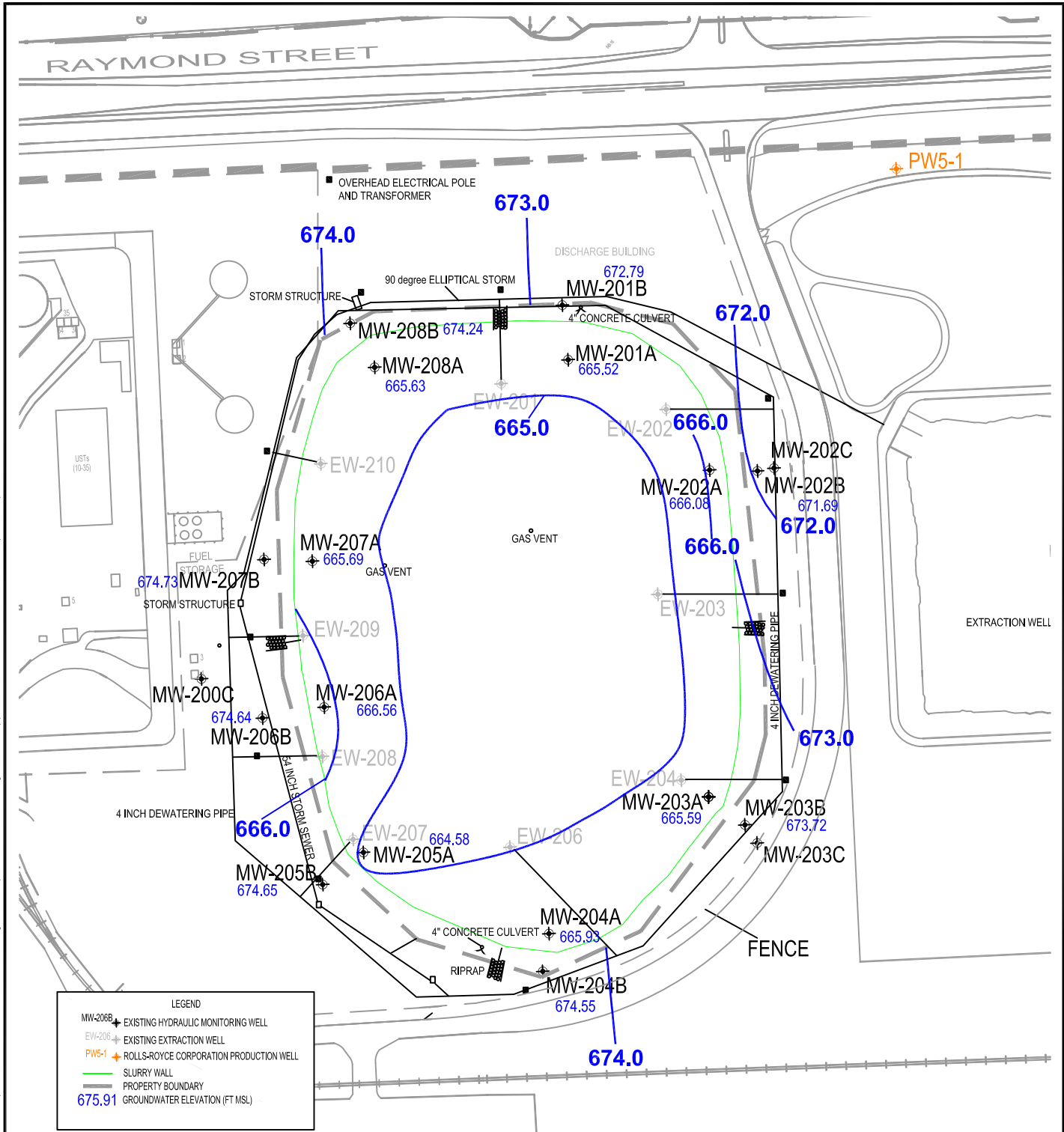
Note: A goose nest was located at MW-205B and the well could not be accessed.

**Figure 2b: May 26, 2015 Groundwater Elevations
Surface Impoundment
RACER TRUST**



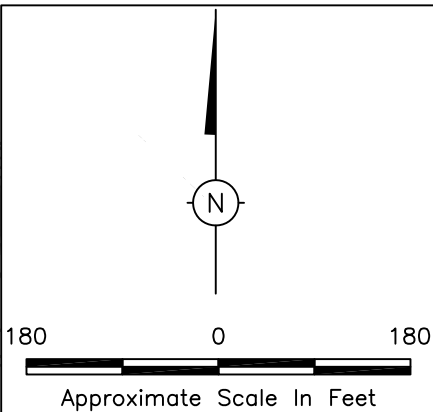
CITY: Indianapolis DIV: GROUP: SER: DB: HGL PM: J: Cosgrove TM: (O)H
 G:\PROJECTS\RACER Trust\1325 - AGT Surface Impoundment\Semi-Annual Reporting_Surface Impoundment\2015 Extraction Well\LetterDrawings\Surface Impoundment Site_150003.dwg LAYOUT: 3 (2) SAVED: 6/17/2015 7:59 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: - PLOTSTYLETABLE: - PLOTTED: 6/9/2015 1:04 PM BY: GASTINEAU-LYONS, HEATHER

PROJECT NAME: Surface Impoundment
 IMAGES: ARCADIS Color Logo.jpg
 XREFS: Pages from Site Map Surface Impoundment_1es1.jpg



LEGEND

- MW-206B EXISTING HYDRAULIC MONITORING WELL
- EW-206 EXISTING EXTRACTION WELL
- PW5-1 ROLLS-ROYCE CORPORATION PRODUCTION WELL
- SLURRY WALL
- PROPERTY BOUNDARY
- 675.91 GROUNDWATER ELEVATION (FT MSL)



NOTE: PIPING AND BUILDING LOCATIONS ARE APPROXIMATE.

RACER TRUST
 SURFACE IMPOUNDMENT
 INDIANAPOLIS, INDIANA

**POTENTIOMETRIC SURFACE -
 SHALLOW SAND AND GRAVEL UNIT -
 MAY 26, 2015**

ARCADIS

FIGURE
3



Attachment 1

Industrial Discharge Permit
#372403 Termination Letter



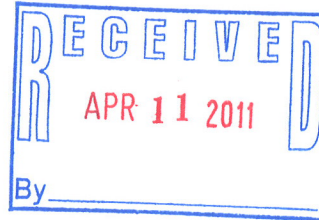
Department of Public Works
Indianapolis
Gregory A. Ballard, Mayor

2700 SOUTH BELMONT AVENUE
INDIANAPOLIS, IN 46221

April 5, 2011

CERTIFIED MAIL: 7001 2510 0005 9219 8387

Mr. David Favero
Favero GeoSciences
1210 South 5th Street – Suite 2
Springfield, IL 62703



Re: Industrial Discharge Permit #372403
Closed Surface Impoundment-former Allison site
REALM to Environmental Trust

Dear Mr. Favero:

In response to the February 28, 2011 letter and March 17, 2011 email received from Heather Gastineau-Lyon of ARCADIS, this notice will transfer ownership and responsibility of the remediation site located at 2701 West Raymond Street in Indianapolis, IN to the *Revitalizing Auto Communities Environmental Response Trust*. The site was previously owned and operated by Remediation and Environmental Liability Management Company, Incorporated (*REALM*) prior to its bankruptcy. Current contact information remains unchanged.

Upon review of the discharge information, it has been determined that regulation of the remediation system for the site previously known as *REALM* located at 2701 West Raymond Street by permit is no longer necessary. The effective date of the termination is **April 15, 2011**.

This site was impacted by the activities of the previous Allison Gas Turbine Division. The closed surface impoundment, identified as USEPA INR000021436, discharges to the Indianapolis sanitary sewers from groundwater extraction, remediation by soil vapor extraction, and monitoring well purge water. Previous limitations on the groundwater extraction of 200 gallons per minute discharge rate will remain. Groundwater is anticipated to be discharged every two to three years. Remediation and purge water is discharged monthly, as needed.

Since the original discharge permit was written, there is one significant change which will affect future groundwater discharges. The Rolls-Royce facility, due west of the surface impoundment, is now permitted and discharging to the Indianapolis sanitary sewer. The surface impoundment shares the discharge line with Rolls Royce. This will now require coordination of discharge during the events that occur every two to three years from the impoundment. Please use the following contact information prior to the discharge from the groundwater extraction wells:

Rolls-Royce Waste Treatment Operations – 317-230-3425
Rolls-Royce Health, Safety, and Environmental – 317-230-3591

Although this facility will no longer be regulated by permit, the *Revitalizing Auto Communities Environmental Response Trust* may discharge wastewater at the usual levels. Restrictions remain for discharges during wet weather combined sewer overflow events, as this facility discharges upstream from CSO 145. The Trust shall notify the city's pretreatment program at least 72 hours prior to any wastewater discharge from the surface impoundment extraction wells, normally occurring once every two to three years. The pretreatment program contact is Mr. Tim Heider at 317-639-7048.

As a user of the city sewer system, The Trust is required to comply with Chapter 671 of the municipal code. The code is available at www.indy.gov. Notification is also required if and when the remediation project is deemed complete by IDEM/EPA and there is no potential for discharge.

In addition, results of monthly flow measurement must continue to be reported to Indianapolis Water on the "Statement of Industrial Waste" form. The completed form is due prior to the 25th of each month following the monitoring period.

If there are any questions, please contact Ms. Nancy Williams at 317-639-7047.

Sincerely,



Richard Wise
Assistant Administrator

RW/nlw
11nlw035

cc: Tim Heider, Pretreatment Coordinator, UW
Wanda Williams, Revenue and Billing Manager, DPW
Pravin Patel, HSE Engineer, Rolls-Royce
✓Heather Gastineau-Lyons, Staff Geologist, ARCADIS