POST-CLOSURE PERMIT
2009 ANNUAL REPORT

Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana
INR 000021436

February 24, 2010

Prepared By:

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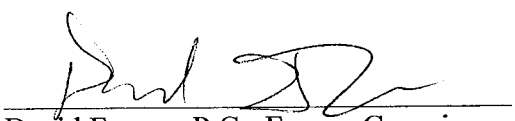
Certification

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436
U.S. EPA I.D. Number

GM Former AGT Division
Facility Name



David Favero, P.G., Favero Geosciences
Agent for Motors Liquidation Company (formerly known as General Motors Corporation)

February 2, 2010
Date

Certification

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436
U.S. EPA I.D. Number

GM Former AGT Division
Facility Name

Jeff Eckhout, EIT
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Consultant to Motors Liquidation Company

2/24/2010
Date

POST-CLOSURE PERMIT 2009 ANNUAL REPORT
FORMER ALLISON GAS TURBINE DIVISION
INDIANAPOLIS, INDIANA

1.0 INTRODUCTION

This report documents post-closure care activities conducted during 2009 at the Closed Hazardous Waste Surface Impoundment Area (SIA) at 2701 West Raymond Avenue. Required post-closure care activities are identified in the post-closure permit.

In December 1993, General Motors Corporation (GM) sold its Allison Gas Turbine Division. Pursuant to the Asset Purchase Agreement, GM retained responsibility for closure and post-closure care of the SIA. In 1994, a bentonite cutoff wall, nine dewatering walls, and 16 hydraulic monitoring wells were installed at the SIA. A final cover system, settlement monuments, and security control devices were also installed as part of the closure of the SIA. In 1999, three (3) double-cased monitoring wells were installed outside of the cutoff wall around the SIA and screened in the lower sand and gravel aquifer. Locations of the cutoff wall, hydraulic monitoring wells, three (3) double-cased monitoring wells, and dewatering wells are shown in **Figure 1**. The bentonite cutoff wall functions as a hydraulic no-flow barrier and the dewatering wells provide control of the groundwater level within the cutoff wall. The system is designed such that water pumped from the dewatering wells is transmitted to the sanitary sewer. The 16 hydraulic monitoring wells were installed in pairs, eight inside the cutoff wall with a corresponding well outside the cutoff wall. The wells allow for measurement of groundwater elevations inside the barrier relative to the aquifer outside the barrier. The three (3) double-cased monitoring wells are monitored to ensure that an inward hydraulic gradient is being maintained from the lower sand and gravel aquifer into the contained area. A cross section of the groundwater control and monitoring system is shown in **Figure 2**.

IDEM approved the Closure Certification for the SIA (officially granting closure as required by 40 CFR 265 Subpart G) in a March 4, 1997, correspondence. By way of a September 16, 1997, correspondence, IDEM provided its opinion that the beginning of the post-closure care period for the SIA was June 4, 1996. Subsequently, GM has submitted several Permit Applications and Permit Modifications which is tabulated in a table provided in **Appendix A**.

On June 1, 2009, GM filed for bankruptcy. As a result of the bankruptcy, the operating assets of GM were sold on July 10, 2009, to a newly formed company known as General Motors LLC. Existing, non-continuing assets remained the property of "old" GM, which changed its name to Motors Liquidation Company (MLC), in its capacity as a debtor-in-possession in the bankruptcy case.

2.0 SUMMARY OF 2009 ACTIVITIES

The following activities were completed in 2009:

- In May and November, the static head and total depth in the hydraulic monitoring well pairs and the lower aquifer monitoring wells were gauged. The data was tabulated and used to calculate a water budget and ensure that an inward hydraulic gradient is being maintained;
- In May, a Monument survey was performed to determine if any settlement had occurred;
- In March, April, May, September, November, and December, field inspections of the cover system and the groundwater extraction system were performed;
- In September, the groundwater extraction system was tested to ensure it was running properly. Testing of the extraction wells indicated problems with

extraction wells EW-201, EW-204 and EW-209. In November, troubleshooting and repair of extraction wells EW-201, EW-204 and EW-209 were conducted;

- Mowing was completed eight (8) times from April through November;
- In September, a Fall fertilization was performed;
- Throughout the year, rodent traps and rodentcide were placed in areas of high rodent activity to remove rodents from the cap and maintain the integrity of the cover system. The traps were checked periodically and reset if necessary;
- In May and November, one (1) groundwater sample was collected from monitoring wells MW-201B, MW-202B, MW-203B, and MW-206B to complete the groundwater statistical analysis as required in the approved Permit;
- Throughout 2009, light bulbs indicating hand/off/automatic were replaced in the controls building and new labels and locks were installed on the monitoring wells, as necessary; and,
- On April 23, 2009, ARCADIS, on behalf of GM, submitted a Class 1 permit modification for the SIA. The permit modification letter requested to amend Appendix H, Sampling and Analysis Plan, Section 4.3 (Data Analysis). On June 17, 2009, IDEM approved the Permit Modification. On July 22, 2009, ARCADIS, on behalf of GM, sent a notice of the modification to the facility mailing list.

Details regarding these activities are presented in the following sections.

3.0 INWARD HYDRAULIC GRADIENT

Depth to groundwater and total depth were gauged in all eight hydraulic monitoring well pairs and the lower aquifer monitoring wells on May 13, 2009, and November 23, 2009. A summary of the groundwater elevations is presented in **Table 1** and groundwater potentiometric surface maps for the upper sand and gravel aquifer for May 2009 and

November 2009 are presented in **Figure 3** and **Figure 4**, respectively. Groundwater potentiometric surface maps for the lower sand and gravel aquifer for May 2009 and November 2009 are presented in **Figure 5** and **Figure 6**, respectively. The May 2009 and November 2009 groundwater monitoring events were performed in accordance with the approved Sampling and Analysis Plan (SAP) in the approved Permit. Copies of the monitoring well and groundwater monitoring data sheets are provided in **Appendix B**. As shown in **Table 1**, none of the hydraulic monitoring wells have greater than one foot of siltation, which is the criterion stated in the SAP for when the wells would be redeveloped.

A summary of groundwater elevations with head differences between exterior monitoring wells ("B" wells) and interior monitoring wells ("A" wells) and rise rates for the interior monitoring wells is presented in **Table 2**. Rise rates were calculated for each of the interior hydraulic monitoring wells based on the rise of groundwater over time. Groundwater elevations from the November 6, 2008, through the November 23, 2009, monitoring events were used to calculate the rise rates. Data obtained before the November 2008 monitoring event was excluded due to withdrawal of groundwater from the SIA in the Summer of 2008. The rise rates for monitoring wells inside the cutoff wall range from 0.00319 ft/day to 0.00325 ft/day with an average of 0.00322 ft/day. Historical rise rates are provided in **Table 3**. The recently observed rise rates are within the range of previously observed rates.

Based on the May 2009 data, groundwater elevations within the upper sand and gravel aquifer for the wells outside of the cutoff wall range from 671.88 feet Mean Sea Level (MSL) to 674.54 feet MSL with an average of 673.85 feet MSL. Groundwater elevations within the cutoff wall range from 660.87 feet MSL to 662.93 feet MSL with an average of 662.04 feet MSL. The head differences between monitoring wells inside the cutoff wall compared to its corresponding monitoring well outside the cutoff wall range from 9.50

feet lower in monitoring well MW-202A to 13.60 feet lower in monitoring well MW-205A with an average of 11.81 feet lower. Therefore, the hydraulic gradient in the upper sand and gravel aquifer in May 2009 is toward the inside of the cutoff wall (i.e. inward hydraulic gradient).

Based on the May 2009 data, groundwater elevations of monitoring wells within the cutoff wall ("A" wells) range from 660.87 feet MSL to 662.04 feet MSL. Groundwater elevations from monitoring wells in the lower sand and gravel unit range from 669.83 feet MSL to 670.36 feet MSL. Therefore, the vertical hydraulic gradient between the groundwater in the lower sand and gravel unit and the groundwater within the cutoff wall is upward to the groundwater within the cutoff wall in May 2009.

Based on the November 2009 data, groundwater elevations within the upper sand and gravel aquifer for the wells outside of the cutoff wall range from 669.70 feet MSL to 673.16 feet MSL with an average of 672.17 feet MSL. Groundwater elevations within the cutoff wall range from 661.36 feet MSL to 663.42 feet MSL with an average of 662.53 feet MSL. The head differences between monitoring wells inside the cutoff wall compared to its corresponding monitoring well outside the cutoff wall range from 6.83 feet lower in monitoring well MW-202A to 11.77 feet lower in monitoring well MW-205A with an average of 9.63 feet lower. Therefore, the hydraulic gradient in the upper sand and gravel aquifer in November 2009 is toward the inside of the cutoff wall (i.e. inward hydraulic gradient).

Based on the November 2009 data, groundwater elevations of monitoring wells within the cutoff wall ("A" wells) range from 661.36 feet MSL to 663.42 feet MSL. Groundwater elevations from the monitoring wells in the lower sand and gravel unit range from 668.49 feet MSL to 668.96 feet MSL. Therefore, the vertical hydraulic gradient between the groundwater in the lower sand and gravel unit and the groundwater

within the cutoff wall is upward to the groundwater within the cutoff wall in November 2009.

4.0 GROUNDWATER EXTRACTION

Nine dewatering wells are located throughout the SIA to extract groundwater. Locations of the wells are shown in **Figure 1**. When water is pumped from the dewatering wells, it is transmitted to the discharge control building then to the sanitary sewer on the north side of Raymond Street. In 2009, a total of 368 gallons were withdrawn from the extraction wells to lower the groundwater level within the cutoff wall.

During the quarterly inspections, the exterior of each extraction well vault was inspected for deterioration and damage. No deterioration or damage was noted in 2009.

5.0 WATER BUDGET CALCULATIONS

The Water Budget Calculations, based on data from the November 6, 2008, through the November 23, 2009, monitoring events, are shown in **Appendix C**. The Original Water Budget Calculations included in a May 24, 1995, submittal from GZA Environmental, Inc. to IDEM are shown in **Appendix D**. The observed rise rates ranged from 0.00319 ft/day to 0.00325 ft/day with an average of 0.00322 ft/day as shown in **Table 2**. Using the specific yield (S_y) of 20% used by GZA in the Closure Certification Report and the observed rise rates, there is an average flow rate of 1.180 gallons/min into the SIA with a minimum of 1.169 gallons/min and a maximum of 1.191 gallons/min.

Also included in **Appendix D** is a calculation of S_y based on amount of water withdrawn, combined inflow within the cutoff wall based on average rise rates, and average,

minimum, and maximum flowrates in to the SIA. The calculated S_y based on field data is 13.3%. The approved Post-Closure Permit specifies that in order to maintain a hydraulic gradient from outside to the inside of the cutoff wall, it is necessary to keep the groundwater elevation in the interior of the cutoff wall at least approximately 1 foot less than the groundwater elevation in the lower sand and gravel unit monitoring wells.

The approved Closure Plan also requested that the volume of groundwater withdrawn from Plant 5 production wells be provided. The available data is summarized in **Table 4**. The 2009 data is not yet available. There is no obvious relationship between the withdrawal of groundwater from production wells and the hydraulics within the SIA.

In summary, the cutoff wall and the cover system are effective and the inward gradient has been maintained from both the upper and lower sand and gravel units toward the interior of the cutoff wall. Based on the observed rise rate of the groundwater within the cutoff wall compared to the closure estimated rise rates, the hydraulic containment system is performing better than designed.

6.0 GROUNDWATER DATA STATISTICAL EVALUATION

In accordance with the Permit issued in January 2007, one (1) groundwater sample was collected in May 2009 from monitoring wells MW-201B, MW-202B, MW-203B, and up-gradient monitoring well MW-206B in order to compare data to the calculated upper 95 percent tolerance limits in accordance with approved statistical procedures. In accordance with the Permit Modification approved on June 17, 2009, one (1) groundwater sample was collected in November 2009 from monitoring wells MW-201B, MW-202B, MW-203B, and up-gradient monitoring well MW-206B in order to compare data to the calculated background screening level. Calculations were conducted in accordance with Section 4.3 of the Permit and Appendix H of the Permit: Sampling and Analysis Plan. The Groundwater Data Statistical Evaluations for May 2009 and

November 2009 are provided in **Appendix E**. The results of the statistical evaluation indicate that there is no need for any response action.

In accordance with the Permit, the ASCII Digital Datasets were submitted directly to IDEM via e-mail in July 2009 for the May 2009 groundwater monitoring event and in February 2010 for the November 2009 groundwater monitoring event. Copies of the Datasets are provided in **Appendix F**.

7.0 INSPECTIONS, MOWING, AND EROSION CONTROL

Routine inspections of the SIA were conducted quarterly in 2009 and during semi-annual groundwater monitoring events to evaluate the performance of the final cover, security control, and the groundwater hydraulic control and monitoring system. Inspections were performed by properly trained personnel. During the checks, the following items were inspected:

- Security Control Devices - Fencing, gates, locks, and posted signs for storm damage, vandalism, or deterioration;
- Erosion Damage - Final cover and drainage areas;
- Cover Settlement, Subsidence, and Displacement - Unusual settlement of benchmarks, wells, and monuments, and inspect for animal burrows and low spots;
- Vegetative Cover System - Cover system for bare areas or reduced vegetation;
- Integrity of Run-on and Run-off Controls – Inspect culverts and drainage ditch for hindrances to flow;
- Integrity of Cover Drainage and Gas Venting Systems – Inspect discharge points and gas venting systems for blockage;

- Integrity of Cut-off Wall – Review data from semi-annual groundwater monitoring event to ensure integrity of cut-off wall;
- Monitoring Well Conditions - Locks, casings, concrete seals, and settlement of the wells; and,
- Extraction Well System Functionality - Proper maintenance of the controls.

Post-Closure Inspection Checklists and maps noting the results of the inspection activities are provided in **Appendix G**. The approved closure plan included monthly inspections for the first two years from June 4, 1996, which was IDEM's opinion of when the post-closure care period began. After June 4, 1998, the inspection frequency was reduced to quarterly as provided in the approved closure plan and the approved Post-Closure Permit.

In September 2009, testing of the groundwater extraction system was performed. The testing indicated problems with the pumps in extraction wells EW-201, EW-204 and EW-209. In November 2009, troubleshooting and subsequent repair of the pumps were performed. Detailed documentation of the testing, troubleshooting, and repair of the groundwater extraction system is provided in **Appendix H**.

Mainscape, Inc. mowed the SIA eight (8) times from April through November 2009. Mowing events occurred during the weeks of April 27, May 18, June 15, July 6, August 3, September 7, October 5, and November 2, 2009. No damage was incurred during any of the mowing events. No erosion control was necessary in 2009.

8.0 MONUMENT SURVEY

The settlement monuments are required to be surveyed twice per year for the first five years (1997 through 2001) of the post-closure period and annually thereafter. Monuments

M1 through M8 were surveyed on May 13, 2009, to check for settlement. Elevations were shot using a benchmark elevation of 691.26 feet MSL at the Southeast corner of the concrete pad for the extraction system control building. Monument locations are shown in **Figure 1** and historical data and data from the survey conducted in 2009 is provided in **Table 5**. Monument elevation changes from May 2008 to May 2009 varied from a no change in several monuments to a decline of 0.03 feet in several monuments. No response action was necessary.

9.0 ADDITIONAL TASKS COMPLETED IN 2009

In addition to the tasks described above, rodent traps and rodentcide were placed in areas of high rodent activity to remove rodents from the cap and maintain the integrity of the cover system throughout 2009. In September 2009, the ditch and cover system were fertilized to promote root growth. Throughout 2009, light bulbs indicating hand/off/automatic were replaced in the controls building, and monitoring well labels and locks were replaced, as necessary.

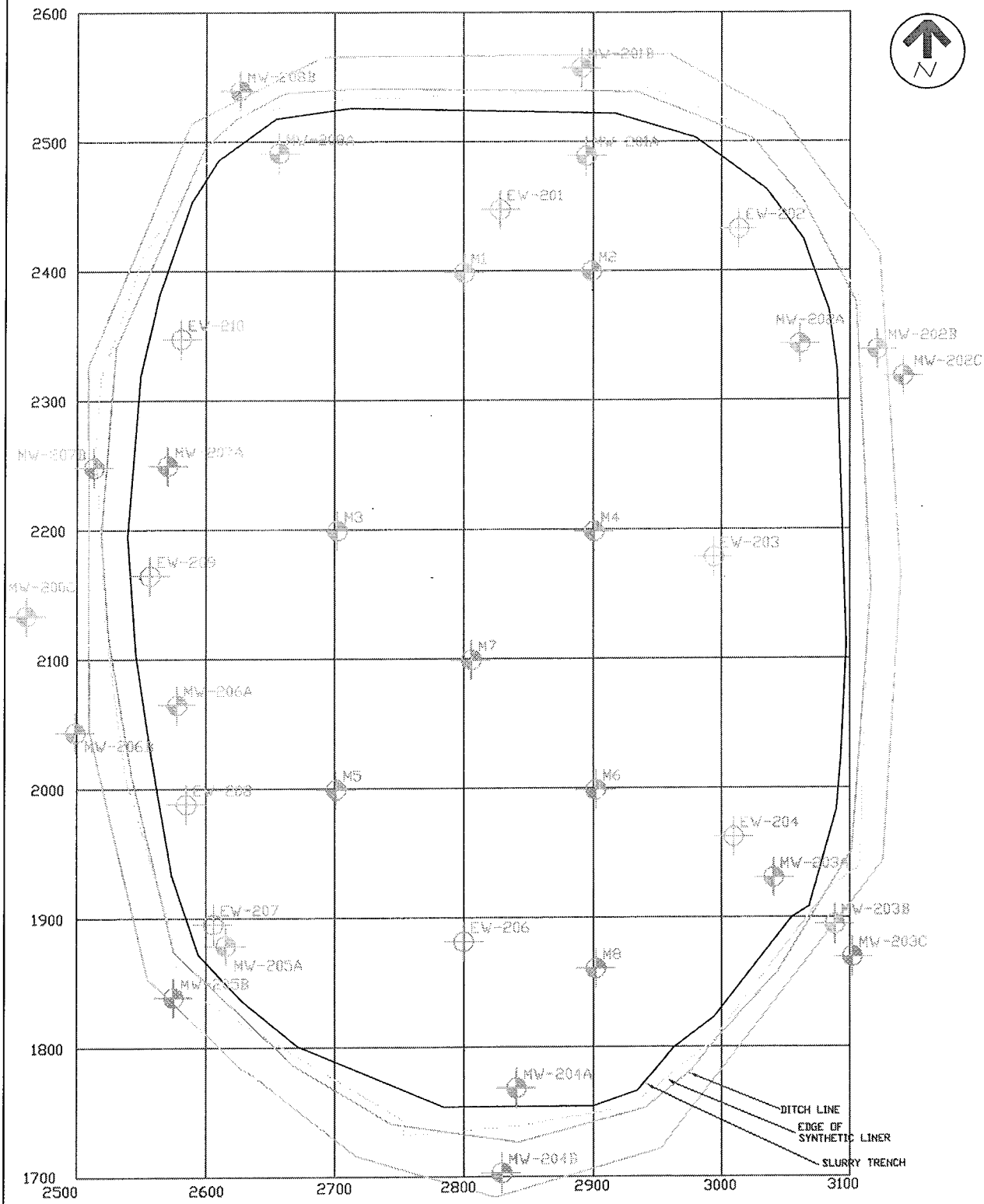
10.0 REVISED POST-CLOSURE COST ESTIMATE

The revised post-closure cost estimate identified below is based on the approved post-closure cost estimate included in the final Hazardous Waste Post-Closure Renewal issued January 26, 2007, and the Class 1 Permit Modification issued September 26, 2007. As of December 2009, the post-closure cost estimate for the remaining 16.5 years of required post-closure care is $818,551 (16.5 years of remaining post-closure care times the estimated annual cost of $49,609).

11.0 POST-CLOSURE TASKS PLANNED FOR 2010

In addition to the routine post-closure care activities, the cover system will be maintained and repaired, as appropriate. Rodent trapping from the cover system will continue and additional troubleshooting and repair of the extraction system will be conducted, as necessary.

FIGURES



MW-201A Existing Hydraulic Monitoring Well

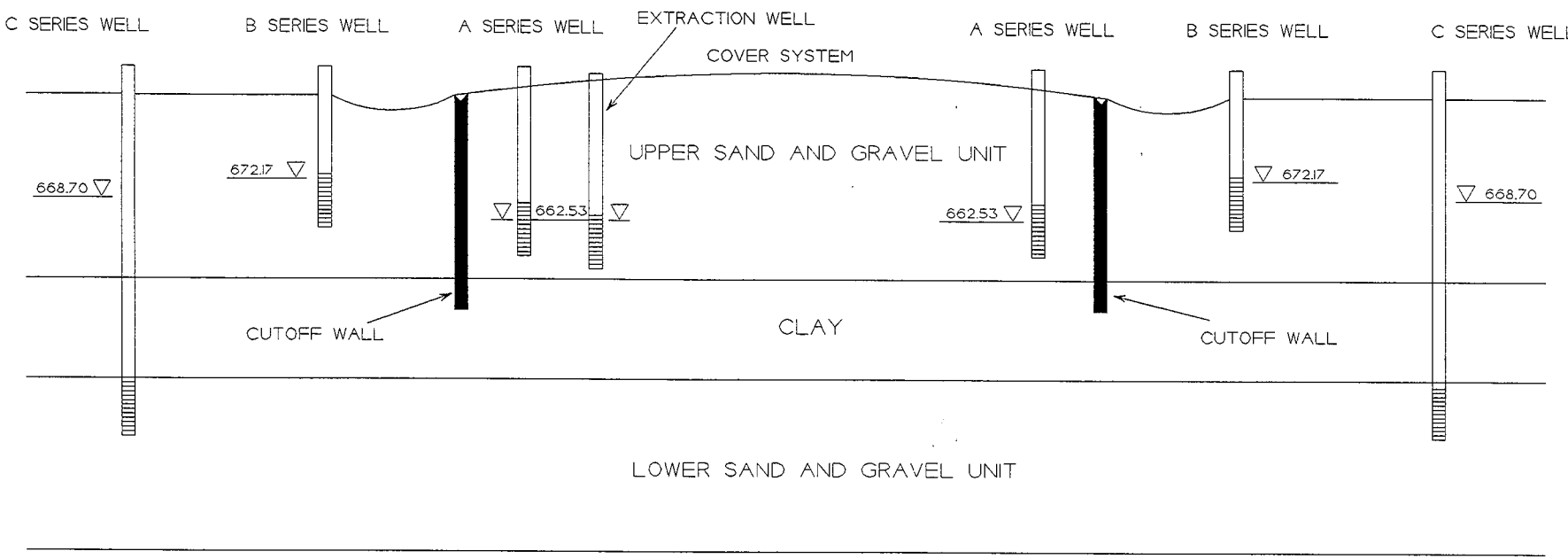
EW-201 Existing Extraction Well

M1 Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	MONITORING WELL AND CUTOFF WALL LOCATION MAP	DRAWN: JE	DATE: 1/28/10	FIG. 1
			CHK'D: SA	PROJECT NO. 97-05-154	



NOTES:

1) DRAWING BASED ON "SCHEMATIC OF GROUNDWATER CONTROL AND HYDRAULIC MONITORING SYSTEM" PREPARED BY GZA GEOENVIRONMENTAL, INC. DATED 4/20/96.

2) GROUNDWATER ELEVATIONS ARE AVERAGE ELEVATIONS FROM THE MEASUREMENT TAKEN BY NOVA ON 1/6/08. ELEVATIONS ARE IN FEET ABOVE MSL.

3) DRAWING IS NOT TO SCALE.

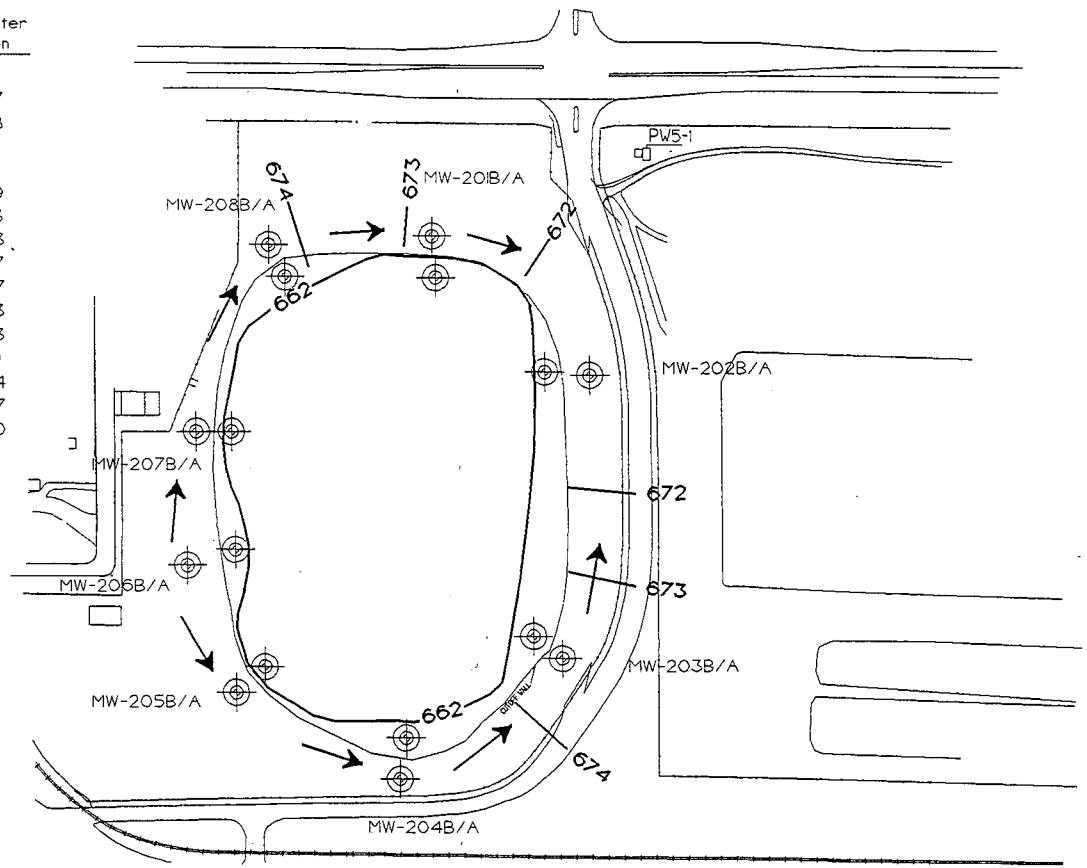
NOVA CONSULTANTS, INC.
PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES

CONCEPTUAL GROUNDWATER CONTROL AND HYDRAULIC MONITORING SYSTEM

SURFACE IMPOUNDMENT AREA
INDIANAPOLIS, INDIANA

DATE: 02/04/10	DRAWN: JE	FIGURE NO. 2
PROJECT NO. 97-05-154	CHK'D: SA	

Monitoring Well	Groundwater Elevation
MW-201A	661.90
MW-201B	672.97
MW-202A	662.38
MW-202B	671.88
MW-203A	661.93
MW-203B	673.79
MW-204A	662.23
MW-204B	674.43
MW-205A	660.87
MW-205B	674.47
MW-206A	662.93
MW-206B	674.53
MW-207A	661.99
MW-207B	674.54
MW-208A	662.07
MW-208B	674.20



N

LEGEND

- CHAIN LINK FENCE
- RAILROAD TRACKS
- MW-201B/A — SIA HYDRAULIC MONITORING WELL
- PW5-1 — PUMPING WELL LOCATION
- —668— GROUNDWATER CONTOUR (ft)
- GROUNDWATER FLOW DIRECTION

0 250 500

SCALE IN FEET

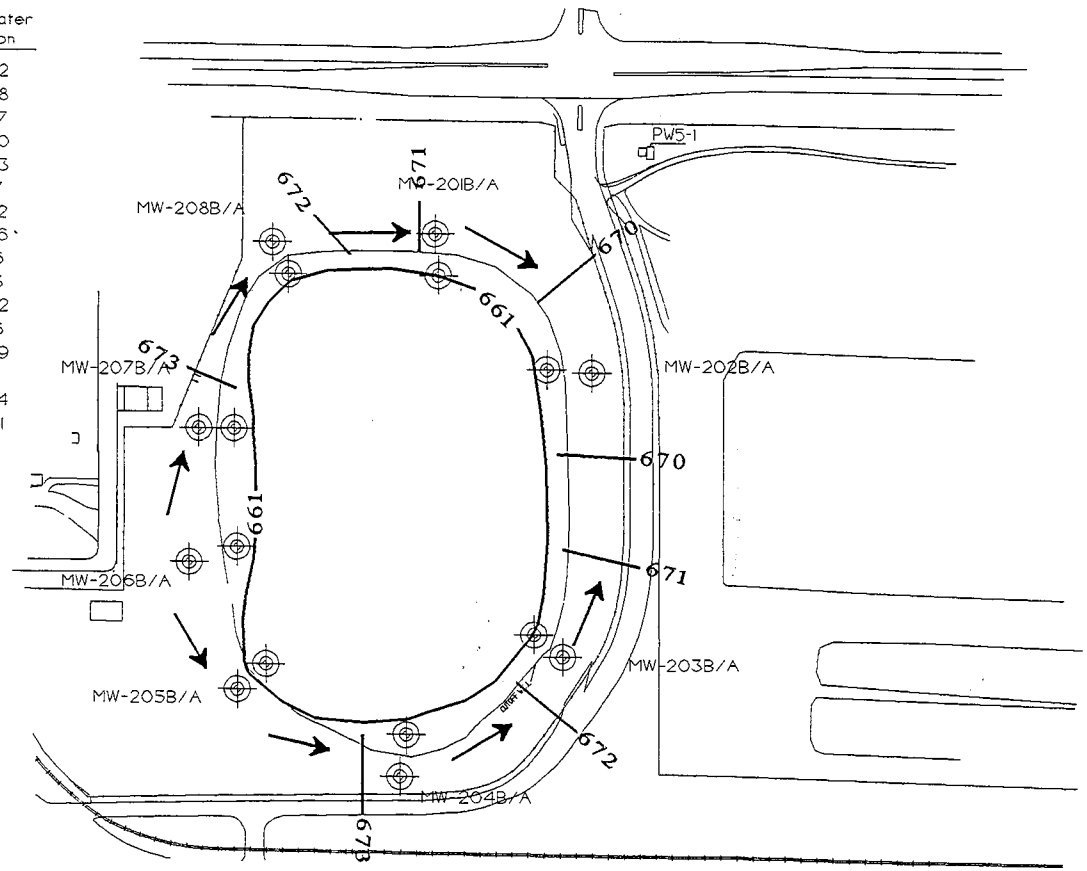
NOVA CONSULTANTS, INC.
PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES

GROUNDWATER CONTOUR MAP
UPPER SAND & GRAVEL UNIT - MAY 2009

FORMER ALLISON GAS TURBINE
DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

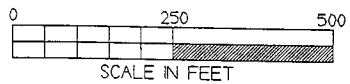
DATE: 2/04/10	DRAWN: JE	FIGURE NO. 3
PROJECT NO. 97-05-154	CHK'D: SA	

Monitoring Well	Groundwater Elevation
MW-201A	662.42
MW-201B	670.98
MW-202A	662.87
MW-202B	669.70
MW-203A	662.43
MW-203B	671.87
MW-204A	662.72
MW-204B	672.96
MW-205A	661.36
MW-205B	673.13
MW-206A	663.42
MW-206B	673.16
MW-207A	662.49
MW-207B	673.11
MW-208A	662.54
MW-208B	672.41



LEGEND

- CHAIN LINK FENCE
- RAILROAD TRACKS
- MW-201B/A — SIA HYDRAULIC MONITORING WELL
- PW5-1 — PUMPING WELL LOCATION
- 668 — GROUNDWATER CONTOUR (ft)
- GROUNDWATER FLOW DIRECTION



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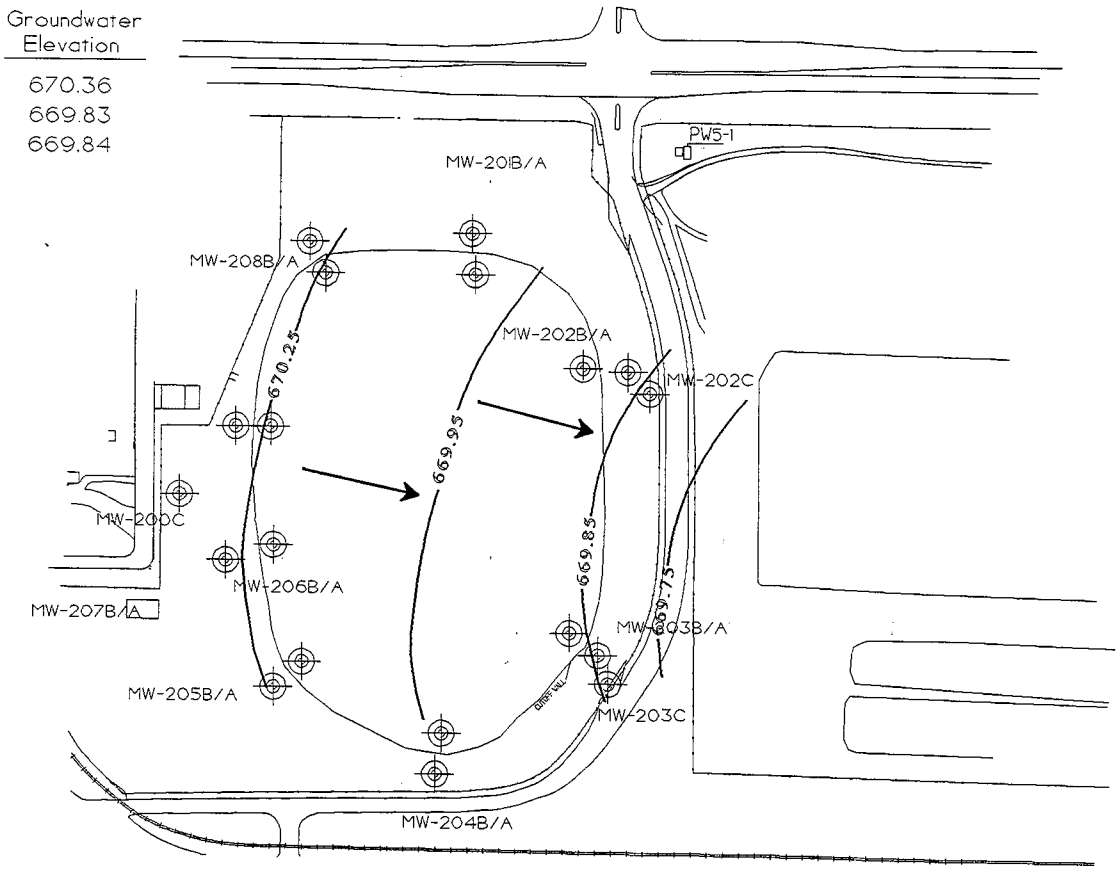
GROUNDWATER CONTOUR MAP
UPPER SAND & GRAVEL UNIT - NOVEMBER 2009

FORMER ALLISON GAS TURBINE
DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

DATE: 2/04/10	DRAWN: JE	FIGURE NO. 4
PROJECT NO. 97-05-154	CHK'D: SA	

Monitoring Well	Groundwater Elevation
MW-200C	670.36
MW-202C	669.83
MW-203C	669.84



LEGEND

- CHAIN LINK FENCE
- RAILROAD TRACKS
- MW-201B/A — SIA HYDRAULIC MONITORING WELL
- PW5-1 — PUMPING WELL LOCATION
- 669.85 — GROUNDWATER CONTOUR (ft)
- GROUNDWATER FLOW DIRECTION

NOTE: LOCATIONS OF "C" MONITORING WELLS ARE APPROXIMATE

0 250 500
SCALE IN FEET

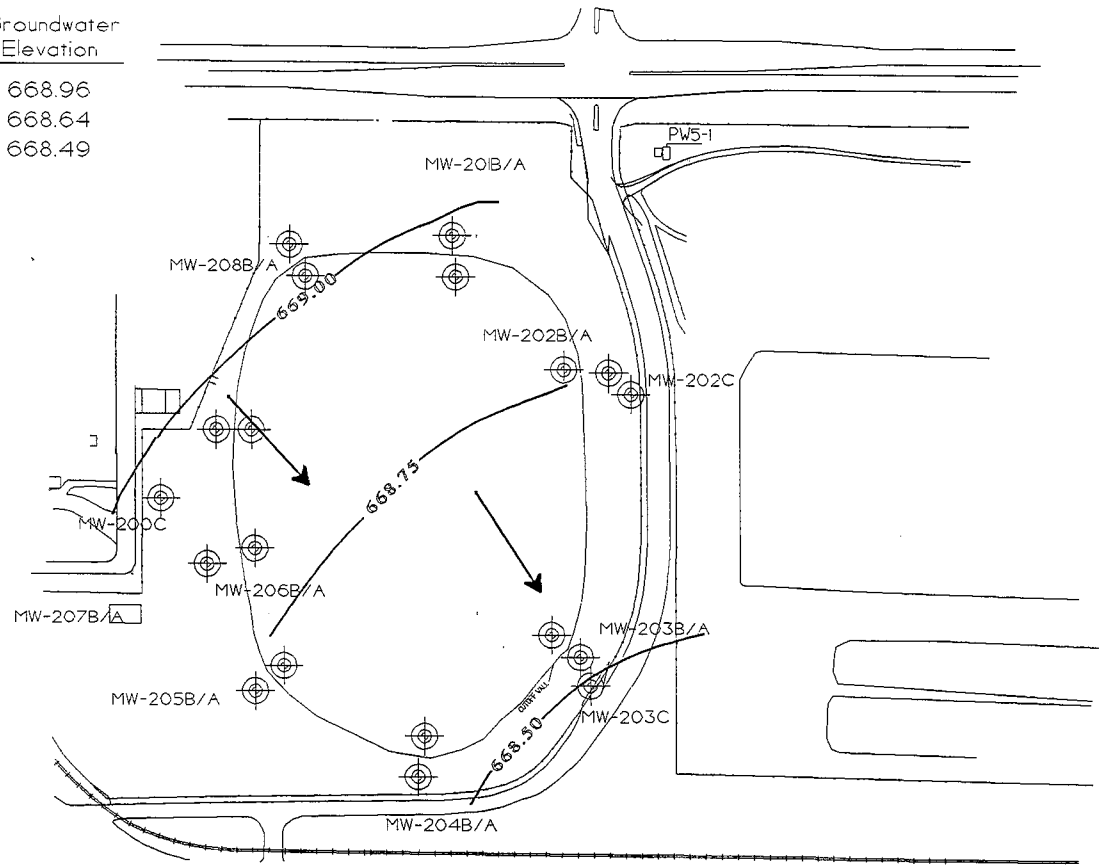
NOVA CONSULTANTS, INC.
PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES

GROUNDWATER CONTOUR MAP
LOWER SAND & GRAVEL UNIT - MAY 2009

FORMER ALLISON GAS TURBINE
DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

DATE: 2/04/10	DRAWN: JE	FIGURE NO. 5
PROJECT NO. 97-05-154	CHK'D: SA	

Monitoring Well	Groundwater Elevation
MW-200C	668.96
MW-202C	668.64
MW-203C	668.49



N

LEGEND

- CHAIN LINK FENCE
- RAILROAD TRACKS
- MW-201B/A — SIA HYDRAULIC MONITORING WELL
- PW5-1 — PUMPING WELL LOCATION
- 666.0 — GROUNDWATER CONTOUR (ft)
- GROUNDWATER FLOW DIRECTION

NOTE: LOCATIONS OF "C" MONITORING WELLS ARE APPROXIMATE

0 250 500
SCALE IN FEET

NOVA CONSULTANTS, INC.
PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES

GROUNDWATER CONTOUR MAP
LOWER SAND & GRAVEL UNIT - NOVEMBER 2009

FORMER ALLISON GAS TURBINE
DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

DATE: 2/04/10	DRAWN: JE	FIGURE NO. 6
PROJECT NO. 97-05-154	CHK'D: SA	

TABLES

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-201A	6/28/1994	NA	NA	NA	NA	NA	NA
	7/7/1994	NA	NA	NA	NA	NA	NA
	7/20/1994	NA	NA	NA	NA	NA	NA
Top of Casing Elev.	7/27/1994	37.35	655.86	NA	NA	NA	NA
693.21' MSL	8/10/1994	37.21	656.00	0.14	NA	NA	NA
	8/22/1994	37.05	656.16	0.16	NA	NA	NA
As-Built Total Depth	9/1/1994	36.94	656.27	0.11	NA	NA	NA
from Top of Casing	9/8/1994	36.86	656.35	0.08	NA	NA	NA
39.31'	9/15/1994	36.80	656.41	0.06	NA	NA	NA
	9/20/1994	36.75	656.46	0.05	NA	NA	NA
	9/29/1994	36.67	656.54	0.08	NA	NA	NA
	10/7/1994	36.57	656.64	0.10	NA	NA	NA
	10/13/1994	36.55	656.66	0.02	NA	NA	NA
	10/26/1994	36.45	656.76	0.10	NA	NA	NA
	11/2/1994	36.37	656.84	0.08	NA	NA	NA
	6/29/1995	35.87	657.34	0.50	NA	NA	NA
Reestablished Top	1/31/1996	36.07	657.14	-0.20	NA	NA	NA
of Casing Elevation	6/26/1996	34.52	658.69	1.55	NA	NA	NA
on March 17, 1998	12/18/1996	34.83	658.38	-0.31	39.31	653.90	0.00
693.89' MSL	5/28/1997	34.00	659.21	0.83	39.26	653.95	-0.05
	11/19/1997	33.68	659.93	0.72	39.29	653.92	-0.02
	5/12/1998	33.03	660.86	NA	39.31	654.58	0.00
	11/3/1998	36.64	657.25	-3.61	39.31	654.58	0.00
	6/28/1999	36.57	657.32	0.07	39.31	654.58	0.00
	11/30/1999	35.07	658.82	1.50	39.31	654.58	0.00
	5/16/2000	34.80	659.09	0.27	39.31	654.58	0.00
	11/13/2000	36.19	657.70	-1.39	39.31	654.58	0.00
	5/30/2001	37.01	656.88	-0.82	39.29	654.60	-0.02
	11/23/2001	36.44	657.45	0.57	39.31	654.58	0.00
	5/29/2002	39.31	658.27	0.82	39.31	654.58	0.00
	11/21/2002	35.17	658.72	0.45	39.31	654.58	0.00
	5/20/2003	34.69	659.20	0.48	39.30	654.59	-0.01
	11/18/2003	36.06	657.83	-1.37	39.30	654.59	-0.01
	5/24/2004	36.68	657.21	-0.62	39.31	654.58	0.00
	11/11/2004	34.82	659.07	1.86	39.31	654.58	0.00
	5/10/2005	34.73	659.16	0.09	39.30	654.59	-0.01
	11/9/2005	35.17	658.72	-0.44	39.31	654.58	0.00
	5/17/2006	34.35	659.54	0.82	39.30	654.59	-0.01
	11/8/2006	33.89	660.00	0.46	39.31	654.58	0.00
	5/16/2007	33.17	660.72	0.72	39.08	654.81	-0.23
	11/15/2007	32.85	661.04	0.32	39.30	654.59	-0.01
	5/13/2008	32.10	661.79	0.65	39.05	654.84	-0.26
	11/6/2008	32.70	661.19	-0.60	39.30	654.59	-0.01
	5/13/2009	31.99	661.90	0.71	39.31	654.58	0.00
	11/23/2009	31.47	662.42	0.52	39.29	654.60	-0.02

Note: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
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WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-201B	6/28/1994	25.42	668.02	NA	NA	NA	NA
	7/7/1994	25.15	668.29	0.27	NA	NA	NA
	7/20/1994	25.22	668.22	-0.07	NA	NA	NA
Top of Casing Elev.	7/27/1994	25.22	668.22	0.00	NA	NA	NA
693.44' MSL	8/10/1994	25.86	667.58	-0.64	NA	NA	NA
	8/22/1994	25.94	667.50	-0.08	NA	NA	NA
As-Built Total Depth	9/1/1994	26.00	667.44	-0.06	NA	NA	NA
from Top of Casing	9/8/1994	25.75	667.69	0.25	NA	NA	NA
38.51'	9/15/1994	24.16	669.28	1.59	NA	NA	NA
	9/20/1994	24.16	669.28	0.00	NA	NA	NA
	9/29/1994	26.44	667.00	-2.28	NA	NA	NA
	10/7/1994	26.62	666.82	-0.18	NA	NA	NA
	10/13/1994	26.46	666.98	0.16	NA	NA	NA
	10/26/1994	26.97	666.47	-0.51	NA	NA	NA
	11/2/1994	26.92	666.52	0.05	NA	NA	NA
	6/29/1995	26.36	667.08	0.56	NA	NA	NA
Reestablished Top	1/31/1996	27.49	665.95	-1.13	NA	NA	NA
of Casing Elevation	6/26/1996	24.30	669.14	3.19	NA	NA	NA
on March 17. 1998	12/18/1996	24.13	669.31	0.17	38.42	655.02	-0.09
693.06' MSL	5/28/1997	23.42	670.02	0.71	38.40	655.04	-0.11
	11/19/1997	27.70	665.74	-4.28	38.45	654.99	-0.06
	5/12/1998	25.46	667.60	NA	38.47	654.59	-0.04
	11/3/1998	26.05	667.01	-0.59	38.45	654.61	-0.06
	6/28/1999	26.14	666.92	-0.09	38.44	654.62	-0.07
	11/30/1999	27.60	665.46	-1.46	38.35	654.71	-0.16
	5/16/2000	27.51	665.55	0.09	38.33	654.73	-0.18
	11/13/2000	27.72	665.34	-0.21	38.50	654.56	-0.01
	5/30/2001	27.07	665.99	0.65	38.31	654.75	-0.20
	11/23/2001	24.97	668.09	2.10	38.45	654.61	-0.06
	5/29/2002	20.72	672.34	4.25	38.44	654.62	-0.07
	11/21/2002	25.54	667.52	-4.82	38.46	654.60	-0.05
	5/20/2003	23.19	669.87	2.35	38.27	654.79	-0.24
	11/18/2003	22.74	670.32	0.45	38.25	654.81	-0.26
	5/24/2004	22.73	670.33	0.01	38.42	654.64	-0.08
	11/11/2004	23.44	669.62	-0.71	38.42	654.64	-0.08
	5/10/2005	21.51	671.55	1.93	38.52	654.54	0.01
	11/9/2005	23.77	669.29	-2.26	38.42	654.64	-0.09
	5/17/2006	21.40	671.66	2.37	38.43	654.63	-0.08
	11/8/2006	22.40	670.66	-1.00	38.44	654.62	-0.07
	5/16/2007	20.34	672.72	2.06	38.36	654.70	-0.15
	11/15/2007	23.51	669.55	-3.17	38.34	654.72	-0.17
	5/13/2008	20.63	672.43	2.88	38.36	654.70	-0.15
	11/6/2008	22.86	670.20	-2.23	38.45	654.61	-0.06
	5/13/2009	20.09	672.97	2.77	38.45	654.61	-0.06
	11/23/2009	22.08	670.98	-1.99	38.46	654.60	-0.05

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WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-202A	6/28/1994	41.89	655.53	NA	NA	NA	NA
	7/7/1994	41.86	655.56	0.03	NA	NA	NA
	7/20/1994	42.62	654.80	-0.76	NA	NA	NA
Top of Casing Elev.	7/27/1994	NA	NA	NA	NA	NA	NA
697.42' MSL	8/10/1994	NA	NA	NA	NA	NA	NA
	8/22/1994	NA	NA	NA	NA	NA	NA
As-Built Total Depth	9/1/1994	NA	NA	NA	NA	NA	NA
from Top of Casing	9/8/1994	41.04	656.38	NA	NA	NA	NA
44.50'	9/15/1994	40.99	656.43	0.05	NA	NA	NA
	9/20/1994	40.92	656.5	0.07	NA	NA	NA
	9/29/1994	40.83	656.59	0.09	NA	NA	NA
	10/7/1994	40.76	656.66	0.07	NA	NA	NA
	10/13/1994	40.74	656.68	0.02	NA	NA	NA
	10/26/1994	40.61	656.81	0.13	NA	NA	NA
	11/2/1994	40.57	656.85	0.04	NA	NA	NA
	6/29/1995	39.11	658.31	1.46	NA	NA	NA
Reestablished Top	1/31/1996	38.34	659.08	0.77	NA	NA	NA
of Casing Elevation	6/26/1996	37.77	659.65	0.57	NA	NA	NA
on March 17, 1998	12/18/1996	38.07	659.35	-0.30	44.50	652.92	0.00
697.58' MSL	5/28/1997	37.30	660.12	0.77	44.09	653.33	-0.41
	11/19/1997	36.91	660.51	0.39	44.05	653.37	-0.45
	5/12/1998	36.47	661.11	NA	44.06	653.52	-0.44
	11/3/1998	38.90	658.68	-2.43	44.08	653.50	-0.42
	6/28/1999	38.58	659.00	0.32	44.05	653.53	-0.45
	11/30/1999	38.32	659.26	0.26	44.06	653.52	-0.44
	5/16/2000	37.89	659.69	0.43	44.10	653.48	-0.40
	11/13/2000	39.44	658.14	-1.55	44.07	653.51	-0.43
	5/30/2001	40.27	657.31	-0.83	44.07	653.51	-0.43
	11/23/2001	39.68	657.90	0.59	44.08	653.50	-0.42
	5/29/2002	38.88	658.70	0.80	44.07	653.51	-0.43
	11/21/2002	38.37	659.21	0.51	44.07	653.51	-0.43
	5/20/2003	37.77	659.81	0.60	43.97	653.61	-0.53
	11/18/2003	39.32	658.26	-1.55	43.98	653.60	-0.52
	5/24/2004	36.41	659.17	0.91	43.96	653.62	-0.54
	11/11/2004	38.06	659.52	0.35	43.96	653.62	-0.54
	5/10/2005	37.98	659.60	0.08	44.02	653.56	-0.48
	11/9/2005	38.41	659.17	-0.43	44.03	653.55	-0.47
	5/17/2006	37.56	660.02	0.85	44.01	653.57	-0.49
	11/8/2006	37.12	660.46	0.44	44.01	653.57	-0.49
	5/16/2007	36.43	661.15	0.69	43.70	653.88	-0.80
	11/15/2007	36.10	661.48	0.33	44.02	653.56	-0.48
	5/13/2008	35.31	662.27	0.79	43.77	653.81	-0.73
	11/6/2008	35.94	661.64	-0.63	44.01	653.57	-0.49
	5/13/2009	35.20	662.38	0.74	44.00	653.58	-0.50
	11/23/2009	34.71	662.87	0.49	44.01	653.57	-0.49

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MONITORING WELL AND GROUNDWATER DATA
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MW-202B	6/28/1994	25.27	666.32	NA	NA	NA	NA
	7/7/1994	24.73	666.86	0.54	NA	NA	NA
	7/20/1994	24.91	666.68	-0.18	NA	NA	NA
Top of Casing Elev.	7/27/1994	25.29	666.30	-0.38	NA	NA	NA
691.59' MSL	8/10/1994	25.53	666.06	-0.24	NA	NA	NA
	8/22/1994	25.63	665.96	-0.10	NA	NA	NA
As-Built Total Depth	9/1/1994	25.82	665.77	-0.19	NA	NA	NA
from Top of Casing	9/8/1994	25.57	666.02	0.25	NA	NA	NA
37.71'	9/15/1994	25.97	665.62	-0.40	NA	NA	NA
	9/20/1994	26.13	665.46	-0.16	NA	NA	NA
	9/29/1994	26.11	665.48	0.02	NA	NA	NA
	10/7/1994	26.33	665.26	-0.22	NA	NA	NA
	10/13/1994	26.43	665.16	-0.10	NA	NA	NA
	10/26/1994	26.69	664.90	-0.26	NA	NA	NA
	11/2/1994	26.63	664.96	0.06	NA	NA	NA
	6/29/1995	26.00	665.59	0.63	NA	NA	NA
Reestablished Top	1/31/1996	26.75	664.84	-0.75	NA	NA	NA
of Casing Elevation	6/26/1996	24.09	667.50	2.66	NA	NA	NA
on March 17, 1998	12/18/1996	23.75	667.84	0.34	37.62	653.97	-0.09
691.43' MSL	5/28/1997	23.18	668.41	0.57	37.62	653.97	-0.09
	11/19/1997	27.80	663.79	-4.62	37.68	653.91	-0.03
	5/12/1998	24.88	666.55	NA	37.68	653.75	-0.03
	11/3/1998	25.76	665.67	-0.88	37.67	653.76	-0.04
	6/28/1999	25.72	665.71	0.04	37.69	653.74	-0.02
	11/30/1999	27.32	664.11	-1.60	37.58	653.85	-0.13
	5/16/2000	27.80	663.63	-0.48	37.65	653.78	-0.06
	11/13/2000	27.89	663.54	-0.09	37.71	653.72	0.00
	5/30/2001	26.90	664.53	0.99	37.51	653.92	-0.20
	11/23/2001	24.73	666.70	2.17	37.67	653.76	-0.04
	5/29/2002	20.73	670.70	4.00	37.67	653.76	-0.04
	11/21/2002	25.42	666.01	-4.69	37.70	653.73	-0.01
	5/20/2003	23.21	668.22	2.21	37.69	653.74	-0.02
	11/18/2003	22.80	668.83	0.61	37.67	653.76	-0.04
	5/24/2004	22.55	668.88	0.05	37.64	653.79	-0.07
	11/11/2004	23.17	668.26	-0.62	37.64	653.79	-0.07
	5/10/2005	21.11	670.32	2.06	37.66	653.77	-0.05
	11/9/2005	23.56	667.87	-2.45	37.66	653.77	-0.05
	5/17/2006	21.14	670.29	2.42	37.61	653.82	-0.10
	11/8/2006	21.88	669.55	-0.74	37.67	653.76	-0.04
	5/16/2007	20.15	671.28	1.73	37.42	654.01	-0.29
	11/15/2007	22.89	668.54	-2.74	37.50	653.93	-0.21
	5/13/2008	20.07	671.36	2.82	37.31	654.12	-0.40
	11/6/2008	22.33	669.10	-2.26	37.62	653.81	-0.09
	5/13/2009	19.55	671.88	2.78	37.51	653.92	-0.20
	11/23/2009	21.73	669.70	-2.18	37.52	653.91	-0.19

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MW-203A	6/28/1994	37.30	657.50	NA	NA	NA	NA
	7/7/1994	37.44	657.36	-0.14	NA	NA	NA
	7/20/1994	37.78	657.02	-0.34	NA	NA	NA
Top of Casing Elev.	7/27/1994	NA	NA	NA	NA	NA	NA
694.80' MSL	8/10/1994	NA	NA	NA	NA	NA	NA
	8/22/1994	37.94	656.86	NA	NA	NA	NA
As-Built Total Depth	9/1/1994	37.94	656.86	0.00	NA	NA	NA
from Top of Casing	9/8/1994	37.94	656.86	0.00	NA	NA	NA
40.06'	9/15/1994	NA	NA	NA	NA	NA	NA
	9/20/1994	NA	NA	NA	NA	NA	NA
	9/29/1994	NA	NA	NA	NA	NA	NA
	10/7/1994	NA	NA	NA	NA	NA	NA
	10/13/1994	NA	NA	NA	NA	NA	NA
	10/26/1994	NA	NA	NA	NA	NA	NA
	11/2/1994	NA	NA	NA	NA	NA	NA
	6/29/1995	36.47	658.33	NA	NA	NA	NA
Reestablished Top	1/31/1996	35.66	659.14	0.81	NA	NA	NA
of Casing Elevation	6/26/1996	35.10	659.70	0.56	NA	NA	NA
on March 17, 1998	12/18/1996	35.40	659.40	-0.30	40.04	654.76	-0.02
694.46' MSL	5/28/1997	34.60	660.20	0.80	40.03	654.77	-0.03
	11/19/1997	34.23	660.57	0.37	40.02	654.78	-0.04
	5/12/1998	33.80	660.66	NA	40.04	654.42	-0.02
	11/3/1998	36.25	658.21	-2.45	40.05	654.41	-0.01
	6/28/1999	35.96	658.50	0.29	40.04	656.42	-0.02
	11/30/1999	35.64	658.82	0.32	40.04	656.42	-0.02
	5/16/2000	35.25	659.21	0.39	40.05	654.41	-0.01
	11/13/2000	36.75	657.71	-1.50	40.05	654.41	-0.01
	5/30/2001	37.60	656.86	-0.85	40.04	654.42	-0.02
	11/23/2001	37.02	657.44	0.58	40.05	654.41	-0.01
	5/29/2002	36.21	658.25	0.81	40.01	654.45	-0.05
	11/21/2002	35.71	658.75	0.50	40.01	654.45	-0.05
	5/20/2003	35.20	659.26	0.51	40.06	654.40	0.00
	11/18/2003	36.68	657.78	-1.48	40.04	654.42	-0.02
	5/24/2004	35.84	658.62	0.84	40.04	654.42	-0.02
	11/11/2004	35.37	659.09	0.47	40.04	654.42	-0.02
	5/10/2005	34.60	659.86	0.77	40.03	654.43	-0.03
	11/9/2005	35.72	658.74	-1.12	40.04	654.42	-0.02
	5/17/2006	34.50	659.96	1.22	40.04	654.42	-0.02
	11/8/2006	34.45	660.01	0.05	40.04	654.42	-0.02
	5/16/2007	33.73	660.73	0.72	39.81	654.67	-0.25
	11/15/2007	33.39	661.07	0.34	40.04	654.42	-0.02
	5/13/2008	32.23	662.23	1.16	39.81	654.67	-0.25
	11/6/2008	33.27	661.19	-1.04	40.03	654.43	-0.03
	5/13/2009	32.53	661.93	0.74	40.04	654.42	-0.02
	11/23/2009	32.03	662.43	0.50	40.04	654.42	-0.02

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MW-203B	6/28/1994	21.96	668.24	NA	NA	NA	NA
	7/7/1994	21.92	668.28	0.04	NA	NA	NA
	7/20/1994	22.04	668.16	-0.12	NA	NA	NA
Top of Casing Elev.	7/27/1994	21.32	668.88	0.72	NA	NA	NA
690.20' MSL	8/10/1994	22.61	667.59	-1.29	NA	NA	NA
	8/22/1994	22.80	667.40	-0.19	NA	NA	NA
As-Built Total Depth	9/1/1994	22.90	667.30	-0.10	NA	NA	NA
from Top of Casing	9/8/1994	22.83	667.33	0.07	NA	NA	NA
34.30	9/15/1994	23.12	667.08	-0.29	NA	NA	NA
	9/20/1994	23.26	666.94	-0.14	NA	NA	NA
	9/29/1994	23.42	666.78	-0.16	NA	NA	NA
	10/7/1994	23.42	666.78	0.00	NA	NA	NA
	10/13/1994	23.46	666.74	-0.04	NA	NA	NA
	10/26/1994	23.56	666.64	-0.10	NA	NA	NA
	11/2/1994	23.56	666.64	0.00	NA	NA	NA
	6/29/1995	23.04	667.16	0.52	NA	NA	NA
Reestablished Top	1/31/1996	23.56	666.64	-0.52	NA	NA	NA
of Casing Elevation	6/26/1996	21.12	669.08	2.44	NA	NA	NA
on March 17, 1998	12/18/1996	21.30	668.90	-0.18	34.30	657.35	0.00
691.65' MSL	5/28/1997	20.88	669.32	0.42	34.25	657.40	-0.05
	11/19/1997	24.88	665.32	-4.00	34.40	657.25	0.10
	5/12/1998	22.81	668.77	NA	34.48	657.17	0.18
	11/3/1998	23.34	668.31	-0.46	34.29	657.36	-0.01
	6/28/1999	22.72	668.93	0.62	34.26	657.39	-0.04
	11/30/1999	24.39	667.26	-1.67	34.27	657.38	-0.03
	5/16/2000	24.53	667.12	-0.14	34.28	657.37	-0.02
	11/13/2000	24.43	667.22	0.10	34.30	657.35	0.00
	5/30/2001	23.73	667.92	0.70	34.29	657.36	-0.01
	11/23/2001	21.81	669.64	1.82	34.30	657.35	0.00
	5/29/2002	17.95	673.70	3.86	34.28	657.37	-0.02
	11/21/2002	22.49	669.16	-4.54	34.27	657.38	-0.03
	5/20/2003	20.67	670.98	1.82	34.30	657.35	0.00
	11/18/2003	20.68	670.97	-0.01	34.30	657.35	0.00
	5/24/2004	20.13	671.52	0.55	34.30	657.35	0.00
	11/11/2004	20.85	670.80	-0.72	34.30	657.35	0.00
	5/10/2005	20.62	671.03	0.23	34.30	657.35	0.00
	11/9/2005	21.43	670.22	-0.81	34.30	657.35	0.00
	5/17/2006	22.02	669.63	-0.59	34.32	657.33	0.02
	11/8/2006	19.62	672.03	2.40	34.28	657.37	-0.02
	5/16/2007	18.12	673.53	1.50	34.11	657.54	-0.19
	11/15/2007	20.67	670.98	-2.55	34.29	657.36	-0.01
	5/13/2008	18.12	673.53	2.55	33.92	657.73	-0.38
	11/6/2008	19.90	671.75	-1.78	34.27	657.38	-0.03
	5/13/2009	17.86	673.79	2.04	34.30	657.35	0.00
	11/23/2009	19.78	671.87	-1.92	34.30	657.35	0.00

Note: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-204A	6/28/1994	28.79	665.09	NA	NA	NA	NA
	7/7/1994	38.41	655.47	-9.62	NA	NA	NA
	7/20/1994	38.41	655.47	0.00	NA	NA	NA
Top of Casing Elev.	7/27/1994	39.63	654.25	-1.22	NA	NA	NA
693.88' MSL	8/10/1994	37.89	655.99	1-74	NA	NA	NA
	8/22/1994	37.70	656.18	0.19	NA	NA	NA
As-Built Total Depth	9/1/1994	37.63	656.25	0.07	NA	NA	NA
from Top of Casing	9/8/1994	37.53	656.35	0.10	NA	NA	NA
38.80'	9/15/1994	37.47	656.41	0.06	NA	NA	NA
	9/20/1994	37.43	656.45	0.04	NA	NA	NA
	9/29/1994	37.34	656.54	0.09	NA	NA	NA
	10/7/1994	37.34	656.54	0.00	NA	NA	NA
	10/13/1994	37.19	656.69	0.14	NA	NA	NA
	10/26/1994	37.11	656.77	0.08	NA	NA	NA
	11/2/1994	37.05	656.83	0.06	NA	NA	NA
	6/29/1995	35.57	658.31	1.48	NA	NA	NA
Reestablished Top	1/31/1996	34.79	659.09	0.78	NA	NA	NA
of Casing Elevation	6/26/1996	34.21	659.67	0.58	NA	NA	NA
on March 17. 1998	12/18/1996	34.52	659.36	-0.31	38.71	655.17	-0.09
693.89' MSL	5/28/1997	33.71	660.17	0.81	38.68	655.20	-0.12
	11/19/1997	33.36	660.52	0.35	38.71	655.17	-0.09
	5/12/1998	32.46	661.43	NA	38.74	655.15	-0.06
	11/3/1998	35.67	658.22	-3.21	38.78	655.11	-0.02
	6/28/1999	35.05	658.84	0.62	38.75	655.14	-0.05
	11/30/1999	34.56	659.33	0.49	38.75	655.14	-0.05
	5/16/2000	34.40	659.49	0.16	38.77	655.12	-0.03
	11/13/2000	35.90	657.99	-1.50	38.78	655.11	-0.02
	5/30/2001	36.72	657.17	-0.72	38.76	655.13	-0.04
	11/23/2001	36.12	657.77	0.60	38.75	655.14	-0.05
	5/29/2002	35.33	658.56	0.79	38.75	655.14	-0.05
	11/21/2002	34.83	659.06	0.50	38.74	655.15	-0.06
	5/20/2003	34.38	659.51	0.45	38.73	655.16	-0.07
	11/18/2003	35.79	658.10	-1.41	38.72	655.17	-0.08
	5/24/2004	34.96	658.93	0.83	38.74	655.15	-0.06
	11/11/2004	34.51	659.38	0.45	38.74	655.15	-0.06
	5/10/2005	34.44	659.45	0.07	38.75	655.14	-0.05
	11/9/2005	34.84	659.05	-0.40	38.74	655.15	-0.06
	5/17/2006	34.05	659.84	0.79	38.72	655.17	-0.08
	11/8/2006	33.60	660.29	0.45	38.74	655.15	-0.06
	5/16/2007	32.87	661.02	0.73	38.50	655.40	-0.30
	11/15/2007	32.52	661.37	0.35	38.74	655.15	-0.06
	5/13/2008	31.78	662.11	0.74	38.50	655.40	-0.30
	11/6/2008	32.39	661.50	-0.61	38.75	655.14	-0.05
	5/13/2009	31.66	662.23	0.73	38.75	655.14	-0.05
	11/23/2009	31.17	662.72	0.49	38.75	655.14	-0.05

Note: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-204B	6/28/1994	22.13	670.47	NA	NA	NA	NA
	7/7/1994	22.21	670.39	-0.08	NA	NA	NA
	7/20/1994	22.23	670.37	-0.02	NA	NA	NA
Top of Casing Elev.	7/27/1994	22.50	670.10	-0.27	NA	NA	NA
692.60' MSL	8/10/1994	22.80	669.80	-0.30	NA	NA	NA
	8/22/1994	23.02	669.58	-0.22	NA	NA	NA
As-Built Total Depth	9/1/1994	24.08	668.52	-0.06	NA	NA	NA
from Top of Casing	9/8/1994	23.14	669.46	0.94	NA	NA	NA
37.82'	9/15/1994	23.24	669.36	-0.10	NA	NA	NA
	9/20/1994	23.41	669.19	-0.17	NA	NA	NA
	9/29/1994	23.46	669.14	-0.05	NA	NA	NA
	10/7/1994	23.58	669.02	-0.12	NA	NA	NA
	10/13/1994	23.62	668.98	-0.04	NA	NA	NA
	10/26/1994	22.84	669.76	0.78	NA	NA	NA
	11/2/1994	23.94	668.66	-1.10	NA	NA	NA
	6/29/1995	23.41	669.19	0.53	NA	NA	NA
Reestablished Top	1/31/1996	24.26	668.34	0.85	NA	NA	NA
of Casing Elevation	6/26/1996	21.39	671.21	2.87	NA	NA	NA
on March 17. 1998	12/18/1996	21.68	670.92	-0.29	37.78	654.82	-0.04
693.23' MSL	5/28/1997	21.29	671.31	0.39	37.72	654.88	-0.10
	11/19/1997	26.65	665.95	-5.36	37.80	654.80	-0.02
	5/12/1998	23.22	670.01	NA	37.81	655.42	-0.01
	11/3/1998	23.46	669.77	-0.24	37.81	655.42	-0.01
	6/28/1999	22.84	670.39	0.62	37.82	655.41	0.00
	11/30/1999	24.55	668.68	-1.71	37.81	655.42	-0.01
	5/16/2000	24.41	668.82	0.14	37.80	655.43	-0.02
	11/13/2000	24.01	669.22	0.40	37.81	655.42	-0.01
	5/30/2001	23.77	669.46	0.24	37.79	655.44	-0.03
	11/23/2001	22.02	671.21	1.75	37.80	655.43	-0.02
	5/29/2002	18.46	674.77	3.56	37.79	655.44	-0.03
	11/21/2002	22.24	670.99	-3.78	37.78	655.45	-0.04
	5/20/2003	20.46	672.77	1.78	37.78	655.45	-0.04
	11/18/2003	20.84	672.39	-0.38	37.78	655.45	-0.04
	5/24/2004	20.39	672.84	0.45	37.80	655.43	-0.02
	11/11/2004	21.13	672.10	-0.74	37.80	655.43	-0.02
	5/10/2005	19.10	674.13	2.03	37.79	655.44	-0.03
	11/9/2005	21.89	671.34	-2.79	37.80	655.43	-0.02
	5/17/2006	22.51	670.72	-0.62	37.76	655.47	-0.06
	11/8/2006	20.53	672.70	1.98	37.80	655.43	-0.02
	5/16/2007	18.51	674.72	2.02	37.51	655.72	-0.31
	11/15/2007	21.24	671.99	2.73	37.79	655.44	-0.03
	5/13/2008	18.89	674.34	2.35	37.58	655.65	-0.24
	11/6/2008	20.37	672.86	-1.48	37.81	655.42	-0.01
	5/13/2009	18.80	674.43	1.57	37.79	655.44	-0.03
	11/23/2009	20.27	672.96	-1.47	37.79	655.44	-0.03

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SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-205A	6/28/1994	40.27	654.81	NA	NA	NA	NA
	7/7/1994	39.61	655.47	0.31	NA	NA	NA
	7/20/1994	NA	NA	NA	NA	NA	NA
Top of Casing Elev.	7/27/1994	39.30	655.78	NA	NA	NA	NA
695.08' MSL	8/10/1994	39.22	655.86	0.08	NA	NA	NA
	8/22/1994	39.02	656.06	0.20	NA	NA	NA
As-Built Total Depth	9/1/1994	38.92	656.16	0.10	NA	NA	NA
from Top of Casing	9/8/1994	38.84	656.24	0.09	NA	NA	NA
39.61'	9/15/1994	38.77	656.31	0.07	NA	NA	NA
	9/20/1994	38.72	656.36	0.05	NA	NA	NA
	9/29/1994	38.63	656.45	0.09	NA	NA	NA
	10/7/1994	38.55	656.53	0.08	NA	NA	NA
	10/13/1994	38.51	656.57	0.04	NA	NA	NA
	10/26/1994	38.40	656.68	0.11	NA	NA	NA
	11/2/1994	38.32	656.76	0.09	NA	NA	NA
	6/29/1995	36.80	658.28	1.52	NA	NA	NA
Reestablished Top	1/31/1996	36.00	659.08	0.80	NA	NA	NA
of Casing Elevation	6/26/1996	35.44	659.64	0.56	NA	NA	NA
on March 17, 1998	12/18/1996	35.74	659.34	-0.30	39.52	655.56	-0.09
693.74' MSL	5/28/1997	34.93	660.15	0.81	39.61	655.47	0.00
	11/19/1997	34.56	660.52	0.37	39.61	655.47	0.00
	5/12/1998	34.46	659.28	NA	39.63	654.11	0.02
	11/3/1998	37.03	656.71	-2.57	39.60	654.14	-0.01
	6/28/1999	36.25	657.49	1.78	39.63	654.11	0.02
	11/30/1999	35.97	657.77	-0.72	39.64	654.10	0.03
	5/16/2000	35.59	658.15	0.38	39.65	654.09	0.04
	11/13/2000	37.10	656.64	-1.51	39.64	654.10	0.03
	5/30/2001	37.92	655.82	-0.82	39.62	654.12	0.01
	11/23/2001	37.34	656.40	0.58	39.63	654.11	0.02
	5/29/2002	36.53	657.21	0.81	39.63	654.11	0.02
	11/21/2002	36.04	657.70	0.49	39.62	654.12	0.01
	5/20/2003	35.58	658.16	0.46	39.62	654.12	0.01
	11/18/2003	36.99	656.75	-1.41	39.63	654.11	0.02
	5/24/2004	36.17	657.57	0.82	39.61	654.13	0.00
	11/11/2004	34.72	659.02	1.45	39.61	654.13	0.00
	5/10/2005	34.92	658.82	-0.20	39.61	654.13	0.00
	11/9/2005	36.05	657.69	-1.13	39.63	654.11	0.02
	5/17/2006	34.73	659.01	1.32	39.61	654.13	0.00
	11/8/2006	34.62	659.12	0.11	39.61	654.13	0.00
	5/16/2007	34.08	659.66	0.54	39.37	654.37	-0.24
	11/15/2007	33.75	659.99	0.33	39.61	654.13	0.00
	5/13/2008	32.98	660.76	0.77	39.40	654.34	-0.21
	11/6/2008	33.61	660.13	-0.63	39.60	654.14	-0.01
	5/13/2009	32.87	660.87	0.74	39.61	654.13	0.00
	11/23/2009	32.38	661.36	0.49	39.61	654.13	0.00

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TABLE 1
MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-205B	6/28/1994	23.14	670.99	NA	NA	NA	NA
	7/7/1994	23.13	671.00	0.01	NA	NA	NA
	7/20/1994	23.27	670.86	-0.14	NA	NA	NA
Top of Casing Elev.	7/27/1994	23.39	670.74	-0.12	NA	NA	NA
694.13' MSL	8/10/1994	23.68	670.45	-0.29	NA	NA	NA
	8/22/1994	23.88	670.25	-0.20	NA	NA	NA
As-Built Total Depth	9/1/1994	23.93	670.20	-0.05	NA	NA	NA
from Top of Casing	9/8/1994	24.05	670.08	-0.12	NA	NA	NA
39.29'	9/15/1994	24.13	670.00	-0.08	NA	NA	NA
	9/20/1994	24023	669.90	-0.10	NA	NA	NA
	9/29/1994	24.34	669.79	-0.11	NA	NA	NA
	10/7/1994	24.46	669.67	-0.12	NA	NA	NA
	10/13/1994	24.53	669.60	-0.07	NA	NA	NA
	10/26/1994	24.72	669.41	-0.19	NA	NA	NA
	11/2/1994	24.86	669.27	-0.14	NA	NA	NA
	6/29/1995	24.49	669.64	0.37	NA	NA	NA
Reestablished Top	1/31/1996	25.48	668.65	-0.99	NA	NA	NA
of Casing Elevation	6/26/1996	22.32	671.81	3.16	NA	NA	NA
on March 17. 1998	12/18/1996	22.55	671.58	-0.23	38.87	655.26	-0.42
693.97' MSL	5/28/1997	22.05	672.08	0.50	39.02	655.11	-0.27
	11/19/1997	25.45	668.68	-3.40	39.05	655.08	-0.24
	5/12/1998	24.21	669.76	NA	39.13	654.84	-0.16
	11/3/1998	24.25	669.72	-0.04	39.17	654.80	-0.12
	6/28/1999	23.68	670.29	0.57	38.79	655.18	-0.50
	11/30/1999	25.27	668.70	-1.59	38.75	655.22	-0.54
	5/16/2000	25.17	668.80	0.10	38.80	655.17	-0.49
	11/13/2000	24.75	669.22	0.42	38.80	655.17	-0.49
	5/30/2001	24.57	669.40	0.18	38.76	655.21	-0.53
	11/23/2001	22.78	671.19	1.79	38.78	655.19	-0.51
	5/29/2002	17.87	676.10	4.91	38.77	655.20	-0.52
	11/21/2002	23.06	670.91	-5.19	38.78	655.19	-0.51
	5/20/2003	21.79	672.18	1.27	38.81	655.16	-0.48
	11/18/2003	21.36	672.61	0.43	38.79	655.18	-0.50
	5/24/2004	20.99	672.98	0.37	38.81	655.16	-0.48
	11/11/2004	21.74	672.23	-0.75	38.81	655.16	-0.48
	5/10/2005	20.44	673.53	1.30	38.80	655.17	-0.49
	11/9/2005	22.53	671.44	-2.09	38.94	655.03	-0.35
	5/17/2006	23.07	670.90	-0.54	38.75	655.22	-0.54
	11/8/2006	21.20	672.77	1.87	38.81	655.16	-0.48
	5/16/2007	19.06	674.91	2.14	38.60	655.37	-0.69
	11/15/2007	21.96	672.01	-2.90	38.72	655.25	-0.57
	5/13/2008	19.55	674.42	2.41	38.50	655.47	-0.79
	11/6/2008	21.02	672.95	-1.47	38.71	655.26	-0.58
	5/13/2009	19.50	674.47	1.52	38.75	655.22	-0.54
	11/23/2009	20.84	673.13	-1.34	38.71	655.26	-0.58

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WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-206A	6/28/1994	38.82	659.02	NA	NA	NA	NA
	7/7/1994	NA	NA	NA	NA	NA	NA
	7/20/1994	NA	NA	NA	NA	NA	NA
Top of Casing Elev.	7/27/1994	NA	NA	NA	NA	NA	NA
697.84' MSL	8/10/1994	NA	NA	NA	NA	NA	NA
	8/22/1994	NA	NA	NA	NA	NA	NA
As-Built Total Depth	9/1/1994	NA	NA	NA	NA	NA	NA
from Top of Casing	9/8/1994	41.49	656.35	NA	NA	NA	NA
43.25'	9/15/1994	41.42	656.42	0.07	NA	NA	NA
	9/20/1994	NA	NA	NA	NA	NA	NA
	9/29/1994	41.29	656.55	NA	NA	NA	NA
	10/7/1994	41.21	656.63	0.08	NA	NA	NA
	10/13/1994	41.20	656.64	0.01	NA	NA	NA
	10/26/1994	41.04	656.80	0.16	NA	NA	NA
	11/2/1994	40.96	656.88	0.08	NA	NA	NA
	6/29/1995	39.50	658.34	1.46	NA	NA	NA
Reestablished Top	1/31/1996	38.70	659.14	0.80	NA	NA	NA
of Casing Elevation	6/26/1996	38.14	659.70	0.56	NA	NA	NA
on March 17, 1998	12/18/1996	38.46	659.38	-0.32	43.28	654.56	0.03
698.52' MSL	5/28/1997	37.65	660.19	0.81	43.26	654.58	0.01
	11/19/1997	37.27	660.57	0.38	43.23	654.61	-0.02
	5/12/1998	36.00	662.52	NA	43.26	655.26	0.01
	11/3/1998	39.75	658.77	-3.75	43.25	655.27	0.00
	6/28/1999	39.01	659.51	0.74	43.25	655.27	0.00
	11/30/1999	38.70	659.82	0.31	43.26	655.26	0.01
	5/16/2000	38.52	660.00	0.18	43.23	655.29	-0.02
	11/13/2000	38.83	659.69	-0.31	43.27	655.25	0.02
	5/30/2001	40.64	657.88	-1.81	43.25	655.27	0.00
	11/23/2001	40.06	658.46	0.58	43.26	655.26	0.02
	5/29/2002	39.25	659.27	0.81	43.25	655.27	0.00
	11/21/2002	38.76	659.76	0.49	43.25	655.27	0.00
	5/20/2003	38.07	660.45	0.69	43.18	655.34	-0.07
	11/18/2003	39.67	658.85	-1.60	43.19	655.33	-0.06
	5/24/2004	38.72	659.80	0.95	43.20	655.32	-0.05
	11/11/2004	38.44	660.08	0.28	43.20	655.32	-0.05
	5/10/2005	37.71	660.81	0.73	43.18	655.34	-0.07
	11/9/2005	39.78	658.74	-2.07	43.20	655.32	-0.05
	5/17/2006	37.96	660.56	1.82	43.17	655.35	-0.08
	11/8/2006	38.48	660.04	-0.52	43.14	655.38	-0.11
	5/16/2007	36.80	661.72	1.68	42.96	655.56	-0.29
	11/15/2007	36.48	662.04	0.32	43.20	655.32	-0.05
	5/13/2008	35.72	662.80	0.76	42.95	655.57	-0.30
	11/6/2008	36.32	662.60	-0.60	43.20	655.32	-0.05
	5/13/2009	35.59	662.93	0.33	43.24	655.28	-0.01
	11/23/2009	35.10	663.42	0.49	43.15	655.37	-0.10

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MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-206B	6/28/1994	22.69	670.95	NA	NA	NA	NA
	7/7/1994	22.69	670.95	0.00	NA	NA	NA
	7/20/1994	22.78	670.86	-0.09	NA	NA	NA
Top of Casing Elev.	7/27/1994	22.92	670.72	-0.14	NA	NA	NA
693.64' MSL	8/10/1994	23.21	670.43	-0.29	NA	NA	NA
	8/22/1994	23.39	670.25	-0.18	NA	NA	NA
As-Built Total Depth	9/1/1994	23.47	670.17	-0.08	NA	NA	NA
from Top of Casing	9/8/1994	23.53	670.11	-0.06	NA	NA	NA
37.73'	9/15/1994	23.63	670.01	-0.10	NA	NA	NA
	9/20/1994	23.75	669.89	-0.12	NA	NA	NA
	9/29/1994	23.84	669.80	-0.09	NA	NA	NA
	10/7/1994	23.97	669.67	-0.13	NA	NA	NA
	10/13/1994	24.07	669.57	-0.10	NA	NA	NA
	10/26/1994	24.27	669.37	-0.20	NA	NA	NA
	11/2/1994	24.43	669.21	-0.16	NA	NA	NA
	6/29/1995	24.08	669.56	0.35	NA	NA	NA
Reestablished Top	1/31/1996	25.15	668.49	-1.07	NA	NA	NA
of Casing Elevation	6/26/1996	21.91	671.73	3.24	NA	NA	NA
on March 17, 1998	12/18/1996	22.07	671.57	-0.16	37.64	656.00	-0.09
693.46' MSL	5/28/1997	21.51	672.13	0.56	37.63	656.01	-0.10
	11/19/1997	25.05	668.59	-3.54	37.70	655.94	-0.03
	5/12/1998	23.80	669.66	NA	37.69	655.77	-0.04
	11/3/1998	23.79	669.67	0.01	37.70	655.76	-0.03
	6/28/1999	23.27	670.19	0.52	37.64	655.82	-0.09
	11/30/1999	25.04	668.42	-1.77	37.64	655.82	-0.09
	5/16/2000	25.00	668.46	0.04	37.63	655.83	-0.10
	11/13/2000	24.39	669.07	0.61	37.72	655.74	-0.01
	5/30/2001	24.22	669.24	0.17	37.65	655.81	-0.08
	11/23/2001	22.33	671.13	1.89	37.72	655 74	-0.01
	5/29/2002	18.53	674.93	3.80	37.69	655.77	-0.04
	11/21/2002	22.60	670.86	-4.07	37.70	655.76	-0.03
	5/20/2003	21.18	672.28	1.42	37.66	655.80	-0.07
	11/18/2003	20.73	672.73	0.45	37.66	655.80	-0.07
	5/24/2004	20.45	673.01	0.24	37.69	655.70	-0.04
	11/11/2004	21.20	672.26	-0.75	37.69	655.70	-0.04
	5/10/2005	19.71	673.75	1.49	37.70	655.76	-0.03
	11/9/2005	21.97	671.49	-2.26	37.63	655.83	-0.10
	5/17/2006	22.51	670.95	-0.54	37.67	655.79	-0.06
	11/8/2006	20.67	672.79	1.84	37.67	655.79	-0.06
	5/16/2007	18.47	674.99	2.20	37.48	655.98	-0.25
	11/15/2007	21.48	671.98	-3.01	37.67	655.79	-0.06
	5/13/2008	19.42	674.04	2.06	37.42	656.04	-0.31
	11/6/2008	20.53	672.93	-1.11	37.68	655.78	-0.05
	5/13/2009	18.93	674.53	1.60	37.66	655.80	-0.07
	11/23/2009	20.30	673.16	-1.37	37.69	655.77	-0.04

Note: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
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WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-207A	6/28/1994	42.44	655.00	NA	NA	NA	NA
	7/7/1994	NA	NA	NA	NA	NA	NA
	7/20/1994	41.74	655.70	NA	NA	NA	NA
Top of Casing Elev.	7/27/1994	41.61	655.83	0.13	NA	NA	NA
697.44' MSL	8/10/1994	41.47	655.97	0.14	NA	NA	NA
	8/22/1994	41.32	656.12	0.15	NA	NA	NA
As-Built Total Depth	9/1/1994	41.21	656.23	0.11	NA	NA	NA
from Top of Casing	9/8/1994	41.12	656.32	0.09	NA	NA	NA
43.58'	9/15/1994	41.07	656.37	0.05	NA	NA	NA
	9/20/1994	41.00	656.44	0.07	NA	NA	NA
	9/29/1994	40.64	656.80	0.36	NA	NA	NA
	10/7/1994	40.84	656.60	-0.20	NA	NA	NA
	10/13/1994	40.82	656.62	0.02	NA	NA	NA
	10/26/1994	40.71	656.73	0.11	NA	NA	NA
	11/2/1994	40.64	656.80	0.07	NA	NA	NA
	6/29/1995	39.13	658.31	1.51	NA	NA	NA
Reestablished Top	1/31/1996	38.34	659.10	0.79	NA	NA	NA
of Casing Elevation	6/26/1996	37.80	659.64	0.54	NA	NA	NA
on March 17, 1998	12/18/1996	38.09	659.35	-0.29	43.57	653.87	-0.01
697.22' MSL	5/28/1997	37.28	660.16	0.81	43.58	653.86	0.00
	11/19/1997	36.92	660.52	0.36	43.54	653.90	-0.04
	5/12/1998	36.68	660.54	NA	43.57	653.65	-0.01
	11/3/1998	39.33	657.89	-2.65	43.58	653.64	0.00
	6/28/1999	38.92	658.30	0.41	43.56	653.66	-0.02
	11/30/1999	38.32	658.90	0.60	43.57	653.65	-0.01
	5/16/2000	37.95	659.27	0.37	43.55	653.67	-0.03
	11/13/2000	39.49	657.73	-1.54	43.58	653.64	0.00
	5/30/2001	40.29	656.93	-0.80	43.58	653.64	0.00
	11/23/2001	39.71	657.51	0.58	43.58	653.64	0.00
	5/29/2002	38.89	658.33	0.82	43.57	653.65	-0.01
	11/21/2002	38.41	658.81	0.48	43.57	653.65	-0.01
	5/20/2003	37.94	659.28	0.47	43.58	653.64	0.00
	11/18/2003	39.35	657.87	-1.41	43.57	653.65	-0.01
	5/24/2004	38.53	658.69	0.82	43.56	653.66	-0.02
	11/11/2004	38.08	659.14	0.45	43.56	653.66	-0.02
	5/10/2005	37.34	659.88	0.74	43.56	653.66	-0.02
	11/9/2005	38.44	658.78	-1.10	43.56	653.66	-0.02
	5/17/2006	37.61	659.61	0.83	43.57	653.65	-0.01
	11/8/2006	37.15	660.07	0.46	43.55	653.67	-0.03
	5/16/2007	36.45	660.77	0.70	43.33	653.89	-0.25
	11/15/2007	36.12	661.10	0.33	43.57	653.65	-0.01
	5/13/2008	35.34	661.88	0.78	43.31	653.91	-0.27
	11/6/2008	35.97	661.25	-0.63	43.58	653.64	0.00
	5/13/2009	35.23	661.99	0.74	43.56	653.66	-0.02
	11/23/2009	34.73	662.49	0.50	43.53	653.69	-0.05

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TABLE 1
MONITORING WELL AND GROUNDWATER DATA
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WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-207B	6/28/1994	23.10	670.80	NA	NA	NA	NA
	7/7/1994	23.09	670.81	0.01	NA	NA	NA
	7/20/1994	23.21	670.69	-0.12	NA	NA	NA
Top of Casing Elev.	7/27/1994	23.35	670.55	-0.14	NA	NA	NA
693.90' MSL	8/10/1994	23.65	670.25	-0.30	NA	NA	NA
	8/22/1994	23.82	670.08	-0.17	NA	NA	NA
As-Built Total Depth	9/1/1994	23.91	669.99	-0.09	NA	NA	NA
from Top of Casing	9/8/1994	23.94	669.96	-0.03	NA	NA	NA
38.87'	9/15/1994	24.07	669.83	-0.13	NA	NA	NA
	9/20/1994	24.18	669.72	-0.11	NA	NA	NA
	9/29/1994	24.27	669.63	-0.09	NA	NA	NA
	10/7/1994	24.41	669.49	-0.14	NA	NA	NA
	10/13/1994	24.54	669.36	-0.13	NA	NA	NA
	10/26/1994	24.79	669.11	-0.25	NA	NA	NA
	11/2/1994	24.88	669.02	-0.09	NA	NA	NA
	6/29/1995	24.52	669.38	0.36	NA	NA	NA
Reestablished Top	1/31/1996	25.71	668.19	-1.19	NA	NA	NA
of Casing Elevation	6/26/1996	22.41	671.49	3.30	NA	NA	NA
on March 17, 1998	12/18/1996	22.51	671.39	-0.10	38.90	655.00	0.03
693.72' MSL	5/28/1997	21.87	672.03	0.64	38.86	655.04	-0.01
	11/19/1997	25.57	668.33	-3.70	38.92	654.98	0.05
	5/12/1998	24.23	669.49	NA	38.90	654.82	0.03
	11/3/1998	24.26	669.46	-0.03	38.81	654.91	-0.06
	6/28/1999	23.75	669.97	0.31	38.84	654.88	-0.03
	11/30/1999	25.54	668.18	-1.79	38.82	654.90	-0.05
	5/16/2000	25.35	668.37	0.19	38.80	654.92	-0.07
	11/13/2000	24.79	668.93	0.56	38.87	654.85	0.00
	5/30/2001	24.71	669.01	0.08	38.87	654.85	0.00
	11/23/2001	22.67	671.05	2.04	38.85	654.87	-0.02
	5/29/2002	18.88	674.84	3.79	38.87	654.85	0.00
	11/21/2002	22.03	670.69	-4.15	38.87	654.85	0.00
	5/20/2003	21.62	672.10	1.41	38.74	654.98	-0.13
	11/18/2003	21.04	672.68	0.58	38.72	655.00	-0.15
	5/24/2004	20.02	673.70	1.02	38.84	654.88	-0.03
	11/11/2004	21.55	672.17	-1.53	38.84	654.88	-0.03
	5/10/2005	20.73	672.99	0.82	38.81	654.91	-0.06
	11/9/2005	20.02	673.70	0.71	38.81	654.91	-0.06
	5/17/2006	21.80	671.92	-1.78	38.80	654.92	-0.07
	11/8/2006	21.06	672.66	0.74	38.82	654.90	-0.05
	5/16/2007	18.77	674.95	2.29	38.58	655.14	-0.29
	11/15/2007	21.86	671.86	-3.09	38.81	654.91	-0.06
	5/13/2008	19.31	674.41	2.55	38.57	655.15	-0.30
	11/6/2008	20.93	672.79	-1.62	38.83	654.89	-0.04
	5/13/2009	19.18	674.54	1.75	38.80	654.92	-0.07
	11/23/2009	20.61	673.11	-1.43	38.75	654.97	-0.12

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SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-208A	6/28/1994	38.98	655.27	NA	NA	NA	NA
	7/7/1994	38.77	655.48	0.21	NA	NA	NA
	7/20/1994	38.51	655.74	0.26	NA	NA	NA
Top of Casing Elev.	7/27/1994	38.41	655.84	0.10	NA	NA	NA
694.25' MSL	8/10/1994	38.23	656.02	0.18	NA	NA	NA
	8/22/1994	38.10	656.15	0.13	NA	NA	NA
As-Built Total Depth	9/1/1994	38.04	656.21	0.06	NA	NA	NA
from Top of Casing	9/8/1994	37.91	656.34	0.13	NA	NA	NA
40.76'	9/15/1994	37.83	656.42	0.08	NA	NA	NA
	9/20/1994	37.78	656.47	0.05	NA	NA	NA
	9/29/1994	37.68	656.57	0.10	NA	NA	NA
	10/7/1994	37.65	656.60	0.03	NA	NA	NA
	10/13/1994	37.56	656.69	0.09	NA	NA	NA
	10/26/1994	37.47	656.78	0.09	NA	NA	NA
	11/2/1994	37.43	656.82	0.04	NA	NA	NA
	6/29/1995	36.42	657.83	1.01	NA	NA	NA
Reestablished Top	1/31/1996	35.63	658.62	0.79	NA	NA	NA
of Casing Elevation	6/26/1996	35.08	659.17	0.55	NA	NA	NA
on March 17. 1998	12/18/1996	35.38	658.87	-0.30	40.76	653.49	-0.01
694.50' MSL	5/28/1997	34.59	659.66	0.79	40.75	653.50	-0.02
	11/19/1997	34.20	660.05	0.39	40.75	653.50	-0.02
	5/12/1998	32.47	662.03	NA	40.77	653.73	0.01
	11/3/1998	36.39	658.11	-3.92	40.47	654.03	-0.29
	6/28/1999	35.87	658.63	0.52	40.77	653.73	0.01
	11/30/1999	35.60	658.90	0.27	40.75	653.75	-0.01
	5/16/2000	35.28	659.22	0.32	40.75	653.75	-0.01
	11/13/2000	36.72	657.78	-1.44	40.75	653.75	-0.01
	5/30/2001	37.54	656.96	-0.82	40.75	653.75	-0.01
	11/23/2001	36.95	657.55	0.59	40.75	653.75	-0.01
	5/29/2002	36.15	658.35	0.80	40.76	653.74	0.00
	11/21/2002	35.65	658.85	0.50	40.76	653.74	0.00
	5/20/2003	35.21	659.29	0.44	40.76	653.74	0.00
	11/18/2003	36.59	657.91	-1.38	40.76	653.74	0.00
	5/24/2004	36.44	658.06	0.15	40.75	653.75	-0.01
	11/11/2004	35.43	659.07	1.01	40.75	653.75	-0.01
	5/10/2005	35.34	659.88	0.81	40.72	653.78	-0.04
	11/9/2005	34.89	659.61	-0.27	40.71	653.79	-0.05
	5/17/2006	34.91	659.59	-0.02	40.75	653.75	-0.01
	11/8/2006	34.36	660.14	0.55	40.72	653.78	-0.04
	5/16/2007	33.69	660.81	0.67	40.50	654.00	-0.26
	11/15/2007	33.36	661.14	0.33	40.73	653.77	-0.03
	5/13/2008	32.57	661.93	0.79	40.51	653.99	-0.25
	11/6/2008	33.20	661.30	-0.63	40.73	653.77	-0.03
	5/13/2009	32.43	662.07	0.77	40.72	653.78	-0.04
	11/23/2009	31.96	662.54	0.47	40.72	653.78	-0.04

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MW-208B	6/28/1994	25.18	669.76	NA	NA	NA	NA
	7/7/1994	25.12	669.82	0.06	NA	NA	NA
	7/20/1994	25.19	669.75	-0.07	NA	NA	NA
Top of Casing Elev.	7/27/1994	25.42	669.52	-0.23	NA	NA	NA
694.94' MSL	8/10/1994	25.78	669.16	-0.36	NA	NA	NA
	8/22/1994	25.76	669.18	0.02	NA	NA	NA
As-Built Total Depth	9/1/1994	25.88	669.06	-0.12	NA	NA	NA
from Top of Casing	9/8/1994	25.88	669.06	0.00	NA	NA	NA
39.28'	9/15/1994	25.02	669.92	0.86	NA	NA	NA
	9/20/1994	26.17	668.77	-1.15	NA	NA	NA
	9/29/1994	25.72	669.22	0.45	NA	NA	NA
	10/7/1994	26.50	668.44	-0.78	NA	NA	NA
	10/13/1994	26.52	668.42	-0.02	NA	NA	NA
	10/26/1994	26.85	668.09	-0.33	NA	NA	NA
	11/2/1994	28.06	666.88	-1.21	NA	NA	NA
	6/29/1995	26.39	668.55	1.67	NA	NA	NA
Reestablished Top	1/31/1996	27.62	667.32	-1.23	NA	NA	NA
of Casing Elevation	6/26/1996	24.33	670.61	3.29	NA	NA	NA
on March 17, 1998	12/18/1996	24.30	670.64	0.03	39.25	655.69	-0.03
694.72' MSL	5/28/1997	23.60	671.34	0.70	39.28	655.66	0.00
	11/19/1997	28.56	666.38	-4.96	39.38	655.56	0.10
	5/12/1998	23.62	671.10	NA	39.26	655.46	-0.02
	11/3/1998	26.50	668.22	-2.88	39.26	655.46	-0.02
	6/28/1999	25.83	668.89	0.67	39.24	655.48	-0.04
	11/30/1999	27.53	667.19	-1.70	39.20	655.52	-0.08
	5/16/2000	27.65	667.07	-0.12	39.27	655.45	-0.01
	11/13/2000	27.13	667.59	0.52	39.24	655.48	-0.04
	5/30/2001	26.74	667.98	0.39	39.25	655.47	-0.03
	11/23/2001	23.75	670.97	2.99	39.25	655.47	-0.03
	5/29/2002	20.57	674.15	3.18	39.27	655.45	-0.01
	11/21/2002	25.16	669.56	-4.59	39.25	655.47	-0.03
	5/20/2003	23.32	671.40	1.84	39.24	655.48	-0.04
	11/18/2003	22.59	672.13	0.73	39.24	655.48	-0.04
	5/24/2004	22.35	672.37	0.24	39.24	655.48	-0.04
	11/11/2004	23.39	671.32	-1.05	39.25	655.47	-0.03
	5/10/2005	21.73	672.99	1.67	39.27	655.45	-0.01
	11/9/2005	23.98	670.74	-2.25	39.23	655.49	-0.05
	5/17/2006	21.52	673.20	2.46	39.25	655.47	-0.03
	11/8/2006	22.54	672.18	-1.02	39.25	655.47	-0.03
	5/16/2007	20.47	674.25	2.07	38.98	655.74	-0.30
	11/15/2007	23.65	671.07	-3.18	39.22	655.50	-0.06
	5/13/2008	20.86	673.86	2.79	38.88	655.84	-0.30
	11/6/2008	22.84	671.88	-1.98	39.24	655.48	-0.04
	5/13/2009	20.52	674.20	2.32	39.24	655.48	-0.04
	11/23/2009	22.31	672.41	-1.79	39.25	655.47	-0.03

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MW-200C	2/3/1999	30.58	666.23	NA	88.38	608.43	AS-BUILT
	11/30/1999	36.39	660.42	-3.92	88.38	608.43	0.00
Top of Casing Elev.	5/16/2000	36.29	660.52	0.10	88.37	608.44	-0.01
696.81' MSL	11/13/2000	35.39	661.42	0.90	88.41	608.40	0.03
	5/30/2001	34.14	662.67	1.25	88.30	608.51	-0.08
As-Built Total Depth	11/23/2001	32.49	664.32	1.65	88.38	608.43	0.00
from Top of Casing	5/29/2002	28.81	668.00	3.68	88.35	608.46	-0.03
88.38'	11/21/2002	32.46	664.35	-3.65	88.36	608.45	-0.02
	5/20/2003	30.54	666.27	1.92	88.29	608.52	-0.09
	11/18/2003	28.98	667.83	1.56	88.30	608.51	-0.08
	5/24/2004	30.11	666.70	-1.13	88.38	608.43	0.00
	11/11/2004	29.76	667.05	0.35	88.38	608.43	0.00
	5/10/2005	31.98	664.83	-2.22	88.28	608.53	-0.10
	11/9/2005	30.26	666.55	1.72	88.36	608.45	-0.02
	5/17/2006	29.41	667.40	0.85	88.30	608.51	-0.08
	11/8/2006	27.27	669.54	2.14	88.27	608.54	-0.11
	5/16/2007	27.53	669.28	-0.26	88.12	608.69	-0.26
	11/15/2007	30.13	666.68	-2.60	88.13	608.68	-0.25
	5/13/2008	27.43	669.38	2.70	88.02	608.79	-0.36
	11/6/2008	29.83	666.98	-2.40	88.15	608.66	-0.23
	5/13/2009	26.45	670.36	3.38	88.30	608.51	-0.08
	11/23/2009	27.85	668.96	-1.40	88.29	608.52	-0.09
MW-202C	2/3/1999	25.34	666.66	NA	77.01	615.13	AS-BUILT
	6/28/1999	27.10	664.90	-1.76	77.00	615.14	0.01
	11/30/1999	31.04	660.96	-3.94	76.91	615.23	-0.10
Top of Casing Elev.	5/16/2000	31.32	660.82	-0.28	77.01	615.13	0.00
692.14' MSL	11/13/2000	31.82	660.32	0.50	77.01	615.13	0.00
	5/30/2001	30.28	661.86	1.54	76.99	615.15	-0.02
As-Built Total Depth	11/23/2001	28.43	663.71	1.85	77.01	615.13	0.00
from Top of Casing	5/29/2002	24.84	667.30	3.59	77.02	615.12	0.01
77.01'	11/21/2002	28.60	663.54	-3.76	77.00	615.14	-0.01
	5/20/2003	26.65	665.49	1.95	77.00	615.14	-0.01
	11/18/2003	24.22	667.92	2.43	76.99	615.15	-0.02
	5/24/2004	26.33	665.81	-2.11	76.99	615.15	-0.02
	11/11/2004	25.85	666.29	0.48	76.99	615.15	-0.02
	5/10/2005	24.19	667.95	1.66	77.00	615.14	-0.01
	11/9/2005	26.29	665.85	-2.30	76.98	615.16	-0.03
	5/17/2006	23.73	668.41	2.56	77.00	615.14	-0.01
	11/8/2006	22.69	669.55	1.04	76.98	615.16	-0.03
	5/16/2007	23.67	668.47	-1.08	76.62	615.52	-0.39
	11/15/2007	26.10	666.04	-2.43	76.64	615.50	-0.37
	5/13/2008	23.42	668.72	2.68	76.76	615.38	-0.25
	11/6/2008	25.62	666.52	-2.20	76.65	615.49	-0.36
	5/13/2009	22.31	669.83	3.31	76.99	615.15	-0.02
	11/23/2009	23.50	668.64	-1.19	76.98	615.15	-0.03

Note: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 1
MONITORING WELL AND GROUNDWATER DATA
SURFACE IMPOUNDMENT AREA

WELL NO	DATE	DEPTH TO GROUNDWATER (FEET)	GROUNDWATER ELEVATION (FEET MSL)	DIFFERENCE (FEET)	TOTAL DEPTH (FEET)	BOTTOM OF WELL ELEVATION (FEET MSL)	DIFFERENCE FROM AS-BUILT TOTAL DEPTH (FEET)
MW-203C	2/3/1999	24.18	666.22	NA	80.91	609.49	AS-BUILT
	6/28/1999	26.48	663.92	-2.30	80.90	609.50	-0.01
	11/30/1999	30.42	659.98	-3.94	80.91	609.49	0.00
Top of Casing Elev.	5/16/2000	30.49	659.91	-0.07	80.91	609.49	0.00
690.40' MSL	11/13/2000	29.21	661.19	1.28	80.91	609.49	0.00
	5/30/2001	27.33	663.07	1.88	80.91	609.49	0.00
Total As-Built Depth	11/23/2001	26.03	664.37	1.30	80.90	609.50	-0.01
from Top of Casing	5/29/2002	22.87	667.53	3.16	80.90	609.50	-0.01
80.91'	11/21/2002	26.31	664.09	-3.44	80.89	609.51	-0.02
	5/20/2003	24.39	666.01	1.92	80.90	609.50	-0.01
	11/18/2003	22.66	667.74	1.73	80.90	609.50	-0.01
	5/24/2004	24.13	666.27	-1.47	80.90	609.50	-0.01
	11/11/2004	23.66	666.74	0.47	80.90	609.50	-0.01
	5/10/2005	23.56	666.84	0.10	80.90	609.50	-0.01
	11/9/2005	24.15	666.25	-0.59	80.90	609.50	-0.01
	5/17/2006	22.67	667.73	1.48	80.91	609.49	0.00
	11/8/2006	21.11	669.29	1.56	80.90	609.50	-0.01
	5/16/2007	21.38	669.02	-0.27	80.68	609.72	-0.23
	11/15/2007	23.88	666.52	-2.50	80.67	609.73	-0.24
	5/13/2008	21.19	669.21	2.69	80.67	609.73	-0.24
	11/6/2008	23.41	666.99	-2.22	80.65	609.75	-0.26
	5/13/2009	20.56	669.84	2.85	80.90	609.50	-0.01
	11/23/2009	21.91	668.49	-1.35	80.91	609.49	0.00

ote: Groundwater and bottom of well elevations after 5/12/98 are calculated with reference to the reestablished top of casing elevation

TABLE 2

FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SUMMARY OF GROUNDWATER ELEVATIONS, HEAD DIFFERENCES, AND RISE RATES
SURFACE IMPOUNDMENT AREA

DATE	MW 201A	MW 201B	MW 202A	MW 202B	MW 203A	MW 203B	MW 204A	MW 204B	MW 205A	MW 205B	MW 206A	MW 206B	MW 207A	MW 207B	MW 208A	MW 208B
6/28/1994	NA	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	NA	668.29	655.56	666.86	657.36	668.28	655.47	670.39	655.47	671.00	NA	670.95	NA	670.81	655.48	669.82
7/20/1994	NA	668.22	654.80	666.68	657.02	668.16	655.47	670.37	NA	670.86	NA	670.86	655.70	670.69	655.74	669.75
7/27/1994	655.86	668.22	NA	666.30	NA	668.88	654.25	670.10	655.78	670.74	NA	670.72	655.83	670.55	655.84	669.52
8/10/1994	656.00	667.58	NA	666.06	NA	667.59	655.99	669.80	655.86	670.45	NA	670.43	655.97	670.25	656.02	669.16
8/22/1994	656.16	667.50	NA	665.96	656.86	667.40	656.18	669.58	656.06	670.25	NA	670.25	656.12	670.08	656.15	669.18
9/1/1994	656.27	667.44	NA	665.77	656.86	667.30	656.25	668.52	656.16	670.20	NA	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	NA	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	NA	666.94	656.45	669.19	656.36	669.90	NA	669.89	656.44	669.72	656.47	668.77
9/29/1994	656.54	667.00	656.59	665.48	NA	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	NA	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	NA	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	NA	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	NA	666.64	656.83	668.66	656.76	669.27	656.88	669.21	656.80	669.02	656.82	666.88
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	658.69	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	658.77	669.67	657.89	669.46	658.11	668.22
6/28/1999	657.32	666.92	659.00	665.71	658.50	668.93	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	658.82	667.26	659.33	668.68	657.77	668.70	659.82	668.42	658.90	668.18	658.90	667.19
5/16/2000	659.09	665.55	659.69	663.63	659.21	667.12	659.49	668.82	658.15	668.80	660.00	668.46	659.27	668.37	659.22	667.07
11/13/2000	657.70	665.34	658.14	663.54	657.71	667.22	657.99	669.22	656.64	669.22	659.69	669.07	657.73	668.93	657.78	667.59
5/30/2001	656.88	665.99	657.31	664.53	656.86	667.92	657.17	669.46	655.82	669.40	657.88	669.24	656.93	669.01	656.96	667.98
11/23/2001	657.45	668.09	657.90	666.70	657.44	669.84	657.77	671.21	656.40	671.19	658.46	671.13	657.51	671.05	657.55	670.97
5/29/2002	658.27	672.34	658.70	670.70	658.25	673.70	658.56	674.77	657.21	676.10	659.27	674.93	658.33	674.84	658.35	674.15
11/21/2002	658.72	667.52	659.21	666.01	658.75	669.16	659.06	670.99	657.70	670.91	659.76	670.86	658.81	670.69	658.85	669.56

TABLE 2

FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SUMMARY OF GROUNDWATER ELEVATIONS, HEAD DIFFERENCES, AND RISE RATES
SURFACE IMPOUNDMENT AREA

DATE	MW 201A	MW 201B	MW 202A	MW 202B	MW 203A	MW 203B	MW 204A	MW 204B	MW 205A	MW 205B	MW 206A	MW 206B	MW 207A	MW 207B	MW 208A	MW 208B
5/20/2003	659.20	669.87	659.81	668.22	659.26	670.98	659.51	672.77	658.16	672.18	660.45	672.28	659.28	672.10	659.29	671.40
11/18/2003	657.83	670.32	658.26	668.63	657.78	670.97	658.10	672.39	656.75	672.61	658.85	672.73	657.87	672.68	657.91	672.13
5/24/2004	657.21	670.33	659.17	668.88	658.62	671.52	658.93	672.84	657.57	672.98	659.80	673.01	658.69	673.70	658.06	672.37
11/11/2004	659.07	669.62	659.52	668.26	659.09	670.80	659.38	672.10	659.02	672.23	660.08	672.26	659.14	672.17	659.07	671.32
5/10/2005	659.16	672.55	659.60	670.32	659.86	671.03	659.45	674.13	658.82	673.53	660.81	673.75	659.88	672.99	659.81	672.99
11/9/2005	658.72	669.29	659.17	667.87	658.74	670.22	659.05	671.34	657.69	671.44	658.74	671.49	658.78	673.70	659.61	670.74
5/17/2006	659.54	671.66	660.02	670.29	659.96	669.63	659.84	670.72	659.01	670.90	660.56	670.95	659.61	671.92	659.59	673.20
11/8/2006	660.00	670.66	660.46	669.55	660.01	672.03	660.29	672.70	659.12	672.77	660.04	672.79	660.07	672.66	660.14	672.18
5/16/2007	660.72	672.72	661.15	671.28	660.73	673.53	661.02	674.72	659.66	674.91	661.72	674.99	660.77	674.95	660.81	674.25
11/15/2007	661.14	669.55	661.48	668.54	661.07	670.98	661.37	671.99	659.99	672.01	662.04	671.98	661.10	671.86	661.14	671.07
5/13/2008	661.79	672.43	662.27	671.36	662.23	673.53	662.11	674.34	660.76	674.42	662.80	674.04	661.88	674.41	661.93	673.86
11/6/2008	661.19	670.20	661.64	669.10	661.19	671.75	661.50	672.86	660.13	672.95	662.20	672.93	661.25	672.79	661.30	671.88
5/13/2009	661.90	672.97	662.38	671.88	661.93	673.79	662.23	674.43	660.87	674.47	662.93	674.53	661.99	674.54	662.07	674.20
11/23/2009	662.42	670.98	662.87	669.70	662.43	671.87	662.72	672.96	661.36	673.13	663.42	673.16	662.49	673.11	662.54	672.41
Head Difference Between Outside and Inside Cutoff Wall, (5/13/09)	-11.07		**-9.50**		-11.86		-12.20		**-13.60**		-11.60		-12.55		-12.13	
Head Difference Between Outside and Inside Cutoff Wall, (11/23/09)	-8.56		**-6.83**		-9.44		-10.24		**-11.77**		-9.74		-10.62		-9.87	
Rise Rate* (ft/day)	0.00322		0.00322		**0.00325**		**0.00319**		0.00322		**0.00319**		**0.00325**		**0.00325**	

Average Rise Rate (ft/day)	**0.00322**		
Average GW Elevation Inside Cap on 5/13/09 (ft)	**662.04**	**Average Groundwater Elevation Inside Cap on 11/23/09 (ft)**	**662.53**
Average GW Elevation Outside Cap (Shallow Unit) on 5/13/09 (ft)	**673.85**	**Average GW Elev. Outside Cap (Shallow Unit) on 11/23/09 (ft)**	**672.17**
Average GW Elevation Outside Cap (Lower S&G) on 5/13/09 (ft)	**670.01**	**Average GW Elev. Outside Cap (Lower S&G) on 11/23/09 (ft)**	**668.70**
Ave. Head Diff. Across the Cutoff Wall (Shallow Unit) on 5/13/09 (ft)	**-11.81**	**Ave. Head Diff. Across Cutoff Wall (Shallow Unit) on 11/6/08 (ft)**	**-9.63**

*Note: Rise Rate was calculated from the 11/6/08 measurement through the 11/23/09 measurement due to groundwater withdrawal conducted before the 11/6/08 event and after the 5/13/08 event.

TABLE 3

FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

RISE RATE VERSUS TIME
SURFACE IMPOUNDMENT AREA

DATE	MW 201A	MW 201B	MW 202A	MW 202B	MW 203A	MW 203B	MW 204A	MW 204B	MW 205A	MW 205B	MW 206A	MW 206B	MW 207A	MW 207B	MW 208A	MW 208B
6/28/1994	NA	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	NA	668.29	655.56	666.86	657.36	668.28	655.47	670.39	655.47	671.00	NA	670.95	NA	670.81	655.48	669.82
7/20/1994	NA	668.22	654.80	666.68	657.02	668.16	655.47	670.37	NA	670.86	NA	670.86	655.70	670.69	655.74	669.75
7/27/1994	655.86	668.22	NA	666.30	NA	668.88	654.25	670.10	655.78	670.74	NA	670.72	655.83	670.55	655.84	669.52
8/10/1994	656.00	667.58	NA	666.06	NA	667.59	655.99	669.80	655.86	670.45	NA	670.43	655.97	670.25	656.02	669.16
8/22/1994	656.16	667.50	NA	665.96	656.86	667.40	656.18	669.58	656.06	670.25	NA	670.25	656.12	670.08	656.15	669.18
9/1/1994	656.27	667.44	NA	665.77	656.86	667.30	656.25	668.52	656.16	670.20	NA	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	NA	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	NA	666.94	656.45	669.19	656.36	669.90	NA	669.89	656.44	669.72	656.47	668.77
9/29/1994	656.54	667.00	656.59	665.48	NA	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	NA	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	NA	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	NA	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	NA	666.64	656.83	668.66	656.76	669.27	656.88	669.21	656.80	669.02	656.82	666.88
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	658.69	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	658.77	669.67	657.89	669.46	658.11	668.22
6/28/1999	657.32	666.92	659.00	665.71	658.50	668.93	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	658.82	667.26	659.33	668.68	657.77	668.70	659.82	668.42	658.90	668.18	658.90	667.19
5/16/2000	659.09	665.55	659.69	663.63	659.21	667.12	659.49	668.82	658.15	668.80	660.00	668.46	659.27	668.37	659.22	667.07
11/13/2000	657.70	665.34	658.14	663.54	657.71	667.22	657.99	669.22	656.64	669.22	659.69	669.07	657.73	668.93	657.78	667.59
5/30/2001	656.88	665.99	657.31	664.53	656.86	667.92	657.17	669.46	655.82	669.40	657.88	669.24	656.93	669.01	656.96	667.98
11/23/2001	657.45	668.09	657.90	666.70	657.44	669.84	657.77	671.21	656.40	671.19	658.46	671.13	657.51	671.05	657.55	670.97
5/29/2002	658.27	672.34	658.70	670.70	658.25	673.70	658.56	674.77	657.21	676.10	659.27	674.93	658.33	674.84	658.35	674.15
11/21/2002	658.72	667.52	659.21	666.01	658.75	669.16	659.06	670.99	657.70	670.91	659.76	670.86	658.81	670.69	658.85	669.56
5/20/2003	659.20	669.87	659.81	668.22	659.26	670.98	659.51	672.77	658.16	672.18	660.45	672.28	659.28	672.10	659.29	671.40
11/18/2003	657.83	670.32	658.26	668.63	657.78	670.97	658.10	672.39	656.75	672.61	658.85	672.73	657.87	672.68	657.91	672.13

TABLE 3

FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

RISE RATE VERSUS TIME
SURFACE IMPOUNDMENT AREA

DATE	MW 201A	MW 201B	MW 202A	MW 202B	MW 203A	MW 203B	MW 204A	MW 204B	MW 205A	MW 205B	MW 206A	MW 206B	MW 207A	MW 207B	MW 208A	MW 208B
5/24/2004	657.21	670.33	659.17	668.88	658.62	671.52	658.93	672.84	657.57	672.98	659.80	673.01	658.69	673.70	658.06	672.37
11/11/2004	659.07	669.62	659.52	668.26	659.09	670.80	659.38	672.10	659.02	672.23	660.08	672.26	659.14	672.17	659.07	671.32
5/10/2005	659.16	672.55	659.60	670.32	659.86	671.03	659.45	674.13	658.82	673.53	660.81	673.75	659.88	672.99	659.81	672.99
11/9/2005	658.72	669.29	659.17	667.87	658.74	670.22	659.05	671.34	657.69	671.44	658.74	671.49	658.78	673.70	659.61	670.74
5/17/2006	659.54	671.66	660.02	670.29	659.96	669.63	659.84	670.72	659.01	670.90	660.56	670.95	659.61	671.92	659.59	673.20
11/8/2006	660.00	670.66	660.46	669.55	660.01	672.03	660.29	672.70	659.12	672.77	660.04	672.79	660.07	672.66	660.14	672.18
5/16/2007	660.72	672.72	661.15	671.28	660.73	673.53	661.02	674.72	659.66	674.91	661.72	674.99	660.77	674.95	660.81	674.25
11/15/2007	661.14	669.55	661.48	668.54	661.07	670.98	661.37	671.99	659.99	672.01	662.04	671.98	661.1	671.86	661.14	671.07
5/13/2008	661.79	672.43	662.27	671.36	662.23	673.53	662.11	674.34	660.76	674.42	662.80	674.04	661.88	674.41	661.93	673.86
11/6/2008	661.19	670.20	661.64	669.10	661.19	671.75	661.50	672.86	660.13	672.95	662.20	672.93	661.25	672.79	661.30	671.88
5/13/2009	661.90	672.97	662.38	671.88	661.93	673.79	662.23	674.43	660.87	674.47	662.93	674.53	661.99	674.54	662.07	674.20
11/23/2009	662.42	670.98	662.87	669.70	662.43	671.87	662.72	672.96	661.36	673.13	663.42	673.16	662.49	673.11	662.54	672.41
Rise Rate (ft/day)																
11/2/94 - 6/26/96	**0.00307**		0.00465		0.00377		0.00472		**0.00478**		0.00468		0.00472		0.00390	
12/18/96 - 5/12/98	0.00486		0.00345		0.00247		0.00406		0.00351		0.00616		**0.00233**		**0.00620**	
11/3/98 - 5/16/00	**0.00329**		0.00180		**0.00179**		0.00227		0.00257		0.00220		0.00246		0.00198	
5/30/01 - 5/20/03	**0.00322**		0.00347		0.00333		0.00325		0.00325		**0.00357**		0.00326		0.00324	
11/18/03 - 5/10/05	**0.00247**		0.00249		**0.00386**		0.00250		0.00384		0.00364		0.00373		0.00353	
11/9/05 - 5/13/08	0.00335		0.00338		0.00381		0.00334		0.00335		**0.00443**		0.00338		**0.00253**	
11/6/08 - 11/23/09	0.00322		0.00322		**0.00325**		**0.00319**		0.00322		**0.00319**		**0.00325**		**0.00325**	

Average Rise Rate (ft/day)	
11/2/94 - 6/26/96	**0.00429**
12/18/96 - 5/12/98	**0.00413**
11/3/98 - 5/16/00	**0.00229**
5/30/01 - 5/20/03	**0.00332**
11/18/03 - 5/10/05	**0.00326**
11/9/05 - 5/13/08	**0.00345**
11/6/08 - 11/23/09	**0.00322**

TABLE 4
SUMMARY OF GROUNDWATER WITHDRAWALS FROM ROLLS-ROYCE PRODUCTION WELLS
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

YEAR	WELL NO. 1	WELL NO. 2	WELL NO. 4	TOTAL
1995	373.3	327.1	258.3	958.7
1996	501.4	501.8	167.4	1170.6
1997	34.0	451.8	280.1	765.9
1998	97.4	515.4	288.5	901.3
1999	498.0	495.5	69.1	1062.6
2000	665.0	165.0	303.0	1133.0
2001	513.0	493.0	42.0	1048.0
2002	479.0	322.5	156.3	957.8
2003	334.7	310.0	156.5	801.2
2004	207.6	291.9	68.4	567.9
2005	144.6	140.2	253.5	538.3
2006	144.7	270.6	217.6	632.9
2007	237.4	237.4	0.0	474.8
2008	193.7	193.7	18.9	406.3
2009	NA	NA	NA	NA
Volumes in millions of gallons				

Belsan 2/24/10

PE60020844

TABLE 5
SETTLEMENT MONUMENT SURVEY
HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SETTLEMENT NUMBER	NORTHING	EASTING	ELEVATION	DATE OF SURVEY
1	1999.846	2700.000	699.05	10/20/1994
1	1999.846	2700.000	699.04	2/16/1996
1	-	-	699.08	5/27/1997
1	-	-	699.06	11/19/1997
1	-	-	699.01	5/11/1998
1	-	-	699.02	11/4/1998
1	-	-	698.99	6/28/1999
1	-	-	698.99	11/30/1999
1	-	-	698.99	5/16/2000
1	-	-	698.99	11/13/2000
1	-	-	698.98	5/30/2001
1	-	-	698.98	11/21/2001
1	-	-	698.97	5/30/2002
1	-	-	698.96	5/21/2003
1	-	-	698.95	5/25/2004
1	-	-	698.93	5/11/2005
1	-	-	698.94	5/31/2006
1	-	-	698.93	5/16/2007
1	-	-	698.91	5/13/2008
1	-	-	698.89	5/13/2009
2	2400.143	2899.913	699.01	10/20/1994
2	2400.143	2899.913	698.88	2/16/1996
2	-	-	698.88	5/27/1997
2	-	-	698.85	11/19/1997
2	-	-	698.81	5/11/1998
2	-	-	698.78	11/4/1998
2	-	-	698.77	6/28/1999
2	-	-	698.77	11/30/1999
2	-	-	698.74	5/16/2000
2	-	-	698.73	11/13/2000
2	-	-	698.71	5/30/2001
2	-	-	698.70	11/21/2001
2	-	-	698.68	5/30/2002
2	-	-	698.67	5/21/2003
2	-	-	698.65	5/25/2004
2	-	-	698.66	5/11/2005
2	-	-	698.66	5/31/2006
2	-	-	698.65	5/16/2007
2	-	-	698.64	5/13/2008
2	-	-	698.62	5/13/2009

Belsare 2/24/10

TABLE 5
SETTLEMENT MONUMENT SURVEY
HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SETTLEMENT NUMBER	NORTHING	EASTING	ELEVATION	DATE OF SURVEY
3	2200.233	2700.158	700.41	10/20/1994
3	2200.233	2700.158	700.29	2/16/1996
3	-	-	700.27	5/27/1997
3	-	-	700.24	11/19/1997
3	-	-	700.18	5/11/1998
3	-	-	700.14	11/4/1998
3	-	-	700.14	6/28/1999
3	-	-	700.11	11/30/1999
3	-	-	700.10	5/16/2000
3	-	-	700.07	11/13/2000
3	-	-	700.05	5/30/2001
3	-	-	700.04	11/21/2001
3	-	-	700.01	5/30/2002
3	-	-	699.98	5/21/2003
3	-	-	699.98	5/25/2004
3	-	-	699.98	5/11/2005
3	-	-	699.98	5/31/2006
3	-	-	699.97	5/16/2007
3	-	-	699.97	5/13/2008
3	-	-	699.94	5/13/2009
4	2200.414	2900.538	700.81	10/20/1994
4	2200.414	2900.538	700.73	2/16/1996
4	-	-	700.69	5/27/1997
4	-	-	700.67	11/19/1997
4	-	-	700.62	5/11/1998
4	-	-	700.57	11/4/1998
4	-	-	700.59	6/28/1999
4	-	-	700.55	11/30/1999
4	-	-	700.55	5/16/2000
4	-	-	700.52	11/13/2000
4	-	-	700.51	5/30/2001
4	-	-	700.50	11/21/2001
4	-	-	700.48	5/30/2002
4	-	-	700.45	5/21/2003
4	-	-	700.44	5/25/2004
4	-	-	700.42	5/11/2005
4	-	-	700.46	5/31/2006
4	-	-	700.44	5/16/2007
4	-	-	700.40	5/13/2008
4	-	-	700.37	5/13/2009

Belsare 2/24/10

TABLE 5
SETTLEMENT MONUMENT SURVEY
HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SETTLEMENT NUMBER	NORTHING	EASTING	ELEVATION	DATE OF SURVEY
5	1999.864	2700.002	698.47	10/20/1994
5	1999.864	2700.002	698.31	2/16/1996
5	-	-	698.02	5/27/1997
5	-	-	697.94	11/19/1997
5	-	-	697.92	5/11/1998
5	-	-	697.86	11/4/1998
5	-	-	697.86	6/28/1999
5	-	-	697.79	11/30/1999
5	-	-	697.79	5/16/2000
5	-	-	697.76	11/13/2000
5	-	-	697.75	5/30/2001
5	-	-	697.75	11/21/2001
5	-	-	697.72	5/30/2002
5	-	-	697.70	5/21/2003
5	-	-	697.68	5/25/2004
5	-	-	697.64	5/11/2005
5	-	-	697.61	5/31/2006
5	-	-	697.59	5/16/2007
5	-	-	697.55	5/13/2008
5	-	-	697.53	5/13/2009
6	2000.009	2900.437	698.83	10/20/1994
6	2000.009	2900.437	698.78	2/16/1996
6	-	-	698.62	5/27/1997
6	-	-	698.58	11/19/1997
6	-	-	698.57	5/11/1998
6	-	-	698.49	11/4/1998
6	-	-	698.54	6/28/1999
6	-	-	698.48	11/30/1999
6	-	-	698.48	5/16/2000
6	-	-	698.45	11/13/2000
6	-	-	698.43	5/30/2001
6	-	-	698.41	11/21/2001
6	-	-	698.39	5/30/2002
6	-	-	698.36	5/21/2003
6	-	-	698.34	5/25/2004
6	-	-	698.34	5/11/2005
6	-	-	698.36	5/31/2006
6	-	-	698.34	5/16/2007
6	-	-	698.31	5/13/2008
6	-	-	698.30	5/13/2009

Belsare 2/24/10.

TABLE 5
SETTLEMENT MONUMENT SURVEY
HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

SETTLEMENT NUMBER	NORTHING	EASTING	ELEVATION	DATE OF SURVEY
7	2101.966	2803.415	699.87	10/20/1994
7	2101.966	2803.415	699.82	2/16/1996
7	-	-	699.76	5/27/1997
7	-	-	699.74	11/19/1997
7	-	-	699.71	5/11/1998
7	-	-	699.65	11/4/1998
7	-	-	699.68	6/28/1999
7	-	-	699.64	11/30/1999
7	-	-	699.63	5/16/2000
7	-	-	699.64	11/13/2000
7	-	-	699.63	5/30/2001
7	-	-	699.62	11/21/2001
7	-	-	699.60	5/30/2002
7	-	-	699.57	5/21/2003
7	-	-	699.55	5/25/2004
7	-	-	699.54	5/11/2005
7	-	-	699.54	5/31/2006
7	-	-	699.53	5/16/2007
7	-	-	699.52	5/13/2008
7	-	-	699.52	5/13/2009
8	1861.145	2900.476	696.38	10/20/1994
8	1861.145	2900.476	696.36	2/16/1996
8	-	-	696.06	5/27/1997
8	-	-	696.07	11/19/1997
8	-	-	696.06	5/11/1998
8	-	-	695.98	11/4/1998
8	-	-	696.02	6/28/1999
8	-	-	695.96	11/30/1999
8	-	-	695.97	5/16/2000
8	-	-	695.95	11/13/2000
8	-	-	695.95	5/30/2001
8	-	-	695.94	11/21/2001
8	-	-	695.92	5/30/2002
8	-	-	695.89	5/21/2003
8	-	-	695.87	5/25/2004
8	-	-	695.87	5/11/2005
8	-	-	695.88	5/31/2006
8	-	-	695.86	5/16/2007
8	-	-	695.84	5/13/2008
8	-	-	695.82	5/13/2009

NOTE: BENCHMARK IS ON SOUTHEAST CORNER OF FIBERGLASS CONTROL SHED

NORTHING	EASTING	ELEVATION
2659.900	2607.200	691.26

APPENDIX A

PERMIT MODIFICATION SUMMARY

Permit Modification Summary

Former Allison Gas Turbine Division - Plant 5

Indianapolis, Indiana

Permit Type	Date Permit Application Submitted	Date of IDEM Notification of Deficiency (NOD)	Date of IDEM Approval	Date Notification letter Submitted to Distribution List	Description of Submittal
Post-Closure Permit Application	11/17/1997	9/23/1998	NA	NA	Required Post-Closure Permit Application as required in IDEM's closure approval.
Revised Post-Closure Permit Application	4/26/1999	10/7/1999	NA	NA	Response to NOD dated 9/23/98.
Revised Post-Closure Permit Application	12/20/1999	3/6/2000	NA	NA	Response to NOD dated 10/7/99.
Revised Post-Closure Permit Application	3/2000	NA	6/29/2001	NA	Response to NOD dated 3/6/00.
Class 1 Permit Modificaiton	NA	NA	9/2/2001	NA	Modification of the groundwater sampling procedure.
Renewal Permit Application	1/23/2006	3/21/2006	NA	NA	The Permit Application Renewal submitted.
Renewal Permit Application	5/5/2006	6/22/2006	NA	NA	The Permit Application Renewal re-submitted based on IDEMs NOD provided on 3/21/2006.
Renewal Permit Application	8/3/2006	NA	1/26/2007	NA	The Permit Application Renewal re-submitted based on IDEMs NOD provided on 6/22/2006.
Class 1 Permit Modificaiton	8/8/2007	NA	9/26/2007	10/9/2007	The permit modification letter requested to update the financial assurance from a 'surety bond' to a 'certificate of insurance' (Attachments C-5, C-6 and Appendix B of the Post Closure Permit Renewal).

Permit Modification Summary

Former Allison Gas Turbine Division - Plant 5

Indianapolis, Indiana

Permit Type	Date Permit Application Submitted	Date of IDEM Notification of Deficiency (NOD)	Date of IDEM Approval	Date Notification letter Submitted to Distribution List	Description of Submittal
Class 1 Permit Modificaiton	8/8/2007	NA	9/26/2007	10/9/2007	The permit modificaiton letter requested to update minor issues concerning the table of contents and scheduled maintenance activities (Table 5a).
Class 1 Permit Modificaiton	7/29/2008	NA	8/22/2008	8/27/2008	This permit modification letter requested to update the financial assurance from a 'certificate of insurance' to a 'performance bond' (Attachments C-5, C-6 and Appendix B of the Post Closure Permit Renewal).
Class 1 Permit Modificaiton	4/23/2009	NA	6/17/2009	7/22/2009	The permit modification letter requested to amend Appendix H, Sampling and Analysis Plan, Section 4.3 (Data Analysis).

NOTES:
NA - Not Applicable

APPENDIX B

MONITORING WELL AND GROUNDWATER MONITORING DATA SHEETS

HYDRAULIC GROUNDWATER MONITORING
GENERAL MOTORS CORPORATION
FORMER AGT PLANT 5
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
INDIANAPOLIS, INDIANA

Inspector: Jeff Eckhart **Date:** 5/13/2005 **Start Time:** 9:10 AM

Temperature: 60's **Wind:** Variable 10-15 mph **Sky:** Cloudy - Rain 10 AM - 5 PM **Finish Time:** 6:50 PM

WELL ID	TOP OF RISER ELEVATION (MSL)	DEPTH TO GW (FT)	GW ELEVATION (MSL)	TOTAL DEPTH (FT)	AS-BUILT TOTAL DEPTH (FT) [1]	LOCKS	DRAIN HOLES	OBSERVATIONS OR WELL PROBLEMS
MW-201A	693.89	31.99	661.90	39.31	39.31	OK	OK	Needs a new "1" / Replaced 7/1/05
MW-201B	693.06	20.09	672.97	38.45	38.51	OK	ok	-
MW-202A	697.58	35.20	662.38	44.00	44.50	OK	OK	-
MW-202B	691.43	19.55	671.88	37.51	37.71	OK	OK	-
MW-203A	694.46	32.53	661.93	40.04	40.06	OK	OK	-
MW-203B	691.65	17.86	673.79	34.30	34.30	OK	OK	-
MW-204A	693.89	31.66	662.23	38.75	38.80	OK	OK	-
MW-204B	693.23	18.80	674.43	37.79	37.82	OK	OK	-
MW-205A	693.74	32.87	660.87	39.61	39.61	OK	OK	Needs a new "A" / Replaced 7/1/05
MW-205B	693.97	19.50	674.47	38.75	39.29	OK	OK	-
MW-206A	698.52	35.59	662.93	43.24	43.25	OK	OK	-
MW-206B	693.46	18.93	674.53	37.66	37.73	OK	OK	-
MW-207A	697.22	35.23	661.99	43.56	43.58	OK	OK	Needs a new "7" / Replaced 7/1/05
MW-207B	693.72	19.18	674.54	38.80	38.87	OK	OK	-
MW-208A	694.50	32.43	662.07	40.72	40.76	OK	OK	-
MW-208B	694.72	20.52	674.20	39.24	39.28	OK	OK	-
MW-200C	696.81	26.45	670.36	88.30	88.38	OK	OK	-
MW-202C	692.14	22.31	669.83	76.99	77.01	OK	OK	-
MW-203C	690.40	20.56	669.84	80.90	80.91	OK	OK	-

1 - As surveyed from the top of riser

HYDRAULIC GROUNDWATER MONITORING
GENERAL MOTORS CORPORATION
FORMER AGT PLANT 5
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
INDIANAPOLIS, INDIANA

Inspector: Jeff Eckhout **Date:** 11/23/09 **Start Time:** 10:30 am

Temperature: High 50's **Wind:** South 0-5 mph **Sky:** Partly Sunny **Finish Time:** 12:40 pm

WELL ID	TOP OF RISER ELEVATION (MSL)	DEPTH TO GW (FT)	GW ELEVATION (MSL)	TOTAL DEPTH (FT)	AS-BUILT TOTAL DEPTH (FT) [1]	LOCKS	DRAIN HOLES	OBSERVATIONS OR WELL PROBLEMS
MW-201A	693.89	31.47	662.42	39.29	39.31	Rusty	OK	Lock
MW-201B	693.06	22.08	670.98	38.46	38.51	Rusty	OK	Need to replace Lock
MW-202A	697.58	34.71	662.87	44.01	44.50	OK	OK	-
MW-202B	691.43	21.73	669.70	37.52	37.71	OK	OK	-
MW-203A	694.46	32.03	662.43	40.04	40.06	Rusty	OK	Lock
MW-203B	691.65	19.78	671.87	34.30	34.30	OK	OK	✓
MW-204A	693.89	31.17	662.72	38.75	38.80	OK	OK	~~Need to R~~ (JE)
MW-204B	693.23	20.27	672.96	37.79	37.82	OK	OK	-
MW-205A	693.74	32.38	661.36	35.61	39.61	Rusty OK	OK	Need to replace Lock
MW-205B	693.97	20.84	673.13	38.71	39.29	OK	OK	-
MW-206A	698.52	35.10	663.42	43.15	43.25	OK	OK	-
MW-206B	693.46	20.30	673.16	37.69	37.73	OK	OK	-
MW-207A	697.22	34.73	662.49	43.53	43.58	OK	OK	-
MW-207B	693.72	20.61	673.11	38.75	38.87	OK	OK	-
MW-208A	694.50	31.96	662.54	46.72	40.76	Rusty OK (JE)	OK	Lock needs replace
MW-208B	694.72	22.31	~~672.41~~ 672.41 (JE)	~~35.25~~ 39.25	39.28	OK	OK	✓
MW-200C	696.81	27.85	668.96	88.29	88.38	OK	OK	-
MW-202C	692.14	23.50	668.64	76.90	77.01	OK	OK	-
MW-203C	690.40	21.91	668.49	80.91	80.91	OK	OK	-

672.41

1 - As surveyed from the top of riser

APPENDIX C

WATER BUDGET CALCULATIONS

FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA

WATER BUDGET CALCULATIONS FROM FIELD DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT AREA

- Surface Area (A) of Surface Impoundment = 8.1 Acres

  8.1 Acres * 43,560 ft^2/Acre = 352,836 ft^2

- The Average Rise Rate represents the combined inflow to the Surface Impoundment due to (1) infiltration through the cover system, (2) leakage through the cutoff wall, and (3) seepage through the lower confining layer.

- Average Rise Rate in interior hydraulic monitoring wells from field data is 0.00322 ft/day. The minimum Rise Rate is 0.00319 ft/day in monitoring wells MW 204A and MW 206A and the maximum Rise Rate is 0.00325 ft/day in monitoring wells MW 203A and MW 207A.

- Assumed average specific yields (S_y) for natural sand/gravel and sediment in impoundment is 10-20 %.

- Rise Rates are based on data from November 6, 2008, through November 23, 2009. Groundwater elevations were omitted from rise rate calculations prior to November 2008 due to groundwater withdrawals conducted in the Summer of 2008.

Case 1: $S_y = 10\%$

Average flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00322\ ft/day * 10\%$

$Q = 113.61\ ft^3/day = 0.590\ gal/min$

Minimum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00319\ ft/day * 10\%$

$Q = 112.55\ ft^3/day = 0.585\ gal/min$

Maximum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00325\ ft/day * 10\%$

$Q = 114.67\ ft^3/day = 0.596\ gal/min$

Case 2: $S_y = 20\%$

Average flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00322\ ft/day * 20\%$

$Q = 227.27\ ft^3/day = 1.180\ gal/min$

Minimum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00319\ ft/day * 20\%$

$Q = 225.11\ ft^3/day = 1.169\ gal/min$

Maximum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00325\ ft/day * 20\%$

$Q = 229.34\ ft^3/day = 1.191\ gal/min$

Calculation of Specific Yield

- Calculation based on average rise rate from November 6, 2008, through November 23, 2009.
- Minimal (Negligible) pumping from the extraction wells occurred during this period.
- During the period of May 12, 1998, through November 3, 1998, 1,274,237 gallons were pumped from within the cutoff wall. The average change in elevation within the cutoff wall during this period was –3.07 feet including combined inflow. The decrease in elevation would have been greater except for the combined inflow within the cutoff wall. The rise in elevation was 0.56 feet. Therefore, the change in elevation within the cutoff wall is 3.63 feet.

The average increase in groundwater elevation is:

Rise rate * number of days

= 0.00229 ft/day * 560 days

= 1.2824 feet

Calculating the number of gallons that would infiltrate the impoundment using a ratio comparing the amount of gallons pumped with the total change in elevation to the amount of gallons infiltrated (X) to the average rise over the period of pumping.

$$\frac{1{,}274{,}237 \text{ gallons}}{3.63 \text{ feet}} = \frac{(X) \text{ gallons}}{1.2824 \text{ feet}}$$

X = 450,160 gallons would seep into the contained area of the impoundment over 560 days at 0.00229 ft/day

Q = Combined inflow within the cutoff wall

Q = 450,160 gallons / 560 days

Q = 803.86 gallons/day = 107.48 ft^3/day

$$S_y = Q/AR$$

$$S_y = (107.48 \text{ ft}^3/\text{day}) / (352{,}836 \text{ ft}^2)\ (0.00229 \text{ ft/day})$$

$$S_y = .133 = 13.3\%$$

Case 3: $S_y = 13.3\%$

Average flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836 \text{ ft}^2 * 0.00322 \text{ ft/day} * 13.3\%$

$Q = 151.11 \text{ ft}^3/\text{day} = 0.785 \text{ gal/min}$

Minimum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00319\ ft/day * 13.3\%$

$Q = 149.70\ ft^3/day = 0.778\ gal/min$

Maximum flow rate (Q) into Surface Impoundment: $Q = A*R*S_y$

$Q = 352{,}836\ ft^2 * 0.00325\ ft/day * 13.3\%$

$Q = 152.51\ ft^3/day = 0.792\ gal/min$

Estimated Date To Turn Pumps On

- Average groundwater elevation for the interior wells on November 23, 2009, is 662.53 ft. Groundwater elevations in monitoring wells that have the minimum and maximum Rise Rates are 660.13 ft and 662.20 ft, respectively.

- The Closure Plan states the pumps should turn on when the level inside the cutoff wall is within one foot of the lower or upper sand and gravel unit. The estimated dates for the pumps to turn on based on the rise rates are:

Average R: = (667.70 – 662.53)ft / 0.00322 ft/day
= 1605 days

11/23/09 + 1605 days = 4/16/2014

Minimum R: = (667.70 – 662.72)ft / 0.00319 ft/day
= 1561 days

11/23/09 + 1561 days = 3/13/2014

Maximum R: = (667.70 – 662.54) / 0.00325 ft/day
= 1587 days

11/23/09 + 1587 days = 3/29/2014

APPENDIX D

ORIGINAL WATER BUDGET CALCULATIONS

I-1 DEWATERING ASSUMPTIONS

Closure will require dewatering within the intragradient cutoff wall to maintain an inward hydraulic gradient during post-closure. For the purposes of completing calculations for dewatering, the following assumptions have been made. These assumptions pertain to the previously measured and current in-situ Site conditions to estimate the amount of groundwater that will require removal during post-closure.

- The intragradient cutoff wall surrounds an area of approximately 8.1 acres. The average hydraulic conductivity ("K") of the cutoff wall is 2×10^{-8} cm/s. (GZA, 1993).

- The cutoff wall is keyed into the underlying clay layer at a depth of approximately 55 feet below ground surface. The linear distance of the wall is 2219 ft. (Paul I. Cripe, Inc., 1992). The thickness of the cutoff wall is 3 feet (GZA, 1993).

- The underlying clay layer displays a "K" value of approximately 6.1×10^{-7} cm/s. The elevations of the top of the clay layer vary from 638 ft MSL to 646 ft MSL with an average of 641 ft MSL. This clay unit is averagely 15 feet thick (Geraghty & Miller, 1991).

- Below the clay unit is the lower sand/gravel unit, which extends to the top of bedrock shale layer and has an average thickness of 35 feet. The static groundwater levels in this unit were measured in 1991 at approximately 660 ft MSL (Geraghty & Miller, 1991). Recent data from Reilly Industries, Inc. suggests the groundwater elevation in the lower sand and gravel may range from about 665 ft., MSL to 670 ft., MSL.

- Based on 1985-1990 groundwater elevations in RCRA wells (see Attachment 1), static groundwater elevations outside the cutoff wall are approximately 670 ft MSL and 20 feet below ground surface. Static groundwater elevations within the cutoff wall will be maintained between approximately 663 and 659 ft MSL.

- Calculations include:

  (1) Infiltration calculation.
  (2) Horizontal leakage through the cutoff wall; and,
  (3) Vertical leakage through the underlying clay layer.

- The average daily precipitation and infiltration through the final cover are unchanged from the averages used in the development of the Closure Plan.

I-2 INFILTRATION CALCULATIONS

Infiltration calculations are made for the average daily precipitation after final cover installation:

- Calculations are based on an average annual precipitation equally distributed over 365 days (0.1 inches per day). Evaporation, transpiration, and surface runoff were considered. The calculations will give the average expected daily infiltration over a one-year period. Infiltration through the final cover system is considered to be 0.1 percent.

Surface area of cap	=	8.1 acres
Precipitation	=	0.1 inches per day
Infiltration	=	0.001
Average daily infiltration after final cover installation	=	22 gallons per day

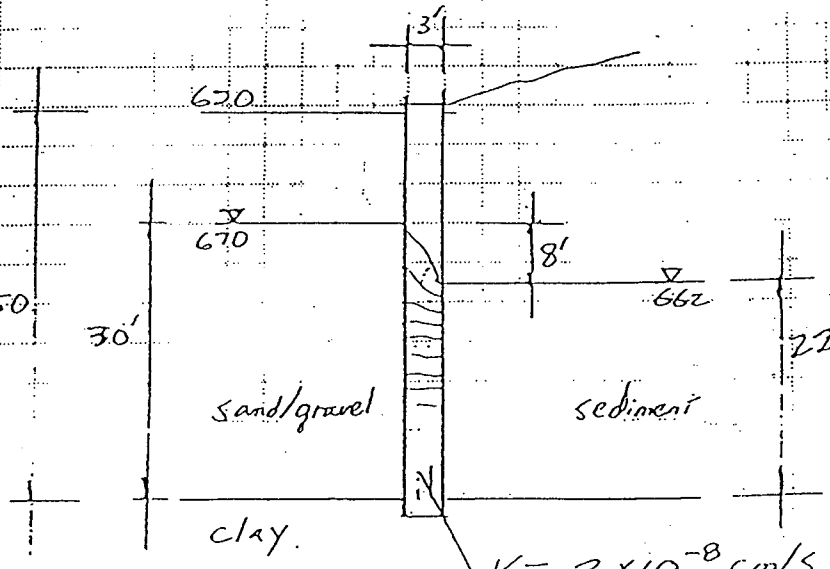
/60500/6051200/CORRES/CUTOFF/POST_DW.CAL

Project ALLISON ENGINE COMPANY — File No. 60512.00
Location INDIANAPOLIS, IN — Date — By J.CAI
Subject DEWATERING CALCULATION — Checked — By
Based on — Revised — By

I-3 HORIZONTAL LEAKAGE VIA CUT-OFF WALL

HEAD ELEVATION OUTSIDE THE WALL 670 FEET
HEAD ELEVATION INSIDE THE WALL 662 FEET

THICKNESS OF THE WALL = 3 FEET



Assume: cut-off wall is isotropic
Homogeneous
flow is steady-state

Using flow net (See NEXT PAGE)

$Q/ft = K \cdot H \frac{n_f}{n_d}$

K = hydraulic conductivity
H = Total Head difference
n_f = No. of flow channels
n_d = No. of Head drops

$n_f = 4.0$, $n_d = 5$ (from flow net)

$Q/ft = 5.67 \times 10^{-5}$ ft/day $\cdot$ 8 ft $\cdot \frac{4.0}{5} = 3629 \times 10^{-5}$ ft^3/day-ft

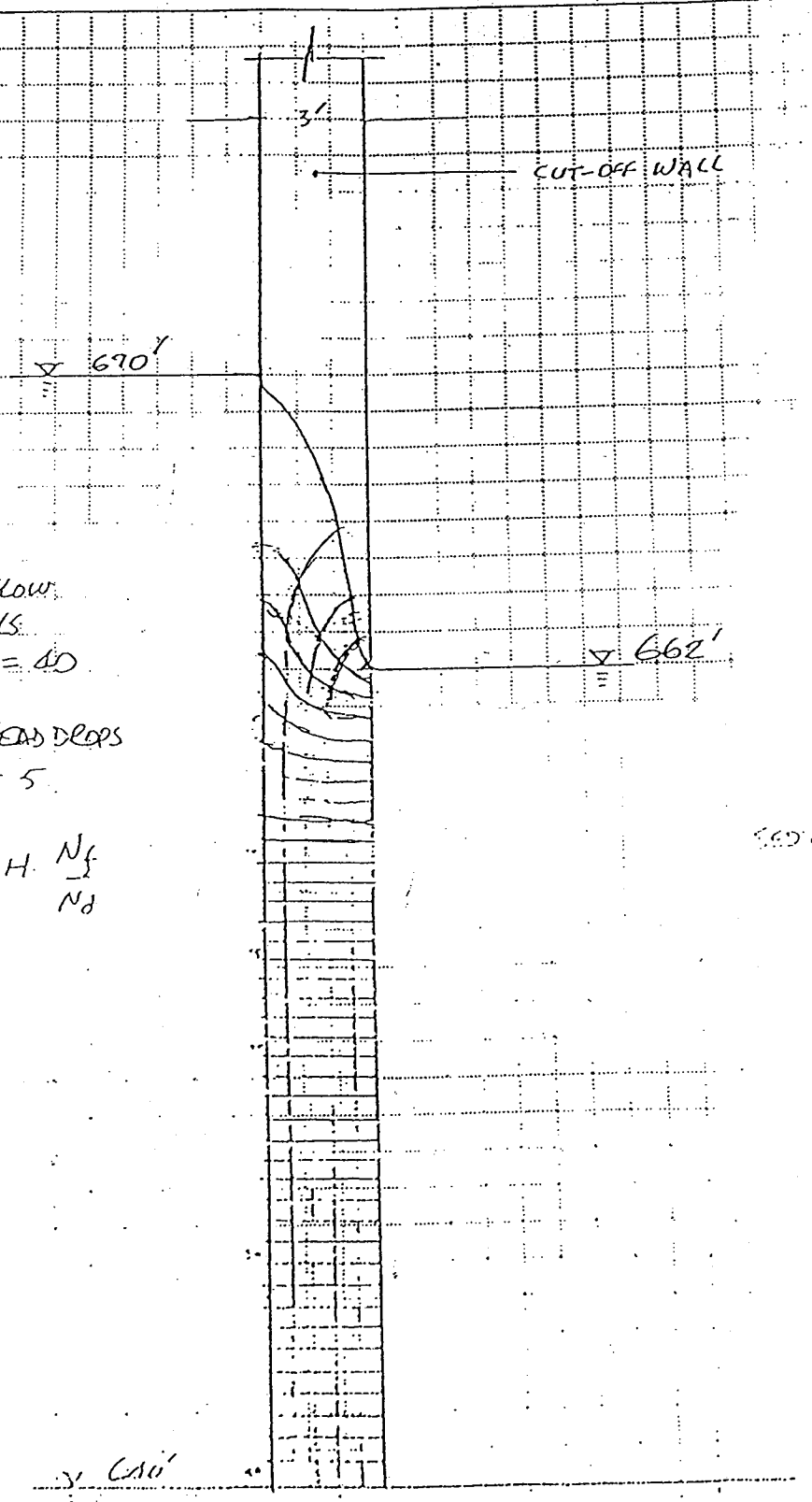
Total length of the wall = 2210 ft

∴ Total leakage across the wall

$Q = Q/ft \times 2210$ ft $= 3629 \times 10^{-5} \times 2210 = 8.05$ ft^3/day $= 0.042$ gallons/min

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Project ALLISON PLANT #5 File No. 60512.00
Location INDIANAPOLIS, IN Date By JC
Subject FLOW NET FOR HORIZONTAL FLOW VIA CUT-OFF WALL Checked By JWK
Based on Revised By



TOTAL FLOW CHANNELS
$N_f = 4.0$

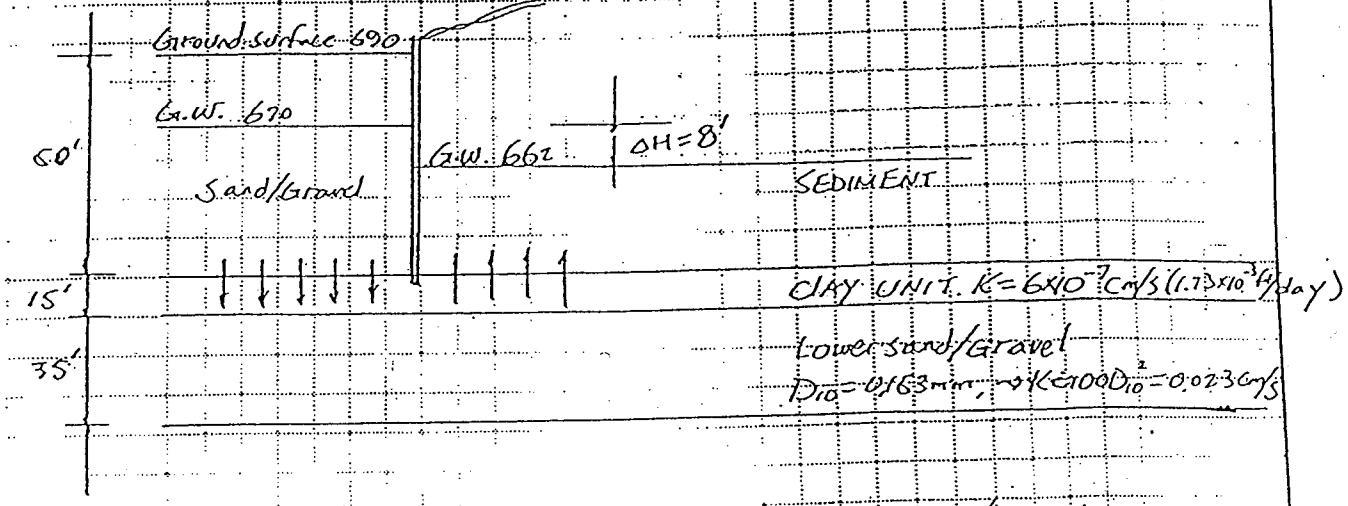
TOTAL HEAD DROPS
$N_d = 5$

$$\frac{Q}{l.c} = K \cdot H \frac{N_f}{N_d}$$

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Project ALLISON ENGINE COMPANY #PLANTS File No. 60512.00
Location INDIANAPOLIS, IN. Date By J.C.
Subject DEWATERING CALCULATION Checked By
Based on Revised By

I-4 Vertical Leakage Via Underlying Clay Unit



Assume: ① No Head loss in the upper Sand/Gravel unit outside the cut-off wall.
② No head loss in the sediment inside the cut-off wall.
③ No head loss in the lower sand/Gravel unit therefore, the head elevation in the lower Sand/Gravel unit is 670-4' = 666'

The water elevation in the lower Sand/Gravel unit is 660 ft (USGS Datum), from 1991 Monitoring Well data.

When the water level outside the wall is 670, water will flow downward to the lower aquifer, recharging the lower aquifer. And, water in lower aquifer flow upward to the inside of the cap. The lower aquifer serves a conduit for water flowing from outside to inside vertically.

Neglecting the head loss in the lower aquifer, the flow path

$L = 15' + 15' = 30'$

$\Delta H = 8'$

$i = \frac{8'}{30'}$

Flow into the cap:

$Q = KAi = 1.73 \times 10^{-3}\ ft/day \times 8\ acre \times 43560\ ft^2/acre \times \frac{1}{30'}$

$= 162.8\ ft^3/day = 1.2 \times 10^3\ gallons/day$

$= 0.834\ gallons/min$

Project ALLISON ENGINE COMPANY #PLANT 5 File No. 60512.00

Location INDIANAPOLIS, IN Date By J.S.

Subject DEWATERING CALCULATIONS Checked By WK

Based on Revised By

I-5 Post-closure Dewatering Budget

Total Leakage = Infiltration Rate through cap
+ horizontal leakage through cutoff wall
+ Vertical leakage through clay unit

Q_{total} = 22 gallons/day $\times \frac{1 \text{ day}}{24 \times 60 \text{ min}}$

+ 0.042 gallons/min

+ 0.834 gallons/min

= 0.9 gallons/min

Project GM - ALLISON File No. 60512
Location INDIANAPOLIS, IN Date 1-30-95 By WJTW
Subject WATER Budget ESTIMATIONS Checked By MML
Based on Revised By

I-6 Dewatering Estimation From Field Data

- SURFACE AREA OF CAP ≅ 8 ACRES

$$8 \text{ ACRES} \times 43{,}560 \frac{\text{ft}^2}{\text{ACRE}} \cong 350{,}000 \text{ ft}^2$$

- Average Recovery Rate in Interior Hydraulic Head Monitoring Wells after removal of Temporary Groundwater Extraction system: ≅ 0.01 ft/day (Based on 90% Groundwater elevation in MW-20A through MW-20F, see Attachment 3)

- Assumed average porosity of natural sand/gravel and sediment in impoundment: n = 30% - 40%

- Assumed average specific yields for natural sand/gravel and sediment in impoundment: S_y = 10% - 20%

CASE 1 S_y = 10%

Estimated flow rate into cap area =

$350{,}000 \text{ ft}^2 \times 0.01 \frac{\text{ft}}{\text{day}} \times 0.10 = 350 \text{ ft}^3/\text{day}$

$350 \text{ ft}^3/\text{day} \times 7.48 \text{ gal/ft}^3 = 2600 \text{ gal/day}$

$2{,}600 \text{ gal/day} \times 1 \text{ day/}1440 \text{ min} = 1 \text{ min/}0.6 \text{ gal} = 1.8 \text{ gal/minute}$

GZA Remediation, Inc.
Integrated Environmental Services

Project	GM - ALLISON	File No.	60512
Location	INDIANAPOLIS, IN	Date 1-30-95	By [illegible]
Subject	WATER BUILDUP ESTIMATIONS	Checked	By [illegible]
Based on		Revised	By

CASE 2: $S_y = 15\%$

$350{,}000\ ft^2 \times 0.01\ ft/day \times 0.15 = 525\ ft^3/DAY$

$525\ ft^3/day \times 7.48\ gal/ft^3 = 3{,}900\ gal/DAY$

$3{,}900\ gal/DAY \times 1\ DAY/24\ h \times 1\ hour/60\ min = \underline{2.7\ gal/minute}$

CASE 3: $S_y = 20\%$

$350{,}000\ ft^2 \times 0.01\ ft/day \times 0.20 = 700\ ft^3/DAY$

$700\ ft^3/DAY \times 7.48\ gal/ft^3 = 5{,}200\ gal/DAY$

$5{,}200\ gal/DAY \times 1\ DAY/24\ hour \times 1\ hour/60\ min = \underline{3.6\ gal/minute}$

- Groundwater extraction wells will pump when elevation inside cap reaches 663.
- Average groundwater elevation inside cap as of [illegible]: 657
- Estimated date that extraction wells begin pumping:

$(663 - 657\ ft) / 0.01\ ft/day = 600\ Days$

11/1/94 + 600 days = July 1996

APPENDIX E

GROUNDWATER MONITORING STATISTICAL EVALUATIONS

MAY 2009 & NOVEMBER 2009

NOVA Consultants, Inc.

Professional Engineering, Environmental, Construction Management and Surveying Services

21580 Novi Road, Suite 300
Novi, Michigan 48375
(248) 347-3512 • FAX (248) 347-4152

July 8, 2009

Commissioner
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206-2241
Attention: Chief, Permits Branch

Subject: **Groundwater Data Statistical Evaluation**
Closed Hazardous Waste Surface Impoundment
GM Former AGT Division
INR000021436
2701 West Raymond Street
Indianapolis, Indiana

Dear Commissioner:

On behalf of General Motors Corporation (GM), NOVA Consultants, Inc. (NOVA) has prepared this Groundwater Monitoring Statistical Evaluation (Evaluation) as specified in the Final Hazardous Waste Post-Closure Permit Renewal (Permit) dated January 26, 2007. As required by the Permit, this Evaluation provides details regarding the semi-annual groundwater monitoring performed in May 2009 and is being submitted within sixty (60) days of the final laboratory report, which was received by NOVA on May 29, 2009. The final laboratory report (revised) was submitted to NOVA on June 17, 2009, with the proper reporting limits for Arsenic and Selenium. Signed Certifications by GM, Favero Geosciences, and NOVA are attached as per the Permit. The following sections provide details of the groundwater monitoring.

An application to renew the Hazardous Waste Post-Closure Permit was resubmitted to IDEM on August 3, 2006. IDEM made the GM Former AGT Division Draft Post-Closure Permit Renewal available for public comment on October 26, 2006. The final Hazardous Waste Post-Closure Permit Renewal (Final Permit Renewal) was issued January 26, 2007. The May 2009 sampling event was conducted in accordance with the requirements of the Permit.

Groundwater Monitoring

As specified in the Permit, one (1) groundwater sample was collected from downgradient monitoring wells MW-201B, MW-202B, MW-203B and upgradient monitoring well MW-206B in May 2009. The locations of the monitoring wells are shown in **Figure 1**. Groundwater samples were analyzed for dissolved arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium, and cyanide (indicator parameters). Analytical results are tabulated in **Table 1**, which includes the data from 2002 through 2009. Laboratory data sheets from the May 2009 sampling event are provided in **Appendix A**. A compact disc is also included in **Appendix A**, which consists of the additional laboratory quality control data.

During the low-flow groundwater sampling, field measurements for ph, temperature, specific conductance, oxidation-reduction potential, dissolved oxygen, and turbidity were obtained. Groundwater samples were collected after stabilization of the field measurements. After collection, the groundwater samples were submitted to the laboratory for analysis. Groundwater samples were collected in accordance with the Permit. Groundwater monitoring well sampling data sheets for each monitoring well from the May 2009 sampling event are provided in **Appendix B.**

Groundwater Evaluation

In accordance with the Permit, GM has collected sixteen (16) background samples for monitoring well MW-206B (designated as the background up-gradient monitoring well from 2001 through 2009. A summary of the background data collected to date is included in **Table 2.** Tolerance limits were calculated for the indicator parameters based on the data collected from the sampling of monitoring well MW-206B as described in Appendix H, Section 4.3 of the Permit. Current tolerance limits are shown in **Table 3.** Because the analytical data sets for all nine (9) indicator parameters has greater than 90 percent non-detects, tolerance limits were developed using the Gibbon's Poisson Model.

A review of the analytical data from the sampling performed by NOVA in May 2009 indicates that the analytical results from all of the samples collected from monitoring wells MW-201B, MW-202B, and MW-203B (designated as the downgradient monitoring wells) were below the Permit specific quantitation limits for all indicator parameters. As shown in the current tolerance limits calculated in **Table 3**, all indicator parameter results (i.e., quantitation limits) for the samples collected in May 2009 were below the current upper 95 percent tolerance limit.

In July 2008, Mr. Greg Waltz, LPG, Geologist for IDEM, had a question regarding the value for chi-squared at the 95 percentile used in the calculation of tolerance limits in the *Groundwater Data Statistical Evaluation* dated July 17, 2008. ARCADIS prepared a response to Mr. Waltz' question, which is attached as **Appendix C.** The response was accepted in a March 6, 2009, email correspondence from Mr. Waltz. The information shown in **Appendix C** was used to calculate the current upper 95 percent tolerance limit.

In addition to this report, an electronic digital dataset report in the format prescribed in Appendix H, Table 3 and Table 4 of the Permit will be submitted electronically to the email address specified in the Permit. If you have any questions or concerns, please contact our office at (248) 347-3512.

Regards,

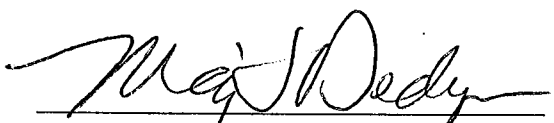
Jeff Eckhout, EIT
Project Manager

Sunil Agrawal, Ph.D., P.E.
Senior Engineer

Certification

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436	GM Former AGT Division
U.S. EPA I.D. Number	Facility Name



Marilyn J. Dedyne, P.E., CHMM
Program Manager
General Motors WFG Remediation Team
General Motors Corporation

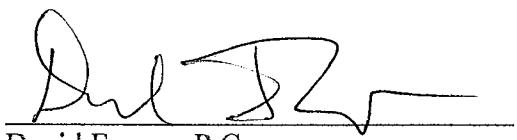
8 Jul 09

Date

Certification

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436	GM Former AGT Division
U.S. EPA I.D. Number	Facility Name



David Favero, P.G.
Favero Geosciences
General Motors Contract Project Manager

23 June 2009
Date

Certification

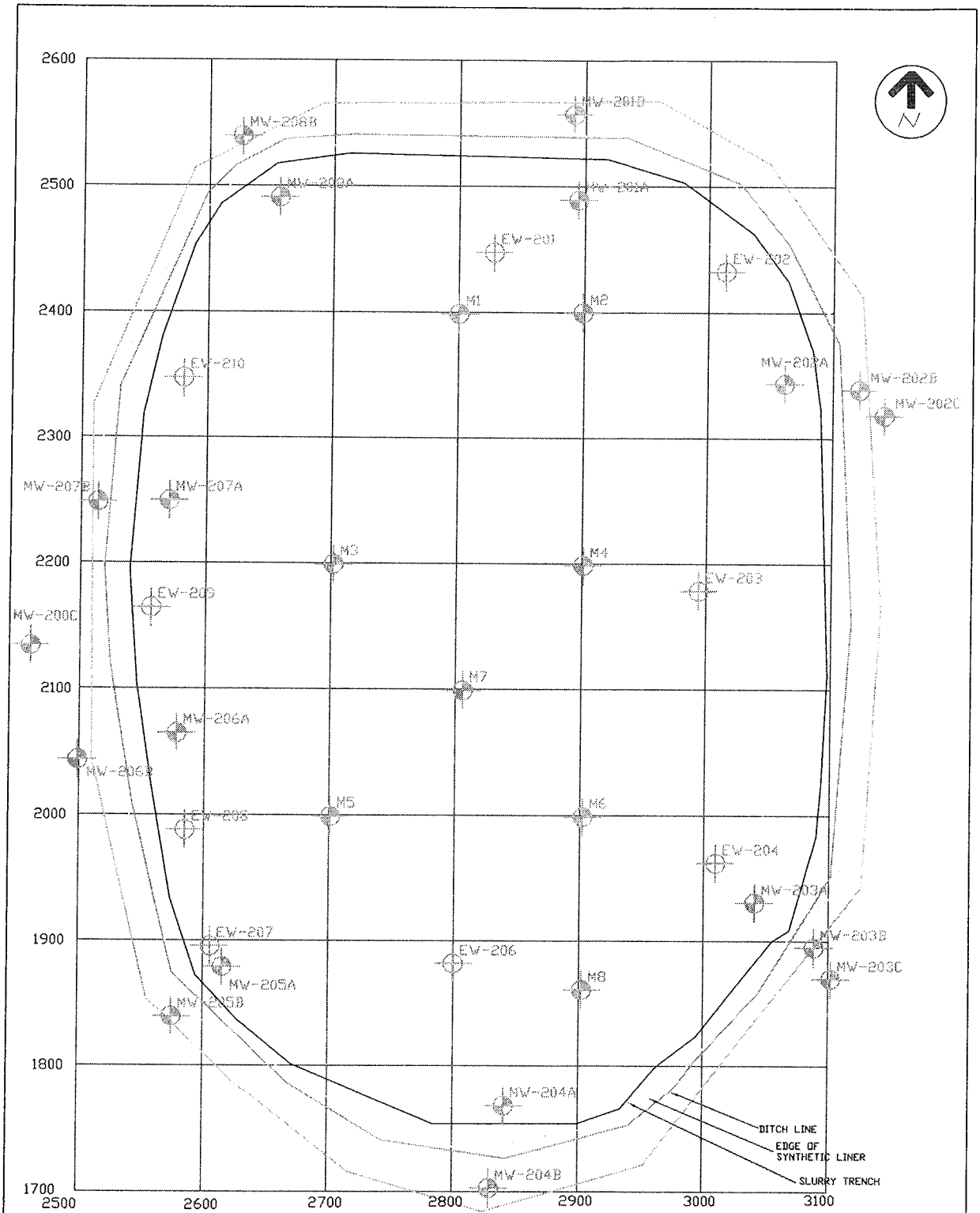
Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436	GM Former AGT Division
U.S. EPA I.D. Number	Facility Name

Jeff Eckhout, EIT
NOVA Consultants, Inc.
Consultant to General Motors Corporation

July 8, 2009
Date

FIGURE 1



MW-201A Existing Hydraulic Monitoring Well

EW-201 Existing Extraction Well

M1 Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	MONITORING WELL AND CUTOFF WALL LOCATION MAP	DRAWN: JE	DATE: 6/12/09	PROJECT NO. 97-05-154	FIG. 1
			CHK'D: SA			

TABLE 1

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	0.0102	<0.0500	0.0253
	MW-201B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (A)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (C)	11/19/03	0.011	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (051607)	05/16/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-201B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	0.0209
	MW-202B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (A)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (D)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	0.0103	<0.0100	<0.0100
	MW-202B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0359	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-202B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	0.0133	<0.0500	<0.0200
	MW-203B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	0.0104	<0.0500	<0.0200
	MW-203B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	0.0239
	MW-203B (A)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (B)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	11/19/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/09/05	<0.0100	<0.0500	0.00132	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0147	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-203B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (052902A)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902B)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902C)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902D)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002A)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002B)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002C)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002D)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	0.214
	MW-206B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (A)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/25/04	<0.0100	0.0885	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/25/04	<0.0100	0.0884	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/25/04	<0.0100	0.0875	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/25/04	<0.0100	0.0889	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/09/05	<0.0100	0.0989	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/09/05	<0.0100	0.0942	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/09/05	<0.0100	0.0967	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/09/05	0.0162	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/10/05	<0.0100	0.0839	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (B)	11/10/05	<0.0100	0.0802	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B (continued)	MW-206B (C)	11/10/05	<0.0100	0.0804	<0.00500	<0.0100	<0.00500	<0.00020	0.0114	<0.0100	<0.0100
	MW-206B (D)	11/10/05	<0.0100	0.0793	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (A)	05/17/06	<0.0100	0.1000	<0.00500	0.0266	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/17/06	<0.0100	0.0986	<0.00500	0.0550	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (C)	05/17/06	<0.0100	0.0966	<0.00500	0.0176	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/17/06	<0.0100	<0.100	<0.00500	0.0140	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (051607)	05/16/07	<0.0100	0.112	<0.00500	0.0111	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (111507)	11/15/07	<0.0100	<0.100	<0.00500	0.0760	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (051408)	05/14/08	<0.0100	0.114	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-206B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

Concentrations are in mg/L

TABLE 2

TABLE 2

UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B(8-17-01A)	8/17/2001	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206B (100801)A	10/8/2001	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	206B (103001)	10/30/2001	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	206B (112001)A	11/20/2001	0.036	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	0.0161	<0.0500	<0.0200
	MW-206B (052902A)	5/29/2002	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206B (112002A)	11/20/2002	**<0.0150***	<0.100	<0.0050	<0.0100*	<0.0100*	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206BA(052103)	5/21/2003	<0.0100*	<0.100	<0.0050	<0.0100*	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206BA(111903)	11/19/2003	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050*	<0.0020	<0.0100	<0.0100	<0.0200
	MW-206B (A)-052504	5/25/2004	<0.0100	0.0885	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	MW-206B (A)-111104	11/11/2004	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	MW-206B (A)	5/9/2005	<0.0100	0.0989	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/10/2005	<0.0100	0.0839	<0.0050	<0.0100	<0.0050	<0.0002	<0.0100	<0.0100	<0.0100
	MW-206B (A) 05/17/06	5/17/2006	<0.0100	0.100	<0.0050	0.0266	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206B (110806)	11/8/2006	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	MW-206B (051607)	5/16/2007	<0.0100	0.112	<0.0050	0.0111	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	MW-206B (111507)	11/15/2007	<0.0100	<0.100	<0.0050	0.0760	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	MW-206B (051408)	5/14/2008	<0.0100	0.114	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	MW-206B (110608)	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	MW-206B (110608)	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	MW-206B (051409)	5/14/2009	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	Estimated Quantitation Limit		**0.0100**	**0.100**	**0.0050**	**0.0100**	**0.0100**	**0.0020**	**0.0100**	**0.0500**	**0.0200**

Notes: Value in bold exceed the EQLs established by permit and are excluded from the statistical calculation
* Reevaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)
Concentrations are in mg/l

TABLE 3

Table 3
Calculation of Background Upper Tolerance Limits for Nine (9) Indicator Parameters Using the Gibbon's Poisson Model (95/95 UTL)
August 17, 2001 - May 14, 2009
Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana
INR000021436

Sample ID	Replicate[1]	Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	Cyanide (mg/L)
MW-206B (08172001)A	A	8/17/2001	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
MW-206B (100801)A	A	10/8/2001	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
206B (103001)	A	10/30/2001	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
206B (112001)A	A	11/20/2001	0.0360	0.10	0.005	0.010	0.010	0.002	0.0161	0.05	0.02
MW-206B (052902A)	A	5/29/2002	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
MW-206B (112002A)	A	11/20/2002	0.015	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
MW-206BA(052103)	A	5/21/2003	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
MW-206BA(111903)	A	11/19/2003	0.010	0.05	0.001	0.010	0.005	0.002	0.01	0.01	0.02
MW-206B (A)-052504	A	5/25/2004	0.010	0.0885	0.001	0.010	0.005	0.002	0.01	0.01	0.02
MW-206B (A)-111104	A	11/11/2004	0.010	0.05	0.001	0.010	0.005	0.002	0.01	0.01	0.02
MW-206B (A)	A	5/9/2005	0.010	0.0989	0.001	0.010	0.005	0.002	0.01	0.01	0.02
MW-206B (A)	A	11/10/2005	0.010	0.0839	0.005	0.010	0.005	0.000	0.01	0.01	0.01
MW-206B (A)05/17/06	A	5/17/2006	0.010	0.10	0.005	0.0266	0.010	0.002	0.01	0.05	0.02
MW-206B (110806)	none	11/8/2006	0.010	0.10	0.005	0.010	0.010	0.002	0.01	0.05	0.02
MW-206B (051607)	none	5/16/2007	0.010	0.112	0.005	0.0111	0.010	0.002	0.01	0.05	0.01
MW-206B (111507)	none	11/15/2007	0.010	0.1000	0.005	0.0760	0.010	0.002	0.01	0.05	0.01
MW-206B (051408)	none	5/14/2008	0.010	0.114	0.005	0.010	0.010	0.002	0.01	0.05	0.01
MW-206B (110608)	none	11/6/2008	0.010	0.10	0.005	0.010	0.005	0.002	0.01	0.05	0.01
MW-206B (051409)	none	5/14/2009	0.010	0.10	0.005	0.010	0.005	0.002	0.01	0.05	0.01

= excluded from calculations = detect

[1] For sampling events 8/17/2001 through 5/17/2006, values are based on the first of four replicates (i.e., Replicate A)

Upper Limit Calculation

Poisson Count of Sum (µg/L) T_n	186.0	1497.3	64.0	243.7	125.0	30.2	166.1	600.0	250.0
1/(2*n)	0.03125	0.03125	0.03125	0.03125	0.03125	0.03125	0.03125	0.03125	0.03125
$2T_n+2$	374.0	2996.6	130.0	489.4	252.0	62.4	334.2	1202.0	502.0
$X^2_{95}[2T_n+2]$	420.094	3125.068	157.609	541.973	290.028	81.837	377.832	1283.771	555.232
$\lambda_T=1/(2n)*X_{0.95}^2[2T_n+2]$	13.128	97.658	4.925	16.937	9.063	2.557	11.807	40.118	17.351
$2*\lambda_T$	26.256	195.317	9.851	33.873	18.127	5.115	23.614	80.236	34.702
Smallest degree of freedom (df), k, such that $X^2_{.05}[2k+2] > 2*\lambda_T$	40	230	19	49	30	12	37	103	50
at above degrees of freedom, $X^2_{.05}[2k+2]$ =	26.509	195.895	10.117	33.930	18.493	5.226	24.075	80.582	34.764
k=(df-2)/2	19.0	114.0	8.5	23.5	14.0	5.0	17.5	50.5	24.0
95/95 UTL (mg/L) ** = UTL exceeds maximum value in dataset	**0.0190**	**0.1140**	**0.0085****	**0.0235**	**0.014****	**0.005****	**0.0175****	**0.0505****	**0.024****
Most recent result (mg/L) from monitoring wells MW-201B, MW-202B, and MW-203B (Nov 2008)	<0.010	<0.10	<0.005	<0.010	<0.005	<0.002	<0.010	<0.05	<0.010
Most Recent < UTL ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

APPENDIX A

LABORATORY ANALYTICAL DATA SHEETS
MAY 2009

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Indianapolis, IN 46268
(317)875-5894

June 17, 2009

Ms. Susan Scrocchi
Conestoga-Rovers and Associates
2055 Niagara Falls Blvd
Suite 2
Niagara Falls, NY 14304

RE: Project: Rolls Royce (Revised Report)
Pace Project No.: 5026195

Dear Ms. Scrocchi:
Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kenneth Hunt for
Donna Spyker
donna.spyker@pacelabs.com
Project Manager

Illinois/NELAC Certification #: 100418
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky Certification #: 0042
Ohio VAP: CL0065
Pennsylvania: 68-00791
West Virginia Certification #: 330

Enclosures

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SAMPLE SUMMARY

Project: Rolls Royce
Pace Project No.: 5026195

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5026195001	**MW-201B(051409)**	Water	05/14/09 09:05	05/14/09 13:46
5026195002	**MW-202B(051409)**	Water	05/14/09 10:18	05/14/09 13:46
5026195003	**MW-203B(051409)**	Water	05/14/09 11:22	05/14/09 13:46
5026195004	**FD-1(051409)**	Water	05/14/09 11:27	05/14/09 13:46
5026195005	**EB-1(051409)**	Water	05/14/09 12:45	05/14/09 13:46
5026195006	**MW-206B(051409)**	Water	05/14/09 12:35	05/14/09 13:46

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SAMPLE ANALYTE COUNT

Project: Rolls Royce
Pace Project No.: 5026195

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5026195001	MW-201B(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1
5026195002	MW-202B(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1
5026195003	MW-203B(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1
5026195004	FD-1(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1
5026195005	EB-1(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1
5026195006	MW-206B(051409)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	CLS	1

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: MW-201B(051409) **Lab ID: 5026195001** Collected: 05/14/09 09:05 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:46	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/21/09 23:46	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:46	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:46	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:46	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:46	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/21/09 23:46	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:09	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:35	57-12-5	

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: MW-202B(051409) **Lab ID: 5026195002** Collected: 05/14/09 10:18 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:52	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/21/09 23:52	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:52	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:52	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:52	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:52	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/21/09 23:52	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:10	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:36	57-12-5	

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: MW-203B(051409) **Lab ID: 5026195003** Collected: 05/14/09 11:22 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:58	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/21/09 23:58	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:58	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:58	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/21/09 23:58	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/21/09 23:58	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/21/09 23:58	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:15	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:37	57-12-5	

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: FD-1(051409) **Lab ID: 5026195004** Collected: 05/14/09 11:27 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:03	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/22/09 00:03	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:03	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:03	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:03	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:03	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/22/09 00:03	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:16	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:38	57-12-5	

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: EB-1(051409) **Lab ID: 5026195005** Collected: 05/14/09 12:45 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:09	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/22/09 00:09	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:09	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:09	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:09	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:09	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/22/09 00:09	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:18	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:39	57-12-5	

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ANALYTICAL RESULTS

Project: Rolls Royce
Pace Project No.: 5026195

Sample: MW-206B(051409) **Lab ID: 5026195006** Collected: 05/14/09 12:35 Received: 05/14/09 13:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:15	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	05/21/09 00:00	05/22/09 00:15	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:15	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:15	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	05/21/09 00:00	05/22/09 00:15	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	05/21/09 00:00	05/22/09 00:15	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	05/21/09 00:00	05/22/09 00:15	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	05/15/09 00:00	05/19/09 12:19	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		05/28/09 16:40	57-12-5	

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QUALITY CONTROL DATA

Project: Rolls Royce
Pace Project No.: 5026195

QC Batch: MERP/2102 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

METHOD BLANK: 297940 Matrix: Water
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	2.0	05/19/09 11:58	

LABORATORY CONTROL SAMPLE: 297941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	92	75-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 297942 297943

Parameter	Units	5026056004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	4.7	4.7	95	93	52-133	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 297944 297945

Parameter	Units	5026195006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	4.6	4.6	92	93	52-133	.4	20	

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QUALITY CONTROL DATA

Project: Rolls Royce
Pace Project No.: 5026195

QC Batch: MPRP/4383 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

METHOD BLANK: 299995 Matrix: Water
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	10.0	05/21/09 23:35	
Barium, Dissolved	ug/L	ND	100	05/21/09 23:35	
Cadmium, Dissolved	ug/L	ND	5.0	05/21/09 23:35	
Chromium, Dissolved	ug/L	ND	10.0	05/21/09 23:35	
Lead, Dissolved	ug/L	ND	5.0	05/21/09 23:35	
Selenium, Dissolved	ug/L	ND	10.0	05/21/09 23:35	
Silver, Dissolved	ug/L	ND	50.0	05/21/09 23:35	

LABORATORY CONTROL SAMPLE: 299996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1000	1060	106	80-120	
Barium, Dissolved	ug/L	1000	1020	102	80-120	
Cadmium, Dissolved	ug/L	1000	995	99	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Lead, Dissolved	ug/L	1000	998	100	80-120	
Selenium, Dissolved	ug/L	1000	1020	102	80-120	
Silver, Dissolved	ug/L	500	535	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 299997 299998

Parameter	Units	5026195006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	75-125	3	20	
Barium, Dissolved	ug/L	ND	1000	1000	1080	1050	102	99	75-125	3	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	987	962	99	96	75-125	3	20	
Chromium, Dissolved	ug/L	ND	1000	1000	1020	990	102	99	75-125	3	20	
Lead, Dissolved	ug/L	ND	1000	1000	988	965	99	96	75-125	2	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1030	1000	103	100	75-125	2	20	
Silver, Dissolved	ug/L	ND	500	500	546	532	109	106	75-125	3	20	

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QUALITY CONTROL DATA

Project: Rolls Royce
Pace Project No.: 5026195

QC Batch: WETA/3683 Analysis Method: EPA 9012
QC Batch Method: EPA 9012 Analysis Description: 9012 Cyanide, Total
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

METHOD BLANK: 301732 Matrix: Water
Associated Lab Samples: 5026195001, 5026195002, 5026195003, 5026195004, 5026195005, 5026195006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.010	05/28/09 16:31	

LABORATORY CONTROL SAMPLE: 301733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.21	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 301734 301735

Parameter	Units	5026195006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.2	.2	0.20	0.20	100	100	75-125	.6	20	

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QUALIFIERS

Project: Rolls Royce
Pace Project No.: 5026195

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # № 03891

SSOW Ref. Code: R031015

Required Client Information:

Company: NOVA Consultants	Report To: Jeff Eckhart
Address: 21580 Novi Road Ste 300 Novi, MI 48375	Copy To: —
	Invoice To: Sue Shaw - CRA
	P.O.: 9705154
Phone: 248 347 3512	Project Name: GM-Rolls Royce
Fax: 248 347 4152	Project Number: 97-05-154
E-mail: jeff_eckhart@novaconsultants.com	

Laboratory: Pace Analytical	
Laboratory Location: Indianapolis, IN	
Laboratory Contact: D. Spyker	
Requested Due Date: 5/28/09	TAT: 2 weeks
QA/QC Requirements: Level IV	

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

Analysis and Method

	Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	RCRA 8 Metals (D3559)	Cyanide									Remarks/Lab ID
1.	MW-201B (051409)	WG	5/14/09	9:05	2				1	1		X	X									001
2.	MW-202B (051409)	WG	5/14/09	10:18	2				1	1		X	X									002
3.	MW-203B (051409)	WG	5/14/09	11:22	2				1	1		X	X									003
4.	MW-206B (051409)	WG	5/14/09	12:35	6				3	3		X	X							006		MS/MSD 004
5.	FD-1 (051409)	WG	5/14/09	11:27	2				1	1		X	X									004 005
6.	EB-1 (051409)	WGQ	5/14/09	12:45	2				1	1		X	X									005
7.																						
8.																						
9.																						
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
	TOTAL NUMBER OF CONTAINERS																					

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
Drop-Off	1	NOVA	5/14/09	13:46	Pace	5/14/09	13:46
AIRBILL NO.							

Sample Condition

Temp in °C	10.1°C
Received on Ice	(Y) N
Sealed Cooler	Y (N)
Samples Intact	(Y) N

Additional Comments: WE Client

Sampler Name: Jeff Eckhart

Sampler Signature: Date: 5/14/09

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 0 (6/04)

Sample Condition Upon Receipt

Pace Analytical

Client Name: Ward Consultants Project # 0526195

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used 123456 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 12.1°C (recently sampled) Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: _____

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☒N/A	6.
Rush Turn Around Time Requested:	☐Yes ☐No ☒N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: SOIL		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (If purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 5/15/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Sample Container Count

CLIENT: Nova Consultants

COC PAGE 1 of 1
COC ID# 03891

Project # _____

6026195

Sample Line Item	DG9H	AG1U	WGFU	R 4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP2O			Comments
1					1								1			
2					↓								↓			
3					↓								↓			
4					3								3			
5					1								1			
6					↓								↓			
7																
8																
9																
10																
11																
12																

Container Codes

DG9H	40mL HCL amber voa vial	AF	Air Filter	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved **amber** vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	BP3A	250mL NaOh, Asc Acid plastic	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved **clear** vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

APPENDIX B

GROUNDWATER MONITORING WELL SAMPLING DATA SHEETS

WELL PURGING FIELD INFORMATION FORM

JOB# 1M0U0-297

SITE/PROJECT NAME: GM-Rolls Royce

WELL# MW-201B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
05/14/09	05/14/09	112.2	190

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	A	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - ROPE X- (SPECIFY)			X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	619.016 (m/ft)		GROUNDWATER ELEVATION	617.97 (m/ft)	
DEPTH TO WATER	12.019 (m/ft)		WELL DEPTH	18.45 (m/ft)	

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.37 (std)	4.3 (ntu)	2652 (µm/cm) AT 25°C	155.2 (mV)	11.34 (mg/L)	17.6 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Non/Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 10-15 mph DIRECTION W PRECIPITATION Y/N OUTLOOK Partly Cloudy

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

5/14/09 DATE — Jeff Fethon PRINT — SIGNATURE

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: 60-Rolls Royce
Ref. No.: IN000297

Date: 5/14/09
Personnel: JMB
Jeff Eckhart

Monitoring Well Data:

Well No.: MW-2013
Measurement Point: TOC - 693.06
Constructed Well Depth (ft): 38.51'
Measured Well Depth (ft): 38.45
Depth of Sediment (ft): 654.61

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 659.55'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 20.09'

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
8:20	~200	20.09	0.00	7.97	18.02	2.762	152.1	16.83	14.1	-	
8:25	~200	20.14	0.05	7.54	17.78	2.914	154.7	1.79	6.8	1000	
8:30	~200	20.15	0.06	7.43	17.72	2.726	155.2	1.47	4.9	2000	
8:35	~200	20.16	0.07	7.41	17.68	2.701	156.8	1.27	4.8	3000	
8:40	~200	20.17	0.08	7.44	17.60	2.684	155.1	1.21	4.4	4000	
8:45	~200	20.18	0.09	7.35	17.64	2.596	157.2	1.27	4.5	5000	
8:50	~200	20.17	0.08	7.35	17.59	2.621	156.5	1.31	4.3	6000	
8:55	~200	20.17	0.08	7.30	17.61	2.641	154.3	1.33	4.2	7000	
9:00	~200	20.17	0.08	7.32	17.65	2.657	155.8	1.36	4.4	8000	
9:05	~200	20.17	0.08	7.33	17.60	2.652	155.2	1.34	4.3	9000	21.45

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WELL PURGING FIELD INFORMATION FORM

JOB# 1M000-297

SITE/PROJECT NAME: GM-Rolls Royce

WELL# MW-2023

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
05 14 09	05 14 09	11.20	

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED Y N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - PERISTALTIC PUMP C - BLADDER PUMP	E - PURGE PUMP F - DIPPER BOTTLE	H - WATERRA®	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - TYGON C - ROPE X- (SPECIFY)	E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	691.43 (m/ft)		GROUNDWATER ELEVATION	671.88 (m/ft)	
DEPTH TO WATER	19.55 (m/ft)		WELL DEPTH	37.51 (m/ft)	

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.14 (std)	14.6 (ntu)	2479 (µm/cm) AT 25°C	115.6 (mV)	1.56 (mg/L)	17.6 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED ~10-15 mph DIRECTION W PRECIPITATION Y/N OUTLOOK P. Cloudy

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
5/14/09	Jeff Eckhoff	

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: GM - Rolls Royce
Ref. No.: FN000297

Date: 5/14/09
Personnel: JM
Jeff Eckhout

Monitoring Well Data:

Well No.: MW-2023
Measurement Point: TOC - 691.43
Constructed Well Depth (ft): 37.71'
Measured Well Depth (ft): 37.51'
Depth of Sediment (ft): 653.92

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 658.72
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 19.55

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
9:33	~200	19.55	0.00	8.01	18.42	9.141	160.1	21.71	15.8	-	
9:38		19.61	0.06	7.47	17.91	2.641	154.6	2.07	5.7	1000	
9:43		19.63	0.08	7.41	17.74	2.420	152.2	1.78	4.4	2000	
9:48		19.63	0.08	7.38	17.69	2.411	154.5	1.65	4.9	3000	
9:53		19.64	0.09	7.39	17.58	2.507	156.2	1.59	4.3	4000	
9:58		19.63	0.08	7.44	17.60	2.437	155.8	1.57	4.4	5000	
10:03		19.64	0.09	7.37	17.61	2.457	156.5	1.64	4.5	6000	
10:08		19.64	0.09	7.43	17.64	2.501	156.0	1.60	4.6	7000	
10:13		19.65	0.10	7.48	17.59	2.484	155.5	1.53	4.7	8000	
10:18	~200	19.65	0.10	7.44	17.63	2.479	156.2	1.56	4.6	9000	~1.45

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WED
10 AM
Jim Ferrito

WELL PURGING FIELD INFORMATION FORM

JOB# EW0100-2917

SITE/PROJECT NAME: GM-Rolls Royce

WELL# MW-203B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
05 14 09	05 14 09	10	10

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - PERISTALTIC PUMP C - BLADDER PUMP	E - PURGE PUMP F - DIPPER BOTTLE	H - WATERRA®	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - TYGON C - ROPE X- (SPECIFY)	E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	619.65 (m/ft)	GROUNDWATER ELEVATION	617.86 (m/ft)
DEPTH TO WATER	617.86 (m/ft)	WELL DEPTH	314.30 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.48 (std)	4.4 (ntu)	2571 (µm/cm) AT 25°C	155.7 (mV)	1.49 (mg/L)	17.69 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 10-15 mph DIRECTION W PRECIPITATION Y (N) OUTLOOK P. Cloudy

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
5/14/09	Jeff Eckhart	

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: GM-Rolls Royce
Ref. No.: IN000297

Date: 5/14/09
Personnel: JM
Jeff Eckhart

Monitoring Well Data:

Well No.: MW-203B
Measurement Point: TOC - 691.65
Constructed Well Depth (ft): 34.30'
Measured Well Depth (ft): 34.30'
Depth of Sediment (ft): 657.35

Screen Length (ft): 10'
Depth to Pump Intake (ft)(1): 662.35'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)(2): 6200
Initial Depth to Water (ft): 17.86'

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level (3) (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged (4)
10:32	~200	17.86	0.00	8.14	18.17	8.472	164.1	17.42	15.2	-	
10:37	~200	17.96	0.10	7.91	18.09	2.615	160.9	2.07	5.8	1000	
10:42		17.97	0.11	7.80	18.01	2.726	157.5	1.80	5.2	2000	
10:47		17.98	0.12	7.72	17.92	2.641	156.4	1.74	4.9	3000	
10:52		17.97	0.11	7.64	17.84	2.607	155.7	1.65	4.9	4000	
10:57		17.97	0.11	7.55	17.81	2.586	155.0	1.58	4.6	5000	
11:02		17.98	0.12	7.51	17.74	2.574	154.7	1.51	4.5	6000	
11:07		17.97	0.11	7.48	17.75	2.547	155.1	1.47	4.6	7000	
11:12		17.97	0.11	7.45	17.72	2.555	155.5	1.45	4.5	8000	
11:17		17.98	0.12	7.46	17.71	2.567	155.7	1.44	4.5	9000	
11:22	~200	17.97	0.11	7.48	17.69	2.571	155.4	1.48	4.4	10,000	21.6

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WELL PURGING FIELD INFORMATION FORM

JOB# 1M00-297

SITE/PROJECT NAME: GM - Rolls Royce

WELL# MW-2063

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
05/14/09	05/14/09	12.5	80

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE		C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING DEVICE		C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	D	A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	
SAMPLING DEVICE		C - ROPE X- (SPECIFY)			X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	1671346 (m/ft)	GROUNDWATER ELEVATION	1671453 (m/ft)
DEPTH TO WATER	11819.3 (m/ft)	WELL DEPTH	13766 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.71 (std)	13.9 (ntu)	2731 (µm/cm) AT 25°C	175 (mV)	10.57 (mg/L)	17.7 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 10-15 mph DIRECTION W PRECIPITATION Y (N) OUTLOOK P. Cloudy

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
5/14/09	Jeff Eathart	

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: GM-Rolls Royce
Ref. No.: FM000297

Date: 5/14/09
Personnel: JM
Jeff Fehn

Monitoring Well Data:

Well No.: MW-2063
Measurement Point: TOC - 693.46
Constructed Well Depth (ft): 37.73'
Measured Well Depth (ft): 37.66'
Depth of Sediment (ft): 655.80

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 660.73'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 18.93'

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
11:55	~200	18.93	0.00	8.27	18.42	3.141	171.5	1.72	15.2	-	
12:00		19.01	0.08	8.07	18.07	3.079	174.2	1.17	5.2	1000	
12:05		19.02	0.09	7.91	17.91	2.914	175.5	0.86	4.8	2000	
12:10		19.03	0.10	7.86	17.88	2.810	174.1	0.74	4.4	3000	
12:15		19.02	0.09	7.81	17.79	2.772	173.9	0.68	4.2	4000	
12:20		19.03	0.10	7.79	17.75	2.752	175.4	0.62	4.1	5000	
12:25		19.02	0.09	7.74	17.74	2.714	176.2	0.59	3.9	6000	
12:30		19.02	0.09	7.71	17.75	2.726	175.9	0.55	3.8	7000	
12:35	~200	19.02	0.09	7.75	17.77	2.731	175.1	0.57	3.9	8000	21.3

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

APPENDIX C

RESPONSE TO IDEM EMAIL DATED JULY 30, 2008

ARCADIS

Response to Indiana Department of Environmental (IDEM) Management Email Dated July 30, 2008

General Motors (GM) Former AGT Division (EPA ID# INR000021436) Closed Surface Impoundment (2701 West Raymond Street, Indianapolis, Indiana)

ARCADIS has prepared this document on behalf of GM in response to the email from Greg Waltz with the Indiana Department of Environmental Management (IDEM) dated July 30, 2008, regarding the report for the May 2008 ground water monitoring event at GM Closed Hazardous Waste Surface Impoundment located in Indianapolis, Indiana, USEPA ID: INR000021436. Mr. Waltz asked the following question regarding Table 3 of the report:

> What source was used for the chi-squared value at the 95 percentile? EPA's Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities, dated April 1989, has the chi-squared 95 percentile value for 15 degrees of freedom as 25.00. This would make chi-squared at 95% (Tn + 2) = 9,600, which is greater than 430.692 value given for the arsenic column.

This response explains how the upper tolerance limit (UTL) of a Poisson distribution is calculated, and how the chi-squared distribution is used in this calculation. References are provided to support the approach that was used.

USEPA's Interim Final guidance for statistical analysis of groundwater data (USEPA, 1989, Section 5.3) originally presented methods for calculating the more common normal and lognormal UTLs. In its 1992 addendum, USEPA introduced an approach for calculating a Poisson UTL (USEPA, 1992; Section 2.2.5), based on a method originally described by Gibbons (1987; 1994, pp. 38-40). It is suggested that the Poisson UTL may be more reliable for data sets with many nondetects.

In order to calculate the Poisson distribution, it is important to recognize how the chi-squared distribution is utilized. Evans, Hastings, and Peacock (1993; p. 127, footnote 4) provide a concise description as follows:

> The probability that the Poisson variate P: λ is less than or equal x is equal to the probability that the Chi-squared variate with 2(1+x) degrees of freedom, denoted χ^2: 2(1+x), is greater than 2λ:

$$Pr[(P: \lambda) \leq x] = Pr[(\chi^2: 2(1+x)) > 2\lambda]$$

The degrees of freedom (*df* or *v*) is the parameter that defines the chi-square distribution. In this approach, *df* is given by the quantity 2(1+x), or equivalently 2x + 2. USEPA (1992, p. 40) describes the same concept, using the quantity $[2T_n + 2]$ to represent *df*, where T_n is the sum of the values in the data set. Note that this differs from the more standard representation of *df* based on sample size minus one (*df* = n-1). This difference explains why the 95th percentile calculated by IDEM for arsenic differs from the value presented in the report. It is correct that the sample size is n=16, and that the 95th percentile of chi-square with *df* =15 is equal to 25. However, for this application, the *df* is not based on sample size, but instead on the quantity $[2T_n + 2]$. To facilitate the calculation of T_n, all values are first converted to units of µg/L by multiplying by 1000 (subsequently, the final UTL is obtained by dividing by

1000). For arsenic, T_n = 191, and $2T_n+2 = 382 + 2 = 384$. So we want to solve for percentiles of the chi-squared distribution with *df* = 384. For the Poisson UTL, we need to solve for both the 95th percentile and 5th percentile of a chi-squared distribution, as explained below.

Different approximations are available to solve for percentiles of a chi-squared distribution. In MS Excel, a formula referred to as the inverse of the one-tailed probability of the chi-squared distribution may be used: chiinv(probability, *df*). In this context, probability refers to the probability of exceedance (area in the upper tail). To obtain the 95th percentile, probability = 1.0 – 0.95 = 0.05. Similarly, to obtain the 5th percentile, probability = 1.0 – 0.05 = 0.95. The formula needed to obtain the 95th percentile of the chi-squared distribution with *df*=384 is chiinv(0.05, 384) and the solution is 430.69. Because the function in Excel is not defined for certain *df* values, an alternate approach was used for calculations in Table 3. Abramowitz and Stegun's Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables (Zelen and Severo, 1964) is an excellent source for numerical approximations regarding many different probability distributions. It is available free online at http://www.math.sfu.ca/~cbm/aands/. The numerical approximation for the percentile of a chi-squared distribution used in Table 3 is based on Equation 26.4.17 (p. 941), which is accurate for *df* > 30:

$$\chi_p^2 = v\left[1 - \frac{2}{9v} + x_p\sqrt{\frac{2}{9v}}\right]^3$$

where,

v = degrees of freedom

x_p = value of standard normal distribution that corresponds to the p^{th} percentile value

Substituting v = 384 and x_p = 1.645 into the approximation yields:

$$\chi_p^2 = 384\left[1 - \frac{2}{9\times 384} + 1.645\sqrt{\frac{2}{9\times 384}}\right]^3$$

$$\chi_p^2 = 384\,[1 - 0.0005787 + 0.03957]^3 = 384 \times 1.216 = 430.69$$

The 95th percentile of the chi-squared distribution is used in Step 2 of USEPA's approach (USEPA, 1992; p.41) to calculate λ_{Tn}:

$$\lambda_{T_n} = \frac{1}{2n}\chi^2_{0.95}\,[2T_n + 2]$$

Substituting n = 16 and T_n = 191 for arsenic, the degrees of freedom for the chi-squared distribution is $[2T_n+2]$ = 384, so $\chi^2_{0.95}$ with this *df* is 430.69:

$$\lambda_{T_n} = \frac{1}{2\times 16}(430.69) = 13.46$$

Next, USEPA (p. 41, Step 3) indicates: "... using a chi-square table, find the smallest *df*, k, such that

$$\chi^2_{0.05}[2k+2] \geq 2\lambda$$

In other words, given that we know (can calculate) 2λ, solve for the degrees of freedom of the chi-squared distribution (2k+2). Either the approximation equation above or the Excel function chiinv(probability, *df*) can again be used in an iterative fashion to solve for the *df* needed such that the 5th percentile of the chi-squared distribution is greater than or equal to 2λ. For arsenic, the quantity 2λ is equal to **26.9**. This value is bounded by the 5th percentile of the chi-square distribution with the *df* = 40 (which yields **26.5**) *df* = 41 (which yields **27.3**). Therefore, the smallest *df* that satisfies the constraint is *df* = 41. So [2k+2] = 41, and k = 19.5, and the Poisson UTL is 19.5 µg/L or 0.0195 mg/L.

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NOVA Consultants, Inc.

Professional Engineering, Environmental, Construction Management and Surveying Services

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(248) 347-3512 • FAX (248) 347-4152

February 8, 2010

Commissioner
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206-2241
Attention: Chief, Permits Branch

Subject: **Groundwater Data Statistical Evaluation**
Closed Hazardous Waste Surface Impoundment
GM Former AGT Division
INR000021436
2701 West Raymond Street
Indianapolis, Indiana

Dear Commissioner:

On behalf of Motors Liquid Company (formerly known as General Motors Corporation), NOVA Consultants, Inc. (NOVA) has prepared this Groundwater Monitoring Statistical Evaluation (Evaluation) as specified in the Final Hazardous Waste Post-Closure Permit Renewal (Permit) dated January 26, 2007. Please be advised that as a result of General Motors Corporation's (GM's) June 2009 bankruptcy, the operating assets of GM were sold on July 10, 2009 to a newly formed company, which is now known as General Motors LLC. Existing, non-continuing assets remained the property of "old" General Motors Corporation, which changed its name to Motors Liquidation Company (MLC), in its capacity as a debtor-in-possession in the bankruptcy case. This Facility remained with MLC.

As required by the Permit, this Evaluation provides details regarding the semi-annual groundwater monitoring performed in November 2009 and is being submitted within sixty (60) days of the final laboratory report, which was received by NOVA on December 10, 2009. Signed Certifications by MLC and NOVA are attached. The following sections provide details of the groundwater monitoring and statistical evaluation.

An application to renew the Hazardous Waste Post-Closure Permit was resubmitted to Indiana Department of Environmental Management (IDEM) on August 3, 2006. IDEM made the General Motors Former Allison Gas Turbine (AGT) Division Draft Post-Closure Permit Renewal available for public comment on October 26, 2006. The final Hazardous Waste Post-Closure Permit Renewal (Final Permit Renewal) was issued January 26, 2007. A Class 1 Permit Modification was submitted to IDEM on April 23, 2009, and approved by IDEM on June 15, 2009. The substance to the permit modification included an update to the statistical procedures for evaluating background groundwater quality as compared to analytical data from compliance monitoring wells. The November 2009 sampling event was conducted in accordance with the requirements of the Permit and subsequent approved Permit Modifications.

Groundwater Monitoring

As specified in the Permit, one (1) groundwater sample was collected from downgradient compliance monitoring wells MW-201B, MW-202B, MW-203B and upgradient monitoring well MW-206B in November 2009. The locations of the monitoring wells are shown in **Figure 1**. Groundwater samples were analyzed for dissolved arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium and cyanide (indicator parameters). Analytical results are tabulated in **Table 1**, which includes analytical data for each well from the most recent sixteen (16) valid observations (November 2001 or May 2002 through November 2009). Laboratory data sheets from the November 2009 sampling event are provided in **Appendix A**. A compact disc is also included in **Appendix A**, which consists of the additional laboratory quality control data.

During the low-flow groundwater sampling, field measurements for pH, temperature, specific conductance, oxidation-reduction potential, dissolved oxygen and turbidity were obtained. Groundwater samples were collected after stabilization of the field measurements. After collection, the groundwater samples were submitted to the laboratory for analysis. Groundwater samples were collected in accordance with the Permit and subsequent approved Permit Modifications. Groundwater monitoring well sampling data sheets for each monitoring well from the November 2009 sampling event are provided in **Appendix B**.

Groundwater Evaluation

In accordance with the Permit (and subsequent Permit Modifications), analytical data from monitoring well MW-206B (designated as the background upgradient monitoring well) has been evaluated to establish background groundwater quality conditions. Details of the exploratory data analysis and statistical evaluation of background data, conducted in accordance with Appendix H, Section 4.3 of the Permit, is included as **Appendix C**. Background groundwater quality was established using the most recent 16 valid observations for each indicator parameter, as summarized in **Table 2**.

A point-by-point comparison of data from compliance wells to background screening levels (BSLs) was conducted to evaluate water quality. BSLs were calculated using concentrations of indicator parameters in upgradient monitoring well MW-206B. The desired statistic to represent the BSL is a one-sided 95 percent confidence interval for the 99th percentile (95/99 upper tolerance limit [UTL]). However, the high frequency of non-detects precluded calculation of the 95/99 UTL for most datasets. In these cases the BSL was based conservatively on the maximum detected concentration or the maximum reporting limit. The final BSL values are presented in **Table 3**.

A review of analytical data from the sampling performed by NOVA in November 2009 indicates that the analytical results for samples collected from monitoring wells MW-201B, MW-202B, and MW-203B (designated as the downgradient compliance monitoring wells) were below the Permit-

specific quantitation limits for all indicator parameters. The results of the statistical evaluation, summarized in Appendix C, suggest that there is no evidence of impacts to groundwater quality.

In addition to this report, an electronic digital dataset report in the format prescribed in Appendix H, Table 3 and Table 4 of the Permit will be submitted electronically to the email address specified in the Permit. If you have any questions or concerns, please contact our office at (248) 347-3512.

Regards,

Jeff Eckhout, EIT
Project Manager

Sunil Agrawal, Ph.D., P.E.
Senior Engineer

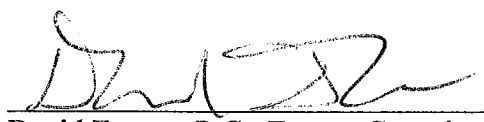
Attachments
Figure 1 – Monitoring Well and Cutoff Wall Location Map
Table 1 – Groundwater Analytical Data
Table 2 – Upgradient Monitoring Well MW-206B Background Data
Table 3 – Background Screening Levels
Appendix A – Laboratory Analytical Data Sheets – November 2009
Appendix B – Groundwater Monitoring Well Sampling Data Sheets
Appendix C – Statistical Evaluation of Background Groundwater Quality

Certification

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436
U.S. EPA I.D. Number

GM Former AGT Division
Facility Name



David Favero, P.G., Favero Geosciences
Agent for Motors Liquidation Company (formerly known as General Motors Corporation)

February 2, 2010
Date

Certification

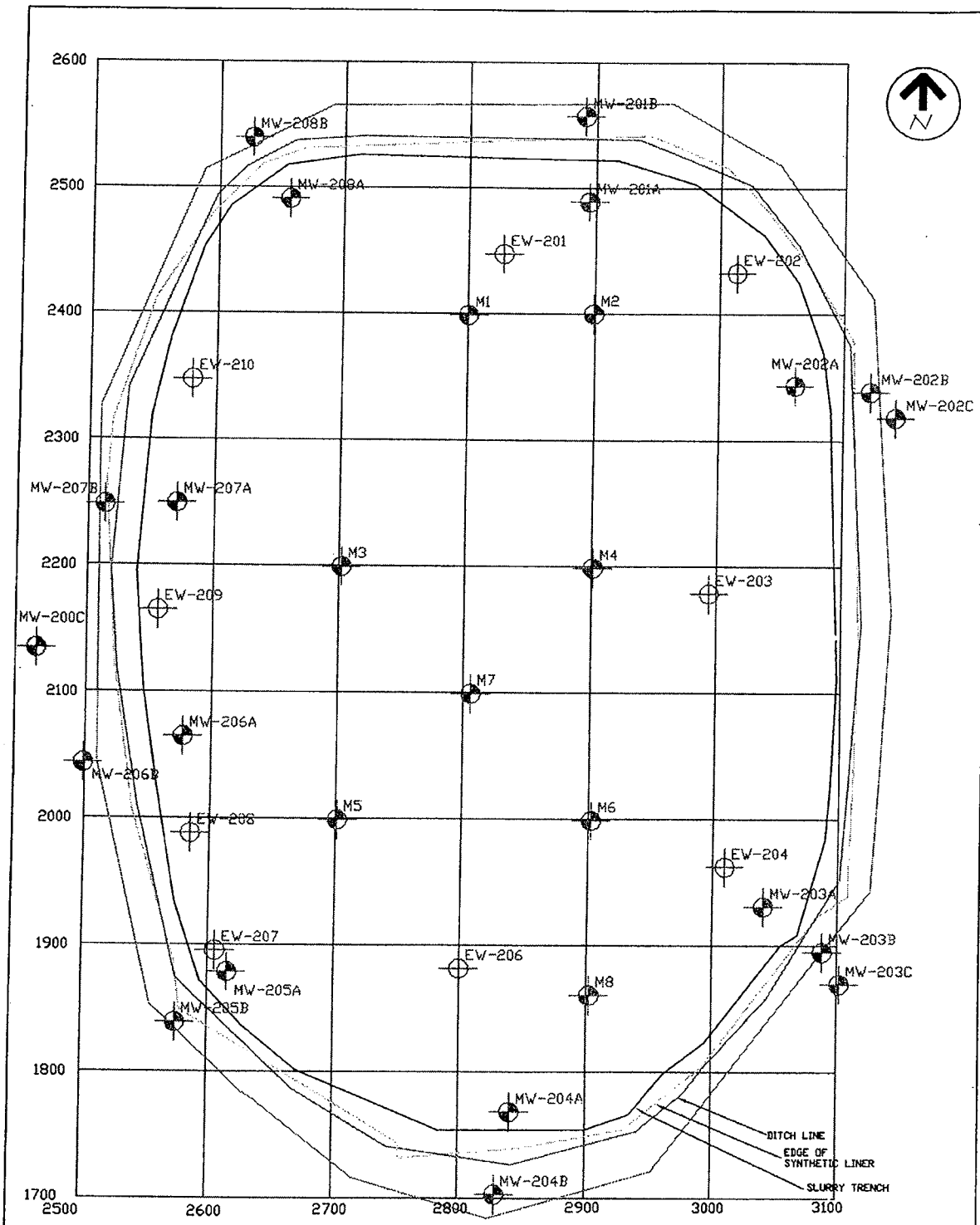
Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436
U.S. EPA I.D. Number

GM Former AGT Division
Facility Name

Jeff Eckhout, EIT
NOVA Consultants, Inc.
Consultant to Motors Liquidation Company

2/5/2010
Date



MW-201A — Existing Hydraulic Monitoring Well

EW-201 — Existing Extraction Well

M1 — Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	MONITORING WELL AND CUTOFF WALL LOCATION MAP	DRAWN: JE	DATE: 12/21/09	FIG. 1
			CHK'D: SA	97-05-154	

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	0.0102	<0.0500	0.0253
	MW-201B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (A)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (051607)	05/16/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-201B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	0.0209
	MW-202B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (A)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	0.0103	<0.0100	<0.0100
	MW-202B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0359	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-202B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (052902)	05/29/02	<0.0500	<0.100	<0.0100	<0.0500	<0.0500	<0.00200	0.0133	<0.0500	<0.0200
	MW-203B (112002)	11/20/02	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (A)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	0.0104	<0.0500	<0.0200
	MW-203B (B)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/21/03	<0.0500	<0.100	<0.00500	<0.0500	<0.0500	<0.00200	<0.0100	<0.0500	0.0239
	MW-203B (A)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	11/19/03	<0.0100	<0.0500	<0.001	<0.0200	<0.005	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/09/05	<0.0100	<0.0500	0.00132	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.05	<0.0200
	MW-203B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0147	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-203B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (112001 A)	11/20/2001	0.036	--	--	--	--	--	--	--	--
	MW-206B (112001 B)	11/20/2001	0.0372	--	--	--	--	--	--	--	--
	MW-206B (112001 C)	11/20/2001	0.0377	--	--	--	--	--	--	--	--
	MW-206B (112001 D)	11/20/2001	0.0367	--	--	--	--	--	--	--	--
	MW-206B (052902A)	05/29/02	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902B)	05/29/02	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902C)	05/29/02	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (052902D)	05/29/02	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002A)	11/20/02	NA	<0.100	<0.00500	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002B)	11/20/02	NA	<0.100	<0.00500	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002C)	11/20/02	NA	<0.100	<0.00500	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (112002D)	11/20/02	NA	<0.100	<0.00500	<0.0100*	<0.0100*	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (A)	05/21/03	<0.0100*	<0.100	<0.00500	<0.0100*	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/21/03	<0.0100*	<0.100	<0.00500	<0.0100*	<0.0500	<0.00200	<0.0100	<0.0500	0.214
	MW-206B (C)	05/21/03	<0.0100*	<0.100	<0.00500	<0.0100*	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/21/03	<0.0100*	<0.100	<0.00500	<0.0100*	<0.0500	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (A)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0100*	<0.0050*	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0100*	<0.0050*	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0100*	<0.0050*	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/19/03	<0.0100	<0.0500	<0.00100	<0.0100*	<0.0050*	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/25/04	<0.0100	0.0885	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/25/04	<0.0100	0.0884	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/25/04	<0.0100	0.0875	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/25/04	<0.0100	0.0889	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/09/05	<0.0100	0.0989	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/09/05	<0.0100	0.0942	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/09/05	<0.0100	0.0967	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/09/05	0.0162	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/10/05	<0.0100	0.0839	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (B)	11/10/05	<0.0100	0.0802	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B (continued)	MW-206B (C)	11/10/05	<0.0100	0.0804	<0.00500	<0.0100	<0.00500	<0.00020	0.0114	<0.0100	<0.0100
	MW-206B (D)	11/10/05	<0.0100	0.0793	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (A)	05/17/06	<0.0100	0.1000	<0.00500	0.0266	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/17/06	<0.0100	0.0986	<0.00500	0.0550	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (C)	05/17/06	<0.0100	0.0966	<0.00500	0.0176	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/17/06	<0.0100	<0.100	<0.00500	0.0140	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (051607)	05/16/07	<0.0100	0.112	<0.00500	0.0111	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (111507)	11/15/07	<0.0100	<0.100	<0.00500	0.0760	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (051408)	05/14/08	<0.0100	0.114	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-206B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010

Notes: * Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)
NA: Reporting limit for non-detect exceeds the Estimated Quantitation Limit established by permit and is excluded from the analysis
-- Sampling event prior to most recent 16 valid observation; data excluded from analysis

TABLE 2

UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	11/20/2001	0.0369	--	--	--	--	--	--	--	--
	5/29/2002	<0.0100*	<0.100	<0.0050*	<0.0100*	<0.0100*	<0.0020	<0.0100	<0.0500	<0.0200
	11/20/2002	**<0.0150***	<0.100	<0.0050	<0.0100*	<0.0100*	<0.0020	<0.0100	<0.0500	<0.0200
	5/21/2003	<0.0100*	<0.100	<0.0050	<0.0100*	<0.0100	<0.0020	<0.0100	<0.0500	0.214
	11/19/2003	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050*	<0.0020	<0.0100	<0.0100	<0.0200
	5/25/2004	<0.0100	0.088325	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	11/11/2004	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	5/9/2005	<0.0100	0.096	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	11/10/2005	<0.0100	0.08095	<0.0050	<0.0100	<0.0050	<0.0002	0.0114	<0.0100	<0.0100
	5/17/2006	<0.0100	0.0982	<0.0050	0.0283	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	11/8/2006	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	5/16/2007	<0.0100	0.112	<0.0050	0.0111	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/15/2007	<0.0100	<0.100	<0.0050	0.076	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	5/14/2008	<0.0100	0.114	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	5/14/2009	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	11/23/2009	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
Estimated Quantitation Limit		**0.0100**	**0.100**	**0.0050**	**0.0100**	**0.0100**	**0.0020**	**0.0100**	**0.0500**	**0.0200**

Notes: Value in bold exceeds the EQLs established by permit and are excluded from the statistical calculation
* Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)
-- Sampling event prior to most recent 16 sampling events; data excluded from analysis

TABLE 3

BACKGROUND SCREENING LEVELS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Analyte	Background Wells (MW-206B)					Compliance Wells (MW-201B, -202B, -203B)			
	Detects / N	Maximum (mg/L)	95/99 UTL (mg/L)	Method	BSL (mg/L) [1]	Maximum (mg/L)	Well	2009 Sampling Dates	> BSL ?
Arsenic	2 / 16	0.037	NA	NA	0.04	< 0.01	All 3 wells	5/14/09	No
						< 0.005	All 3 wells	11/23/09	No
Barium	6 / 16	0.114	0.128	Kaplan-Meier [2]	0.13	< 0.1	All 3 wells	5/14/09 11/23/09	No
Cadmium	0 / 16	< 0.005	NA	NA	0.01	< 0.005	All 3 wells	5/14/09 11/23/09	No
Chromium	3 / 16	0.076	NA	NA	0.08	< 0.01	All 3 wells	5/14/09 11/23/09	No
Lead	0 / 16	< 0.01	NA	NA	0.01	< 0.005	All 3 wells	5/14/09 11/23/09	No
Mercury	0 / 16	< 0.002	NA	NA	0.00	< 0.002	All 3 wells	5/14/09 11/23/09	No
Selenium	1 / 16	0.0114	NA	NA	0.01	< 0.01	All 3 wells	5/14/09 11/23/09	No
Silver	0 / 16	< 0.05	NA	NA	0.05	< 0.05	All 3 wells	5/14/09 11/23/09	No
Cyanide	1 / 16	0.214	NA	NA	0.21	< 0.01	All 3 wells	5/14/09 11/23/09	No

Abbreviations:
< = nondetect, value equal to estimated quantitation limit (EQL)
95/99 UTL = upper tolerance limit based on upper 95 percent confidence interval for 99th percentile
BSL = background screening level
N = sample size

Notes:

[1] If detects = 0, the maximum reporting limit of nondetects is used as the BSL. If detects < 5, BSL = maximum detect. If detects ≥ 5, BSL= 95/99 UTL.
[2] Data are left censored with n=16 and detects = 6, normally distributed with mild skew (standard deviation of log of detects ≤ 1), which supports use of Kaplan-Meier 95/99 UTL instead of a Poisson UTL.

APPENDIX A

LABORATORY ANALYTICAL DATA SHEETS
NOVEMBER 2009

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)875-5894

December 10, 2009

Ms. Susan Scrocchi
Conestoga-Rovers and Associates
2055 Niagara Falls Blvd
Suite 2
Niagara Falls, NY 14304

RE: Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Dear Ms. Scrocchi:
Enclosed are the analytical results for sample(s) received by the laboratory on November 24, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Donna S. Spyker

Donna Spyker

donna.spyker@pacelabs.com
Project Manager

7726 Moller Road Indianapolis, IN 46268
Illinois/NELAC Certification #: 100418
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky Certification #: 0042
Ohio VAP: CL0065
Pennsylvania: 68-00791
West Virginia Certification #: 330

Enclosures

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Indianapolis, IN 46268
(317)875-5894

SAMPLE SUMMARY

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5032593001	**MW-201B(112309)**	Water	11/23/09 13:17	11/24/09 13:26
5032593002	**MW-202B(112309)**	Water	11/23/09 14:32	11/24/09 13:26
5032593003	**MW-203B(112309)**	Water	11/23/09 15:44	11/24/09 13:26
5032593004	**MW-206B(112309)**	Water	11/23/09 16:53	11/24/09 13:26
5032593005	**FD-1(112309)**	Water	11/23/09 16:57	11/24/09 13:26
5032593006	**EB-1(112309)**	Water	11/23/09 17:02	11/24/09 13:26

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SAMPLE ANALYTE COUNT

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5032593001	**MW-201B(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1
5032593002	**MW-202B(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1
5032593003	**MW-203B(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1
5032593004	**MW-206B(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1
5032593005	**FD-1(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1
5032593006	**EB-1(112309)**	EPA 6010	FRW	7
		EPA 7470	RAK	1
		EPA 9012	CLS	1

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: MW-201B(112309) **Lab ID: 5032593001** Collected: 11/23/09 13:17 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 12:28	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 12:28	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 12:28	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 12:28	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 12:28	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 12:28	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 12:28	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:18	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:37	57-12-5	

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: MW-202B(112309) **Lab ID: 5032593002** Collected: 11/23/09 14:32 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:02	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 13:02	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:02	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:02	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:02	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:02	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 13:02	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:20	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:38	57-12-5	

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: MW-203B(112309) **Lab ID: 5032593003** Collected: 11/23/09 15:44 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:07	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 13:07	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:07	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:07	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:07	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:07	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 13:07	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:21	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:39	57-12-5	

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: MW-206B(112309) **Lab ID: 5032593004** Collected: 11/23/09 16:53 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:13	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 13:13	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:13	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:13	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:13	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:13	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 13:13	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:22	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:40	57-12-5	

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: FD-1(112309) **Lab ID: 5032593005** Collected: 11/23/09 16:57 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:42	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 13:42	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:42	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:42	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:42	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:42	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 13:42	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:27	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:42	57-12-5	

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ANALYTICAL RESULTS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

Sample: EB-1(112309) **Lab ID: 5032593006** Collected: 11/23/09 17:02 Received: 11/24/09 13:26 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:47	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	12/04/09 00:00	12/07/09 13:47	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:47	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:47	7440-47-3	
Lead, Dissolved	ND	ug/L	5.0	1	12/04/09 00:00	12/07/09 13:47	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	12/04/09 00:00	12/07/09 13:47	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	12/04/09 00:00	12/07/09 13:47	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	12/01/09 00:00	12/02/09 12:28	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.010	1		12/03/09 16:43	57-12-5	

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QUALITY CONTROL DATA

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

QC Batch: MPRP/5115 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

METHOD BLANK: 375547 Matrix: Water
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	5.0	12/07/09 12:16	
Barium, Dissolved	ug/L	ND	100	12/07/09 12:16	
Cadmium, Dissolved	ug/L	ND	5.0	12/07/09 12:16	
Chromium, Dissolved	ug/L	ND	10.0	12/07/09 12:16	
Lead, Dissolved	ug/L	ND	5.0	12/07/09 12:16	
Selenium, Dissolved	ug/L	ND	10.0	12/07/09 12:16	
Silver, Dissolved	ug/L	ND	50.0	12/07/09 12:16	

LABORATORY CONTROL SAMPLE: 375548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1000	1030	103	80-120	
Barium, Dissolved	ug/L	1000	1010	101	80-120	
Cadmium, Dissolved	ug/L	1000	1020	102	80-120	
Chromium, Dissolved	ug/L	1000	1010	101	80-120	
Lead, Dissolved	ug/L	1000	1010	101	80-120	
Selenium, Dissolved	ug/L	1000	1030	103	80-120	
Silver, Dissolved	ug/L	500	467	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 375549 375550

Parameter	Units	5032593004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	1050	1050	105	105	75-125	.5	20	
Barium, Dissolved	ug/L	ND	1000	1000	1110	1110	102	102	75-125	.4	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1020	102	102	75-125	.4	20	
Chromium, Dissolved	ug/L	ND	1000	1000	1010	1010	101	101	75-125	.2	20	
Lead, Dissolved	ug/L	ND	1000	1000	1000	1000	100	100	75-125	.2	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1040	104	104	75-125	.1	20	
Silver, Dissolved	ug/L	ND	500	500	473	470	94	94	75-125	.6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 375551 375552

Parameter	Units	5032630005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1070	106	107	75-125	1	20	
Barium, Dissolved	ug/L	ND	1000	1000	1050	1070	101	103	75-125	1	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1010	1030	101	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 375551 375552

Parameter	Units	5032630005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	ND	1000	1000	1000	1020	100	102	75-125	2	20	
Lead, Dissolved	ug/L	ND	1000	1000	996	1010	100	101	75-125	1	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1030	1040	103	104	75-125	1	20	
Silver, Dissolved	ug/L	ND	500	500	466	472	93	94	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 375553 375554

Parameter	Units	5032821003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	1050	1060	105	106	75-125	.4	20	
Barium, Dissolved	ug/L	ND	1000	1000	1050	1060	101	102	75-125	.8	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1030	102	103	75-125	.6	20	
Chromium, Dissolved	ug/L	ND	1000	1000	1020	1030	102	103	75-125	1	20	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1020	101	102	75-125	.8	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1040	104	104	75-125	.2	20	
Silver, Dissolved	ug/L	ND	500	500	467	470	93	94	75-125	.6	20	

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QUALITY CONTROL DATA

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

QC Batch: MERP/2365 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

METHOD BLANK: 373852 Matrix: Water
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	2.0	12/02/09 11:52	

LABORATORY CONTROL SAMPLE: 373853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	97	75-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 373854 373855

Parameter	Units	5032273001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	5.1	5.0	99	97	52-133	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 373856 373857

Parameter	Units	5032593004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	5.0	5.2	98	101	52-133	4	20	

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QUALITY CONTROL DATA

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

QC Batch: WETA/4432 Analysis Method: EPA 9012
QC Batch Method: EPA 9012 Analysis Description: 9012 Cyanide, Total
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

METHOD BLANK: 373508 Matrix: Water
Associated Lab Samples: 5032593001, 5032593002, 5032593003, 5032593004, 5032593005, 5032593006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.010	12/03/09 16:35	

LABORATORY CONTROL SAMPLE: 373509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.21	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 373510 373511

Parameter	Units	5032593004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.2	.2	0.21	0.21	106	107	75-125	.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 373512 373513

Parameter	Units	5032653002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.2	.2	0.21	0.21	105	107	75-125	1	20	

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QUALIFIERS

Project: GM-Rolls Royce/97-05-154
Pace Project No.: 5032593

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

GM REALM ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # Nº 03781

SSOW Ref. Code: R031016

Required Client Information:

Company: NOVA Consultants	Report To: Jeff Ethout
Address: 21580 Nov. Road Suite 300	Copy To:
Novi MI 48375	Invoice To: Sue Scrocci - CRA
Phone: 248.347.3512	P.O.: 9705154
Fax: 248.347.4152	Project Name: GM-Rolls Royce
E-mail: jeff-ethout@novaconsultants.com	Project Number: 97-05-154

Laboratory:	Pace Analytical
Laboratory Location:	Indianapolis, IN
Laboratory Contact:	D. Spyker
Requested Due Date:	12/10/09 TAT: Std-2wk
QA/QC Requirements:	Level IV

Valid Matrix Codes: WG Groundwater, WB Borehole Water, WS Surface Water, SO Soil, SE Sediment, See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	RCRA 8 Metals (Dissolved)	Cyanide	Remarks/Lab ID
1. MW-201B (112309)	WG	11/23/09	13:17	2				1	1		X	X	-001
2. MW-202B (112309)	WG	11/23/09	14:32	2				1	1		X	X	-002
3. MW-205B (112309)	WG	11/23/09	15:44	2				1	1		X	X	-003
4. MW-206B (112309)	WG	11/23/09	16:53	6				3	3		X	X	MS/MSD -004
5. FD-1 (112309)	WG	11/23/09	16:57	2				1	1		X	X	-005
6. EB-1 (112309)	WGQ	11/23/09	17:02	2				1	1		X	X	-006
7.													
8.													
9.													
10.													
11.													
12.													
13.													
14.													
15.													
TOTAL NUMBER OF CONTAINERS													

5032593

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
Drop-off	1	NOVA	11/24/09	13:26	Pace	11/24/09	1306
AIRBILL NO.							

Sample Condition

Temp in °C	2.4
Received on Ice	(Y) / N
Sealed Cooler	Y (N)
Samples Intact	(Y) N

Additional Comments:

w/1 Client del

Sampler Name: Jeff Ethout

Sampler Signature: Date: 11/23/09

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 04/04

Sample Condition Upon Receipt

Pace Analytical

Client Name: CRA Project # 5032593

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other _____

Thermometer Used 123456 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/24/09 KB

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Kenneth Hunt **Date:** 11/24/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Sample Container Count

CLIENT: CRA

COC PAGE 1 of 1

COC ID# 3781

Project # 503-593

Pace Analytical
www.pacelabs.com

Sample Line Item	DG9H	AG1U	WGFU	R 4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	B430			Comments
1								1					1			
2								1					1			
3								1					1			
4								3					3			
5								1					1			
6								1					1			
7																
8																
9																
10																
11																
12																

Container Codes

DG9H	40mL HCL amber voa vial	AF	Air Filter	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	BP3A	250mL NaOh, Asc Acid plastic	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

APPENDIX B

GROUNDWATER MONITORING WELL SAMPLING DATA SHEETS

WELL PURGING FIELD INFORMATION FORM

JOB# 1M297-[ ]

SITE/PROJECT NAME: GM-Rolls Royce

WELL# MW-201B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
112309	112309	1110	190

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	L	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - PERISTALTIC PUMP C - BLADDER PUMP	E - PURGE PUMP F - DIPPER BOTTLE	H - WATERRA®	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE		A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - TYGON C - ROPE X- (SPECIFY)	E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

TOC 693.06

WELL ELEVATION	670978	(m/ft)	GROUNDWATER ELEVATION	670978	(m/ft)
DEPTH TO WATER	22.08	(m/ft)	WELL DEPTH	138.46	(m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.5 (std)	4.5 (ntu)	2557 (µm/cm) AT 25°C	171.7 (mV)	5.58 (mg/L)	17.3 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear/None ODOR: None/Clear COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 5/5mph DIRECTION South PRECIPITATION Y/(N) OUTLOOK Partly Sunny

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
11/23/09	Jeff Eckhart	

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

Figure 2: Well Purging Field Information Form.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: GM-Rolls Royce
Ref. No.: IN000297

Date: 11/23/05
Personnel: JMB

Monitoring Well Data:

Well No.: MW-203
Measurement Point: TOC - 693.06
Constructed Well Depth (ft): 38.51'
Measured Well Depth (ft): 38.46'
Depth of Sediment (ft): 654.60'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 659.60'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6,200
Initial Depth to Water (ft): 22.08

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
12:32	~200	22.08	—	6.85	18.46	2.945	150.4	40.3	14.6		
12:37	~200	22.18	0.10	7.17	18.23	2.723	160.8	15.14	7.8		
12:42	~200	22.19	0.11	7.11	18.10	2.614	165.7	2.34	6.2		
12:47	~200	22.20	0.12	7.21	18.01	2.507	167.8	1.67	4.7		
12:52	~200	22.19	0.11	7.30	17.86	2.491	170.1	1.54	6.3		
12:57	~200	22.20	0.12	7.34	17.56	2.512	172.3	1.52	4.9		
13:02	~200	22.19	0.11	7.35	17.40	2.546	171.9	1.47	5.2		
13:07	~200	22.20	0.12	7.41	17.35	2.501	172.7	1.60	4.8		
13:12	~200	22.21	0.13	7.43	17.32	2.532	172.5	1.52	4.7		
13:17	~200	22.21	0.13	7.46	17.30	2.557	171.7	1.58	4.5	~29,000 mL	~1.45

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WELL PURGING FIELD INFORMATION FORM

JOB# F M 2 9 7 - [ ]

SITE/PROJECT NAME: GM-Rolls Royce

WELL# M W - 2 0 2 B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
11 23 09	11 23 09	19.9	15

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	L	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	[ ]	C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	[ ]	C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	[ ]	C - ROPE X- (SPECIFY)			X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	1691.43 (m/ft)	GROUNDWATER ELEVATION	1669.79 (m/ft)
DEPTH TO WATER	121.63 (m/ft)	WELL DEPTH	137.52 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.3 (std)	4.6 (ntu)	2287 (µm/cm) AT 25°C	163 (mV)	11.51 (mg/L)	17.2 (°C)
[ ] (std)	[ ] (ntu)	[ ] (µm/cm) AT 25°C	[ ] (mV)	[ ] (mg/L)	[ ] (°C)
[ ] (std)	[ ] (ntu)	[ ] (µm/cm) AT 25°C	[ ] (mV)	[ ] (mg/L)	[ ] (°C)
[ ] (std)	[ ] (ntu)	[ ] (µm/cm) AT 25°C	[ ] (mV)	[ ] (mg/L)	[ ] (°C)
[ ] (std)	[ ] (ntu)	[ ] (µm/cm) AT 25°C	[ ] (mV)	[ ] (mg/L)	[ ] (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 5 mph DIRECTION South PRECIPITATION Y (N) OUTLOOK Partly Sunny

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

11/23/09 DATE — Jeff Fithat PRINT — SIGNATURE

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

17300 (2) PART C FMG-06-4-01
Revision 3. October 29, 2002

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: GM - Rolls Royce
Ref. No.: IN000297

Date: 11/23/05
Personnel: JMB

Monitoring Well Data:

Well No.: MW-2023
Measurement Point: TOC - 691.43
Constructed Well Depth (ft): 37.71'
Measured Well Depth (ft): 37.52
Depth of Sediment (ft): 653.91'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 658.91'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200 mL
Initial Depth to Water (ft): 21.73

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
13:47	~200	21.73	-	7.87	19.41	2.678	194.8	30.1	14.9		
13:52	~200	21.84	0.11	7.64	19.01	2.514	176.4	2.64	9.8		
13:57	~200	21.85	0.12	7.52	18.90	2.468	175.2	1.98	7.4		
14:02	~200	21.86	0.13	7.46	18.73	2.414	170.9	1.74	5.6		
14:07	~200	21.85	0.12	7.42	18.41	2.388	168.4	1.64	4.8		
14:12	~200	21.85	0.12	7.37	17.98	2.327	164.2	1.59	4.6		
14:17	~200	21.86	0.13	7.35	17.64	2.310	162.1	1.54	4.5		
14:22	~200	21.86	0.13	7.31	17.38	2.291	161.8	1.50	4.4		
14:27	~200	21.86	0.13	7.32	17.27	2.284	162.6	1.48	4.3		
14:32	~200	21.86	0.13	7.31	17.21	2.287	163.1	1.51	4.6		
										~9000 mL	~1.5

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WELL PURGING FIELD INFORMATION FORM

JOB# I W 0 0 2 9 7

SITE/PROJECT NAME: GM-Rolls Royce

WELL# MW-203B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
11/23/05	11/23/05	9.0	8.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - ROPE x- (SPECIFY)			X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	691.615 (m/ft)	GROUNDWATER ELEVATION	671.817 (m/ft)
DEPTH TO WATER	19.798 (m/ft)	WELL DEPTH	34.30 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.14 (std)	14.6 (ntu)	2507 (µm/cm) AT 25°C	116.4 (mV)	11.56 (mg/L)	11.74 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 5 mph DIRECTION South PRECIPITATION Y/(N) OUTLOOK Partly Sunny

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

11/23/05 DATE — Jeff Bekhart PRINT — SIGNATURE

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: GM-Rolls Royce
Ref. No.: FN000297

Date: 11/23/09
Personnel: JHM

Monitoring Well Data:

Well No.: MW-203B
Measurement Point: TOC-691.65
Constructed Well Depth (ft): 34.30'
Measured Well Depth (ft): 34.30'
Depth of Sediment (ft): 657.35'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 662.35
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200 mL
Initial Depth to Water (ft): 19.78

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V_p (mL)	No. of Well Screen Volumes Purged[4]
15:04	~200	19.78	-	8.20	18.94	2.568	204.7	30.84	14.0		
15:09	~200	19.92	0.14	7.78	18.26	2.814	201.6	2.57	7.6		
15:14	~200	19.93	0.15	7.64	17.91	2.761	184.1	2.10	5.4		
15:19	~200	19.94	0.16	7.54	17.82	2.695	176.8	1.87	4.8		
15:24	~200	19.95	0.17	7.48	17.69	2.614	169.4	1.64	4.6		
15:29	~200	19.93	0.15	7.41	17.44	2.586	164.7	1.61	4.4		
15:34	~200	19.94	0.16	7.34	17.40	2.514	162.8	1.58	4.3		
15:39	~200	19.93	0.15	7.36	17.33	2.493	160.7	1.62	4.5		
15:44	~200	19.93	0.15	7.37	17.37	2.507	161.4	1.59	4.6	~3000 mL	~1.3

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

WELL PURGING FIELD INFORMATION FORM

JOB# I M 2 R 7 - [ ]

SITE/PROJECT NAME: 6M-Rolls Royce

WELL# MW-2063

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
11 12 10 A	11 12 10 S	10.5	9.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	C	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - PERISTALTIC PUMP C - BLADDER PUMP	E - PURGE PUMP F - DIPPER BOTTLE	H - WATERRA®	X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		B - STAINLESS STEEL C - POLYPROPYLENE	E - POLYETHYLENE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - ROPE	X- (SPECIFY)		X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	1 1 6 9 3 4 1 6	(m/ft)	GROUNDWATER ELEVATION	1 1 6 7 3 1 1 6	(m/ft)
DEPTH TO WATER	1 1 2 0 3 1 0	(m/ft)	WELL DEPTH	1 1 3 7 6 9	(m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7 7 (std)	4 6 (ntu)	2 7 9 1 1 (µm/cm) AT 25°C	1 7 6 1 (mV)	1 2 1 (mg/L)	1 7 3 (°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: Clear ODOR: None COLOR: Clear TURBIDITY: See Above

WEATHER CONDITIONS: WIND SPEED 5 mph DIRECTION South PRECIPITATION Y/(N) OUTLOOK Partly Sunny

SPECIFIC COMMENTS

MS/MSD

FD-1

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
11/23/09	Jeff Bethart	

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

Figure 2: Well Purging Field Information Form.

Project Data:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Name: BM-Rolls Royce
Ref. No.: IN000297

Date: 11/23/05
Personnel: JMS

Monitoring Well Data:

Well No.: MW-206B
Measurement Point: TOC - 693.46
Constructed Well Depth (ft): 37.73'
Measured Well Depth (ft): 37.69'
Depth of Sediment (ft): 655.77'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 660.77'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200 mL
Initial Depth to Water (ft): 20.30'

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
16:08	~200	20.30	—	8.07	19.40	3.068	214.7	30.27	14.7		
16:13	~200	20.40	0.10	7.84	18.57	2.914	204.3	2.48	8.6		
16:18	~200	20.41	0.11	7.76	17.96	2.876	187.6	1.96	6.9		
16:23	~200	20.42	0.12	7.69	17.74	2.814	184.3	1.71	6.3		
16:28	~200	20.40	0.10	7.58	17.53	2.765	177.9	1.43	5.5		
16:33	~200	20.41	0.11	7.61	17.44	2.785	174.3	1.26	4.9		
16:38	~200	20.42	0.12	7.67	17.38	2.715	172.6	1.15	4.4		
16:43	~200	20.41	0.11	7.63	17.35	2.748	170.5	1.10	4.0		
16:48	~200	20.40	0.10	7.65	17.33	2.813	171.8	1.18	4.2		
16:53	~200	20.41	0.11	7.68	17.31	2.791	171.1	1.21	4.1	~9000 mL	~1.5

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 3 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

Figure 3: Monitoring Well Record for Low-Flow Purging.

APPENDIX C

STATISTICAL EVALUATION OF BACKGROUND GROUNDWATER QUALITY

APPENDIX C – STATISTICAL EVALUATION OF BACKGROUND GROUNDWATER QUALITY
Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division – Plant 5
Indianapolis, Indiana

This statistical evaluation was conducted in accordance with Appendix H, Section 4.3 of the Permit in order to evaluate background groundwater quality for the Closed Hazardous Waste Surface Impoundment, General Motors Corporation (GM) Former Allison Gas Turbine (AGT) Division, in Indianapolis, Indiana. The following sections detail the statistical evaluation.

Exploratory Data Analysis

Exploratory data analysis (EDA) techniques were employed to ensure that observations that comprise each dataset (i.e., background and compliance wells) are representative of single populations and to determine if constituents exhibit temporal trends. Statistical evaluations were limited for most indicator parameters by the high percentage of non-detects (NDs) in the data; these limitations are noted in the following sections discussing the EDA techniques and associated results.

Data Processing

Semi-annual groundwater monitoring is ongoing for three downgradient compliance monitoring wells (MW-201B, MW-202B and MW-203B) and one upgradient monitoring well (MW-206B). Analytical results from each well for nine indicator parameters (dissolved arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium and cyanide) are tabulated in **Table 1**. The most recent sixteen (16) valid observations from each well are considered for this evaluation, as specified in the Permit.

Samples taken prior to November 2006 include four (4) replicates for each well/analyte/event. In these cases, the following processing rules were used to generate a single composite result:

1. Where all replicates are ND, the maximum reporting limit is used.
2. Where replicates include one detect and multiple NDs, the detect is used.
3. Where replicates include one ND and multiple detects, the Kaplan Meier mean is used.
4. Where replicates include all detects, the arithmetic mean is used.

Table 2 provides a summary of processed results for the upgradient background well, MW-206B.

Reporting limits for several samples from MW-206B were re-evaluated and updated per Pace Analytical Services, Inc. (letter dated April 28, 2006). These values are indicated with an asterisk (*) in **Table 1** and **Table 2**.

Probability Plots and Goodness-of-Fit Testing

Probability plots are graphics used to inspect for goodness-of-fit (GOF) to probability distributions and the presence of multiple populations and/or potential outliers. As described in Appendix H, Section 4.3.1.2 of the Permit, a probability plot (formatted as a quantile-quantile [Q-Q] plot) was generated for barium in monitoring well MW-206B (**Figure C1**). Datasets for the remaining indicator parameters did not contain sufficient detects to allow for GOF evaluations with statistical tests or probability plots. As shown in

Figure C1, barium likely follows a normal distribution and no potential outliers are present. Statistical GOF testing confirms that barium concentrations are normally distributed, based on the Shapiro-Wilks test at an alpha level of 0.05. These GOF results were used to select the appropriate method for calculating background screening levels (BSLs).

Box Plots

Box plots provide a side-by-side graphical comparison of analytical results for the three downgradient compliance monitoring wells (MW-201B, MW-202B and MW-203B) and one upgradient monitoring well (MW-206B). Box plots were prepared for each indicator parameter in accordance with Appendix H, Section 4.3.1.3 of the Permit and are presented in **Figures C2-1** through **C2-9**. The high percentage of NDs is notable for each parameter. Lead, mercury, and silver were not detected in any monitoring well. With the exception of cadmium and selenium, the remaining indicator parameters were detected at higher concentrations in the background monitoring well MW-206B than the three downgradient compliance monitoring wells.

Trend Analysis

Trend analysis is used to reveal patterns in the data, such as periodic fluctuations (seasonality) or consistent increasing or decreasing trends. A trend analysis was conducted in accordance with Appendix H, Section 4.3.1.4 of the Permit for both compliance and background monitoring wells. Two tests were used to evaluate increasing or decreasing trends at an alpha level of 0.05: Mann-Kendall Test and Sen's Slope Estimator. Both of these tests require a minimum of four detects. The results are presented in **Figure C3**. The minimum number of detects was sufficient to conduct a trend analysis only for barium in MW-206B. Between 1 and 3 detects were observed at MW-206B for arsenic, chromium, selenium, and cyanide. Results were all ND for cadmium, lead, mercury, and silver.

Both the Mann-Kendall and Sen's Slope tests indicate the lack of a discernable temporal trend for the full dataset (May 2002 to November 2009). The p-value for the Mann-Kendall test is 0.21 (i.e., greater than 0.05) and the median slope estimate is essentially 0 mg/L per day. Although there is no statistical evidence of an increasing or decreasing trend for the full dataset, it should be noted that five (5) of the six (6) detected observations occurred in May (the spring sampling event). This result suggests there is likely seasonal variability in barium concentrations in monitoring well MW-206B due to fluctuations in the groundwater elevation. However, there are insufficient detects from fall sampling events to conduct a statistical test for seasonality. A trend analysis performed on only the spring results suggests that barium concentrations have exhibited a positive trend (Mann-Kendall p=0.04) with concentrations increasing at a rate of 2.2×10^{-5} mg/L per day or approximately 8 µg/L per year since 2003, with a 95% upper confidence limit for the median slope equal to 13.7 µg/L per year.

Statistical Analysis of Background Data

Analytical data from compliance monitoring wells were compared to background groundwater quality. Concentrations of indicator parameters (dissolved arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium, and cyanide) in upgradient monitoring well MW-206B were used to establish background groundwater quality. There are two conventional approaches for conducting comparisons of compliance data to background data: 1) establish BSLs for point-by-point comparisons (determining if one or more observations from a compliance well exceeds the BSL); and 2) apply hypothesis tests to determine if the overall distributions are the same. This statistical analysis of background was conducted in accordance with Appendix H, Section 4.3.2 of the Permit as summarized below.

Calculation of Background Screening Levels

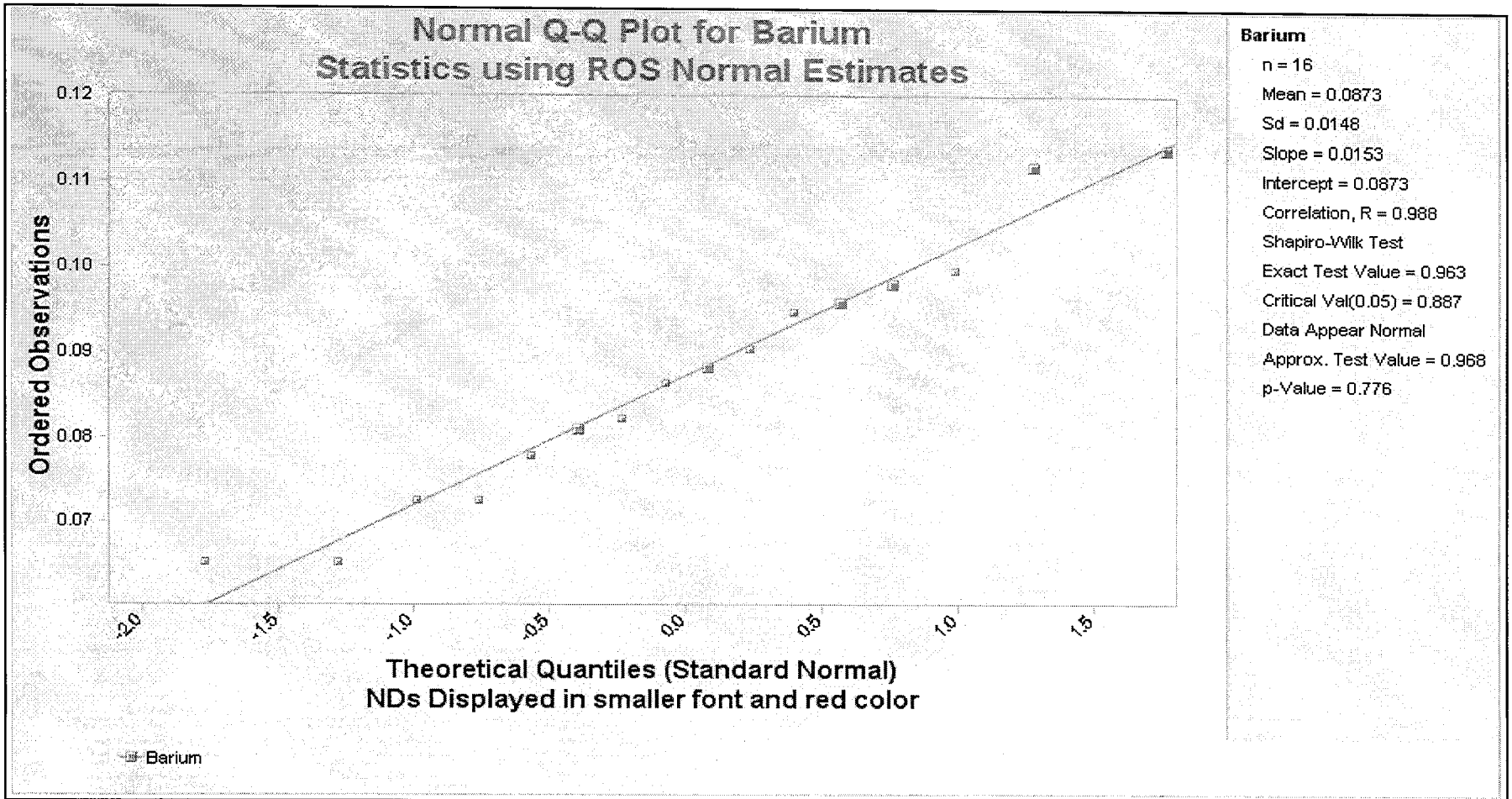
BSLs were calculated for each indicator parameter in accordance with Appendix H, Section 4.3.2.3 of the Permit. Analytical results from upgradient background well MW-206B were used in this calculation. The desired statistic to represent the BSL is a one-sided 95 percent confidence interval for the 99th percentile (95/99 upper tolerance limit [UTL]). The high frequency of NDs precluded calculation of the 95/99 UTL for most datasets. In these cases the BSL was based conservatively on the maximum detected concentration or the maximum reporting limit. The final BSL values are presented in **Table 3**.

Barium was the only dataset containing sufficient detects to calculate a BSL. In accordance with the BSL selection criteria, because this dataset followed a normal distribution and was mildly skewed (σ[ln detects] = 0.133), the Kaplan-Meier 95/99 UTL was used to represent the BSL. Arsenic, chromium, selenium, and cyanide were detected in at least one but fewer than five groundwater samples from MW-206B. The BSL for these parameters was based on the maximum detected concentration. Cadmium, lead, mercury, and silver were not detected in any groundwater samples from MW-206B and as such a plausible upper bound concentration could not be established. For these metals, the maximum reporting limit was used to represent the BSL.

The final BSLs were compared to each discrete observation from the three compliance wells from the May 2009 and November 2009 sampling events. As presented in **Table 3**, the indicator parameters were not detected in the compliance wells during either sampling event. For each parameter, the reporting limits for these NDs were lower than the corresponding BSLs.

Hypothesis Testing

Hypothesis testing was not warranted because the point-by-point comparisons did not identify any exceedances of BSLs for the compliance well. Furthermore, hypothesis testing is not possible on this dataset due to an insufficient number of detects.

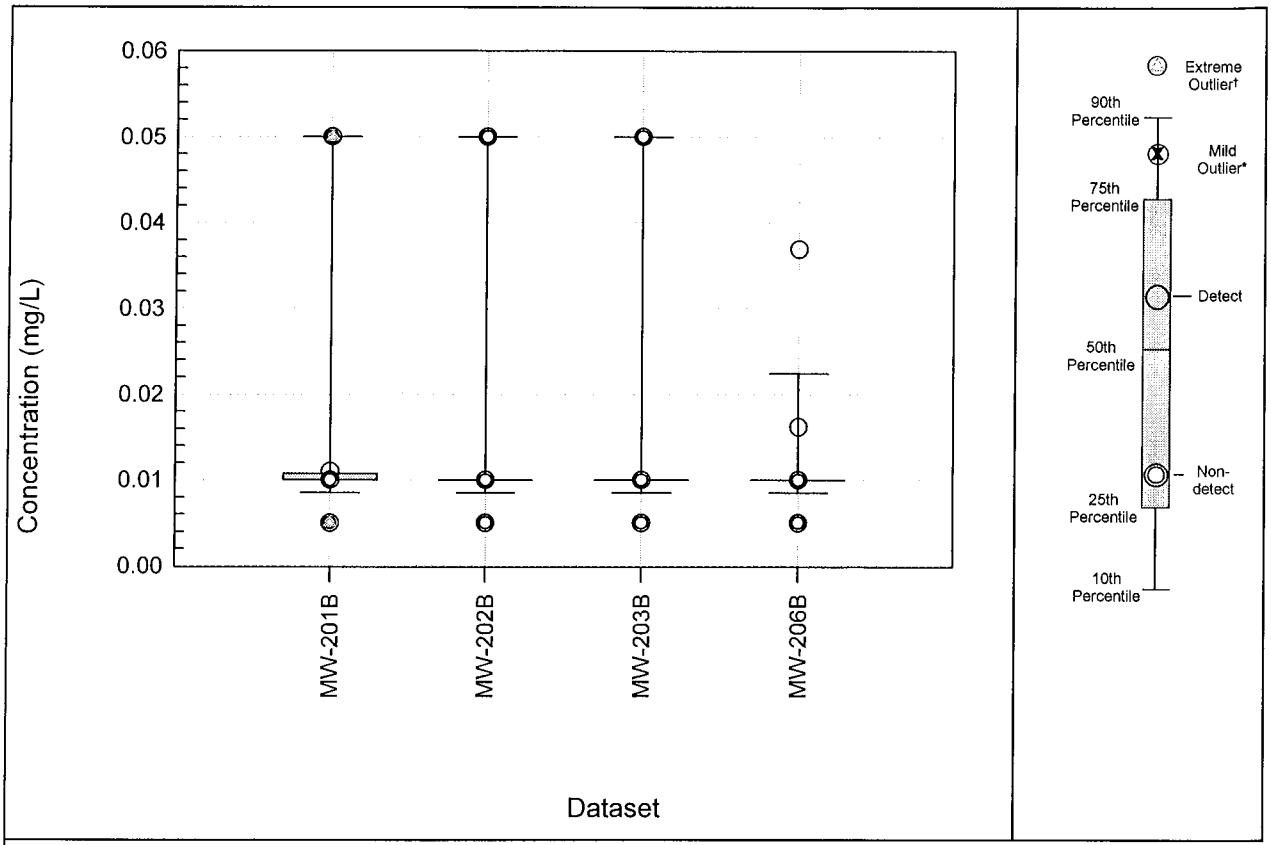


ARCADIS

Normal Q-Q Plot – Barium in Monitoring Well 206B

Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C1



ARCADIS

Box and Whisker Plot
Arsenic
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division, Plant 5, Indianapolis, Indiana

Figure C2-1

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Defects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	15	1	16	0.005	0.05	0.01	0.01	0.01	0.01	NA	0.01	0.01	0.01
MW-202B	mg/L	16	0	16	0.005	0.05	NA	NA	NA	NA	NA	0.01	0.01	0.01
MW-203B	mg/L	16	0	16	0.005	0.05	NA	NA	NA	NA	NA	0.01	0.01	0.01
MW-206B	mg/L	14	2	16	0.005	0.01	0.02	0.04	0.03	0.03	0.02	0.01	0.01	0.01

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

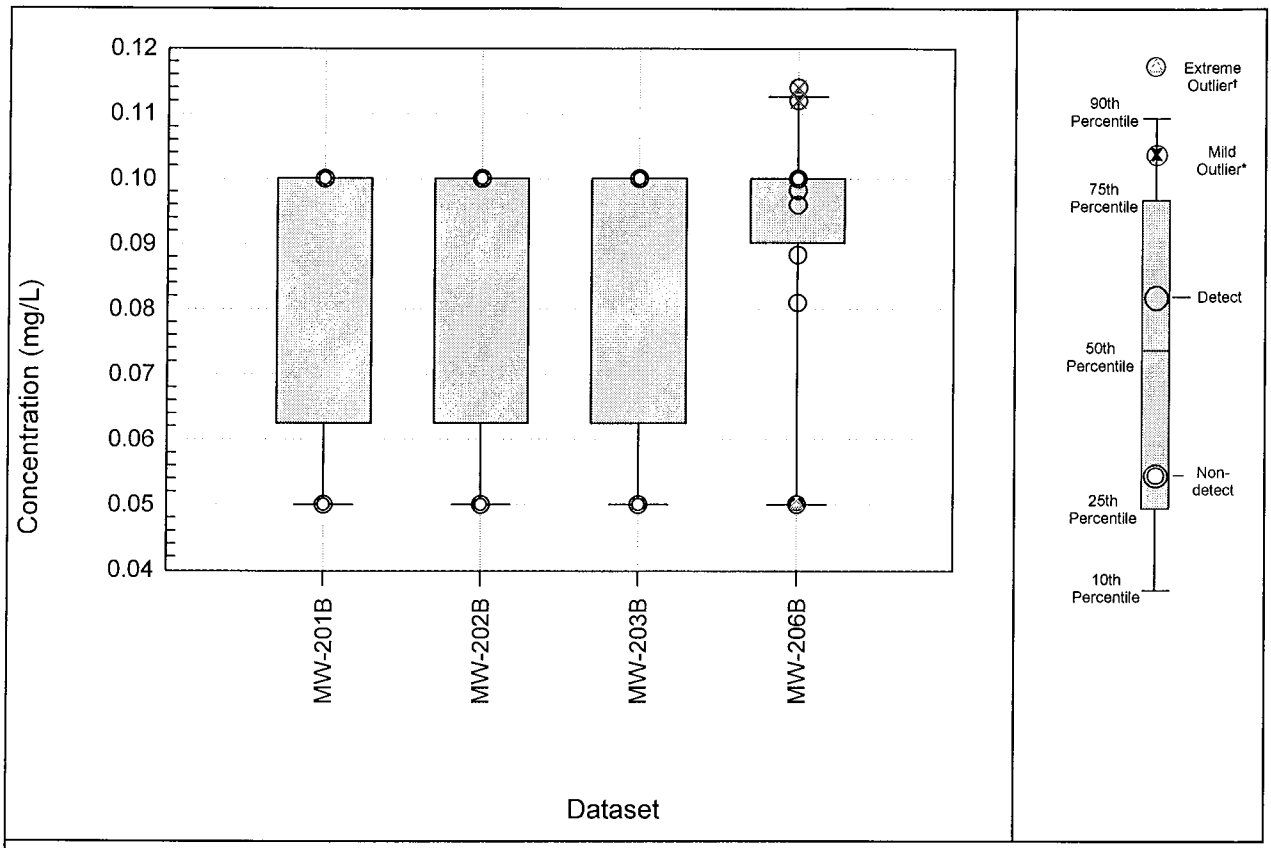
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Barium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C2-2

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.05	0.10	NA	NA	NA	NA	NA	0.08	0.10	0.10
MW-202B	mg/L	16	0	16	0.05	0.10	NA	NA	NA	NA	NA	0.08	0.10	0.10
MW-203B	mg/L	16	0	16	0.05	0.10	NA	NA	NA	NA	NA	0.08	0.10	0.10
MW-206B	mg/L	10	6	16	0.05	0.10	0.08	0.11	0.10	0.10	0.01	0.09	0.10	0.10

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

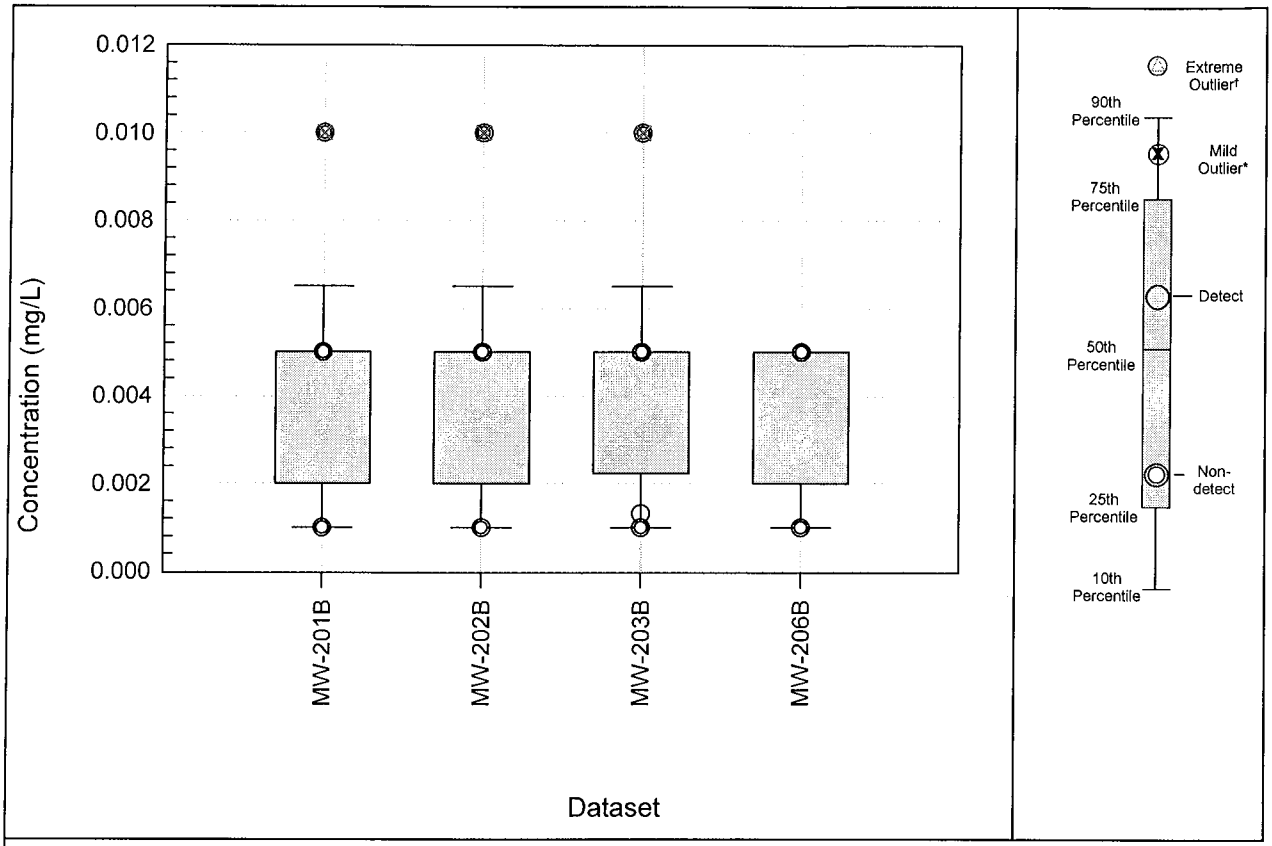
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Cadmium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C2-3

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.001	0.01	NA	NA	NA	NA	NA	0.003	0.005	0.005
MW-202B	mg/L	16	0	16	0.001	0.01	NA	NA	NA	NA	NA	0.003	0.005	0.005
MW-203B	mg/L	15	1	16	0.001	0.01	0.00132	0.00132	0.0013	0.0013	NA	0.0032	0.005	0.005
MW-206B	mg/L	16	0	16	0.001	0.005	NA	NA	NA	NA	NA	0.003	0.005	0.005

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

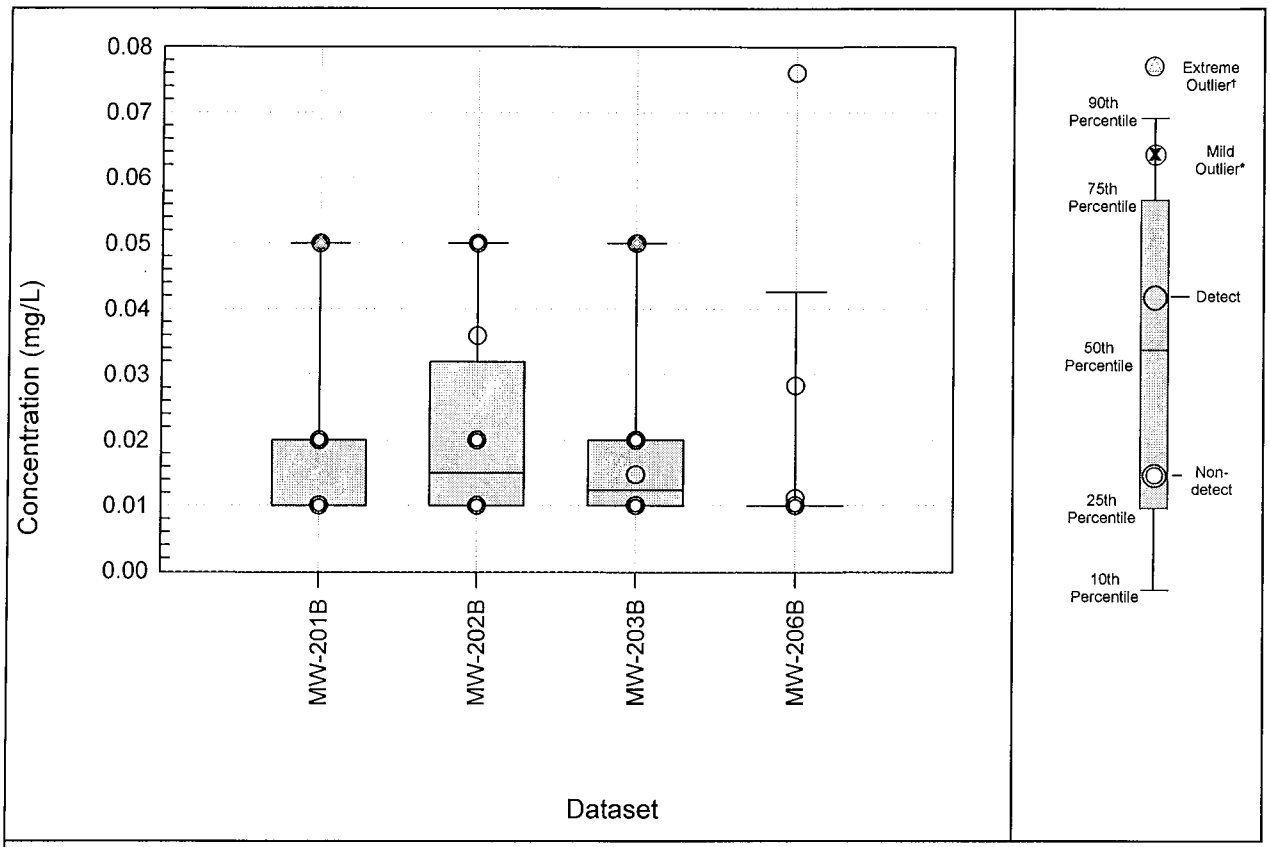
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Chromium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5, Indianapolis, Indiana

Figure C2-4

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.01	0.05	NA	NA	NA	NA	NA	0.01	0.01	0.02
MW-202B	mg/L	15	1	16	0.01	0.05	0.04	0.04	0.04	0.04	NA	0.01	0.02	0.03
MW-203B	mg/L	15	1	16	0.01	0.05	0.01	0.01	0.02	0.02	NA	0.01	0.01	0.02
MW-206B	mg/L	13	3	16	0.01	0.01	0.01	0.08	0.04	0.03	0.03	0.01	0.01	0.01

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

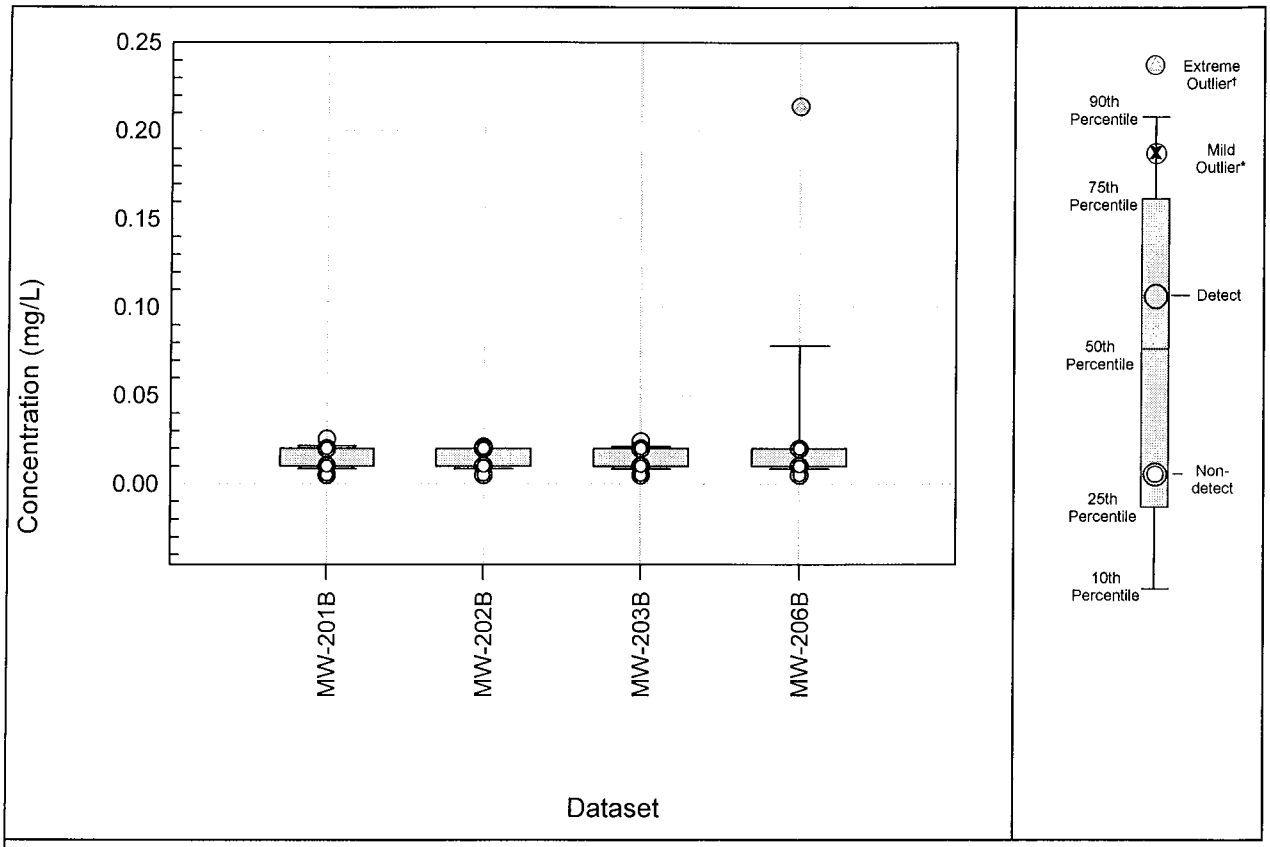
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Cyanide
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C2-5

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	15	1	16	0.005	0.02	0.03	0.03	0.03	0.03	NA	0.01	0.02	0.02
MW-202B	mg/L	15	1	16	0.005	0.02	0.02	0.02	0.02	0.02	NA	0.01	0.02	0.02
MW-203B	mg/L	15	1	16	0.005	0.02	0.02	0.02	0.02	0.02	NA	0.01	0.02	0.02
MW-206B	mg/L	15	1	16	0.005	0.02	0.21	0.21	0.21	0.21	NA	0.01	0.02	0.02

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

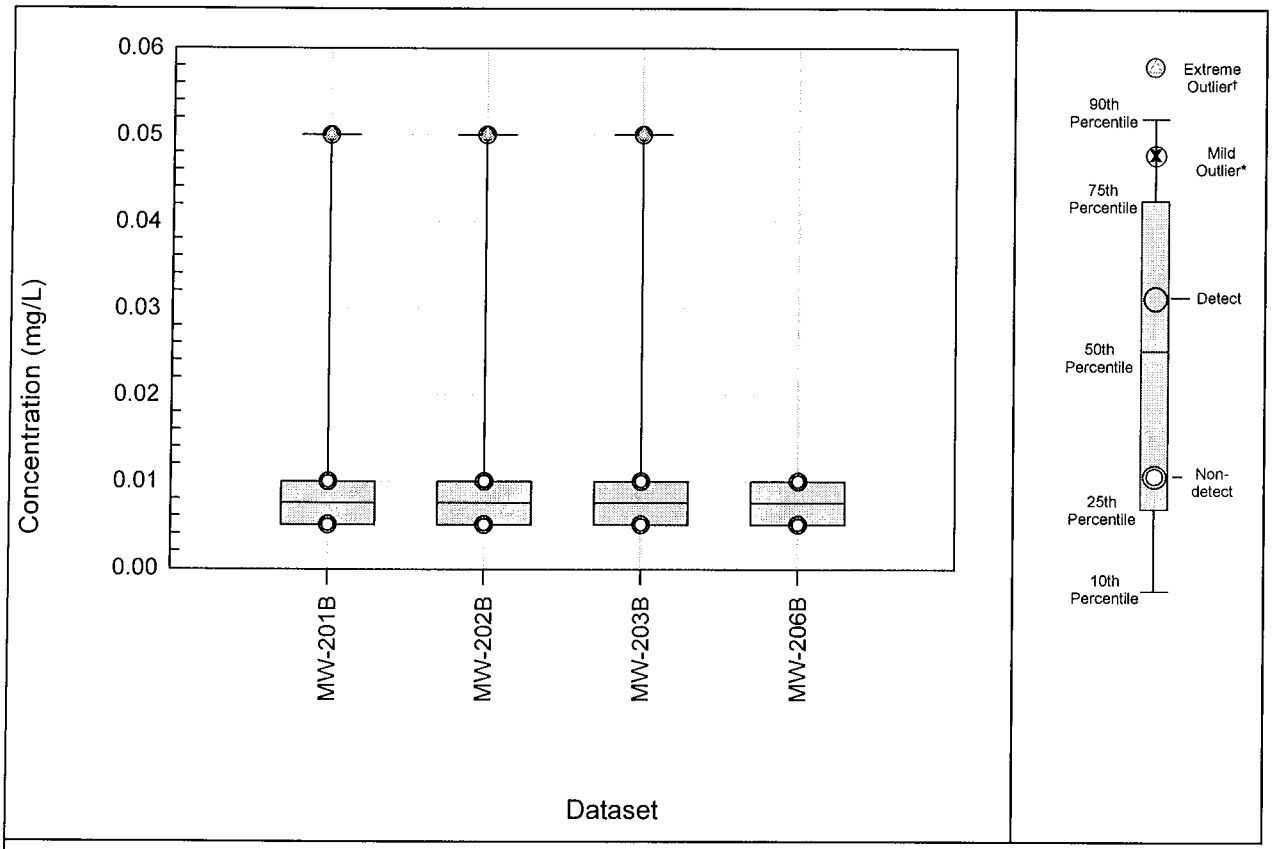
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Lead
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C2-6

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.005	0.05	NA	NA	NA	NA	NA	0.005	0.0075	0.01
MW-202B	mg/L	16	0	16	0.005	0.05	NA	NA	NA	NA	NA	0.005	0.0075	0.01
MW-203B	mg/L	16	0	16	0.005	0.05	NA	NA	NA	NA	NA	0.005	0.0075	0.01
MW-206B	mg/L	16	0	16	0.005	0.01	NA	NA	NA	NA	NA	0.005	0.0075	0.01

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

– = no data

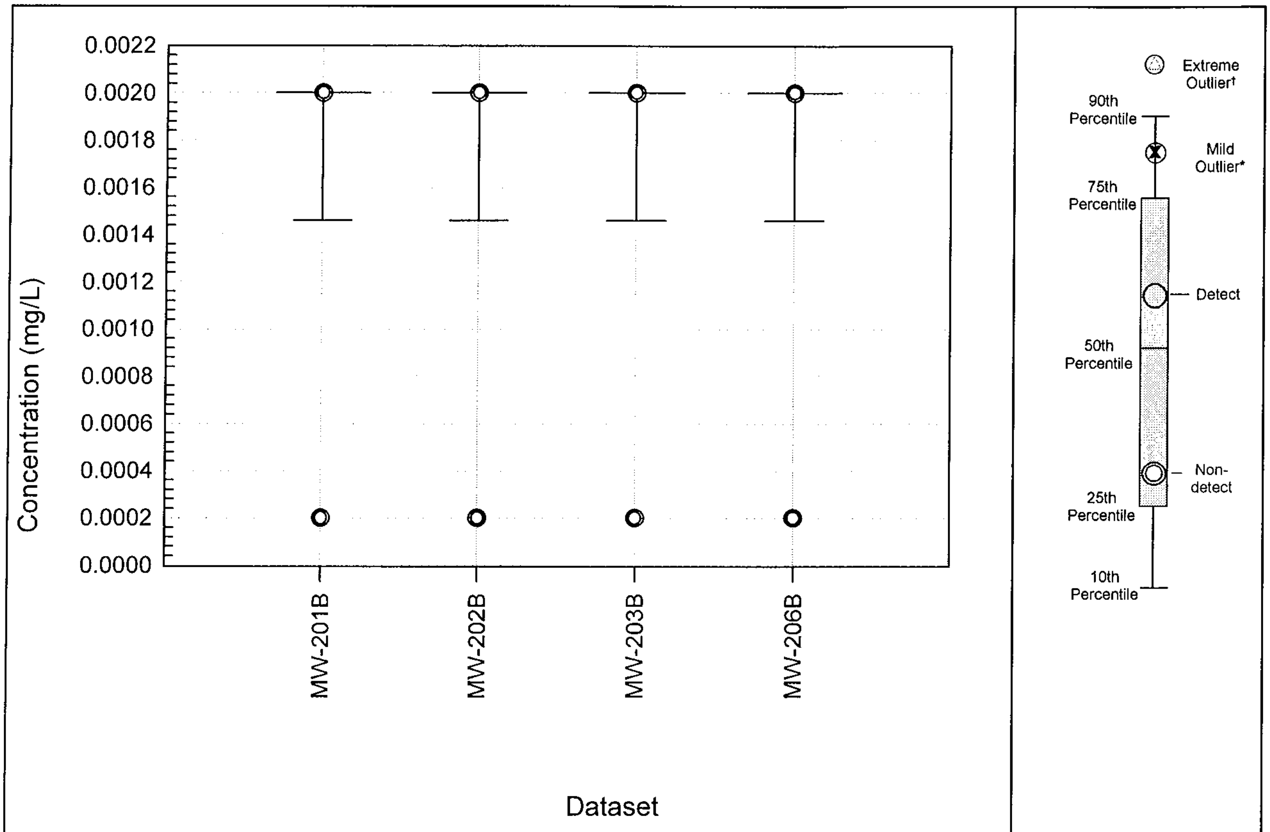
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Mercury
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division Plant 5
Indianapolis, Indiana

Figure C2-7

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.0002	0.002	NA	NA	NA	NA	NA	0.002	0.002	0.002
MW-202B	mg/L	16	0	16	0.0002	0.002	NA	NA	NA	NA	NA	0.002	0.002	0.002
MW-203B	mg/L	16	0	16	0.0002	0.002	NA	NA	NA	NA	NA	0.002	0.002	0.002
MW-206B	mg/L	16	0	16	0.0002	0.002	NA	NA	NA	NA	NA	0.002	0.002	0.002

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

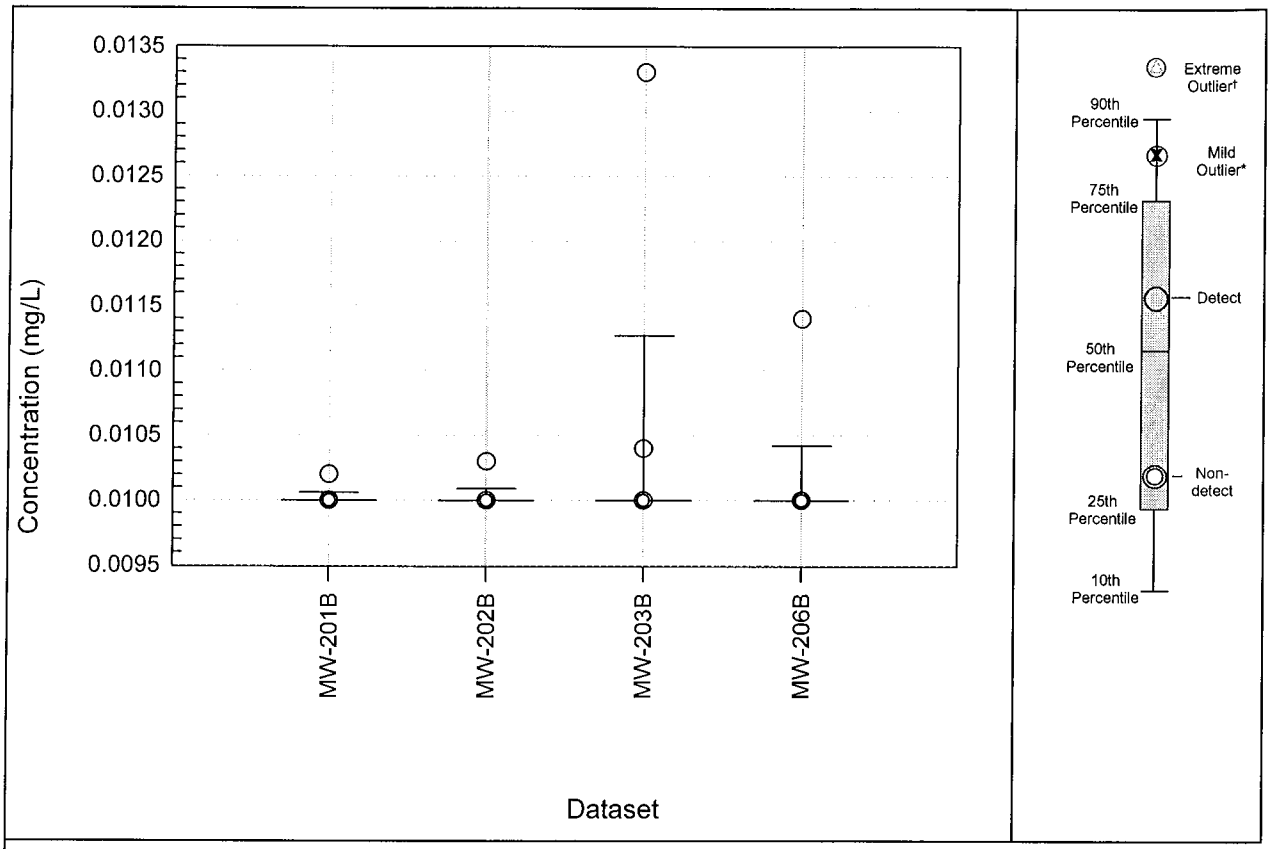
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Selenium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 8
Indianapolis, Indiana

Figure C2-8

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	15	1	16	0.01	0.01	0.01	0.01	0.01	0.01	NA	0.01	0.01	0.01
MW-202B	mg/L	15	1	16	0.01	0.01	0.01	0.01	0.01	0.01	NA	0.01	0.01	0.01
MW-203B	mg/L	14	2	16	0.01	0.01	0.01	0.01	0.01	0.01	0.0021	0.01	0.01	0.01
MW-206B	mg/L	15	1	16	0.01	0.01	0.01	0.01	0.01	0.01	NA	0.01	0.01	0.01

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

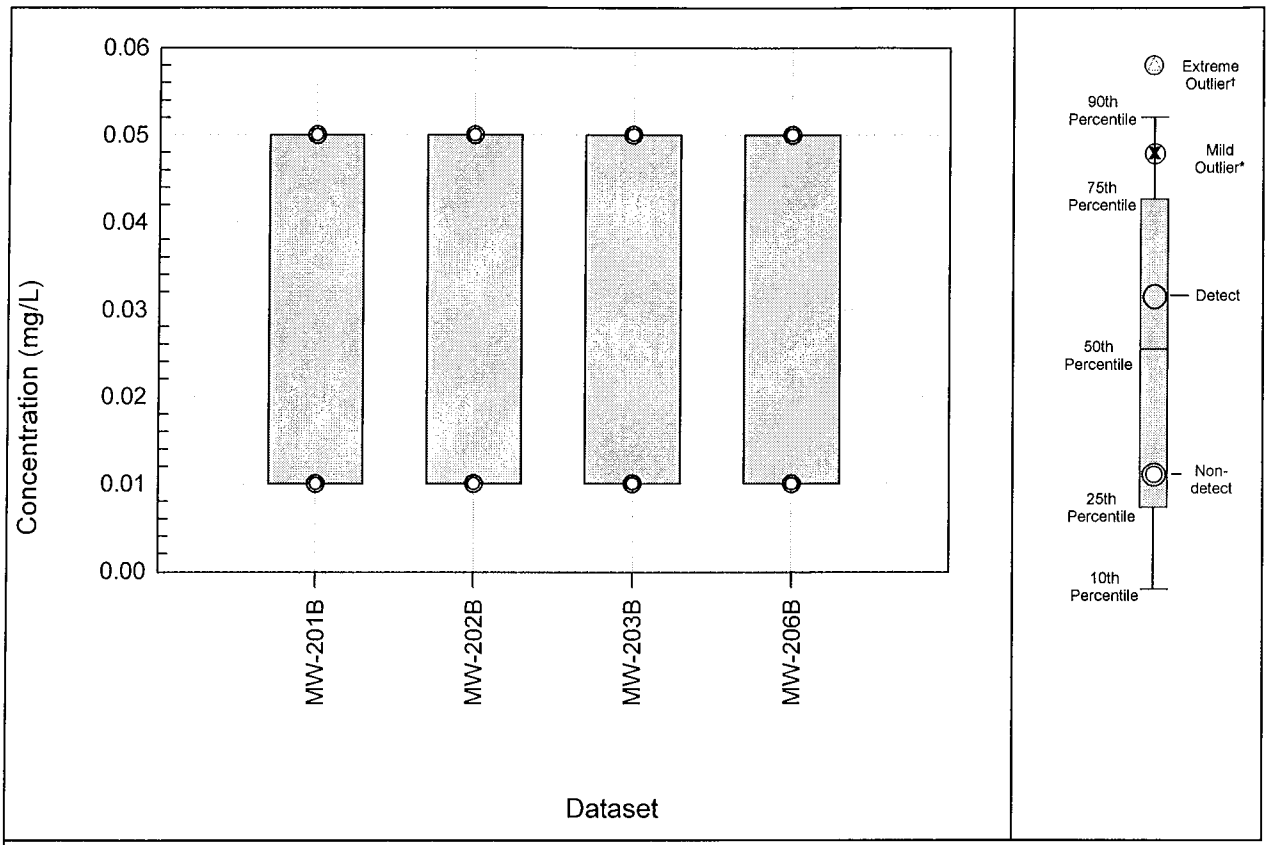
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Silver
Closed Hazardous Waste Surface Impoundment, Form of Allison Gas Turbine Division - Plant 5, Indianapolis, Indiana

Figure C2-9

Dataset	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.01	0.05	NA	NA	NA	NA	NA	0.01	0.05	0.05
MW-202B	mg/L	16	0	16	0.01	0.05	NA	NA	NA	NA	NA	0.01	0.05	0.05
MW-203B	mg/L	16	0	16	0.01	0.05	NA	NA	NA	NA	NA	0.01	0.05	0.05
MW-206B	mg/L	16	0	16	0.01	0.05	NA	NA	NA	NA	NA	0.01	0.05	0.05

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

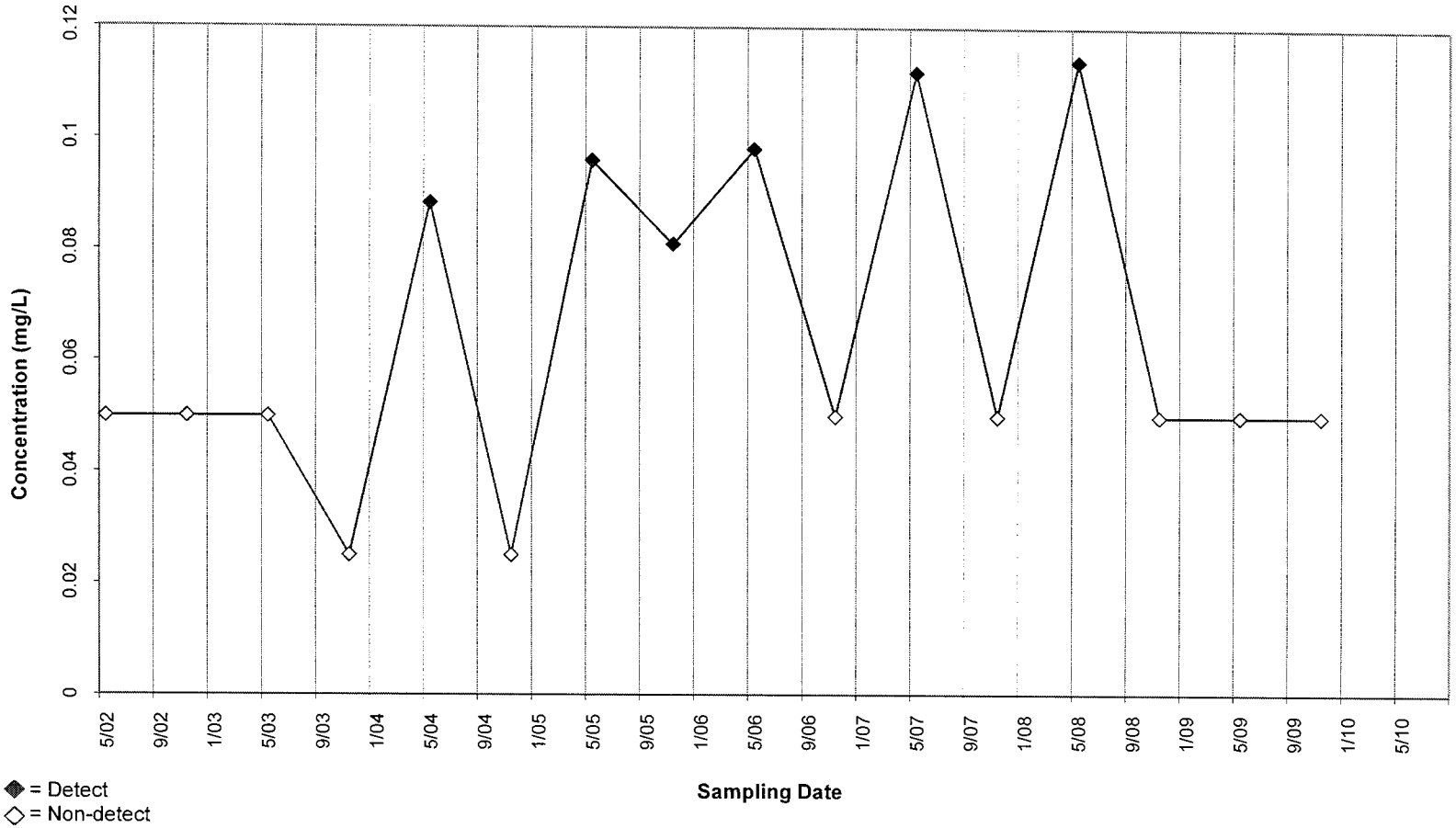
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



Results of Mann-Kendall Test for Trend: **No Significant Trend**

p value = 0.212 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope: **No trend**

Median Slope Estimate = 0.0E+00 mg/L/day

95% Confidence Interval = 0.0E+00 to 2.2E-05 mg/L/day

mg/L - milligrams per liter

ARCADIS

Concentration vs. Time Plot – Barium in Monitoring Well 206B

Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure C3

APPENDIX F

ASCII DATASETS

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (May 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
13-May-09	MW-201A	Regular	GW WaterLevel	661.90	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-201A	Regular	GW WaterDepth	31.99	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-201A	Regular	GW SiltDepth	39.31	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-201B	Regular	GW WaterLevel	672.97	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-201B	Regular	GW WaterDepth	20.09	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-201B	Regular	GW SiltDepth	38.45	well depth	0.01	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field pH	7.33	SU	0.01	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field Specific Conductance	2.7	ms/cm	0.1	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field Temperature, C	17.6	Degree C	0.01	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field Dissolved Oxygen	1.3	mg/L	0.1	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field Oxidation-Reduction Potential	155.2	mV	0.1	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Field Turbity	4.3	NTU	0.1	Yes		No	Ground Water	
14-May-09	MW-201B	Regular	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
14-May-09	MW-201B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
14-May-09	MW-201B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
13-May-09	MW-202A	Regular	GW WaterLevel	662.38	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-202A	Regular	GW WaterDepth	35.20	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-202A	Regular	GW SiltDepth	44	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-202B	Regular	GW WaterLevel	671.88	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-202B	Regular	GW WaterDepth	19.55	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-202B	Regular	GW SiltDepth	37.51	well depth	0.01	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field pH	7.44	SU	0.01	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field Specific Conductance	2.5	ms/cm	0.1	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field Temperature, C	17.63	Degree C	0.01	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field Dissolved Oxygen	1.6	mg/L	0.1	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field Oxidation-Reduction Potential	156.2	mV	0.1	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Field Turbity	4.6	NTU	0.1	Yes		No	Ground Water	
14-May-09	MW-202B	Regular	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
14-May-09	MW-202B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
14-May-09	MW-202B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
13-May-09	MW-203A	Regular	GW WaterLevel	661.93	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-203A	Regular	GW WaterDepth	32.53	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-203A	Regular	GW SiltDepth	40.04	well depth	0.01	Yes		No	Ground Water	

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (May 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
13-May-09	MW-203B	Regular	GW WaterLevel	673.79	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-203B	Regular	GW WaterDepth	17.86	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-203B	Regular	GW SiltDepth	34.30	well depth	0.01	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field pH	7.48	SU	0.01	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field Specific Conductance	2.6	ms/cm	0.1	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field Temperature, C	17.69	Degree C	0.01	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field Dissolved Oxygen	1.5	mg/L	0.1	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field Oxidation-Reduction Potential	155.4	mV	0.1	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Field Turbity	4.4	NTU	0.1	Yes		No	Ground Water	
14-May-09	MW-203B	Regular	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
14-May-09	MW-203B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
14-May-09	MW-203B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
14-May-09	MW-203B	Field Duplicate	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No		
14-May-09	MW-203B	Field Duplicate	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No		
14-May-09	MW-203B	Field Duplicate	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No		
13-May-09	MW-204A	Regular	GW WaterLevel	662.23	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-204A	Regular	GW WaterDepth	31.66	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-204A	Regular	GW SiltDepth	38.75	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-204B	Regular	GW WaterLevel	674.43	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-204B	Regular	GW WaterDepth	18.8	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-204B	Regular	GW SiltDepth	37.79	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-205A	Regular	GW WaterLevel	660.87	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-205A	Regular	GW WaterDepth	32.87	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-205A	Regular	GW SiltDepth	39.61	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-205B	Regular	GW WaterLevel	674.47	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-205B	Regular	GW WaterDepth	19.5	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-205B	Regular	GW SiltDepth	38.75	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-206A	Regular	GW WaterLevel	662.93	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-206A	Regular	GW WaterDepth	35.59	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-206A	Regular	GW SiltDepth	43.24	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-206B	Regular	GW WaterLevel	674.53	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-206B	Regular	GW WaterDepth	18.93	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-206B	Regular	GW SiltDepth	37.66	well depth	0.01	Yes		No	Ground Water	

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (May 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
14-May-09	MW-206B	Regular	Field pH	7.75	SU	0.01	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Field Specific Conductance	2.7	ms/cm	0.1	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Field Temperature, C	17.77	Degree C	0.01	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Field Dissolved Oxygen	0.6	mg/L	0.1	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Field Oxidation-Reduction Potential	175.1	mV	0.1	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Field Turbity	3.9	NTU	0.1	Yes		No	Ground Water	
14-May-09	MW-206B	Regular	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
14-May-09	MW-206B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
14-May-09	MW-206B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
14-May-09	Equipment Blank	Equipment Blank	Arsenic (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No		
14-May-09	Equipment Blank	Equipment Blank	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No		
14-May-09	Equipment Blank	Equipment Blank	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No		
13-May-09	MW-207A	Regular	GW WaterLevel	661.99	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-207A	Regular	GW WaterDepth	35.23	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-207A	Regular	GW SiltDepth	43.56	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-207B	Regular	GW WaterLevel	674.54	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-207B	Regular	GW WaterDepth	19.18	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-207B	Regular	GW SiltDepth	38.8	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-208A	Regular	GW WaterLevel	662.07	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-208A	Regular	GW WaterDepth	32.43	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-208A	Regular	GW SiltDepth	40.72	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-208B	Regular	GW WaterLevel	674.2	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-208B	Regular	GW WaterDepth	20.52	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-208B	Regular	GW SiltDepth	39.24	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-200C	Regular	GW WaterLevel	670.36	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-200C	Regular	GW WaterDepth	26.45	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-200C	Regular	GW SiltDepth	88.3	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-202C	Regular	GW WaterLevel	669.83	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-202C	Regular	GW WaterDepth	22.31	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-202C	Regular	GW SiltDepth	76.99	well depth	0.01	Yes		No	Ground Water	
13-May-09	MW-203C	Regular	GW WaterLevel	669.84	ft/MSL, water el	0.01	Yes		No	Ground Water	
13-May-09	MW-203C	Regular	GW WaterDepth	20.56	depth to water	0.01	Yes		No	Ground Water	
13-May-09	MW-203C	Regular	GW SiltDepth	80.9	well depth	0.01	Yes		No	Ground Water	

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (November 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
23-Nov-09	MW-201A	Regular	GW WaterLevel	662.42	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201A	Regular	GW WaterDepth	31.47	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201A	Regular	GW SiltDepth	39.29	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	GW WaterLevel	670.98	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	GW WaterDepth	22.08	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	GW SiltDepth	38.46	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field pH	7.46	SU	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field Specific Conductance	2.6	ms/cm	0.1	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field Temperature, C	17.3	Degree C	0.01	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field Dissolved Oxygen	1.6	mg/L	0.1	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field Oxidation-Reduction Potential	171.7	mV	0.1	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Field Turbity	4.5	NTU	0.1	Yes		No	Ground Water	
23-Nov-09	MW-201B	Regular	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
23-Nov-09	MW-201B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-201B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
23-Nov-09	MW-202A	Regular	GW WaterLevel	662.87	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202A	Regular	GW WaterDepth	34.71	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202A	Regular	GW SiltDepth	44.01	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	GW WaterLevel	669.7	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	GW WaterDepth	21.73	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	GW SiltDepth	37.52	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field pH	7.31	SU	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field Specific Conductance	2.3	ms/cm	0.1	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field Temperature, C	17.21	Degree C	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field Dissolved Oxygen	1.5	mg/L	0.1	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field Oxidation-Reduction Potential	163.1	mV	0.1	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Field Turbity	4.6	NTU	0.1	Yes		No	Ground Water	
23-Nov-09	MW-202B	Regular	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
23-Nov-09	MW-202B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-202B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
23-Nov-09	MW-203A	Regular	GW WaterLevel	662.43	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203A	Regular	GW WaterDepth	32.03	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203A	Regular	GW SiltDepth	40.04	well depth	0.01	Yes		No	Ground Water	

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (November 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
23-Nov-09	MW-203B	Regular	GW WaterLevel	671.87	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	GW WaterDepth	19.78	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	GW SiltDepth	34.30	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field pH	7.37	SU	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field Specific Conductance	2.5	ms/cm	0.1	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field Temperature, C	17.37	Degree C	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field Dissolved Oxygen	1.6	mg/L	0.1	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field Oxidation-Reduction Potential	161.4	mV	0.1	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Field Turbity	4.6	NTU	0.1	Yes		No	Ground Water	
23-Nov-09	MW-203B	Regular	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
23-Nov-09	MW-203B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-203B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
23-Nov-09	MW-204A	Regular	GW WaterLevel	662.72	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-204A	Regular	GW WaterDepth	31.17	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-204A	Regular	GW SiltDepth	38.75	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-204B	Regular	GW WaterLevel	672.96	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-204B	Regular	GW WaterDepth	20.27	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-204B	Regular	GW SiltDepth	37.79	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205A	Regular	GW WaterLevel	661.36	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205A	Regular	GW WaterDepth	32.38	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205A	Regular	GW SiltDepth	39.61	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205B	Regular	GW WaterLevel	673.13	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205B	Regular	GW WaterDepth	20.84	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-205B	Regular	GW SiltDepth	38.71	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206A	Regular	GW WaterLevel	663.42	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206A	Regular	GW WaterDepth	35.1	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206A	Regular	GW SiltDepth	43.15	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	GW WaterLevel	673.16	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	GW WaterDepth	20.3	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	GW SiltDepth	37.69	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field pH	7.68	SU	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field Specific Conductance	2.8	ms/cm	0.1	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field Temperature, C	17.31	Degree C	0.01	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field Dissolved Oxygen	1.2	mg/L	0.1	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field Oxidation-Reduction Potential	171.1	mV	0.1	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Field Turbity	4.1	NTU	0.1	Yes		No	Ground Water	
23-Nov-09	MW-206B	Regular	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	

Post-Closure Permit for Hazardous Waste Surface Impoundment
U.S. EPA Id. No. INR000021436
Groundwater Monitoring Data Summary (November 2009)
Laboratory: Pace Analytical Services, Inc.

SampleDate	WellName	SampleType	SpeciesName	Concentration	Units	DetectionLimit	Detected	Analytical//Method	EstimatedValue	SampleMedium	Comments
23-Nov-09	MW-206B	Regular	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No	Ground Water	
23-Nov-09	MW-206B	Regular	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No	Ground Water	
23-Nov-09	MW-206B	Regular	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No	Ground Water	
23-Nov-09	MW-203B	Field Duplicate	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No		
23-Nov-09	MW-203B	Field Duplicate	Selenium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No		
23-Nov-09	MW-203B	Field Duplicate	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No		
23-Nov-09	Equipment Blank	Equipment Blank	Arsenic (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Barium (Dissolved)	100	ug/L	100	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Cadmium (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Chromium (Dissolved)	10	ug/L	10	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Lead (Dissolved)	5	ug/L	5	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Mercury (Dissolved)	2	ug/L	2	No	SW846-7470A	No		
23-Nov-09	Equipment Blank	Equipment Blank	Selenium (Dissolved)	10	ug/L	10	No.	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Silver (Dissolved)	50	ug/L	50	No	SW846-6010B	No		
23-Nov-09	Equipment Blank	Equipment Blank	Cyanide (Dissolved)	10	ug/L	10	No	SW846-9012	No		
23-Nov-09	MW-207A	Regular	GW WaterLevel	662.49	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-207A	Regular	GW WaterDepth	34.73	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-207A	Regular	GW SiltDepth	43.53	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-207B	Regular	GW WaterLevel	673.11	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-207B	Regular	GW WaterDepth	20.61	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-207B	Regular	GW SiltDepth	38.75	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208A	Regular	GW WaterLevel	662.54	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208A	Regular	GW WaterDepth	31.96	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208A	Regular	GW SiltDepth	40.72	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208B	Regular	GW WaterLevel	672.41	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208B	Regular	GW WaterDepth	22.31	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-208B	Regular	GW SiltDepth	39.25	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-200C	Regular	GW WaterLevel	668.96	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-200C	Regular	GW WaterDepth	27.85	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-200C	Regular	GW SiltDepth	88.29	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202C	Regular	GW WaterLevel	668.64	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202C	Regular	GW WaterDepth	23.50	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-202C	Regular	GW SiltDepth	76.98	well depth	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203C	Regular	GW WaterLevel	668.49	ft/MSL, water el	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203C	Regular	GW WaterDepth	21.91	depth to water	0.01	Yes		No	Ground Water	
23-Nov-09	MW-203C	Regular	GW SiltDepth	80.91	well depth	0.01	Yes		No	Ground Water	

APPENDIX G

POST-CLOSURE INSPECTION CHECKLISTS

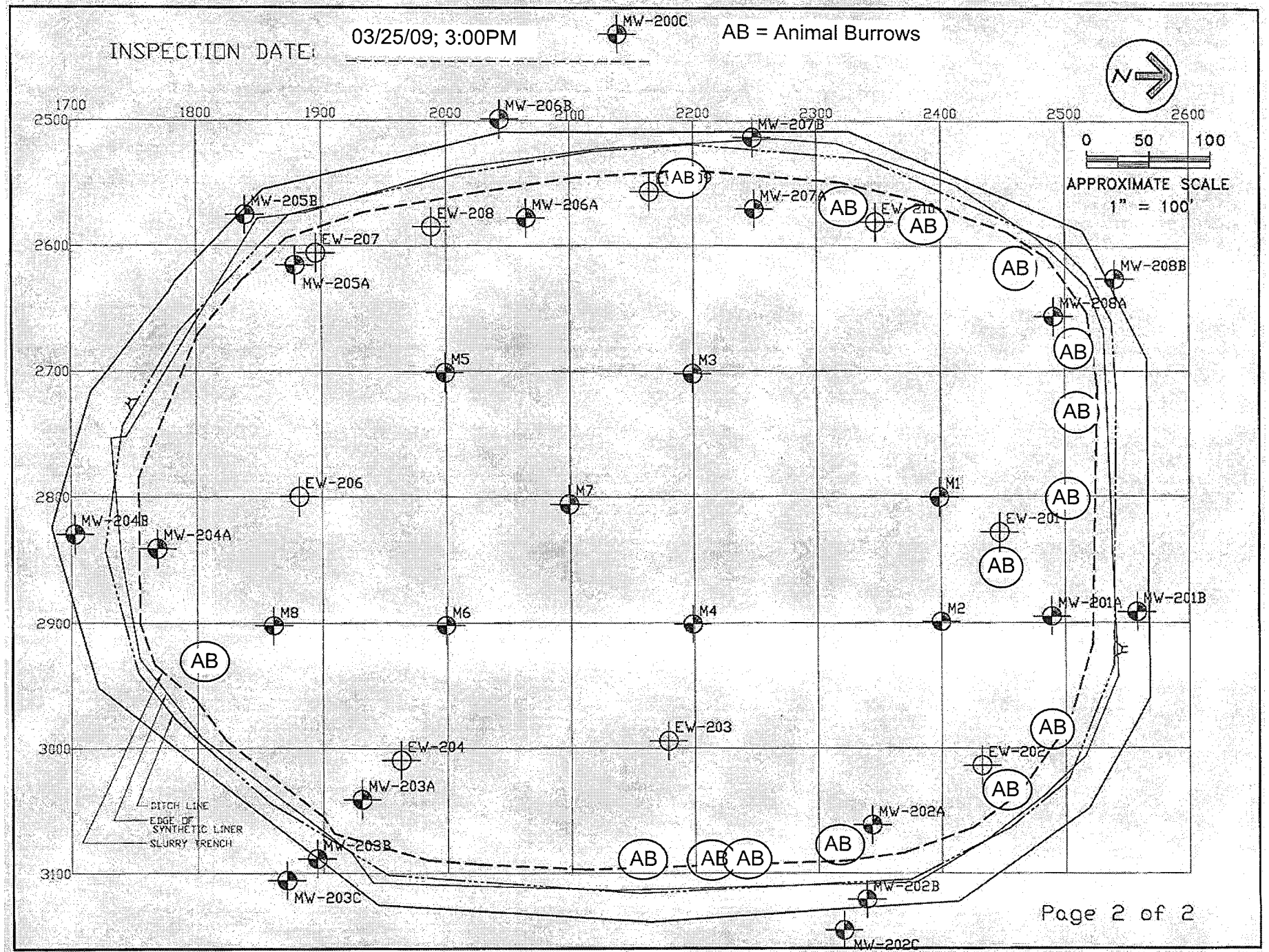
POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

Inspector: Heather Gastineau-Lyons Time: 3:00 PM

Weather: partly sunny, 55 degrees F Date: 03/25/2009

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	Ok	None
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	Ok	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Ok- some burrows observed – See Drawing.	Continue trapping program.
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	Ok	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	Ok	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	Ok	None
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	Not part of inspection.	None
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	Ok Not part of inspection.	None
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	Ok Not part of inspection.	None


INSPECTION DATE: 03/25/09; 3:00PM
AB = Animal Burrows
MW-200C
N
0 50 100
APPROXIMATE SCALE
1" = 100'
1700 1800 1900 2000 2100 2200 2300 2400 2500 2600
2500 2600 2700 2800 2900 3000 3100
MW-206B
MW-207B
MW-205B
EW-208
MW-206A
MW-207A
EW-210
EW-207
MW-205A
MW-208B
MW-208A
M5
M3
EW-206
M7
M1
MW-204B
MW-204A
EW-201
M8
M6
M4
M2
MW-201A
MW-201B
EW-203
EW-204
MW-203A
EW-202
MW-202A
DITCH LINE
EDGE OF SYNTHETIC LINER
SLURRY TRENCH
MW-203B
MW-203C
MW-202B
MW-202C
AB

POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

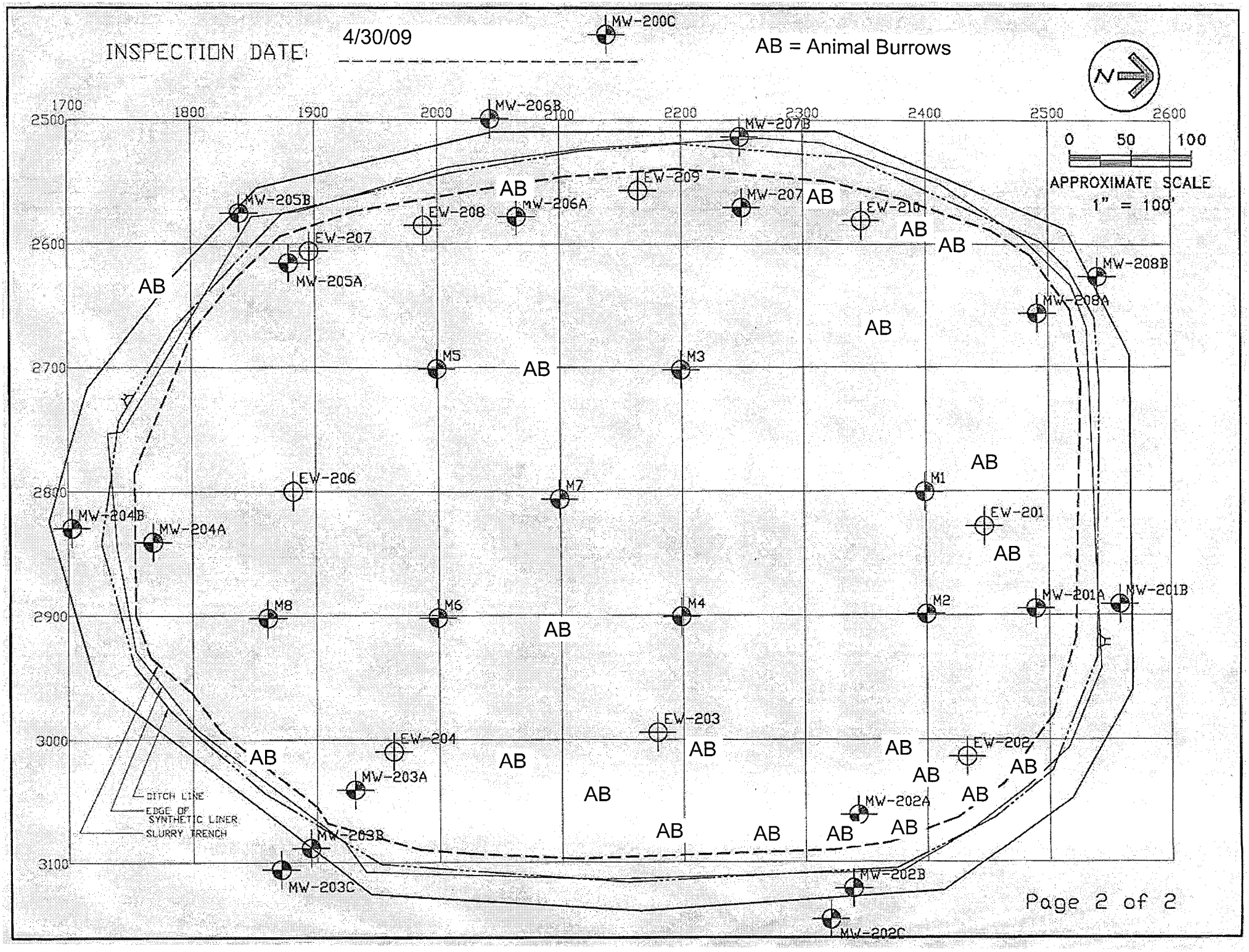
Inspector: David Favero Time: 2:30 am

Weather: ~70° F, 10-15 mph S, cloudy to light rain Date: 4/30/09

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	RR had hung decorative fence covering so signs not visible around east, and south side.	Make sure "Warning" signs are visible after decorative coverings removed.
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	Ok	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Ok- some burrows observed – See Drawing.	Continue trapping program.
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	Ok	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	Ok	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	OK, except outlet of cover drainage discharge pipe in east rip-rap covered with dirt.	Uncover the outlet.
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	Not part of inspection.	None
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	Ok Not part of inspection.	None
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	Ok Not part of inspection.	None

INSPECTION DATE: 4/30/09

AB = Animal Burrows



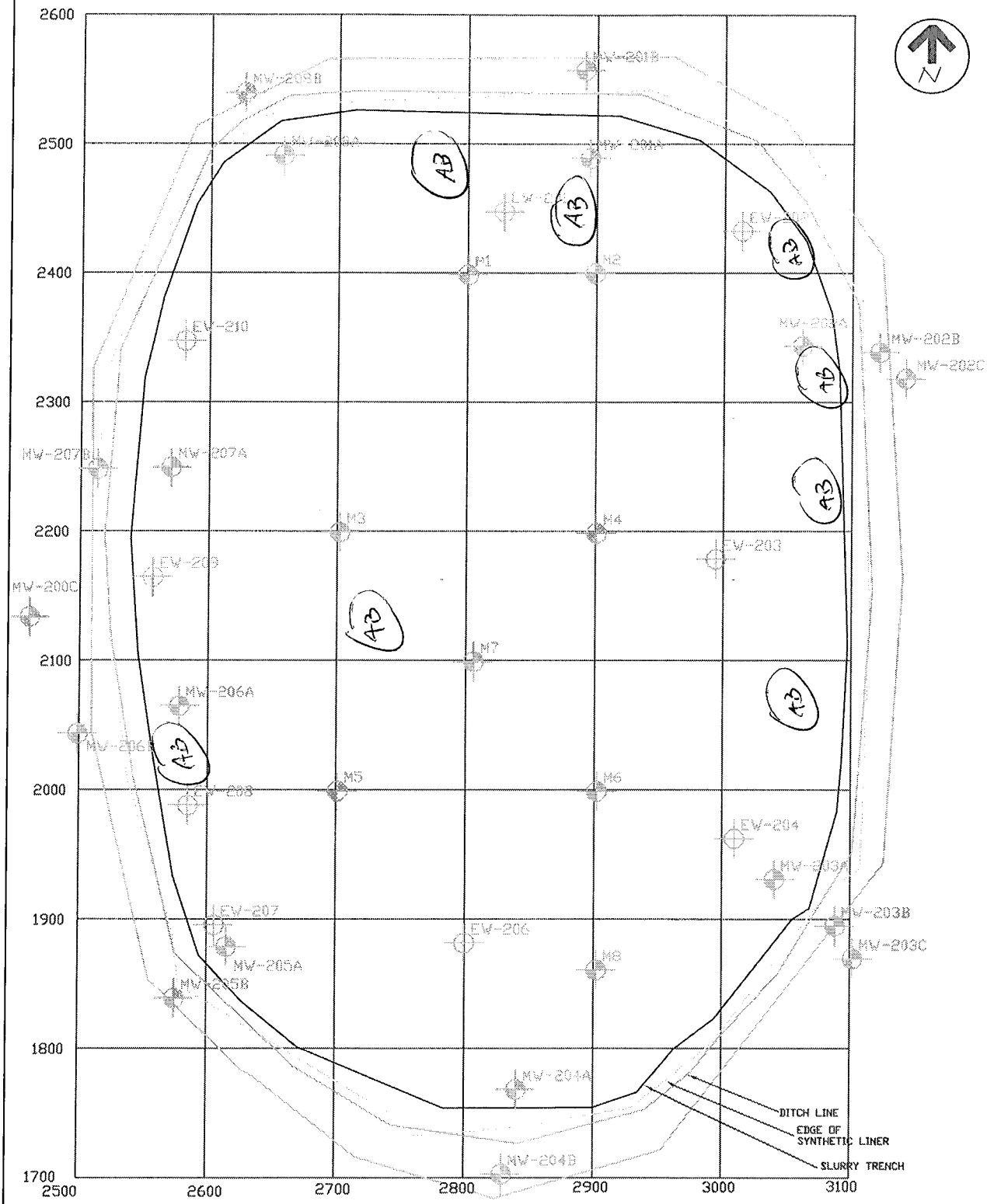
POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

Inspector: Jeff Ecthart Time: 13:00

Weather: 60's - Rain Date: 5/13/09

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	OK	OK - None
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	OK	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Some animal burrows	Continue trapping and show locations to Critter Control
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	OK	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	OK	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	OK	Inconnd outlet 5/12/09 - None
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	Completed 5/13/09 sampling conducted 5/14/09	Include data in annual report
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	Completed 5/13/09	Include data in annual report. No siltation over 1'
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	OK not completed as part of this inspection	None Test extraction wells in 2009



NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	MONITORING WELL AND CUTOFF WALL LOCATION MAP	DRAWN: JE	DATE: 1/12/09	FIG. 1
			CHK'D: SA	PROJECT NO. 97-05-154	

POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

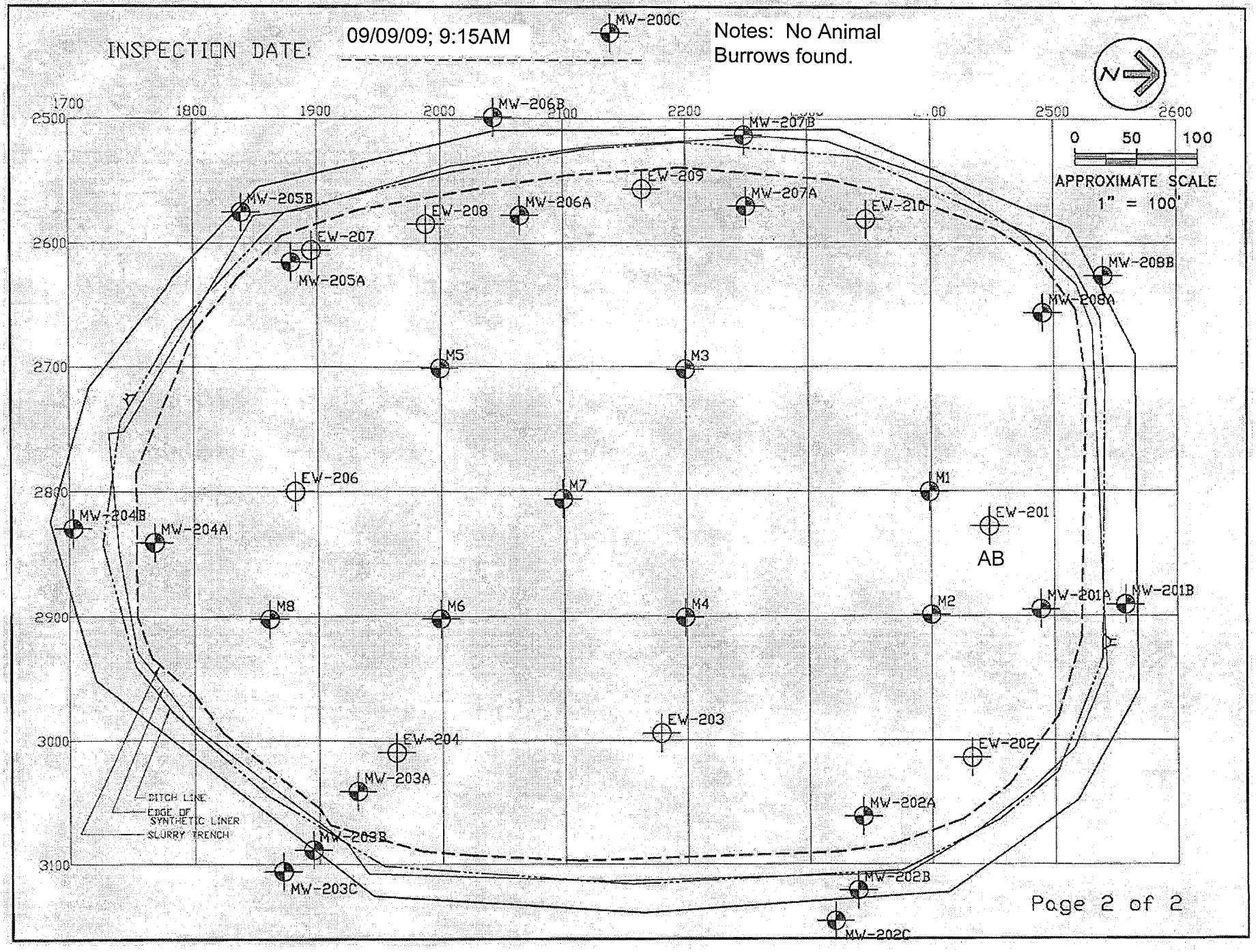
Inspector: Heather Gastineau-Lyons Time: 9:15 AM

Weather: sunny, 70 degrees F Date: 09/09/2009

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	Ok	None
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	Ok	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Ok	Continue trapping program.
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	Ok	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	Ok	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	Ok	None
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	Not part of inspection.	None
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	Ok Not part of inspection.	None
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	Ok Not part of inspection.	None

INSPECTION DATE: 09/09/09; 9:15AM

Notes: No Animal Burrows found.



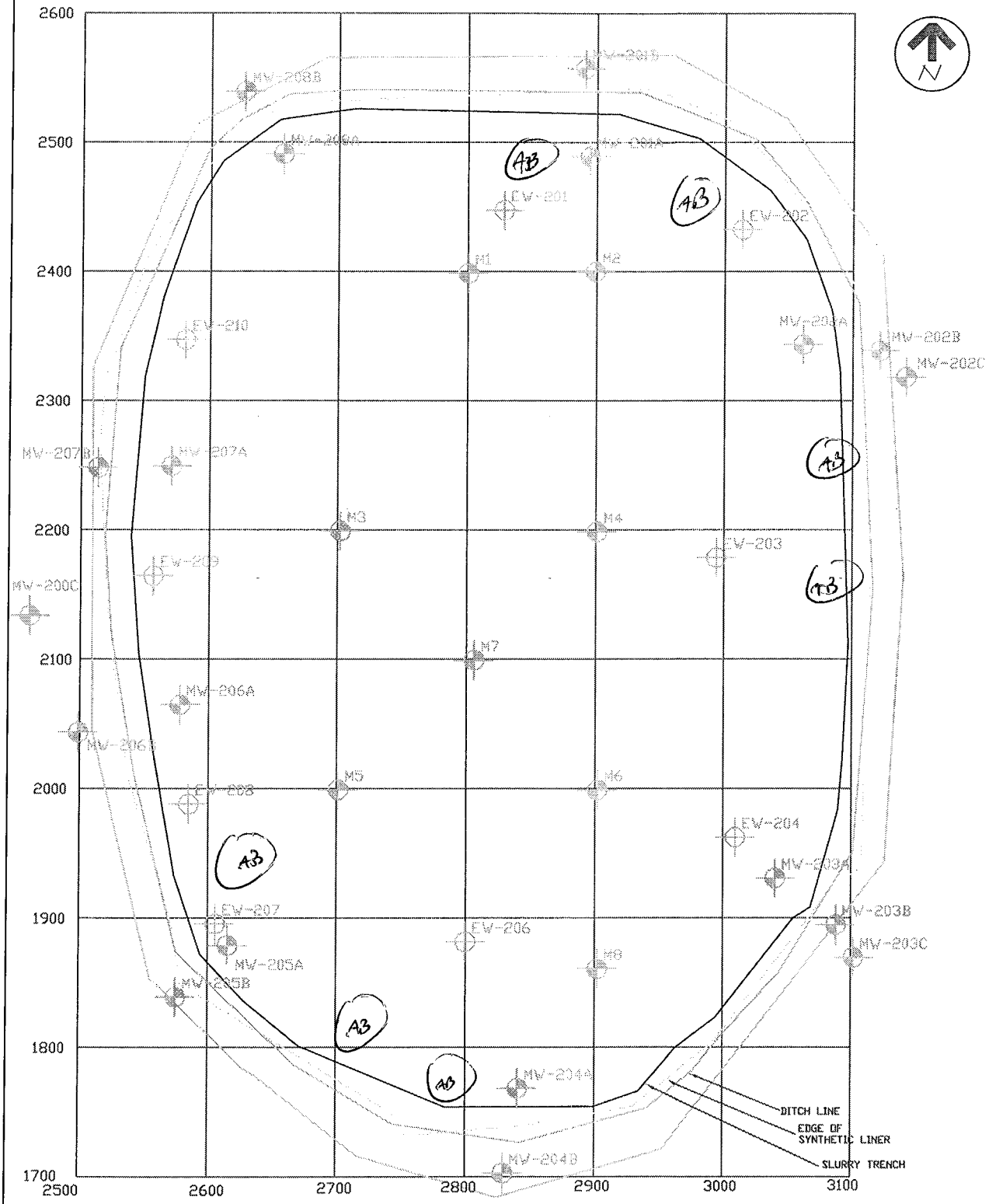
POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

Inspector: Jeff Eckhart Time: 10:00 AM

Weather: 50's Partly Sunny Date: 11/23/09

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	ok.	None
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	OK	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Note burrows on attached drawing	Continue trapping - Map to Critter control
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	OK	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	ok	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	OK	None
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	(conducted 11/23/09	Include data in annual report
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	(conducted 11/23/09 See groundwater data sheet	Include data in annual report Siltation all less than 1'
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	OK (Completed in September '09	None Repaired System 11/24/09 See Report



MW-201A Existing Hydraulic Monitoring Well

EW-201 Existing Extraction Well

M1 Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	MONITORING WELL AND CUTOFF WALL LOCATION MAP	DRAWN: JE	DATE: 1/12/09	FIG. 1
			CHK'D: SA	PROJECT NO. 97-05-154	

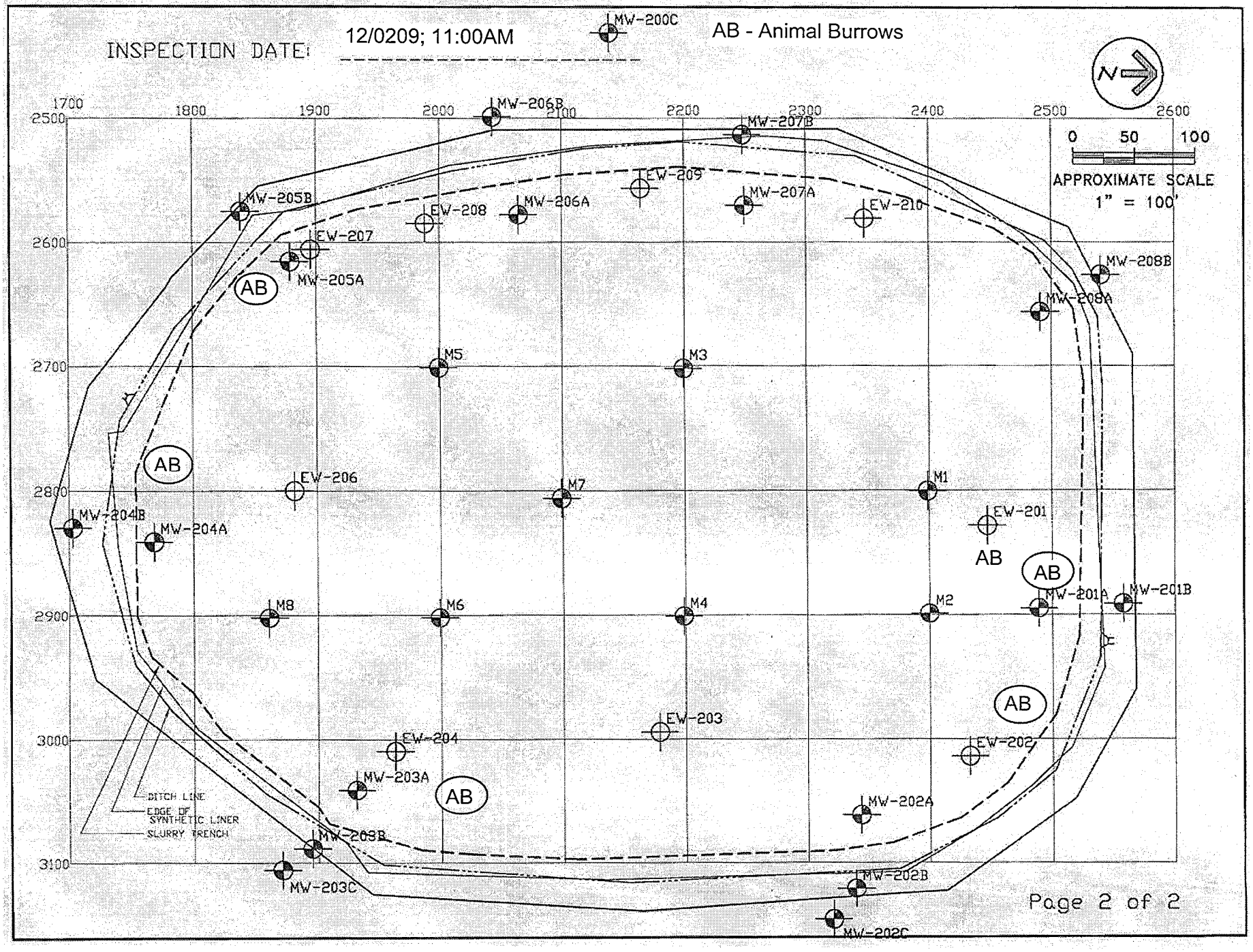
POST-CLOSURE INSPECTION CHECKLIST
CLOSED HAZARDOUS WAST SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
GENERAL MOTORS CORPORATION

This checklist will be used to document the findings of post-closure inspections. Post-closure inspections will be performed according to the frequency and procedures described in the approved post-closure permit application for this unit. When appropriate, the approximate location of notable conditions will be identified on the figure of the surface impoundment area that is included as Page 2 of 2 of this inspection checklist.

Inspector: Heather Gastineau-Lyons Time: 11:00 AM

Weather: cloudy, 45 degrees F Date: 12/2/2009

Inspection Activity	Condition	Action to be Taken
1. Security Control Devices - Inspect fencing around closed unit for damage and "Warning" signs for proper posting.	Ok	None
2. Erosion Damage - Inspect final cover area extending to the centerline of the perimeter ditch for erosion damage. Stake gullies exceeding 3 inches in depth for future repair.	Ok	None
3. Cover Settlement, Subsidence, and Displacement - Inspect benchmarks for unusual settlement or damage, and the final cover system for obvious low spots and animal burrows and mark for repair.	Ok	Continue trapping program.
4. Vegetative Cover Condition - Inspect final cover system for bare areas and quality of vegetation. Mark bare areas for reseeding.	Ok	None
5. Integrity of Run-on and Run-off Controls - Inspect culverts and perimeter drainage ditch for hindrances to flow. Mark any areas needing maintenance.	Ok	None
6. Integrity of Cover Drainage and Gas Venting Systems - Inspect discharge points of cover drainage and gas venting systems for blockage.	Ok	None
7. Integrity of Cut-off Wall - *Semi-annually* - Measure water levels in all monitoring wells and calculate the rise rate of water within the slurry wall and compare to previous rise rates (completed as part of groundwater sampling).	Not part of inspection.	None
8. Monitoring Well Condition - Inspect locks for proper operation, protective casings for integrity, and labels for readability. *Semi-annually* - Measure total well depth to check for siltation (completed during groundwater sampling).	Ok Not part of inspection.	None
9. Extraction Well System Functionality - Quarterly - Inspect groundwater extraction system control building for proper functioning. *Annually* – Turn on extraction wells.	Ok Not part of inspection.	None


INSPECTION DATE: 12/0209; 11:00AM
AB - Animal Burrows
MW-200C
N
0 50 100
APPROXIMATE SCALE
1" = 100'
1700 1800 1900 2000 2100 2200 2300 2400 2500 2600
2500 2600 2700 2800 2900 3000 3100
MW-206B
MW-207B
EW-209
MW-207A
EW-210
EW-208
MW-206A
MW-205B
EW-207
MW-205A
MW-208B
MW-208A
M5
M3
M7
M1
EW-206
MW-204B
MW-204A
EW-201
M8
M6
M4
M2
MW-201A
MW-201B
EW-203
EW-204
EW-202
MW-203A
MW-202A
MW-203B
MW-203C
MW-202B
MW-202C
AB
DITCH LINE
EDGE OF SYNTHETIC LINER
SLURRY TRENCH

APPENDIX H

EXTRACTION SYSTEM DOCUMENTATION

NOVA Consultants, Inc.

Professional Engineering, Environmental, Construction Management and Surveying Services

21580 Novi Road, Suite 300
Novi, Michigan 48375
(248) 347-3512 • FAX (248) 347-4152

September 25, 2009

Motors Liquidation Company
C/O Mr. David Favero
Favero Geosciences
1210 South 5th Street
Springfield, Illinois 62703

Subject: **Groundwater Extraction System Testing**
Closed Hazardous Waste Surface Impoundment
GM Former AGT Division
INR000021436
2701 West Raymond Street
Indianapolis, Indiana

Dear Mr. Favero:

In September 2009, NOVA Consultants, Inc. (NOVA) conducted testing of the groundwater extraction system at the above referenced site. This letter documents the testing and current status of the groundwater extraction system.

On September 16, 2009, NOVA personnel conducted testing of the groundwater extraction system. The testing included running each pump in all nine (9) extraction wells for a short period of time, checking for piping leaks within each well vault, and determination of the well vault conditions. The locations of the extraction wells are shown in **Figure 1**. During the operation of the pumps, the amount of water extracted was noted from each well and a composite sample was collected for characterization purposes for the discharge permit. In addition, the flow meter readings were noted in the discharge building prior to beginning the testing and after all the testing was complete. Notes collected during the testing including flow meter readings, flow rates, pump status and comments are tabulated in **Table 1**.

Testing of the groundwater extraction system indicated problems with extraction wells EW-201, EW-204, and EW-209. Upon turning the pump on in extraction well EW-201, the pump did not run and the lights in the control building did not turn on. Based on previous experiences in the past, NOVA recommends having an electrician test the switch and the fuses to determine if the switch is bad or if a fuse is blown. After repair, NOVA will test the well accordingly.

Upon turning on the pump in extraction well EW-204 and extraction well EW-209, there was a minor leak at each of the flow meters and there was approximately one (1) inch and six (6) inches of standing water in the bottom of the vaults, respectively. NOVA recommends repairing the leaks,

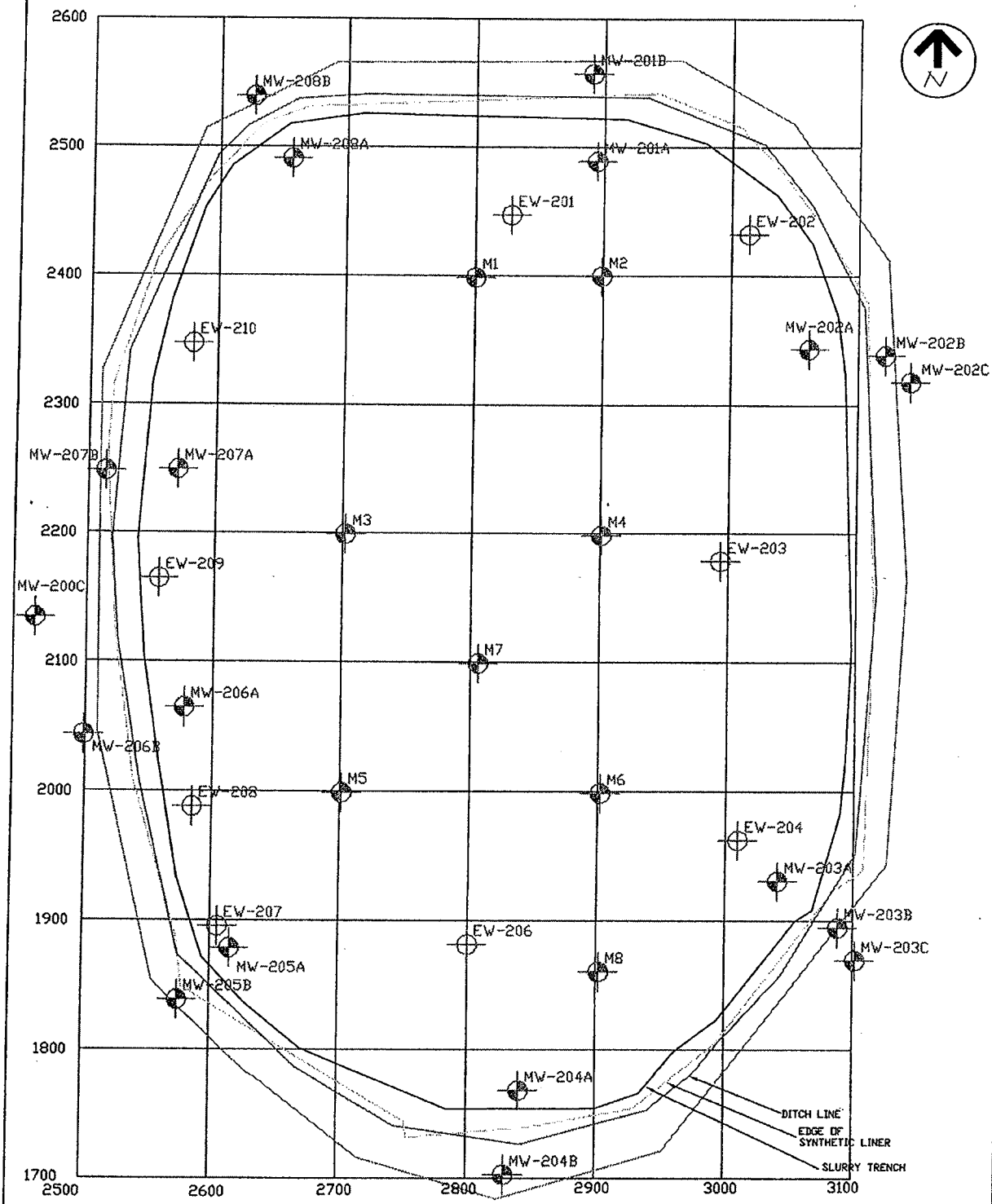
removing the water from the bottom of the vaults, and sealing the manhole covers and penetrations within the vault with hydraulic cement. No problems were encountered with the other six (6) extraction wells and associated vaults and piping.

If you have any question or concerns, or need any additional information, please feel free to contact NOVA at (248) 347-3512.

Sincerely,
NOVA Consultants, Inc.

Jeff Eckhout, EIT
Project Manager

FIGURES



MW-201A — Existing Hydraulic Monitoring Well

EW-201 — Existing Extraction Well

M1 — Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	EXTRACTION WELL LOCATION MAP	DRAWN: JE	DATE: 6/15/2006	FIG.
			CHK'D: SA	PROJECT NO. 97-05-154	1

TABLES

TABLE 1
EXTRACTION WELL STATUS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
INDIANAPOLIS, INDIANA

EXTRACTION WELL NO.	PUMP STATUS	FLOW METER BEFORE TURNING ON	FLOW METER AFTER TURNING OFF	GALLONS PUMPED	FLOW RATE (GPM)	COMMENTS
201	Not Running	0565251.6	0565251.6	0.0	0	Pump did not turn on and the light in the control room did not turn on. Vault floor moist. No leaks.
202	Running Properly	0190763.1	0190813.0	49.9	30	Vault floor moist. No leaks.
203	Running Properly	0964004.9	0964064.9	60.0	37	Vault floor moist. No leaks.
204	Running Properly	0009155.0	0009207.2	52.2	6	Minor leak at flowmeter. Well appeared to run dry. Approximately 1 inch of standing water in bottom of vault.
206	Running Properly	0287066.4	0287106.8	40.4	17	Vault floor moist. No leaks.
207	Running Properly	2760247.0	2760311.1	64.1	23	Vault floor moist. No leaks.
208	Running Properly	0608219.3	0608261.7	42.4	22	Vault floor moist. No leaks.
209	Running Properly	0000096.5	0000151.1	54.6	24	Minor leak at flowmeter. Approximately 6 inches of standing water in bottom of vault.
210	Running Properly	2683456.8	2683521.4	64.6	30	Vault floor moist. No leaks.

Flow Meter Reading in Discharge Building Before Testing: 831089

Flow Meter Reading in Discharge Building After Testing: 831352

Total Gallons Pumped to Discharge Building Flow Meter: 263

Total Gallons Pumped at Well Flow Meters = 428.2

Date Completed: 9/16/09

NOVA Consultants, Inc.

Professional Engineering, Environmental, Construction Management and Surveying Services

21580 Novi Road, Suite 300
Novi, Michigan 48375
(248) 347-3512 • FAX (248) 347-4152

November 30, 2009

Motors Liquidation Company
C/O Mr. David Favero
Favero Geosciences
1210 South 5th Street
Springfield, Illinois 62703

Subject: **Groundwater Extraction System Troubleshooting and Repair**
Closed Hazardous Waste Surface Impoundment
GM Former AGT Division
INR000021436
2701 West Raymond Street
Indianapolis, Indiana

Dear Mr. Favero:

In September 2009, NOVA Consultants, Inc. (NOVA) conducted troubleshooting and repair of the groundwater extraction system at the above referenced site. The repair was a result of the testing conducted by NOVA in September 2009, which is documented in the *Groundwater Extraction System Testing* letter dated September 25, 2009. This letter documents the troubleshooting and repair of the extraction system, along with the current status of the groundwater extraction system.

In September 2009, NOVA personnel conducted testing of the groundwater extraction system. The testing included running each pump in all nine (9) extraction wells for a short period of time, checking for piping leaks within each well vault, and determination of the well vault conditions. The locations of the extraction wells are shown in **Figure 1.** Testing of the groundwater extraction system indicated problems with extraction wells EW-201, EW-204, and EW-209. Upon turning the pump on in extraction well EW-201, the pump did not run and the lights in the control building did not turn on. Upon inspection of extraction well EW-204 and extraction well EW-209, there was approximately one (1) inch and six (6) inches of standing water in the bottom of the vaults, respectively. No problems were encountered with the other six (6) extraction wells and associated vaults and piping.

On November 24, 2009, NOVA and its subcontractor, Barth Electric (Barth), tested the fuses in the control room for extraction well EW-201. One of the fuses was blown and was replaced. The pump was tested and runs properly. After testing the fuses in extraction well EW-201, it was noted that the control lights were off for extraction well EW-207. This was also due to a blown fuse and was replaced. Extraction well EW-207 was tested again and runs properly.

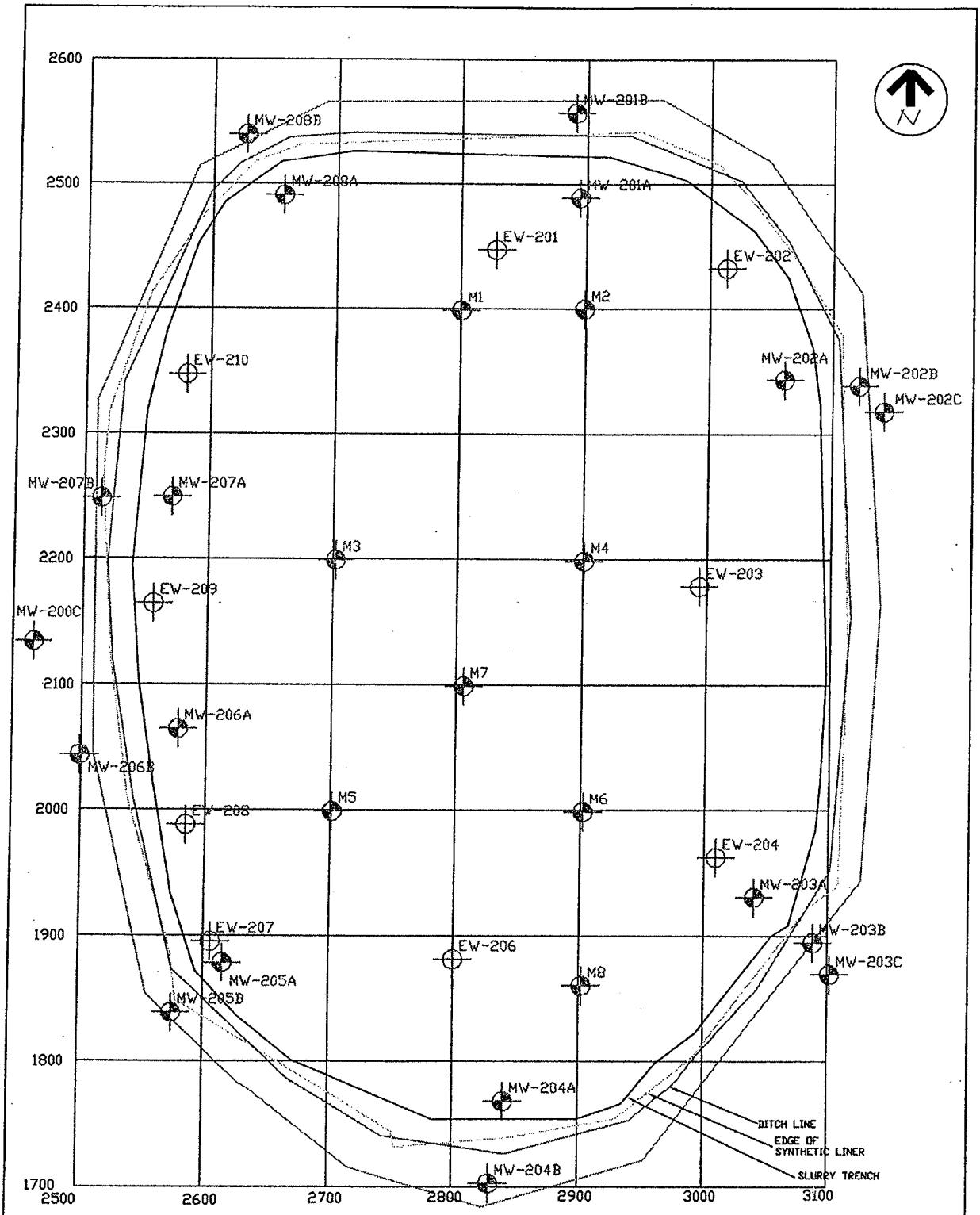
NOVA personnel also removed the standing water from the bottom of the vaults of extraction wells EW-204 and EW-209. Notes collected during the testing including flow meter readings, flow rates, pump status and comments are tabulated in **Table 1**.

If you have any question or concerns, or need any additional information, please feel free to contact NOVA at (248) 347-3512.

Sincerely,
NOVA Consultants, Inc.

Jeff Eckhout, EIT
Project Manager

FIGURES



MW-201A — Existing Hydraulic Monitoring Well

EW-201 — Existing Extraction Well

M1 — Existing Monument

0 50 100

APPROXIMATE SCALE

NOVA CONSULTANTS, INC. PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES	FORMER ALLISON GAS TURBINE DIVISION HAZARDOUS WASTE SURFACE IMPOUNDMENT INDIANAPOLIS, INDIANA	EXTRACTION WELL LOCATION MAP	DRAWN: JE	DATE: 6/15/2006	FIG.
			CHK'D: SA	PROJECT NO. 97-05-154	1

TABLES

TABLE 1
EXTRACTION WELL STATUS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
GM FORMER AGT DIVISION
INDIANAPOLIS, INDIANA

EXTRACTION WELL NO.	PUMP STATUS	FLOW METER BEFORE TURNING ON	FLOW METER AFTER TURNING OFF	GALLONS PUMPED	FLOW RATE (GPM)	COMMENTS
201	Running Properly	0565251.6	0565393.5	141.9	28	Changed fuse in control building. Tested pump and it ran properly.
204	Running Properly	0009207.2	0009207.2	0.0	N/A	Removed approximately 1" of standing water from the bottom of the well vault.
207	Running Properly	2760311.1	2760322.7	11.6	23	Changed fuse in control building. Tested pump and it ran properly.
209	Running Properly	0000151.1	0000151.1	0.0	N/A	Removed approximately 6" of standing water from the bottom of the well vault.

Flow Meter Reading in Discharge Building Before Testing: 831352

Flow Meter Reading in Discharge Building After Testing: 831457

Total Gallons Pumped to Discharge Building Flow Meter: 105

Total Gallons Pumped at Well Flow Meters = 153.5

Date Completed: 11/24/09