



February 12, 2010

Mr. James C. Bennett
U.S. EPA Region III
Ground Water and Enforcement Branch (3WP22)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Re: Storm Water Duplex Sump Discharge Final Report
Motors Liquidation Company – Fredericksburg, Virginia
Order on Consent Docket No. SDWA-03-2009-0016-DU

Dear Mr. Bennett:

On behalf of Motors Liquidation Company (MLC), BOW Environmental Solutions, Inc. is providing the following submission of the Storm Water Duplex Sump Discharge Final Report (Final Report) for the MLC Fredericksburg Facility in Fredericksburg, Virginia (former General Motors Powertrain).

As stated in the Order on Consent (ORDER) dated October 22, 2008, upon completion of the requirements set forth in the ORDER, a Final Report will be prepared. This Final Report satisfies that requirement and includes documentation of actions taken to address all items defined in the ORDER. MLC is requesting confirmation from the United States Environmental Protection Agency (U.S. EPA) that the ORDER has been completed and is therefore terminated.

Each requirement of the ORDER is presented below along with a response to explain how the requirement was satisfied.

1. *Respondent shall, within thirty (30) days of the effective date of this ORDER, submit the following to EPA.*
 - a. *Analysis of a sample of the Storm Water Duplex Sump discharge for the following parameters: pH; Oil and Grease; TOC; Total Petroleum Hydrocarbons; Glycol Scan; Benzene and Xylene. The samples will be taken directly from the ground water sump discharge pipe located on the plant floor near press #6.*

Analysis of the Storm Water Duplex Sump (SWDS) discharge was not submitted within 30 days of the effective date of the ORDER because there was no water flow from the ground water sump. As documented in a letter from General Motors Powertrain (GWPT) to

U.S. EPA dated December 17, 2008 (Attachment 1), the sampling of the SWDS discharge would be conducted as soon as representative flow was observed with an update status submitted by January 31, 2009. Sampling of the SWDS discharge was completed on January 22, 2009 (Table 1) and the analytical data was included in the 2009 1st Quarter Report submitted to the U.S. EPA on January 30, 2009 (lab report attached – Attachment 2).

- b. *Well drilling logs for the two on-site water wells (identified as P-1 and P-2) at the facility.*

Water well completion reports and construction details for P-1 and P-2 were attached to a letter submitted to the U.S. EPA on December 17, 2008 (Attachment 1).

- c. *Copies of the maintenance plan and the sampling plan for the SWDS developed in response to EPA's requests.*

The maintenance plan and the sampling plan for the SWDS discharge were attached to a letter submitted to the U.S. EPA on December 17, 2008 (Attachment 1).

2. *Respondent shall, within thirty (30) days of the effective date of this ORDER, and once every quarter thereafter, perform the specified analysis/scan of the Storm Water Duplex Sump discharge.*

See response to 1(a) for discussion of the initial or 1st quarter SWDS discharge sampling event. An additional three quarters of sampling was completed in 2009 and quarterly reports were submitted for the 2nd, 3rd, and 4th quarters of 2009 (lab reports attached - Attachment 2). Analytical data from all quarterly sampling events is summarized in Table 1.

3. *If any of the following parameters; Oil and Grease; TOC; Total Petroleum Hydrocarbons are detected, Respondent will perform a full Volatile Organic Compounds (VOC) analyses of a sample from the Storm Water Duplex Sump discharge.*

This procedure was followed for each quarterly sampling event. The SWDS analytical results for the 2nd quarter sampling event (May 1, 2009) included a detection of Total Organic Carbon (TOC); therefore, a full VOC analyses was completed. All VOCs were below detection limits (Table 1 and Attachment 2) for 2nd quarter. For the 1st, 3rd, and 4th quarter sampling events, none of the sampling results exceeded detection levels; therefore, a full VOC analysis was not completed.

4. *Following four quarterly sampling events with no exceedance of the MCLs of Benzene, Xylene, and if required, any of the parameters sampled during a VOC scan, Respondent shall have satisfied the sampling requirements. If any of the parameters exceed an MCL, Respondent shall sample until samples are reliably and consistently below the MCL.*

MCLs were not exceeded during the four quarterly sampling events; therefore, the sampling requirements have been satisfied (Table 1).

5. *All above samples are to be analyzed by a laboratory certified to analyze drinking water samples by the Virginia Department of Health.*

The laboratory used for the four quarterly sampling events is certified by the Virginia Department of Health to analyze drinking water samples. Samples were analyzed by Analytics Corporation of Ashland, Virginia (Laboratory ID # 00010 under the Virginia Department of General Services – Division of Consolidated Laboratory Services).

6. *Respondent shall plug and abandon the two on-site water wells (P-1 and P-2) located at the facility no later than June 30, 2009.*

The two on-site water wells (P-1 and P-2) were abandoned from June 17 to June 19, 2009. The abandonment report which includes abandonment logs is attached (Attachment 3).

7. *If, as a result of circumstances beyond its direct control, Respondent is unable to complete a requirement in accordance with the deadlines established in the ORDER, Respondent shall immediately advise EPA of the situation and shall work with EPA to complete the action in an appropriate and timely manner.*

As presented in the response to 1(a), the U.S. EPA was notified when the discharge sample results were not submitted within 30 days of the effective date of the ORDER due to no water flow from the ground water sump. All other requirements related to the ORDER were met.

8. *Upon completion of all the requirements of this ORDER, a final report shall be submitted. The final report shall include photographs, sample results, and other appropriate information to document that the Storm Water Duplex Sump has been repaired and/or modified to ensure no endangerment to any USDW.*

This document serves as the Final Report. Attached are the sample results for all four quarters of 2009 (Table 1 and Attachment 2). All other appropriate documentation is attached as mentioned above. Photographs and other information on the repair and modification of the SWDS were sent in a letter from GMPT to U.S. EPA dated September 9, 2008 (Attachment 4).

9. *This ORDER shall remain in effect until Respondent has completed the requirements set forth in the ORDER. After completion of these requirements, unless EPA has previously terminated the ORDER, Respondent may request EPA's confirmation that the ORDER has been completed and is therefore terminated.*

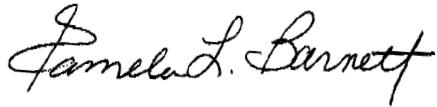
MLC respectfully requests U.S. EPA to terminate the ORDER. This Final Report completes all requirements specified in the ORDER.

10. *Respondents agree to waive their right to a hearing and to appeal this ORDER ON CONSENT. EPA agrees that this ORDER ON CONSENT resolves the matters identified in its March 7, 2008 Findings of Violation and Order for Compliance to Respondent.*

MLC agrees to waive their right to a hearing and to appeal this ORDER. This Final Report resolves all matters regarding findings of violation.

If you have any questions, please contact me at (937) 478-8221.

Sincerely,

A handwritten signature in black ink that reads "Pamela L. Barnett". The signature is written in a cursive, flowing style.

Pamela L. Barnett, PG
Project Manager
BOW Environmental Solutions, Inc. on behalf of MLC

cc: Jon M. Capacasa, Director Water Protection Division, U.S. EPA Region III
Jessica Jeffery, Environmental Engineer, GMPT Fredericksburg

Table 1. Summary of Storm Water Duplex Sump Analytical Results, Motors Liquidation Company, Fredericksburg Virginia.

Analytical Parameter	Analytical Method	Units	1st Quarter 1/22/2009	2nd Quarter 5/1/2009	3rd Quarter 7/15/2009	4th Quarter 11/17/2009
Total Organic Carbon (TOC)	SM 5310 C	mg/L	<1	2.54	<1	<1
Total Petroleum Hydrocarbons (TPH) - GRO	SW-846 8015C ¹	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
Oil and Grease (O&G)	EPA 1664A	mg/L	< 5.00	< 5.00	< 5.00	< 5.00
pH	SM 4500H+B	SU	6.35	6.54	6.21	6.25
Benzene	EPA 524.2	mg/L	<0.0005	<0.0005	<0.0005	<0.0005
Total Xylenes	EPA 524.2	mg/L	<0.0005	<0.0015	<0.0005	<0.0005
Glycol Scan	SW-846 8015M	mg/L	< 10.0	< 10.0	< 5.00	< 5.00
Full VOC Analysis	EPA 524.2	mg/L	NA	<0.0005	NA	NA

Notes:

mg/L - milligrams per liter

GRO - Gasoline Range Organics C6-C12

SU - standard units

NA - not analyzed

1 - 1st Quarter analyzed under method SW-846 8015B

Samples analyzed by Analytics Corporation located in Ashland, Virginia.

ARCADIS

Attachment 1

December 17, 2008 Letter to U.S.
EPA



11032 Tidewater Trail
Fredericksburg, Virginia 22408

GM Powertrain

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 17, 2008

Mr. James C. Bennett
U.S. EPA Region III
Ground Water and Enforcement Branch (3WP22)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Re: ORDER ON CONSENT DOCUMENTS
General Motors Powertrain – Fredericksburg, Virginia
Docket No. SDWA-03-2009-0016-DU

Dear Mr. Bennett:

This letter responds to the Final Order on Consent, General Motors Powertrain – Fredericksburg, Virginia Docket No. SDWA-03-2009-0016-DU dated October 22, 2008. Enclosed please find the submittals requested in the Final Order on Consent Section 1. Attachment A includes the submittals requested in Section 1b. and Attachment B includes the submittals requested in Section 1c.

In regards to the analysis of a sample from the Storm Water Duplex Sump discharge (Section 1a. of Order on Consent); we are unable to sample the Sump at this time due to no water flow from the groundwater sump. Per your discussion with Dan Hughes on December 9, 2008, we are committed to the sampling of the Sump discharge as soon as representative flow permits. We will provide you an update of the sampling status by January 31, 2009.

If you have any questions, please contact Dan Hughes, Regional Environmental Manager, at (770) 318-4611.

Sincerely,

Royden P. Grove, Jr.
Plant Manager

cc: Jon M. Capacasa, Director Water Protection Division, U.S. EPA Region III
Mr. Dan F. Hughes, GM Regional Environmental Manager

Enclosure(s)

Attachment A

COMMONWEALTH OF VIRGINIA WATER WELL COMPLETION REPORT

Spotsylvania

• BWCM No. _____

State Water Control Board
P. O. Box 11143
2111 North Hamilton St.
Richmond, Va. 23230

(Certification of Completion/County Permit)

SWCB Permit _____
County Permit _____
Certification of inspecting official: This well does _____ does not meet code/low requirements. S. _____ Date _____
For Office Use

• Virginia Plane Coordinates	N _____
	E _____
Latitude & Longitude	N _____
	W _____
• Topo. Map No.	_____
• Elevation	_____ ft.
• Formation	_____
• Lithology	_____
• River Basin	_____
• Province	_____
• Type Logs	_____
• Cuttings	_____
• Water Analysis	_____
• Aquifer Test	_____

County/City Stamp

• Owner Delco Moraine

• Well Designation or Number P-1

Address 3401 Tidewater Trail, Fredericksburg, Va.

Phone _____

• Drilling Contractor Sydnor Hydrodynamics, Inc.

Address P.O. Box 27186, Richmond, Va. 23261

Phone 804/643-2725

Tax Map I.D. No. _____
Subdivision _____
Section _____
Block _____
Lot _____
Class Well: I _____, IIA _____
IIIB _____, IIIA _____, IIIB _____

WELL LOCATION: 4,000 (feet/miles NW direction) of Rt. 608
and 200 feet/miles SW (direction) of Rt. 2 and 17
(If possible please include map showing location marked)

Date started 1-2-79 • Date completed _____ Type rig _____

1. WELL DATA: New ☒ Reworked _____ Deepened _____

• Total depth 305 ft.

• Depth to bedrock _____ ft.

• Hole size (Also include reamed zones)

• 17 inches from 0 to 80 ft.

• 12 inches from 80 to 292 ft.

• 9 7/8 inches from 292 to 305 ft.

• Casing size (I.D.) and material

• 12 inches from +1 to 80 ft.

Material Steel

Wt. per foot 49.56 or wall thickness _____ in.

• 6 inches from +2 to 222 ft.

Material Steel

Wt. per foot 18.97 or wall thickness _____ in.

• 6 inches from 237 to 242 ft.

Material Steel 277 to 282

Wt. per foot 18.97 or wall thickness _____ in.

• Screen size and mesh for each zone (where applicable)

• 6 inches from 222 to 237 ft.

• Mesh size 30 Type Stainless Steel

• 6 inches from 242 to 277 ft.

• Mesh size 30 Type Stainless Steel

• _____ inches from _____ to _____ ft.

• Mesh size _____ Type _____

• _____ inches from _____ to _____ ft.

• Mesh size _____ Type _____

• Gravel pack

• From 0 to 292 ft.

• From _____ to _____ ft.

• Grout

• From 0 to 80 ft., Type Cement

• From _____ to _____ ft., Type _____

2. WATER DATA • Water temperature _____ °F

• Static water level (unpumped level-measured) 31' 6" ft.

• Stabilized measured pumping water level 102' 8" ft.

• Stabilized yield 100 gpm after 24 hours

Natural Flow: Yes _____ No ☒ flow rate: _____ gpm

Comment on quality Attach analysis

3. WATER ZONES: From 222 To 237

From 242 To 277 From _____ To _____

From _____ To _____ From _____ To _____

4. USE DATA:

Type of use: Drinking _____, Livestock Watering _____

Irrigation _____ Food processing _____, Household _____

Manufacturing ☒ Fire safety _____, Cleaning _____

Recreation _____, Aesthetic _____, Cooling or heating _____

Injection _____, Other _____

• Type of facility: Domestic _____, Public water supply _____

Public institution _____, Farm _____, Industry ☒ _____

Commercial _____, Other _____

5. PUMP DATA: Type _____ • Rated H.P. _____

• Intake depth _____ • Capacity _____ at _____ head

6. WELLHEAD: Type well seal _____

Pressure tank _____ gal., Loc. _____

Sample tap _____, Measurement port _____

Well vent _____, Pressure relief valve _____

Gate valve _____, Check valve (when required) _____

Electrical disconnect switch on power supply _____

7. DISINFECTION: Well disinfected _____ yes _____ no _____

Date _____, Disinfectant used _____

Amount _____, Hours used _____

8. ABANDONMENT (where applicable) • yes _____ no _____

Casing pulled yes _____ no _____ not applicable _____

Plugging grout From _____ to _____ material _____

Owner Delco Moraine

BWCM No. _____

9. State law requires submitting to the Virginia State Water Control Board information about groundwater and wells for every well made in the State intended for water, or any other non-exempt well. This information must be submitted whether the well is completed, on standby, or abandoned. Information required includes: an accurately and completely prepared water well completion report, full data from any aquifer pumping tests, drill cuttings taken at ten foot intervals (unless exemption is secured), the results of any chemical analyses, and copies of any geophysical logs. Quarterly pumpage and use reports are required from owners of public supply and industrial wells. County or State permits to drill may be required in some parts of the state. Some counties require submission of a water well completion report. The Virginia State Health Department requires a water well completion report for public supply wells.

10. DRILLERS LOG (use additional Sheets if necessary)

DEPTH (feet)		TYPE OF ROCK OR SOIL	REMARKS
From	To	(color, material, fossils, hardness, etc.)	(water, caving, cavities, broken, core, shot, (etc.))
0	5	Red Sandy Clay	
5	35	Coarse Sand & Gravel	
35	39	Large Gravel	
39	41	Gray Clay	
41	46	Sand & Gravel	
46	50	Tough Clay	
50	80	Tough Brown Clay	
80	135	Gray and Green Sandy Clay	
135	276	Light Gray & White Clay with Streaks of Hard Sand.	
276	305	Tough Gray Clay	

11.

Drilling
Time
(Min.)

12. DIAGRAM OF WELL CONSTRUCTION (with dimensions)

State Water Control Board Regional Offices

Valley Reg. Off.
116 North Main Street
P. O. Box 268
Bridgewater, Va. 22812
703-828-2595

Southwest Reg. Off.
408 East Main Street
P. O. Box 476
Abingdon, Va. 24210
703-628-5183

West Central Reg. Off.
Executive Park
5306 A Peters Creek Road
Roanoke, Va. 24019
703-563-0354

Piedmont Reg. Off.
4010 West Broad Street
P. O. Box 6616
Richmond, Va. 23230
804-257-1006

Tidewater Reg. Off.
287 Pembroke Office Park
Suite 310 Pembroke No. 2
Va. Beach, Va. 23462
804-499-8742

Northern Virginia Reg. Off.
5515 Cherokee Avenue
Suite 404
Alexandria, Va. 22312
703-750-9111

13. Well lot dedicated? _____; Size _____ ft. X _____ ft.; Well house? _____
Distance to nearest pollutant source _____ ft.; Type _____
Distance to nearest property line _____ ft.; Building _____ ft.

14. I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the requirements for well construction as specified in compliance with appropriate county or independent city ordinances and the laws and rules of the Commonwealth of Virginia.

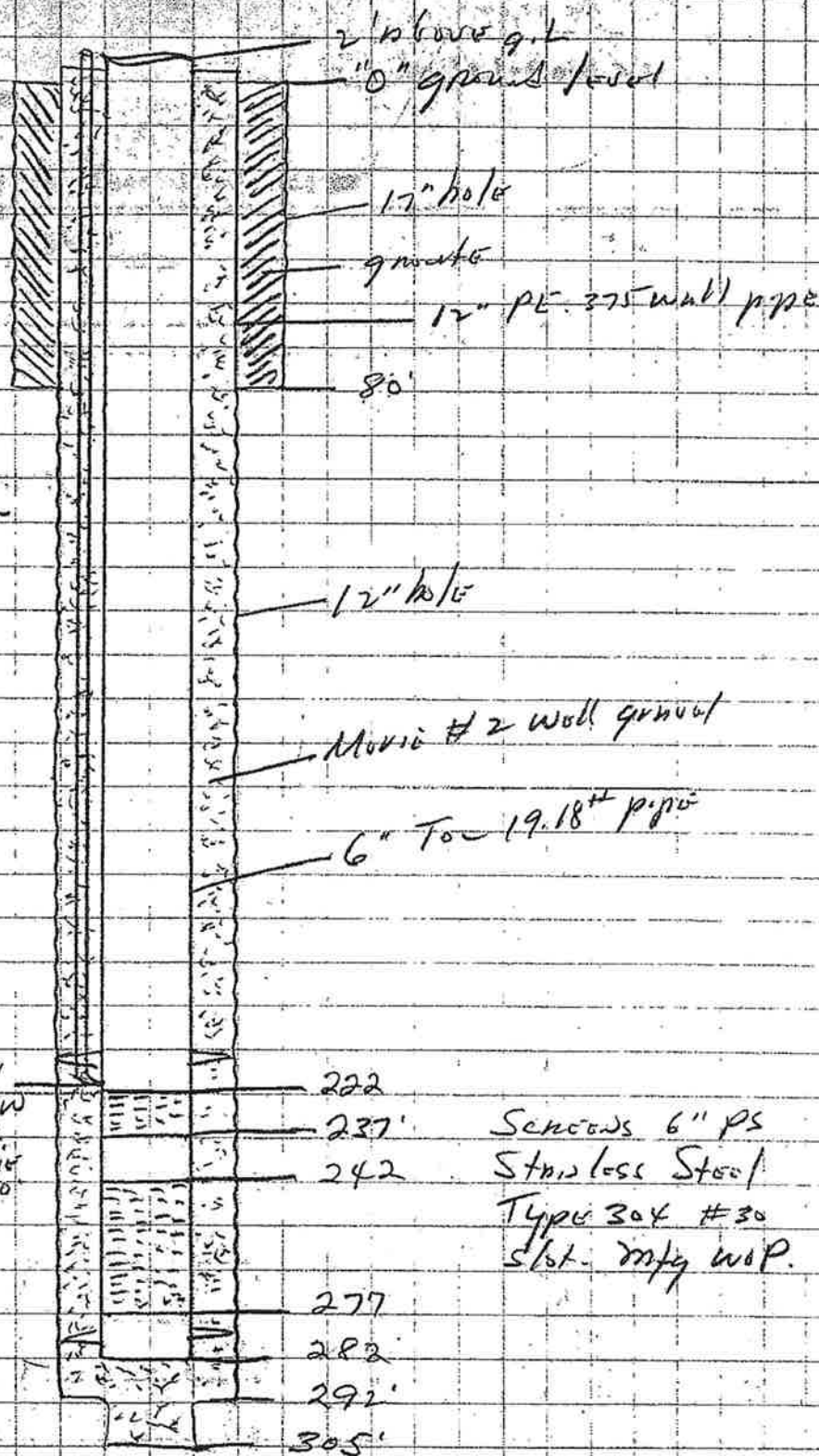
Signature _____ (Seal), Date _____
(Well driller or authorized person)

License No. _____

De/co MORRINE
 Frederickburg, Va.
 Spotsylvania Co.
 Well P-1
 Job # 48340-7

1-12-79

Rig 6.0



Drilled by

Sydnor Hydrodynamics, Inc.
 P. O. Box 27181
 Richmond, VA 23211

Driller

Lonnie Cox

No scale - Norwin

Screens 6" PS
 Stainless Steel
 Type 304 #30
 slot - mfg wop.

SYDNOR HYDRODYNAMICS, INC.

WELL TEST INFORMATION SHEET

CUSTOMER: Delco Moraine

DATE STARTED: 1-30-79

DATE COMPLETED: 1-31-79

LOCATION: Fredericksburg Va.

WELL TEST NO.: #1

P-1

JOB NUMBER: 48340-7

WELL DESCRIPTION: Sand or Screened Well (X) Rock Well ()

Total Depth 282 Ft. Size 6 " to 282 ' and " to

Casing Depth 282 Ft. Screens 222-237 and 242-277

Construction: Domestic () Class 11-B (X) 11-A () 1 ()

Static Water Level 31' 6" Ft. Measured 1-29-79 Date

Description of Formations: gravel, clay and sand

TEST PUMP: Turbine () Sumo (X) Piston () Air () Bailer ()

Pump Intake 215 Ft. Below Ground; Air Line 222 Ft. Below Ground

Size Pump Discharge 2" Ft. Metering Device Flow Meter

Description of Pump 10hp submersible 2 1/2" pipe Portable Generator

TEST DATA: Static Level Before Installing Pump 31' 6" Ft. 22" above ground level

Air Line PSI Before Starting Pump; Time of Measurement

Time Test Pump Started 10:00a.m.; Time Test Pump Stopped 10:00 a.m.

Total Hours Pumped 24 Final Capacity 100 GPM @ 102' 8" Ft.

Static Level Ft., 40 Ft., 6 Hr. Min. After Pump Stopped.

INSTRUCTIONS: For the first hour of pumping, take readings at least every 5 minutes and thereafter at least every 15 minutes. Obtain two 1-gallon representative samples of water near the end of the test. If possible, measure recovery for time equal to 1/3 length of the test.

COMMONWEALTH OF VIRGINIA
WATER WELL COMPLETION REPORT

• BWCM No. _____

Spotsylvania

State Water Control Board
P. O. Box 11143
2111 North Hamilton St.
Richmond, Va. 23230

(Certification of Completion/County Permit)

SWCB Permit _____
County Permit _____
Certification of inspecting official: This well does _____ does not meet code/low requirements. S. _____ Date _____
For Office Use

• Virginia Plane Coordinates	N _____
	E _____
Latitude & Longitude	N _____
	W _____
• Topo. Map No.	_____
• Elevation	_____ ft.
• Formation	_____
• Lithology	_____
• River Basin	_____
• Province	_____
• Type Logs	_____
• Cuttings	_____
• Water Analysis	_____
• Aquifer Test	_____

County/City Stamp

• Owner Delco Moraine
• Well Designation or Number P-2
Address 3401 Tidewater Trail, Fredericksburg, Va.
Phone _____
• Drilling Contractor Sydor Hydrodynamics, Inc.
Address P.O. Box 27186, Richmond, Va. 23261
Phone 804/643-2725

Tax Map I.D. No. _____
Subdivision _____
Section _____
Block _____
Lot _____
Class Well: F _____, IIA _____
IIIB _____, IIIA _____, IIIB _____

WELL LOCATION: 4000 (feet/miles NW direction) of Rt. 608
and 800 feet/miles SW (direction) of Rt. 2 and 17
(If possible please include map showing location marked)

Date started 1-2-79 • Date completed _____ Type rig _____

1. WELL DATA: New ☒ Reworked _____ Deepened _____

• Total depth 307 ft.

• Depth to bedrock 304 ft.

• Hole size (Also include reamed zones)

• <u>17</u> inches from <u>0</u> to <u>80</u> ft.
• <u>12</u> inches from <u>80</u> to <u>290</u> ft.
• <u>9 7/8</u> inches from <u>290</u> to <u>307</u> ft.

• Casing size (I.D.) and material

• <u>12</u> inches from <u>+1</u> to <u>80</u> ft.
Material <u>Steel</u>
Wt. per foot <u>49.56</u> or wall thickness _____ in.
• <u>6</u> inches from <u>+2</u> to <u>222</u> ft.
Material <u>Steel</u>
Wt. per foot <u>18.97</u> or wall thickness _____ in.
• <u>6</u> inches from <u>267</u> to <u>270</u> ft.
Material <u>Steel</u> <u>275</u> to <u>280</u>
Wt. per foot <u>18.97</u> or wall thickness _____ in.

• Screen size and mesh for each zone (where applicable)

• <u>6</u> inches from <u>222</u> to <u>267</u> ft.
• Mesh size <u>30</u> Type <u>Stainless Steel</u>
• <u>6</u> inches from <u>275</u> to <u>275</u> ft.
• Mesh size <u>30</u> Type <u>Stainless Steel</u>
• _____ inches from _____ to _____ ft.
• Mesh size _____ Type _____
• _____ inches from _____ to _____ ft.
• Mesh size _____ Type _____

• Gravel pack

• From <u>0</u> to <u>290</u> ft.
• From _____ to _____ ft.

• Grout

• From <u>0</u> to <u>80</u> ft., Type <u>cement</u>
• From _____ to _____ ft., Type _____

2. WATER DATA • Water temperature _____ of _____

• Static water level (unpumped level-measured) 33' 4 3/4" ft.

• Stabilized measured pumping water level 87' 10" ft.

• Stabilized yield 104 gpm after 62 hours

Natural Flow: Yes _____ No ☒ flow rate: _____ gpm

Comment on quality attach analysis

3. WATER ZONES: From 222 To 267

From <u>270</u> To <u>275</u>	From _____ To _____
From _____ To _____	From _____ To _____

4. USE DATA:

Type of use: Drinking _____, Livestock Watering _____

Irrigation _____, Food processing _____, Household _____

Manufacturing ☒ Fire safety _____, Cleaning _____

Recreation _____, Aesthetic _____, Cooling or heating _____

Injection _____, Other _____

• Type of facility: Domestic _____, Public water supply _____

Public institution _____, Farm _____, Industry ☒

Commercial _____, Other _____

5. PUMP DATA: Type _____ • Rated H.P. _____

• Intake depth _____ • Capacity _____ at _____ head

6. WELLHEAD: Type well seal _____

Pressure tank _____ gal., Loc. _____

Sample tap _____, Measurement port _____

Well vent _____, Pressure relief valve _____

Gate valve _____, Check valve (when required) _____

Electrical disconnect switch on power supply _____

7. DISINFECTION: Well disinfected _____ yes _____ no _____

Date _____, Disinfectant used _____

Amount _____, Hours used _____

8. ABANDONMENT (where applicable) • yes _____ no _____

Casing pulled yes _____ no _____ not applicable _____

Plugging grout From _____ to _____ material _____

State law requires submitting to the Virginia State Water Control Board information about groundwater and wells for every well made in the State intended for water, or any other non-exempt well. This information must be submitted whether the well is completed, on standby, or abandoned. Information required includes: an accurately and completely prepared water well completion report, full data from any aquifer pumping tests, drill cuttings taken at ten foot intervals, (unless exemption is secured), the results of any chemical analyses, and copies of any geophysical logs. Quarterly pumpage and use reports are required from owners of public supply and industrial wells. County or State permits to drill may be required in some parts of the state. Some counties require submission of a water well completion report. The Virginia State Health Department requires a water well completion report for public supply wells.

10. DRILLERS LOG (use additional Sheets if necessary)				11.	12. DIAGRAM OF WELL CONSTRUCTION (with dimensions)
DEPTH (feet)		TYPE OF ROCK OR SOIL	REMARKS	Drilling Time (Min.)	
From	To	(color, material, fossils, hardness, etc.)	(water, caving, cavities, broken, core, shot, (etc.))		
0	1	Fill			
1	8	Red & Yellow Clay			
8	34	Gravel			
34	42	Gravel, White Red & Yellow Clay Mixed			
42	44	Blue Clay			
44	53	Gray & White Clay & Gravel			
53	65	Red & Brown Clay			
65	98	Gray & Green Sandy Clay & Fine Sand			
98	110	White & Gray Sandy Clay & Fine Sand			
110	125	Tough Red & Brown Clay			
125	145	Gray & White Sandy Clay with Fine Sand			
145	158	Tough Red & Gray Clay			
158	167	Gray Sandy Clay & Fine Sand			
167	170	Tough Red Clay			
170	176	Gray Sandy Clay			
176	182	Sand & Rock Streaks			
182	203	Gray & Brown Sandy Clay, sand & Rock Streaks			
203	214	Gray Sand with Some White Sand Clay			
214	233	Sand & White Sandy Clay			
233	265	Sand, Rock Streaks with Some White Clay			
265	304	White & Gray Clay with Streaks of Sand Mix			
304	307	Rock, Gravel & MICA			

State Water Control Board Regional Offices

Valley Reg. Off.
116 North Main Street
P. O. Box 268
Bridgewater, Va. 22812
703-828-2595

Southwest Reg. Off.
408 East Main Street
P. O. Box 476
Abingdon, Va. 24210
703-628-5183

West Central Reg. Off.
Executive Park
5306 A Peters Creek Road
Roanoke, Va. 24019
703-563-0354

Piedmont Reg. Off.
4010 West Broad Street
P. O. Box 6616
Richmond, Va. 23230
804-257-1006

Tidewater Reg. Off.
287 Pembroke Office Park
Suite 310 Pembroke No. 2
Va. Beach, Va. 23462
804-499-8742

Northern Virginia Reg. Off.
5515 Cherokee Avenue
Suite 404
Alexandria, Va. 22312
703-750-9111

13. Well lot dedicated? _____; Size _____ ft. X _____ ft.; Well house? _____
Distance to nearest pollutant source _____ ft., Type _____
Distance to nearest property line _____ ft., Building _____ ft.

14. I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the requirements for well construction as specified in compliance with appropriate county or independent city ordinances and the laws and rules of the Commonwealth of Virginia.

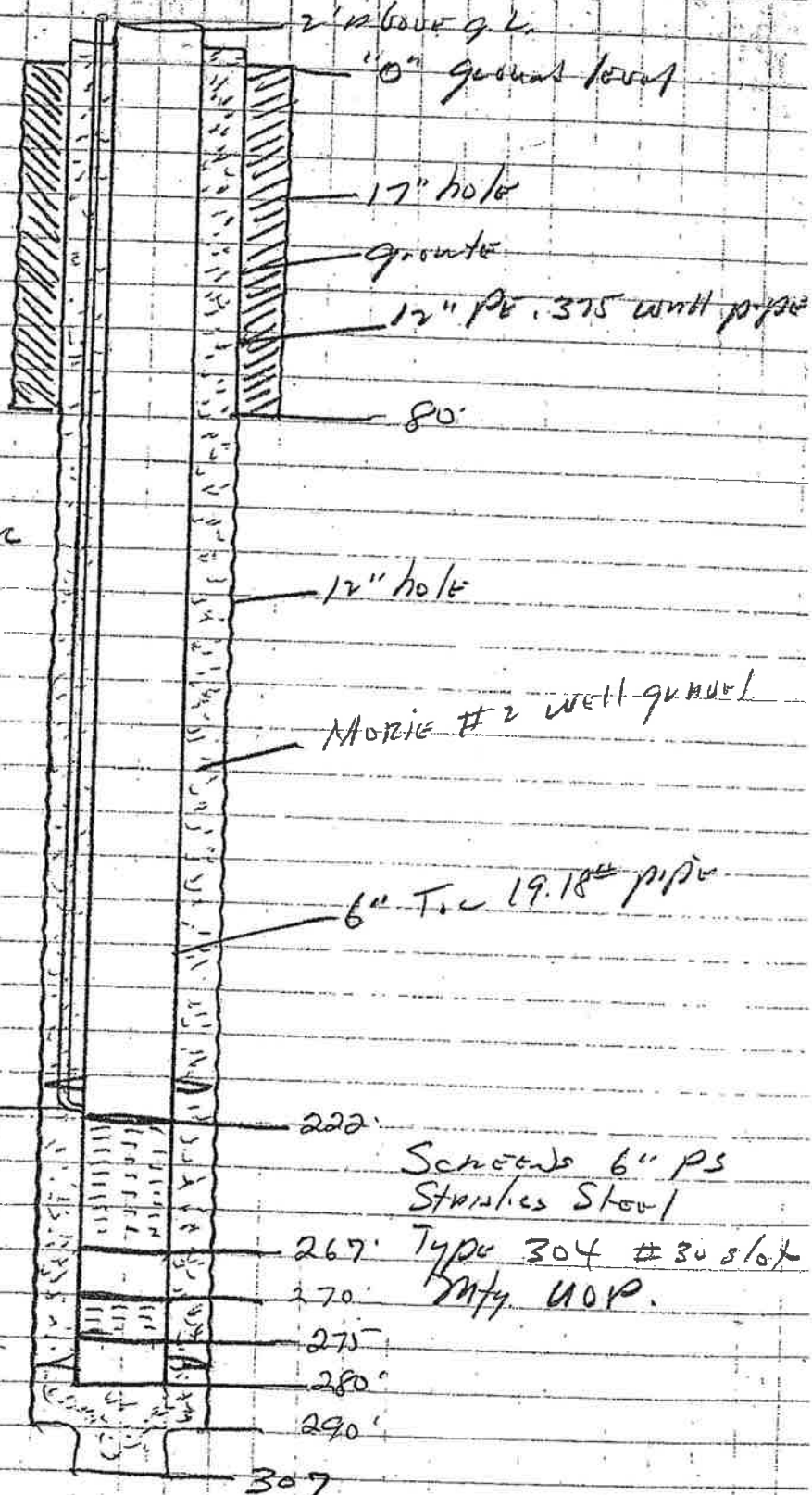
Signature _____ (Seal), Date _____
(Well driller or authorized person)
License No. _____

Moraine
Seaside, VA

Well P-2

48340-7

1-31-79
Ry 66



Drilled by

Sydney Hydrodynamic Inc
P.O. Box 27186
Richmond, VA 23261

Driller

LORENE Cox

No sample - Morris

1"
HW
AIR
LINE
220'

Screens 6" PS
Stainless Steel

Type 304 #30 slot
Qty 4000.

SYDNOR HYDRODYNAMICS, INC.

WELL TEST INFORMATION SHEET

CUSTOMER: Delco Moraine DATE STARTED: 1-29-79DATE COMPLETED: 1-30-79LOCATION: Fredericksburg Va. WELL TEST NO.: #1Well P-2 JOB NUMBER: 48340-7WELL DESCRIPTION: Sand or Screened Well (☒) Rock Well (☐)Total Depth 280 Ft. Size 6 " to 280 ' and " to "Casing Depth 280 Ft. 6" Screens 222-267 270-275Construction: Domestic (☐) Class 11-B (☒) 11-A (☐) 1 (☐)Static Water Level 34' 5" Ft. Measured 1-29-79 DateDescription of Formations: Sand, clay and gravelTEST PUMP: Turbine (☐) Sumo (☒) Piston (☐) Air (☐) Bailer (☐)Pump Intake 210 Ft. Below Ground; Air Line m-scope Ft. Below GroundSize Pump Discharge 3" Ft. Metering Device 3" meterDescription of Pump 6" 10 stage 15hp Portable generatorTEST DATA: Static Level Before Installing Pump 34' 5" Ft. 20" above ground levelAir Line PSI Before Starting Pump; Time of Measurement Top of 1" PipeTime Test Pump Started 2:00 p.m.; Time Test Pump Stopped 2:00 a.m.Total Hours Pumped 12 Final Capacity 100 GPM @ 81' 4" Ft.Static Level Ft., 38-10 Ft., 4 Hr. Min. After Pump Stopped.

INSTRUCTIONS: For the first hour of pumping, take readings at least every 5 minutes and thereafter at least every 15 minutes. Obtain two 1-gallon representative samples of water near the end of the test. If possible, measure recovery for time equal to 1/3 length of the test.

Sample to Froehling & Robertson

1-31-79

Attachment B

General Motors Corporation
Laboratory Notification Criteria

Date: 12/10/2008

Fill in all shaded areas!

The following notification criteria have been developed jointly by the General Motors facility and the analytical laboratory listed below. All analyses performed for compliance demonstration for the outfall(s) listed below shall be compared to these criteria. If any initial result exceeds an applicable notification criterion, the laboratory shall immediately contact General Motors as provided below, and begin the process of confirming the data:

1) Facility Information:

Facility Division: 4

Site name and city: Fredericksburg, VA

Contact Information:

Contact No.	Name	Title	Phone	Pager/Cell	Fax
1	Jessica Jeffery	Env. Engineer	540-899-5065	540-419-7298	540-899-5117
2					
3					
4					

2) Permit Information:

Discharge Type: Other

Permit No:

Exp. date: (enter as mm/dd/yy)

Outfall(s): Groundwater Sump Pump Discharge Pipe (list each affected outfall)

3) Laboratory Information:

Lab name: Analytics Cooperation

City and State: Ashland, VA

Contact Information:

Contact No.	Name	Title	Phone	Pager/Cell	Fax
1	Jean McCloskey	Project Manager	800-888-8061, x5009	919-730-7395	804-365-3002
2	Jeffrey Spink	Contract Administrator	800-888-8061, x5004	919-868-7576	804-365-3002
3	Dawn Casto	QA/Technical	800-888-8061, x5208		804-365-3002
4	Debby Wilhelm	Customer Service	800-888-8061, x0		804-365-3002

Page 2

Division:

4

Site:

Fredericksburg, VA

Date:

12/10/2008

permit is modified or reissued, or if there is a substantial change in the volume or nature of discharge. However, a review must be performed no less frequently than once every three (3) years.

This notification form shall be immediately updated by General Motors or or the laboratory if the respective contacts and/or phone numbers have changed.

Form completed by:
Date:

GM Signature:



Date: 12/12/2008

Lab Signature:

Date: 12/12/2008

Reviewed/updated by:
Date:

GM Signature:

Date: _____

Lab Signature:

Date: _____

Reviewed/updated by:
Date:

GM Signature:

Date: _____

Lab Signature:

Date: _____

Reviewed/updated by:
Date:

GM Signature:

Date: _____

Lab Signature:

Date: _____

EQUIPMENT MAINTENANCE PLAN

Item No.	Equipment Type	Description	Model No.	S/N	Location	Documentation
1	Sump Pump (2)	Tranco Series 2500 Vertical Sump Pumps	2501-1.5A3		Groundwater Sump in Pit	See Attached Maximo Tickets

[illegible]

PM	1779	VERTICAL GROUND WATER SUMP PUMP(S) MOTOR LUBE/LOCATED IN	Master PM? ☒ N
Location			
Equipment	2546	VERTICAL GROUND WATER SUMP PUMP(S)	
Route			
Details			
Next Job Plan	1831	VERTICAL SUMP PUMP(S) MOTOR LUBE	
Supervisor	FM	Work Order Status	WSCH
Crew	WFG	WO Priority	0
GL Account		Work Type	PM
Interruptible?	☐	Planner	
		Storeroom	01
		Lead Time Active?	☒ Y
		Lead Time (Days)	10
		Safety Req. (Y/N)	☐
Source			
Master PM			
Override Master PM Updates?	☒ N		
Frequency			
Frequency	90	First Start Date	2008-10-01-0.00.00
Frequency Units	DAYS	Last Completion Date	
Next Due Date	2008-10-01-0.0	Last Target Start Date	
		Use Target Start?	☒ Y
		Sequenced?	☒ N
		Counter	0
		Use Frequency For Scheduling?	☒ Y
		Downtime Required?	☐
Overrides and Season's		Meters	
Extended Date		Meter 1	Meter 2
Adjust Next Due Date?	☐	Frequency	0.00 0.00
		Meter Units	
Start	Month Day	Average Meter Units/Day	0.00 0.00
End		Reading at Last WO	0.00 0.00
		Date of Last WO	
		Estimated Next Reading	0.00 0.00
		Estimated Next Due	

Job Plan1831VERTICAL SUMP PUMP(S) MOTOR LUBE

Job Plan Details

SupervisorFM

Duration0:00

Lead CraftMR

WO Priority0

CrewWFG

Safety Req. (Y/N)☐

Interruptible?N

Downtime Required?N

Operation Details				
	Op	Description	Hours	Point Name
	5	OIL/LUBE BOTH (2) VERTICAL GROUND WATER SUMP PUMP(S) MOTOR /LOC	0:00	
	10	CHECK GREASE FITTINGS AND ADD GREASE AS NECESSARY	0:00	
	15	CHECK THE OIL/ IF NEEDED ADD ONLY ENOUGH 20 WEIGHT NON-DETERGE	0:00	
	20	EAST PUMP (NEAR PRESS #6) SERIAL #120226 / MODEL#2501-15A2	0:00	
	25	WEST PUMP (NEAR PRESS #6) SERIAL #120225 / MODEL#2501-15A2	0:00	

LaborMaterialsTools

PM	1780	PUMP THRUST BEARING LUBE/ SERIES 2500	Master PM?	N	
Location					
Equipment	2546	VERTICAL GROUND WATER SUMP PUMP(S)			
Route					
Details					
Next Job Plan	1830	PUMP THRUST BEARING LUBE/ SERIES 2500			
Supervisor	FM	Work Order Status	WSCH	Storeroom	01
Crew	WFG	WO Priority	Q	Lead Time Active?	Y
GL Account		Work Type	PM	Lead Time (Days)	10
Interruptible?	☐	Planner		Safety Req. (Y/N)	☐
Source					
Master PM					
Override Master PM Updates?	N				
Frequency					
Frequency	1,095	First Start Date	2011-06-01-0.00.00		
Frequency Units	DAYS	Last Completion Date			
Next Due Date	2011-06-01-0.0	Last Target Start Date			
		Use Frequency For Scheduling?	Y		
		Use Target Start?	Y		
		Sequenced?	N		
		Counter	0		
		Downtime Required?	☐		
Overrides and Season's			Meters		
Extended Date			Meter 1	Meter 2	
Adjust Next Due Date?	☐		Frequency	0.00	0.00
Start	Month	Day	Meter Units		
End			Average Meter Units/Day	0.00	0.00
			Reading at Last WO	0.00	0.00
			Date of Last WO		
			Estimated Next Reading	0.00	0.00
			Estimated Next Due		

Job Plan 1830 PUMP THRUST BEARING LUBE/ SERIES 2500

Job Plan Details

Supervisor FM

Lead Craft MR

Safety Req. (Y/N) ☐

Duration 0:00

WO Priority 0

Interruptible? ☒ N

Crew WFG

Downtime Required? ☒ N

Operation Details

	Op	Description	Hours	Point Name	
	0	LUBE BOTH (2) VERTICAL GROUND WATER SUMP PUMP(S) SERIES 2500 / L	0:00		
	5	PUMP THRUST BEARING LUBRICATION:	0:00		
	10	USE A #2 GRADE BALL BEARING GREASE TO GREASE THE BALL BEARING(S	0:00		
	15	EAST PUMP (NEAR PRESS #6) SERIAL #120226 / MODEL#2501-15A2	0:00		
	20	WEST PUMP (NEAR PRESS #6) SERIAL #120225 / MODEL#2501-15A2	0:00		

Labor Materials Tools

GMPT Fredricksburg
Groundwater Sump Sampling Schedule

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Groundwater Sump Sampling	Quarterly Groundwater Sump Monitoring	Sample Groundwater Discharge Pipe			Sample Groundwater Discharge Pipe			Sample Groundwater Discharge Pipe			Sample Groundwater Discharge Pipe		

Notes: Samples will be taken during this schedule if sufficient flow of groundwater exists.
If groundwater flow does not exist by end of the sampling month, contact James Bennett of EPA Region III.

**GMPT Fredericksburg
Groundwater Sampling Plan**

<i>Sample Location</i>	<i>Analytical Laboratory</i>	<i>Sampling Methodology</i>	<i>No. of Containers for Analysis</i>	<i>Container Description/ Preservation</i>	<i>Analysis Required/Method</i>	<i>Frequency</i>
Groundwater Sump Discharge Pipe	Analytics Corporation/Ashland, Virginia	Collect groundwater grab sample from the discharge pipe located on the plant floor near Press #6. To collect sample, first go to pump control panel located on the wall directly south of Press #6. Turn knob for East Pump to Hand. Let groundwater flow for approximately 2 minutes before collecting sample. After samples are collected, return to control panel and set the east pump knob to auto.	1	125 ml plastic/unpreserved	pH/SM 4500 H+B	Quarterly
			1	250 ml amber glass/H ₂ SO ₄	Total Organic Carbon (TOC)/SM 5310 C	
			3	40 ml vials/HCl	Total Petroleum Hydrocarbons (TPH)/EPA 1664A	
			1	1L amber glass/HCl	Oil and Grease (O&G)/EPA 1664 A	
			3	40 ml vials/HCl	Benzene, Total Xylenes/EPA 524.2	
			1	40 ml vial/unpreserved	Glycol Scan/SW-846 8015 M	
			10	Total Containers		

ARCADIS

Attachment 2

2009 Quarterly Laboratory
Reports

ARCADIS

First Quarter 2009



Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

January 27, 2009

LARRY HERRINGTON
G M POWERTRAIN
11032 TIDEWATER TRAIL
FREDERICKSBURG, VA 22408

Purchase Order: GMS32146

Client ID: GM-FREDERICKSBURG GW SUMP

Workorder: 9022001

Dear LARRY HERRINGTON:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, January 22, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Unless otherwise specified all analyses of solid materials are based on dry weight.

The signature at the end of this report certify that the results are based on the referenced methods and unless otherwise noted meet the requirements of NELAC.

Reported results relate only to the items tested, as received by the laboratory

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet NELAC standards.

Abbreviations: ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram, ug/wp = micrograms per wipe, ug/ml = micrograms per millimeter, uS = microsiemens per centimeter at 25 degrees Celcius, ppb = parts per billion, DF = Dilution Factor

If you have any questions concerning this report, please feel free to call Client Services at 1-800-888-8061.

Sincerely,

Dawn Casto

Enclosures

Report ID: 9022001 - 523692

Page 1 of 3

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

SAMPLE SUMMARY

Workorder: 9022001 GM-FREDERICKSBURG GW SUMP

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9022001001	GM-012209-001	Aqueous Liquid	1/22/2009 08:44	1/22/2009 10:30

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10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9022001 GM-FREDERICKSBURG GW SUMP

Lab ID: 9022001001
Sample ID: GM-012209-001

Date Received: 1/22/2009 10:30 Matrix: Aqueous Liquid
Date Collected: 1/22/2009 08:44 Samp Type: GRAB

Parameters	Results Units	Report Limit	DF Prepared	By	Analyzed	By	Qual
Analysis Desc: SM 4500H+ B		Analytical Method: SM 4500H+ B					
pH(see cover page)	6.35 SU		1		1/27/2009 16:50	DOI	
Analysis Desc: SW-846 8015M		Analytical Method: SW-846 8015M					
Dipropylene glycol	<10.0 mg/L	10.0	1		1/26/2009 23:42	RPL	
Ethylene Glycol	<5.00 mg/L	5.00	1		1/26/2009 23:42	RPL	
1,4-Butanediol	<10.0 mg/L	10.0	1		1/26/2009 23:42	RPL	
Diethylene Glycol	<10.0 mg/L	10.0	1		1/26/2009 23:42	RPL	
Triethylene Glycol	<10.0 mg/L	10.0	1		1/26/2009 23:42	RPL	
Propylene Glycol	<5.00 mg/L	5.00	1		1/26/2009 23:42	RPL	
Analysis Desc: EPA 524.2		Analytical Method: EPA 524.2					
Toluene	<0.500 ug/L	0.500	1		1/22/2009 16:22	SJS	
m & p-xylene	<0.500 ug/L	0.500	1		1/22/2009 16:22	SJS	
Benzene	<0.500 ug/L	0.500	1		1/22/2009 16:22	SJS	
o-Xylene	<0.500 ug/L	0.500	1		1/22/2009 16:22	SJS	
Analysis Desc: SM 5310 C		Analytical Method: SM 5310 C					
TOC	<1 mg/L	1	1		1/27/2009 09:00	REA	
Gasoline Range Organics							
Analysis Desc: SW-846 8015B		Analytical Method: SW-846 8015B					
TPH - GRO	<500 ug/L	500	1		1/23/2009 18:01	SJS	
General Chemistry							
Analysis Desc: EPA 1664A		Analytical Method: EPA 1664A					
Hexane Extractable Material	<5.00 mg/L	5.00	1		1/23/2009 09:58	NT	

Report ID: 9022001 - 523692

Page 3 of 3

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ANALYTICS

Account Name:

Convection

Sample Container Receipt Form:

Sample Identification	67A-012208-001									
Type of Container	12SP	1000C	4041C	4041C	4041C	2500A				
Number of Containers	1	1	3	1	3	1				
Temperature on Arrival	4									
pH on Arrival										
Chlorine on Arrival (ppm)										
VOA Sample Condition			OK	OK	OK	OK				
General Condition	OK	OK	OK	OK	OK	OK				
Notes and comments	cool 1/2L 1/2L cool 1/2L 1/2L 1/2L									

P=Plastic; G=Glass, Am=Amber, VOA=VOA vial

** Samples received in _____ for VOC's in soil. See attached for details on sample containers for low level VOC's in soil.

Sample Custodian

James Altieri

JAMES ALTIERI

Date

012208

ARCADIS

Second Quarter 2009



Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

May 12, 2009

JESSICA JEFFERY
G M POWERTRAIN
11032 TIDEWATER TRAIL
FREDERICKSBURG, VA 22408

Purchase Order: GMS32146

Client ID: GM-FREDERICKSBURG

Workorder: 9121006

Dear JESSICA JEFFERY:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, May 01, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Unless otherwise specified all analyses of solid materials are based on dry weight.

The signature at the end of this report certify that the results are based on the referenced methods and unless otherwise noted meet the requirements of NELAC.

Reported results relate only to the items tested, as received by the laboratory

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet NELAC standards.

Abbreviations: ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram, ug/wp = micrograms per wipe, ug/ml = micrograms per millimeter, uS = microsiemens per centimeter at 25 degrees Celcius, ppb = parts per billion, DF = Dilution Factor

If you have any questions concerning this report, please feel free to call Client Services at 1-800-888-8061.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Dawn A. Casto', is written over a horizontal line.

Dawn Casto

Enclosures

Report ID: 9121006 - 561242

Page 1 of 5

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

SAMPLE SUMMARY

Workorder: 9121006 GM-FREDERICKSBURG

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9121006001	GM-050109-001	Aqueous Liquid	5/1/2009 08:55	5/1/2009 10:23

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9121006 GM-FREDERICKSBURG

Lab ID: 9121006001
Sample ID: GM-050109-001

Date Received: 5/1/2009 10:23 Matrix: Aqueous Liquid
Date Collected: 5/1/2009 08:55 Samp Type: GRAB

Parameters	Results Units	Report Limit	DF Prepared	By	Analyzed	By	Qual
Analysis Desc: SM 4500H+ B		Analytical Method: SM 4500H+ B					
pH(see cover page)	6.54 SU		1		5/1/2009 16:55	RS	
Analysis Desc: SW-846 8015M		Analytical Method: SW-846 8015M					
Dipropylene glycol	<5.00 mg/L	5.00	1		5/5/2009 03:47	RPL	
Ethylene Glycol	<5.00 mg/L	5.00	1		5/5/2009 03:47	RPL	
1,4-Butanediol	<5.00 mg/L	5.00	1		5/5/2009 03:47	RPL	
Diethylene Glycol	<5.00 mg/L	5.00	1		5/5/2009 03:47	RPL	
Triethylene Glycol	<10.0 mg/L	10.0	1		5/5/2009 03:47	RPL	
Propylene Glycol	<5.00 mg/L	5.00	1		5/5/2009 03:47	RPL	
Analysis Desc: EPA 524.2		Analytical Method: EPA 524.2					
Ethylbenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Styrene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2-Dibromo-3-Chloropropane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2-Dibromoethane (EDB)	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
cis-1,3-Dichloropropene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
trans-1,3-Dichloropropene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
4-Chlorotoluene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,4-Dichlorobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2-Dichloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Bromobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Toluene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Chlorobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	

Report ID: 9121006 - 561242

Page 3 of 5

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Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9121006 GM-FREDERICKSBURG

Lab ID: 9121006001
Sample ID: GM-050109-001

Date Received: 5/1/2009 10:23 Matrix: Aqueous Liquid
Date Collected: 5/1/2009 08:55 Samp Type: GRAB

Parameters	Results Units	Report Limit	DF Prepared	By	Analyzed	By	Qual
1,2,4-Trichlorobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Dibromochloromethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
tetrachloroethene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Xylene (total)	<1.50 ug/L	1.50	1		5/8/2009 20:25	SJS	
1,3-Dichloropropane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
cis-1,2-Dichloroethene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
trans-1,2-Dichloroethene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
tert-Butyl methyl ether (MTBE)	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,3-Dichlorobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Carbon tetrachloride	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1-Dichloropropene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
2,2-Dichloropropane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1,1,2-Tetrachloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Chloroform	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Benzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1,1-Trichloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Bromomethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Chloromethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Dibromomethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Chloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Vinyl chloride	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Methylene chloride	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Bromoform	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Bromodichloromethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	

Report ID: 9121006 - 561242

Page 4 of 5

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9121006 GM-FREDERICKSBURG

Lab ID: 9121006001
Sample ID: GM-050109-001

Date Received: 5/1/2009 10:23 Matrix: Aqueous Liquid
Date Collected: 5/1/2009 08:55 Samp Type: GRAB

Parameters	Results Units	Report Limit	DF Prepared	By	Analyzed	By	Qual
1,1-Dichloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1-Dichloroethene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Trichloromonofluoromethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Dichlorodifluoromethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2-Dichloropropane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1,2-Trichloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Trichloroethene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,1,2,2-Tetrachloroethane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
2-Chlorotoluene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2-Dichlorobenzene	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
1,2,3-Trichloropropane	<0.500 ug/L	0.500	1		5/8/2009 20:25	SJS	
Analysis Desc: SM 5310 C Analytical Method: SM 5310 C							
TOC	2.54 mg/L	1	1		5/4/2009 08:55	REA	
Gasoline Range Organics							
Analysis Desc: SW-846 8015C Analytical Method: SW-846 8015C							
TPH - GRO	<500 ug/L	500	1		5/1/2009 16:10	SJS	
General Chemistry							
Analysis Desc: EPA 1664A Analytical Method: EPA 1664A							
Hexane Extractable Material	<5.00 mg/L	5.00	1		5/5/2009 19:22	DM	

CERTIFICATE OF ANALYSIS

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ENVIRONMENTAL CHAIN OF CUSTODY

ACCOUNT NAME AND ADDRESS

G M POWERTRAIN

11032 TIDEWATER TRAIL
FREDERICKSBURG, VA 22408
Phone: 540-899-5031
Fax: 1-540-899-5105
PROJ#: 45309260

DATE SHIPPED

05/01/09

OF SAMPLES

1

PROJECT NAME OR NUMBER

Gm-Fredricksburg

TELEPHONE NUMBER

540-449-1887

PURCHASE ORDER NO.

CONTACT

Jessica Jeffery

SPECIAL INSTRUCTIONS:

Please only show Benzene +
Xylene on report
Groundwater Sump

ANALYSIS

24 HOUR

48 HOUR

Extra Charge

CHAIN OF CUSTODY RECORD

MATRIX CODES

A = AQUEOUS O = OIL

S = SOLID X = OTHER

ANALYSIS REQUESTED (Place an "X" in the box below to indicate request)

Preservative

H₂SO₄

HCL

HNO₃

NaOH

Other

MATRIX

of Bottles

Grab / Comp.

DATE & TIME

Lab ID

Sample Identification

Comments

540-449-1887

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

SAMPLED BY (PRINT NAME):

Jessica Jeffery

SAMPLES RECEIVED BY (SIGNATURE)

Jessica Jeffery

DATE

5-7-09

TIME

10:23

CONDITION

Good

DATE

05/01/09

TIME

09:05

SAMPLES RELINQUISHED BY (SIGNATURE)

Jessica Jeffery

DATE

05/01/09

TIME

09:05

Preservative

H₂SO₄

HCL

HNO₃

NaOH

Other

Comments

540-449-1887

1

2

ANALYTICS

Account Name: *GM Pledinckx*

Sample Container Receipt Form:

Sample Identification	<i>GM-05009-001</i>					
Type of Container	<i>1000L</i>	<i>2506</i>	<i>12SP</i>	<i>400L</i>		
Number of Containers	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>		
Temperature on Arrival	<i>5.9</i>					
pH on Arrival	<i>—</i>	<i>1</i>	<i>—</i>	<i>—</i>		
Chlorine on Arrival (ppm)						
VOA Sample Condition				<i>OK</i>		
General Condition	<i>OK</i>			<i>—</i>		
	<i>HCL</i>	<i>H2SO4</i>	<i>carb</i>	<i>HCL</i>		
Notes and comments						

P=Plastic; G=Glass, Am=Amber, VOA=VOA vial

** Samples received in _____ for VOC's in soil. See attached for details on sample containers for low level VOC's in soil.

Sample Custodian *James Altieri* Date *5-1-89*
JAMES ALTIERI

ARCADIS

Third Quarter 2009



Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

July 23, 2009

JESSICA JEFFERY
G M POWERTRAIN
11032 TIDEWATER TRAIL
FREDERICKSBURG, VA 22408

Purchase Order: GMS34194

Client ID: GM-FREDERICKSBURG GW SUMP

Workorder: 9196020

Dear JESSICA JEFFERY:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, July 15, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Unless otherwise specified all analyses of solid materials are based on dry weight.

The signature at the end of this report certify that the results are based on the referenced methods and unless otherwise noted meet the requirements of NELAC.

Reported results relate only to the items tested, as received by the laboratory

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet NELAC standards.

Abbreviations: ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram, ug/wp = micrograms per wipe, ug/ml = micrograms per millimeter, uS = microsiemens per centimeter at 25 degrees Celcius, ppb = parts per billion, DF = Dilution Factor

If you have any questions concerning this report, please feel free to call Client Services at 1-800-888-8061.

Sincerely,

Dawn Casto

Enclosures

CERTIFICATE OF ANALYSIS

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

SAMPLE SUMMARY

Workorder: 9196020 GM-FREDERICKSBURG GW SUMP

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9196020001	GM-071509-001	Aqueous Liquid	7/15/2009 09:15	7/15/2009 13:25

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9196020 GM-FREDERICKSBURG GW SUMP

Lab ID: 9196020001
Sample ID: GM-071509-001

Date Received: 7/15/2009 13:25 Matrix: Aqueous Liquid
Date Collected: 7/15/2009 09:15 Samp Type: GRAB

Parameters	Results	Units	Report Limit	DF	Prepared	By	Analyzed	By	Qual
------------	---------	-------	--------------	----	----------	----	----------	----	------

Analysis Desc: SM 4500H+ B		Analytical Method: SM 4500H+ B							
pH(see cover page)	6.21	SU		1			7/15/2009 20:40	RS	

Analysis Desc: SW-846 8015M		Analytical Method: SW-846 8015M							
Dipropylene glycol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	
Ethylene Glycol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	
1,4-Butanediol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	
Diethylene Glycol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	
Triethylene Glycol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	
Propylene Glycol	<5.00	mg/L	5.00	1			7/22/2009 11:14	RPL	

Analysis Desc: EPA 524.2		Analytical Method: EPA 524.2							
m & p-xylene	<0.500	ug/L	0.500	1			7/16/2009 14:01	SJS	
Benzene	<0.500	ug/L	0.500	1			7/16/2009 14:01	SJS	
o-Xylene	<0.500	ug/L	0.500	1			7/16/2009 14:01	SJS	

Analysis Desc: SM 5310 C		Analytical Method: SM 5310 C							
TOC	<1	mg/L		1	1		7/17/2009 07:58	DOI	

Gasoline Range Organics

Analysis Desc: SW-846 8015C		Analytical Method: SW-846 8015C							
TPH - GRO	<500	ug/L	500	1			7/15/2009 14:28	SJS	

General Chemistry

Analysis Desc: EPA 1664A		Analytical Method: EPA 1664A							
Hexane Extractable Material	<5.00	mg/L	5.00	1			7/20/2009 11:29	NT	

CERTIFICATE OF ANALYSIS

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ENVIRONMENTAL CHAIN OF CUSTODY

ACCOUNT NAME AND ADDRESS

G M POWERTRAIN

DATE SHIPPED

07/15/09

OF SAMPLES

1

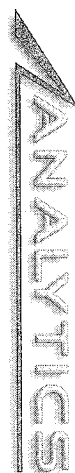
PROJECT NAME OR NUMBER

Gm-Fredericksburg Gasump

PURCHASE ORDER NO.

CONTACT

Jessica Jeffery 540-419-7298



10329 Stony Run Lane

Ashland, VA 23005

Phone (804) 365-3000

Toll Free (800) 888-8061

Fax (804) 365-3002

11032 TIDEWATER TRAIL,

FREDERICKSBURG, VA 22408

Phone: 540-899-5031

Fax: 1-540-899-5105

PROJ#: 45309260

RUSH ANALYSIS

☐ 24 HOUR
☐ 48 HOUR

Extra Charge

SPECIAL INSTRUCTIONS:

Gasump
Please only show Benzene +
Xylene on report.

CHAIN OF CUSTODY RECORD

MATRIX CODES

A = AQUEOUS O = OIL

S = SOLID X = OTHER

ANALYSIS REQUESTED (Place an "X" in the box below to indicate request)

Lab ID	Sample Identification	Date & Time	MATRIX										Preservative					COMMENTS																
			# of Bottles																															
			Grab / Comp.										H ₂ SO ₄						HCL															
			PH = AQUEOUS O = OIL S = SOLID X = OTHER																															
PH 5-4500 H1B C4G 100-4A TPH-600 20246 2015 Benzene+Xylene EPA 521.2 619001 Sidefile 2015 TOC SM 5300										H ₂ SO ₄					HCL					HNO ₃					NaOH					Other				
COMMENTS																																		

GM-071509-001 7/15/09 0915

A

1

G

X

A

2

G

X

A

3

G

A

3

G

A

1

G

Total 12 Rattles

SAMPLED BY (PRINT NAME):

Jessica Jeffery

SAMPLED BY (SIGNATURE TO INITIATE COC):

Jessica Jeffery

DATE

07/15/09

TIME

0930

SAMPLES RECEIVED BY:

(SIGNATURE)

DATE

TIME

CONDITION

SAMPLES RELINQUISHED BY:

(SIGNATURE)

DATE

TIME

CONDITION

JAMES ALTIERA



Analytics Corporation
Administrative SOP for Sample Receiving and Log-in

Account Name: GM Tech 11/15/09

Workorder Number: 9116020

Sample Container Receipt Form

Page ____ of ____

Client Sample ID	6m-071508-001							
Analytics Sample ID	1							
Type of Container	1000G	250G	1.25L	204G				
Number of Containers	2	1	1	2	6			
Temperature on Arrival	68°C							
pH on Arrival	—	1	—	—	—			
Chlorine on Arrival (ppm)	—	—	—	—	—			
VOA Sample Condition -	—	—	—	OK	—			
General Condition	OK	—	—	—	—			
Preservation (as marked)	HCL	425m	cal	—	HCL			
Notes and comments								

P=Plastic; G=Glass, Am=Amber, VOA=VOA vial

Sample Custodian

James Altieri
JAMES ALTIERI

Date

2-15-09

ARCADIS

Fourth Quarter 2009



Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

November 25, 2009

JESSICA JEFFERY
G M POWERTRAIN
11032 TIDEWATER TRAIL
FREDERICKSBURG, VA 22408

Purchase Order: GMS34194

Client ID: GM FREDERICKSBURG GW SUMP
Workorder: 9321005

Dear JESSICA JEFFERY:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, November 17, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Unless otherwise specified all analyses of solid materials are based on dry weight.

The signature at the end of this report certify that the results are based on the referenced methods and unless otherwise noted meet the requirements of NELAC.

Reported results relate only to the items tested, as received by the laboratory

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet NELAC standards.

Abbreviations: ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram, ug/wp = micrograms per wipe, ug/ml = micrograms per millimeter, uS = microsiemens per centimeter at 25 degrees Celcius, ppb = parts per billion, DF = Dilution Factor

If you have any questions concerning this report, please feel free to call Client Services at 1-800-888-8061.

Sincerely,

Dawn Casto

Enclosures

Report ID: 9321005 - 632221

Page 1 of 3

CERTIFICATE OF ANALYSIS

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

SAMPLE SUMMARY

Workorder: 9321005 GM FREDERICKSBURG GW SUMP

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9321005001	GM-1117-09-001	Aqueous Liquid	11/17/2009 08:54	11/17/2009 10:50

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804)365-3000
Fax: (804)365-3002

ANALYTICAL RESULTS

Workorder: 9321005 GM FREDERICKSBURG GW SUMP

Lab ID: 9321005001
Sample ID: GM-1117-09-001

Date Received: 11/17/2009 10:50 Matrix: Aqueous Liquid
Date Collected: 11/17/2009 08:54 Samp Type: GRAB

Parameters	Results	Units	Report Limit	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: SM 4500H+ B Analytical Method: SM 4500H+ B									
pH(see cover page)	6.25	SU		1			11/21/2009 16:35	RS	
Analysis Desc: SW-846 8015M Analytical Method: SW-846 8015M									
Dipropylene glycol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
Ethylene Glycol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
1,4-Butanediol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
Diethylene Glycol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
Triethylene Glycol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
Propylene Glycol	<5.00	mg/L	5.00	1			11/25/2009 00:53	RPL	
Analysis Desc: EPA 524.2 Analytical Method: EPA 524.2									
Benzene	<0.500	ug/L	0.500	1			11/18/2009 12:02	SJS	
m & p-xylene	<0.500	ug/L	0.500	1			11/18/2009 12:02	SJS	
o-Xylene	<0.500	ug/L	0.500	1			11/18/2009 12:02	SJS	
Analysis Desc: SM 5310 C Analytical Method: SM 5310 C									
TOC	<1	mg/L		1	1		11/23/2009 14:29	DOI	
Gasoline Range Organics									
Analysis Desc: SW-846 8015C Analytical Method: SW-846 8015C									
TPH - GRO	<500	ug/L	500	1			11/17/2009 23:40	SJS	
General Chemistry									
Analysis Desc: EPA 1664A Analytical Method: EPA 1664A									
Hexane Extractable Material	<5.00	mg/L	5.00	1			11/20/2009 15:20	NT	

Report ID: 9321005 - 632221

Page 3 of 3

CERTIFICATE OF ANALYSIS

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Analytics Corporation
Administrative SOP for Sample Receiving and Log-in

Account Name: GA - Frederick Group Workorder Number: 9321005

Sample Container Receipt Form

Page of

Client Sample ID	<u>GA-111709-001</u>				
Analytcs Sample ID	<u>1</u>				
Type of Container	<u>12SP</u>	<u>1000G</u>	<u>40mlG</u>	<u>25SP</u>	
Number of Containers	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	
Temperature on Arrival	<u>40C</u>				
pH on Arrival	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	
Chlorine on Arrival (ppm)	<u>-</u>				
VOA Sample Condition -	<u>-</u>	<u>OK</u>	<u>-</u>	<u>-</u>	
General Condition	<u>OK</u>	<u>-</u>	<u>-</u>	<u>OK</u>	
Preservation (as marked)	<u>Cool</u>	<u>17CL</u>	<u>-</u>	<u>Cool</u>	<u>6/5/04</u>
Notes and comments					

P=Plastic; G=Glass, Am=Amber, VOA=VOA vial

Sample Custodian JAMES ALTIERI Date 11-17-09

ARCADIS

Attachment 3

Well Abandonment Report (P1-
P2) August 20, 2009



**CONESTOGA-ROVERS
& ASSOCIATES**

14496 Sheldon Road, Suite 200, Plymouth, Michigan 48170
Telephone: 734-453-5123 Facsimile: 734-453-5201
www.CRAworld.com

August 20, 2009

Reference No. 055981

Ms. Jessica Jeffery
Environmental Engineer
GMPT
Fredericksburg & Baltimore Transmission
11032 Tidewater Trail
Fredericksburg, VA 22408

Dear Ms. Jeffery:

Re: Well Abandonment Report
GM Fredericksburg, VA Facility

1.0 INTRODUCTION

Conestoga-Rovers & Associates, Inc. (CRA) is providing this water supply well abandonment report for the work completed at your facility in June 2009. CRA was retained by General Motors (GM) to abandon two water supply and four monitoring wells at the GM Fredericksburg, VA plant (Site), in accordance with our proposal date of May 21, 2009.

2.0 WORK COMPLETED

Prior to Site work CRA prepared a Health and Safety Plan and provided a copy to the GM Site Environmental Manager, Jessica Jeffery. Additionally, CRA obtained a well abandonment permit from the Virginia Department of Health, a copy of which is provided in Attachment 1.

CRA retained the subcontractor Eichelbergers Inc. (Eichelbergers) to perform well abandonment under the on-Site direction of CRA (Terefe Mazengia, PG, oversight geologist for CRA).

On June 17, CRA and Eichelbergers mobilized to the Site at approximately 11 a.m. and proceeded with Site orientation efforts. After review of Site layout and project planning, and completion of the safety tailgate meeting, Eichelbergers set up on one of the supply wells (P-2) to begin pulling aboveground apparatus and downhole piping. Following removal of all well appurtenances, the well was disinfected with three gallons of chlorine pumped into the well

Equal
Employment
Opportunity Employer

REGISTERED COMPANY FOR
ISO 9001
ENGINEERING DESIGN

Worldwide Engineering, Environmental, Construction, and IT Services



**CONESTOGA-ROVERS
& ASSOCIATES**

August 20, 2009

Reference No. 055981

- 2 -

using the grout pump. Following disinfection, the wells were pressure grouted with a tremie line placed at the bottom of the well and grout was injected such that it flowed from the bottom of the well to the top. Starting approximately from one foot from ground surface, the top was covered with surface soil to form a small mound and grass seed was spread on the mound. The area around the well was cleaned up to reflect surrounding conditions.

On June 19, Eichelbergers set up on well P-1 and started the well abandonment by pulling the aboveground apparatus and down hole piping. Following removal of all well appurtenances, the well was disinfected with three and a half gallons of chlorine pumped into the well using the grout pump. Following disinfection, the well was pressure grouted with a tremie line placed at the bottom of the well and grout was injected such that it flowed from the bottom of the well to the surface. Starting approximately from one foot below ground surface, it was covered with surface soil to form a small mound and the area around the well was cleaned up to reflect surrounding conditions.

Work proceeded at the remaining four observation wells¹, (O-1, O-2, O-3, O-4). One well, O-2, was damaged such that the tremie line could not be placed to the bottom of the well, so it was grouted in place with the tremie line placed as deep as possible. Following grouting, the top five feet of well casing was removed from each observation well except O-2.

Field observation notes are provided in Attachment 2, while well abandonment forms are provided in Attachment 3.

Work was completed the early afternoon of June 19, when the driller cleaned up and demobilized from the Site at approximately 2:15 p.m.

Eichelbergers provided the Virginia Department of Health with the Uniform Well Completion Reports as required.

¹ At P-1 and P-2, the casing could not be removed below land surface so it was cut at land surface.



**CONESTOGA-ROVERS
& ASSOCIATES**

August 20, 2009

Reference No. 055981

- 3 -

3.0 CLOSURE

CRA was pleased to conduct this work for GM and provide this well abandonment report. If you require any further assistance regarding this or any other environmental matters at your Site, please feel free to contact me.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Frederick W. Blickle, P.E.

FWB/bw/2/Det.
Encl.

cc: Terefe Mazengia, P.G., CRA

ATTACHMENT 1

VIRGINIA DEPARTMENT OF HEALTH ABANDONMENT PERMIT

Private Well Abandonment Permit
Health Department ID Number: 177-09-0189-WA

Owner Information	
General Motors Corp 11032 Tidewater Trail Fredericksburg, VA 22408	Phone:

Location Information			
Subdivision Name:	11032 Tidewater Trail	Tax Map:	25-1-1
Property Address:	Spotsylvania County	GPIN:	
County:		Legal Description:	Section Block Lot
Directions:			

General Information for existing well to be abandoned		
Well Class:	Casing Depth:	Grout Depth:

- The well will be evaluated for depth: 81 - 282 ft (see comments on page 2), diameter: 24-36 inch, type and size of casing material: concrete
- The pump and all accouterments shall be removed from the well.
- The depth of the water in the well shall be confirmed and noted on the Water Well Completion Report, N/A ft.
- The well shall be disinfected using an appropriate 100-PPM hypochlorite solution.
- The water level in the well shall be drawn down to a minimum of 10 ft below the intended grouting depth prior to beginning the abandonment.
- Clean fill, sand or small gravel may be placed to the grouting depth
- A two-foot-thick bentonite plug shall be placed immediately above the water level.
- Clean fill shall be placed on top of the bentonite plug and brought up to at least five feet from the ground surface.
- The top five feet of the well casing, if present, shall be removed from the bore hole.
- If an open annular space is present around the well casing the annular space shall be filled with grout to the maximum depth possible, but not less than or equal to 20 feet.
- A one-foot-thick cement or bentonite grout plug that completely fills the bore void space shall be placed a minimum of five feet from the ground surface.
- The remaining space shall be filled with clean fill which is mounded a minimum of one foot above the surrounding ground surface.
- The Water well contractor shall supply the Health Department an appropriate Uniform Water Well Completion Report detailing the materials used for fill, method of installing fill material, depth fill material was placed to, grout material used and depth of grout installed.
- Bored wells or uncased wells abandoned in this manner shall be treated as wells with respect to determining the minimum separation distance to sources of contamination listed in Table 3.1. The location of these wells shall be permanently marked for future location

See attached site sketch for location of existing well

Water supply is to be abandoned as specified by this approved alternate abandoning procedure unless confirmation of another procedure has been made with the Department prior to abandonment.

Comments:

Well Depths for the wells are:

P1 - 282'

P2 - 280'

O1 - 280'

O2 - 267'

O3 - 281'

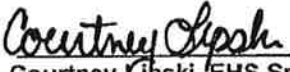
O4 - 81'

Notice: The Virginia Department of Health may revoke or modify this permit if, at a later date, it finds the conditions that formed the basis for issuing the permit do not substantially comply with the *Private Well Regulations*, 12 VAC 5-630-10 et seq., or if the well would threaten public health or the environment.

Show the property lines, all existing and proposed structures, existing and proposed sewage systems and water supplies, slope, and any topographic features which may impact the design of the well.

Site Evaluation Conducted By:

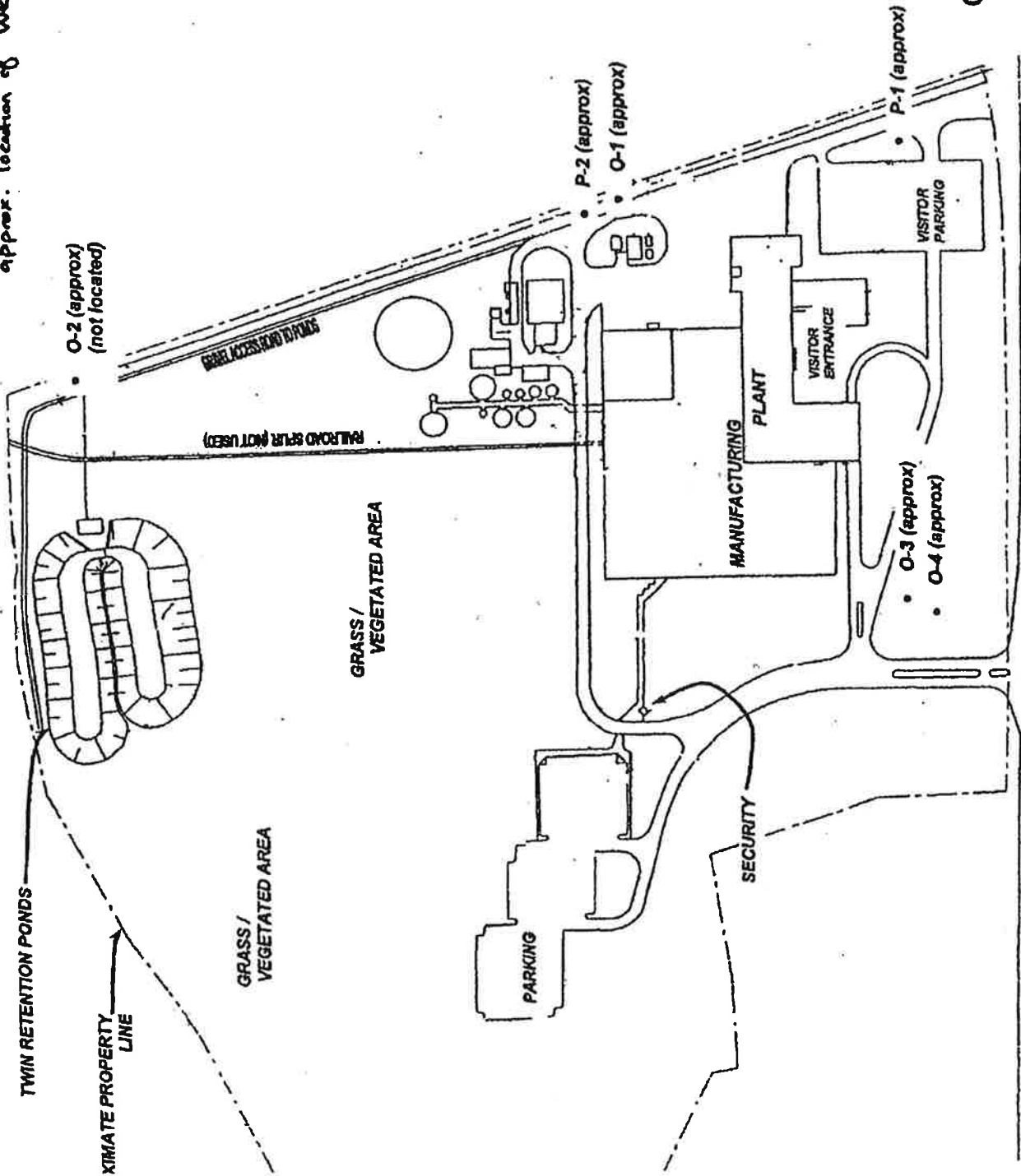
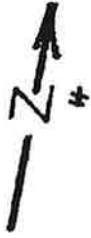
Courtney Lipski


Courtney Lipski, EHS Sr.

June 4, 2009
Issue Date

Expiration Date

* Site sketch provided by CRA
 Site visit on June 2, 2009 confirms
 approx. location of wells shown



GMPT Fredericksburg
 Overall Site Layout
 (No Scale)

ATTACHMENT 2
FIELD OBSERVATION NOTES

11:00 CEA and Kichelberger
on Site 6/17/09

T. Matson
Shane Taylor
Nick Vasquez

11:08 Signed in at security gate
and Site Contact (Jessica)
watched safety video (15 min)

11:25 Safety tailgate meeting

11:50 Site walk with Jessica to
check status of wells, P1 & P2
only have pumps, others (01-04)
observation wells, no pumps
installed

12:30 Set up @ P-2 to pull
pump

One of the drivers did not
bring his hard hat and the
other one put safety glass

⊗ Used shop work authority

- Talked to Site Contact if she might have spare hand saw.

She brought ^{us} a hand saw & safety glasses.

- Started pulling pipes (galvanized, could not undo the couplings, the pipe connections have rusted).

- Decided to cut them at the couplings, drillers did not have the right tool for cutting.

13:30 Drillers off site to store ^{tools} (drivers) to buy cutting tool.

13:35 CRA off site to get lunch.

13:55 CRA on site

15:30 Eichelberger (drivers) on site

* 2 hrs of down time, drillers took that long to get parts to cut the galvanized pipe.

Security issued hot work permit for cutting pipe

15:35 Set up P-2 to pull pipe out

→ Pulled all pipes out
(2.5") 21.5 ft x 9 = 193.5 ft

6.5 ft Pump.

17:00 Cut stick up well cover.

See photo before cutting?

Jessica took pictures.

Stick up cut with torch and grinder

18:45 CRA & Eichelberger off site



6:40 CRA on site

6/18/09

Drillers already on site
Signed in at security gate

6:55 safety tailgate meeting

7:05 set up @ P-1 to pull pump

7:00 Josh with Eichelbergers off
site to the store to buy temic
pipe for plugging

8:25 Josh set up at P-2 to
start disinfecting and grouting
well. (3 gal of chlorine pumped
into water using greuter pump)

Water for grout mixing from faucet
at the plant.

Pipes pulled out of P-2
9 x 21.5 ft = 193.5 ft
6.5 ft pump

topped P-2, > 27.5 ft deep.

Chlorine used to disinfect
Clorox, out door bleach

9:40 Started grouting P-2

* 1st batch of mix - 4 bags of 94 lb
2nd batch of mix - 4 bags (94 lb)
3rd batch of mix - 4 bags (94 lb)
3 bags coarse grade hyponing bentonite (50 lb)

10:30 Grout machine has hydraulic
problem - not pumping

10:40 Driller talked to Kurt (boss)
and was told to try again

11:40 CRA talked to Kurt to see
if he can look into renting
one here locally.

13:20 CRA off Site - Lunch

13:00 Drillers off Site to get a pump (rental) for grouting

13:40 CRA on Site

15:00 Drillers on Site with ^{out} pump (centrifugal pump).

* Another grout pump machine is sent from their shop to get here late afternoon, and start work tomorrow morning

15:20 Received hot work permit to cut the well stick up at P-2

16:50 Jessica / Site Contact spotted water/grout mix in the storm water drain/ditch, approx. 150 ft from P-2.
Evidently, drillers dumped grout/water mix in the ditch, but

none of them accepted doing that. We discussed with Jessica that drillers try to clean it up as much as we can.

17:00 Drillers with help from CRA cleaned the ditch with water and broom.

18:50 Finished clean up, clean work area, Cover Cement & bentonite stacks on pallets.

19:15 CRA & Eichler Engineers signed off

6:30 Set on site 6/30/09

6:35 Drillers on site

Signed in at Security Gate
Tom (new guy) watched safety video

7:00 Safety tailgate meeting

7:10 Set up @ P-2 to finish up
grouting and cutting stick up.

7:15 Hot work permit issued

7:45 Completed grouting P-2

Set up @ O-1 for grouting

Pumped grout left over from previous
mix
- Well disinfected with 3.5 gal
chlorine bleach.

8:20 Started second batch mix

9:10 finished grouting O-1
flushed with cement
approx. 300 barite chips

* P-2 completely cut, grouted to
surface, little soil mound, grass
seed spread on it.

9:50 Set up @ O-2 for grouting

Top of well casing tilted at an
angle (45°), could not use tremie
pipe, pumped grout directly
into well from top.

Well damaged, could not pump
grout into well, grout overflow
after pumping one gallon

10:15 Set up at O-4 (280 ft)

Started grouting (tremie)
3 gal chlorine bleach

12-10-11

two batches of and half mix
grout and bentonite chips

0-3 grouted with cement
mix to surface.

11:15 P-1 cleared for grouting
stick up - 6" x 12" casing
cut.

11:25 started grouting well.
well disinfected with
3.5 gal Chlorox Chlorine

12:50 P-1 consumed $3\frac{1}{2}$ tanks of grout
mix and 20 bags of bentonite

cleaned work area, covered
well location with soil and
moved back into the plant to
storage area.

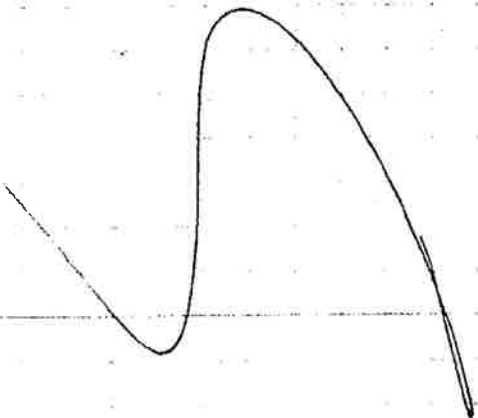
* Jessica took pictures of all six
location after grout and covered
with soil, except one, 0-1.

Drillers cleaned up all work
area and their grout before
demob.

13:55 Drillers off site

14:15 CRA off site

Checked out at security gate.



ATTACHMENT 3
WELL ABANDONMENT FORMS

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Exchelbergers Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 381531 Longitude 77 2606

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: Water Well - P1

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 282 DIAMETER OF WELL: 6

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags	neat cement	sand cement
	(94 lb):	<u>3534 lbs</u>	_____
	gals of		
	water:	<u>225 gallons</u>	_____
	yds of sand:	_____	_____

OTHER MATERIAL: Benseal Powder amount: 176 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure Tremie Grout from bottom up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 18th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: _____

Date: 7/13/09 Address: Exchelbergers Inc Date: _____ Address: _____
107 Texaco Rd Mechanicsburg PA

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Eichelberger Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 381531 Longitude 772606

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, (flat)

4. USE OF WELL: water well - PZ

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 280 DIAMETER OF WELL: 6

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags	neat cement	sand cement
	(94 lb):	<u>3509 lbs</u>	_____
	gals of	_____	_____
	water:	<u>223 gallons</u>	_____
	yds of sand:	_____	_____

OTHER MATERIAL: Ben Seal Powder amount: 175 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure Tremie Grout from bottom up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 17th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: _____

Date: 7/13/09 Address: Eichelberger Inc Date: _____ Address: _____
107 Texaco Rd Mechanicsburg PA 17050

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Eichelbergers, Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 381531 Longitude 772606

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, (flat)

4. USE OF WELL: Water well 0-1

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 280 DIAMETER OF WELL: 4

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags	neat cement	sand cement
	(94 lb):	<u>1754 lbs</u>	_____
	gals of water:	<u>111 gallons</u>	_____
	yds of sand:	_____	_____
		_____	_____

OTHER MATERIAL: Benseal Powder amount: 88 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure tremie grout from bottom up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 19th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: _____

Date: 7/13/09 Address: Eichelbergers Inc Date: _____ Address: _____

107 Texas Rd Mechanicsburg PA 17050

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Eichelberger Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 38 15 31 Longitude 77 26 06

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: water well 0-3

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 281 DIAMETER OF WELL: 4

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags (94 lb):	neat cement	sand cement
	gals of water:	<u>1760 lbs</u>	_____
	yds of sand:	<u>112 gallons</u>	_____

OTHER MATERIAL: Benseal Powder amount: 88 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure Tremie Grout from Bottom Up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 19th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: X W/B 2. Signature of Participant: _____

Date: 7/13/09 Address: Eichelberger Inc Date: _____ Address: _____
107 Texaco Rd Mechanicsburg PA 17050

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Eichelbergers Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 39 15 31 Longitude 77 26 06

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, flat

4. USE OF WELL: water well 0-4

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 81 DIAMETER OF WELL: 2

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags	neat cement	sand cement
	(94 lb):	<u>254 lbs</u>	_____
	gals of	_____	_____
	water:	<u>17 gallons</u>	_____
	yds of sand:	_____	_____

OTHER MATERIAL: Benseal Powder amount: 12 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure Tremie Grout from Bottom Up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 19th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: _____

Date: 7/13/09 Address: Eichelbergers Inc Date: _____ Address: _____

107 Texaco Rd Mechanicsburg PA 17050

WELL ABANDONMENT FORM

CONTRACTOR/AGENT: Exchelbergers Inc REGISTRATION NO. _____

DATE: 7/13/09 TYPE OF SITE OR PROGRAM: _____

1. WELL LOCATION: (Show sketch of location on back of this form.)

Municipality _____ County _____

Quadrangle _____

(Road, community, subdivision, lot no.)

Latitude 38 15 31 Longitude 77 26 06

2. OWNER AND ADDRESS: General Motors 11032 Tidewater Trail Fredericksburg VA

3. TOPOGRAPHY: (Circle) hilltop, slope, stream terrace, valley, stream channel, draw, local depression, (flat)

4. USE OF WELL: water well 0-2

WELL DIAGRAM: sketch a diagram showing depths of well, casing (if present), grouting materials, perforations, etc.

5. DEPTH OF WELL: 267 DIAMETER OF WELL: 4

6. AMOUNT OF CASING REMOVED: N/A DIAMETER: _____

7. SEALING MATERIAL:	bags (94 lb):	neat cement	sand cement
	gals of water:	<u>282 lbs</u>	_____
	yds of sand:	<u>18 gallons</u>	_____

OTHER MATERIAL: Benseal Powder amount: 15 lbs

8. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL:

Pressure Tremie Grout from Bottom Up

9. CERTIFICATION: We hereby certify that this well abandonment record is true and exact, and was accomplished on 19th day of the month of June, 2009, with our active participation and that we are qualified to participate in such abandonment actions.

1. Signature of Participant: [Signature] 2. Signature of Participant: _____

Date: 7/13/09 Address: Exchelbergers Inc Date: _____ Address: _____
107 Tixaco Rd Mechanicsburg PA 17050

Well Abandonment Spreadsheet

Job ID No: KR09081				Date: 6/17/09					
Type of Site Program:				County:					
Municipality:				Latitude: N 38 15 31					
Longitude: W 77 26 06				Owner Name: General Motors					
Address: 11032 Tidewater Trail				Site Address: Same					
Fredericksburg VA				Topography: Bold					
Hilltop, Slope, Stream Terrace, Valley Stream				Channel, Draw, Local Depression, Flat					
Use of Well:				Diameter of Casings (if present):					
Location of Screen (if present):				Grouting of Well:					
Amount Casing/Screen Removed:				Diameter of Casing/Screen Removed:					
Well ID	Depth in feet	Diameter in inches	Cement (94lbs)	Benseal Powder Bentonite (50lbs)	Bentonite Chips Holeplug (50 lbs)	Gal Water (6 gal per bag of Cem.)	Sakrete (80 lbs)	Ashphalt (50 lbs)	Topsoil (50 lbs)
P1	282	6	3534lbs	176 lbs		225			
P2	280	6	3509	175		223			
O-1	289	4	1754	88		111			
O-2	267	4	1673	84		106			
O-3	281	4	1760	88		112			
O-4	81	2	254	12		17			
Method of Abandonment: Pressure tremie grout from bottom up									
Staff Environmental Scientist:					Date:				
Company:					Address:				
Eichelbergers, Inc. - Project Manager					Date:				

ARCADIS

Attachment 4

Proposed Order on Consent
September 8, 2008

Kelly Hart & Hallman LLP

301 CONGRESS AVENUE, SUITE 2000
AUSTIN, TEXAS 78701

Telephone: (512) 495-6400
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Writer's Direct Dial: (512) 495-6441
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Email Address: cindy.smiley@khh.com

201 Main Street, Suite 2500
Fort Worth, Texas 76102
1000 Louisiana, Suite 4700
Houston, Texas 77002

September 9, 2008

VIA EMAIL AND CERTIFIED MAIL

Mr. James C. Bennett
U.S. EPA Region III
Ground Water and Enforcement Branch (3WP22)
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Proposed Order on Consent; GM Powertrain Facility in Fredericksburg, Virginia

Dear Mr. Bennett:

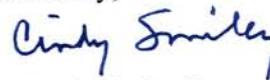
Thank you for the opportunity to submit the enclosed draft proposed "Order on Consent" between General Motors Corporation and EPA Region III. We hope that it properly captures the agreements the parties have reached in the resolution of this matter.

Since the meeting with EPA in May 2008, the facility has explored the option of pumping and holding the groundwater from the groundwater collection sump in the on-site, lined stormwater collection ponds. The recovered groundwater is uncontaminated and does not need to be managed in the facility's on-site wastewater treatment plant. For this reason, we have added some language to recognize this option for groundwater management.

To provide documentation of the actions taken to date, we are enclosing photographs of the new pumps, sump cover and digital flow meter for the discharge pipe from the sump. Please contact Dan Hughes at 931.486.6467 or contact me at 512.495.6441 if you have questions or clarifications regarding the draft order. The facility's plant manager will be prepared to sign the order after receiving EPA's approval of this draft.

Again, we appreciate the opportunity for the cooperative resolution of EPA's concerns, and the company looks forward to the continuation of its positive working relationship with Region III.

Sincerely,



Cynthia C. Smiley

cc: Mr. Dan Hughes

Enclosures: Draft Order on Consent
Photographs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

IN THE MATTER OF:	)	Docket No.
	)	SDWA-03-2008-0134-DU
GM Powertrain	)	
11032 Tidewater Trail	)	
Fredericksburg, Virginia	)	
	)	
Proceedings under Section	)	FINDINGS
1423(c) of the Safe Drinking	)	AND ORDER ON CONSENT
Water Act, 42 U.S.C. § 300h-2(c)	)	

STATUTORY AUTHORITY

The following FINDINGS are made and ORDER issued under the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 1423(c) of the Safe Drinking Water Act ("SDWA"), 42 U.S.C. § 300h-2(c). The EPA Administrator has delegated the authority to take these actions to the Regional Administrator for EPA, Region III, who in turn has delegated the authority to the Water Protection Division Director of EPA, Region III.

FINDINGS AND ALLEGATIONS

1. Section 1422(c) of the SDWA, 42 U.S.C. § 300h-1(c) requires EPA to administer the Underground Injection Control ("UIC") program in states which do not have approved state programs. The Commonwealth of Virginia has not acquired primacy of the UIC program. Therefore, on June 25, 1984, EPA Region III began direct implementation of the UIC program in Virginia. According to 40 C.F.R. § 144.24, all Class V injection operations (as defined by 40 C.F.R. §§ 144.3, 144.6(e), 146.3 and 146.5(e)) are authorized to operate, provided that they comply with 40 C.F.R. Part 144 and do not endanger Underground Sources of Drinking Water ("USDWs").
2. EPA Region III is responsible for conducting inspections of various businesses and industries within Virginia which have the potential to be producers of wastewaters, with particular emphasis on those with subsurface wastewater disposal, which could be harmful to the environment.
3. General Motors Corporation ("Respondent") is a corporation and as such is a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).
4. EPA's UIC Program conducted an inspection of Respondent's facility, located in Fredericksburg, Virginia, on October 25, 2007. Respondent's business deals primarily with the manufacturing of automotive transmission torque converters. At the time of the inspection, the

inspectors identified the “Storm Water Duplex Sump” (“SWDS”), which was designed to collect and pump out ground water that may accumulate behind the exterior walls of the concrete “Press Pit” that is located below a portion of the manufacturing floor at the facility.

5. On November 14, 2007, EPA issued a Request for Information (“RFI”) to the Respondent to obtain information regarding the discharge, maintenance and visual appearance of the SWDS and to obtain sampling data of the water in the SWDS.

6. After the Respondent submitted photographs of the SWDS in response to EPA’s November 14, 2007 RFI, the inspectors identified metal cuttings and residual cutting fluids in the vicinity of the steel plate covering the SWDS.

7. In its December 14, 2007 response to EPA, Respondent stated that the discharge from the SWDS enters a sump which flows to the onsite wastewater treatment plant for subsequent treatment and then discharges to the Spotsylvania County POTW. During the course of preparing its RFI response, Respondent determined that of the two pumps serving the SWDS, one was nonoperational and one was operational only in manual mode.

8. Respondent submitted to EPA copies of sampling results from the SWDS during monitoring performed on August 30, 2007 and November 29, 2007. The November 29, 2007 sampling detected Total Organic Carbon (“TOC”) at a level of 15.5 mg/l and Oil and Grease at a level of 19.8 mg/l. The laboratory results from the August 30, 2007 sampling event did not indicate the presence of TOC or Oil and Grease.

9. EPA has determined that during the time when the SWDS pumps are malfunctioning the potential exists for contamination to enter an USDW.

10. The UIC regulations at 40 C.F.R. § 144.12 prohibit any injection activity which allows the movement of fluids containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of any primary drinking water regulation or may otherwise adversely affect the health of persons.

11. EPA alleged that Respondent’s Storm Water Duplex Sump, when malfunctioning, constituted an endangering Class V injection well and was in violation of 40 C.F.R. § 144.12 of the UIC regulations.

12. Since EPA’s issuance of the March 7, 2008 Findings of Violation and Order for Compliance in the above-referenced matter, Respondent has communicated with EPA in writing and by telephone, and Respondent participated in a meeting in the EPA Region III Offices on May 6, 2008.

13. As a result of this process, in accordance with EPA’s directives, Respondent has performed the following actions:

- a. Respondent provided EPA with copies of the Material Safety Data Sheets (“MSDSs”) for all substances that may enter the Press Pit area.

- b. To address EPA's concerns regarding the structure and operation of the SWDS, Respondent installed the following equipment at the SWDS:
 - i. Two new pumps and level controllers;
 - ii. A new sealed sump cover;
 - iii. An alarm for the sump pumps; and
 - iv. A digital flow meter for the discharge pipe from the sump.
- c. Respondent prepared a maintenance plan for the new groundwater pumps, and the maintenance plan is part of the facility's preventative maintenance reporting system.

14. In August and September 2008, Respondent began exploring additional options for management of the groundwater collected in the SWDS, including storage of the accumulated groundwater in lined, on-site stormwater collection ponds. EPA acknowledges that the facility may begin to implement this practice for handling uncontaminated groundwater in the immediate future.

15. In order to document that Respondent has taken proper actions to resolve the alleged violations cited in the proposed ORDER and to legally close out this case, without Respondent's admission of liability or any agreement that the facts alleged by EPA, if correct, are a proper foundation for the alleged violations, Respondent and EPA have agreed to enter into this ORDER ON CONSENT.

ORDER ON CONSENT

Based on the foregoing, and having taken into account the factors annotated in section 1423(c)(4)(B) of the SDWA, 42 U.S.C. 300f, and under the authority of Section 1423(a) and (c) of the SDWA, 42 U.S.C. §§ 300h-2(a) and (c), EPA HEREBY ORDERS the Respondent to comply with this ORDER ON CONSENT.

1. Respondent shall, within thirty (30) days of the effective date of this ORDER, submit the following to EPA.

- a. Analysis of a sample of the Storm Water Duplex Sump discharge for the following parameters: pH; Oil and Grease; TOC; Total Petroleum Hydrocarbons, Glycol Scan, Benzene and Xylene. EPA may request sampling for additional Volatile Organic Compounds if the concentrations of the listed parameters exceed Maximum Contaminant Levels ("MCLs") under the National Primary Drinking Water Standards. The samples will be taken directly from the groundwater sump discharge pipe located on the plant floor near press #6. All samples are to be analyzed by a laboratory certified to perform the appropriate drinking water analysis required by the Virginia Department of Health.
- b. Well drilling logs for the two on-site water wells (identified as P-1 and P-2) at the facility.

- c. Copies of the maintenance plan and the sampling plan for the SWDS developed in response to EPA's requests.
2. Respondent shall, within thirty (30) days of the effective date of this ORDER, and once every quarter thereafter, perform the specified analysis/scan of the Storm Water Duplex Sump discharge. All samples are to be analyzed by a laboratory certified to perform the appropriate drinking water analysis required by the Virginia Department of Health. After Respondent has performed four quarterly sampling events with no exceedance of the MCLs for the parameters specified in Provision 1.a above, Respondent shall no longer be required to perform the sampling.
3. Respondent shall plug and abandon the two on-site water wells (P-1 and P-2) located at the facility no later than June 30, 2009.
4. If, as a result of circumstances beyond its direct control, Respondent is unable to complete a requirement in accordance with the deadlines established in this ORDER, Respondent shall immediately advise EPA of the situation and shall work with EPA to complete the action in an appropriate and timely manner.
5. Upon completion of all the requirements of this ORDER, a final report shall be submitted. The final report shall include photographs, sample results, and other appropriate information to document that the Storm Water Duplex Sump has been repaired and/or modified to ensure no endangerment to any USDW.
6. This ORDER shall remain in effect until Respondent has completed the requirements set forth in the ORDER. After completion of these requirements, unless EPA has previously terminated the ORDER, Respondent may request EPA's confirmation that the ORDER has been completed and is therefore terminated, and EPA shall respond to such request in a timely manner.
7. Respondents agree to waive their right to a hearing and to appeal this ORDER ON CONSENT. EPA agrees that this ORDER ON CONSENT resolves all of the matters identified in its March 7, 2008 Findings of Violation and Order for Compliance to Respondent, and that EPA will not pursue further enforcement relating to the matters resolved by this ORDER.
8. All information shall be sent to the following:

James C. Bennett
U.S. EPA Region III
Ground Water and Enforcement Branch (3WP22)
1650 Arch Street
Philadelphia, PA 19103-2029

GENERAL PROVISIONS

This ORDER does not constitute a waiver, suspension or modification of the requirements of 40 C.F.R. §§ 147.2350-2352, which remain in full force and effect.

Violations of the terms of this ORDER after its effective date may subject the Respondent to a civil penalty of not more than \$11,000 for each day of violation, for any past or current violation, up to a maximum administrative penalty of \$157,500, and/or civil action in a United States district court with penalties up to \$32,500 per day of violation as authorized in Section 1423(c)(1) and 1423(b) of the SDWA, 42 U.S.C. §§ 300h-2(c)(1) and (b).

EFFECTIVE DATE

Issuance of this ORDER ON CONSENT occurs as provided by Section 1423(c)(3)(A) of the SDWA, 42 U.S.C. § 300h-2(c)(3)(A). Pursuant to Section 1423(c)(3)(D) of the SDWA, 42 U.S.C. § 300h-2(c)(3)(D), this ORDER becomes effective thirty (30) days from the date of signature by the U.S. EPA.

Issued this _____ day of September, 2008.

Royden P. Grove, Jr.
Plant Manager
GM Powertrain
Fredericksburg, Virginia
On Behalf of General Motors Corporation

Jon M. Capacasa, Director
Water Protection Division



