



**Worldwide Facilities Group  
Environmental Services  
Remediation Team**

**James F. Hartnett  
Program Manager**

March 8, 2007

Mrs. Susan Edwards, P.E.  
Bureau of Central Remedial Action  
Division of Environmental Remediation  
New York State Department of Environmental Conservation  
625 Broadway, 12<sup>th</sup> floor  
Albany, New York 12233

Re: Former IFG Facility (Registry # 7-34-057) and Ley Creek Deferred Media  
NYSDEC Order on Consent Index # D-7-0001-97-06  
Supplemental Remedial Investigation – Ley Creek Floodplain Sampling/Delineation Work Plan

Dear Mrs. Edwards:

The purpose of this letter is to provide a summary of the floodplain sampling/delineation efforts completed in November 2005 for General Motors Corporation's (GM) that were performed as part of the Supplemental Remedial Investigation (SRI) for the Former Inland Fisher Guide (IFG) Facility and Ley Creek Deferred Media in Syracuse, New York. The activities were conducted consistent with the New York State Department of Environmental Conservation (Department) approved Work Plan dated August 4, 2005. Based on the results of this sampling/delineation effort, further sampling is also proposed herein.

**Background**

To date, portions of the floodplain have been sampled on three separate occasions by GM, as outlined below:

- October 2003: GM collected soil samples in the floodplain along both sides of Ley Creek from approximately the Route 11 bridge to the Town of Salina's Highway Department Garage, in response the Department's request contained in its November 20, 2002 letter concerning the April 2000 SRI Report. During this sampling event, forty-one samples were collected from nine boring locations up to 10 feet below grade and analyzed for polychlorinated biphenyls (PCBs). These sampling efforts were conducted consistent with GM's letter work plan dated May 2, 2003 that was approved by the Department in its letter dated May 13, 2003.
- June 2004: GM collected soil samples in the floodplain in the vicinity of where the October 2003 sampling results exhibited detectable PCB concentrations above the Department's Technical and Administrative Guidance Manual (TAGM) #4046 recommended soil cleanup objective for PCBs in surface soil and/or subsurface soil. During this sampling event, fifteen soil samples were collected from eight locations up to 2 feet below grade and analyzed for PCBs. These sampling efforts were conducted consistent with GM's letter work plan dated March 31, 2004 that was approved by the Department in its letter dated April 14, 2004.

- November 2005: GM collected additional soil samples in the vicinity of one cluster of samples previously collected during the October 2003 and June 2004 events located on the north bank of Ley Creek that exhibited elevated concentrations of PCBs. This sampling effort, described herein, was performed in accordance with GM's letter work plan dated August 4, 2005 that was approved by the Department in its letter dated September 1, 2005.

#### **November 2005 sampling event**

Direct push methodology was utilized to complete sixteen borings (B1 through B16), which are depicted on Figure 1. The Department-approved approach for this sampling event was to visually delineate the extent of dusky brown material exhibiting a petroleum odor and collect samples of soil beyond the visual delineation, with the intent to confirm the extent of PCB impacted soil. The sampling approach was initiated at B3, as this was the first boring having visual indication of PCB contaminated material. With the exception of five boring locations (B7, B13, B14, B15, and B16), visual indications of elevated PCB concentrations were observed at each location between the depths of 2 and 3 feet. Therefore these locations were not sampled. Five composite soil samples were collected from the 0 - 4 foot interval from the western limit location of B7, the eastern limit location of B13, and the northern limit locations of B14, B15, and B16 due to the lack of visual indicators (dusky brown to black silt and petroleum odor) indicative of elevated PCB concentrations, as noted in previous sampling events. Boring logs are provided as Attachment 1. Samples were submitted to H2M Labs Inc. for analysis of PCBs.

PCBs were detected above the TAGM screening value of 10 mg/kg in samples collected from borings B7, B13, B15, and B16. These locations are illustrated with red sample ID labels on the attached Figure 1. Table 1 provides a summary of the November 2005 sample data.

Based on the evaluation of the analytical results and the field observations there is no direct correlation between visual indicators and elevated PCB contamination in this area. In addition the extent of the presence of PCBs greater than TAGM 4046 has not been fully delineated to the north, east, and west in the vicinity of the LCFP-03 sample cluster.

#### **Scope of Work**

The following is GM's proposed plan to further evaluate the extent of PCB impacted material:

A total of fifteen borings will be advanced to a depth of 12 feet below existing grade or refusal. The approximate locations of the proposed borings are depicted on Figure 1. Final locations will be selected in the field with Department concurrence. The borings will be advanced to the east, west, and north with a 10-foot spacing from previous boring locations. It is expected that most of the western and eastern borings will encounter refusal at the till which was encountered at approximately 4 to 5 feet below grade in previous borings. The locations for the northern borings however have an assumed depth of fill of approximately 6 to 8 feet. Therefore, a boring depth of approximately 12 feet will allow for samples to be collected from the same strata as previous samples along Ley Creek. Due to the limited access to the area along Ley Creek, borings will be advanced utilizing a direct-push method. In the event that the direct-push method cannot be utilized due to site constraints, it is anticipated that the borings will be advanced utilizing a tripod equipped with a gas motor, cathead, and 140-pound drop hammer with 2-inch diameter split spoons. In the event that the tripod method cannot be utilized, hand sampling methods, such as hand augers, hand trowels, or shovels will be used to a depth deemed practical in the field with Department concurrence. Soil samples will be collected at 2 foot intervals at the proposed boring locations or as appropriate based on field observations with Department concurrence. The samples will be analyzed for PCBs in a step-wise fashion. The sample analysis strategy is proposed to consist of analyzing the first

Mrs. Susan Edwards, P.E.  
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boring in a respective direction and then evaluate the need to analyze the subsequent depth intervals and then additional borings based on the sample results. Table 2 provides a summary of the proposed sampling strategy.

The proposed sampling and analytical activities will be conducted in accordance with the procedures and methods in the October 1999 SRI Work Plan. However, GM proposes a few deviations from the SRI Work Plan procedures. The proposed deviations are listed as Attachment 2.

The field sampling requirements are summarized in Table 3. The analytical results will be validated in accordance with the October 1999 SRI Work Plan. A data usability summary report will be provided for this data. The evaluation of the validated data will be documented in the revised SRI Report.

Without conceding on the issue of the appropriateness of sampling in these floodplain areas (*e.g.*, the existence of other potential sources, the range of any impacted Ley Creek sampling surface waters, etc.) GM is willing to undertake the proposed sampling described herein to obtain additional data that would help the Department to determine the need for additional work.

#### **Schedule**

Following the Department's concurrence with this approach, GM will seek the necessary access arrangements to implement the scope of work and will work with the Department to achieve access for boring advancement and subsequent soil sampling (see Section 27-1309.3 of the Environmental Conversation Law). GM will notify the Department 7 business days prior to the commencement of work activities. It is anticipated that it will take 1 day to complete the fieldwork.

We would appreciate the Department's review and concurrence with this work plan. If you have any questions, please call Nathyn Knipe at (315) 437-6100 or me.

Sincerely,

Handwritten signature of James F. Hartnett in blue ink, including the initials 'JMK' at the end.

James F. Hartnett  
Remedial Program Manager

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cc: Distribution List  
Nathyn Knipe, P.E. – O'Brien & Gere

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Table 1  
SRI Floodplain Sampling/Delineation Data

GM IFG Facility  
Syracuse, New York

Location ID	Sample Date	Sample ID	PCBs (mg/kg)								
			Aroclor-1260	Aroclor-1254	Aroclor-1221	Aroclor-1232	Aroclor-1248	Aroclor-1016	Aroclor-1242		
B7	11/7/2005	SO-110705-NK-001	ND	ND	ND	ND	ND	ND	ND	ND	24 D
B7 (Field Duplicate)	11/7/2005	SO-110705-NK-006	ND	ND	ND	ND	ND	ND	ND	ND	16 D
B13	11/7/2005	SO-110705-NK-002	ND	ND	ND	ND	ND	ND	ND	ND	10 D
B14	11/7/2005	SO-110705-NK-003	ND	ND	ND	ND	ND	ND	ND	ND	1 D
B15	11/7/2005	SO-110705-NK-004	ND	ND	ND	ND	ND	ND	ND	ND	12 D
B16	11/7/2005	SO-110705-NK-005	ND	ND	ND	ND	ND	ND	ND	ND	34 D

Notes:

1. ND: Non Detect
2. D: Surrogate diluted out

Table 2  
SRI Floodplain Sample Strategy

GM IFG Facility  
Syracuse, New York

Location	Depth Interval (ft)						
	0-2	2-4	4-6	6-8	8-10	10-12	
<b>Western Limit</b>							
B17	X	X	X	X	X	X	To Be Analyzed
B18	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B17 are known and evaluated
B19	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B18 are known and evaluated
<b>North Limit (1st Transect)</b>							
B20	X	X	X	X	X	X	To Be Analyzed
B21	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B20 are known and evaluated
B22	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B21 are known and evaluated
<b>North Limit (2nd Transect)</b>							
B23	X	X	X	X	X	X	To Be Analyzed
B24	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B23 are known and evaluated
B25	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B24 are known and evaluated
<b>North Limit (3rd Transect)</b>							
B26	X	X	X	X	X	X	To Be Analyzed
B27	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B26 are known and evaluated
B28	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B27 are known and evaluated
<b>Eastern Limit</b>							
B29	X	X	X	X	X	X	To Be Analyzed
B30	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B29 are known and evaluated
B31	Hold	Hold	Hold	Hold	Hold	Hold	* Samples will be held until the results of B30 are known and evaluated

Note:

- Two rounds of QAQC (MS/MSD and Field Duplicate) based on (1 per 20 samples) samples shall be collected at locations B17, B20, B23, B26, and/or B29. Subsequent QAQC samples will be collected based on probability the borehole will be analyzed.



Table 3  
 SRI Floodplain Sampling/Delineation Data  
 Sample Handling and Analytical Requirements  
 GM IFG Facility  
 Syracuse, NY

Parameter (critical method)	Matrix	Sample containers and volumes	Preservation	Holding times	Number of Environmental Samples	QC sample frequency		
						Field Duplicate	Trip blank	MS/MSD Equipment Blank
PCBs (NYSDEC ASP Method 8082) <sup>1</sup>	Soil	4 ounce wide mouth glass container with Teflon® lined lid	4°C	5 days from VTSR to extraction; 40 days from extraction to analysis	90	one per 20 samples or one per matrix (for less than 20 samples)	NA	one per 20 samples or one per matrix (for less than 20 samples)

**NOTES:**

1-NYSDEC ASP references New York State Department of Environmental Conservation *Analytical Services Protocol*, October 1995 Revisions, Albany, New York.  
 2- USEPA, Region II, Environmental Services Division, Monitoring Management Branch, *Determination of Total Organic Carbon in Sediment*, Edison, New Jersey, 1988.

VTSR indicates verified time of sample receipt

MS/MSD indicates matrix spike/matrix spike duplicate sample.

PCBs indicate polychlorinated biphenyls.

NA indicates not applicable.





FIGURE 1



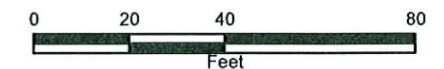
LEGEND

- ▲ PROPOSED BORING
- ▲ 2005 SAMPLE LOCATION
- ▲ 2004 SAMPLE LOCATION
- ▲ 2003 SAMPLE LOCATION

GENERAL MOTORS CORP.  
SYRACUSE, NEW YORK

FLOODPLAIN  
SOIL SAMPLE  
LOCATION PLAN

Sources:  
- Natural Color Orthophoto from:  
<http://www.nysgis.state.ny.us/>



February 2007  
4966.34128





**ATTACHMENT 1**

O'BRIEN & GERE ENGINEERS, INC.						TEST BORING LOG	REPORT OF BORING			
Client: GM Syracuse						Sampler: NA (GEOPROBE)	Page 1 of 3			
Proj. Loc: Ley Creek						Hammer: NA (GEOPROBE)	Location: B1 through B16			
File No.: 4966/34128						Fall: NA (GEOPROBE)	Start Date: 11/7/2005		End Date: 11/7/2005	
Boring Company: Parratt Wolff Inc.						Screen Riser	=	\	Grout	
Foreman:									Sand Pack	
OBG Geologist: Nathyn M. Knipe						Bentonite				
Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing	
									PID (ppm)	UV
B1	0	4	NA	48"	NA	Brown moist silt, sand, gravel to 48 inches.				
	4	6				Hard reddish brown silt and gravel				
B2	0	4	NA	48"	NA	Dark brown moist silt and sand with a trace of clay for 6 inches. Brown moist silt, sand, and fine gravel from 6 inches to 36 inches. Hard reddish brown silt and gravel from 36 to 48 inches.				
B3	0	4	NA	36"	NA	Brown moist silt, sand, and fine gravel to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 30 inches.				
	4	4.5	NA	6"	NA	Hard reddish brown silt and gravel				
B4	0	1	NA	12"	NA	Brown moist silt, sand and fine gravel.				
	1	4	NA	36"	NA	Brown moist silt, sand, and fine gravel from 12 inches to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 36 inches. Hard reddish brown silt and gravel from 36 to 48 inches.				
B5	0	4	NA	48"	NA	Dark brown moist silt and sand with a trace of clay for 24 inches. Moist brown silt and sand with slight petroleum odor from 24 to 36. Hard reddish brown silt and gravel from 36 inches to 48 inches.				
B6	0	4	NA	48"	NA	Dark brown moist silt and sand with a trace of clay for 24 inches. Moist brown silt, sand, and vegetative matter with slight petroleum odor from 24 to 36. Hard reddish brown silt and gravel from 36 inches to 48 inches.				
B7	0	4	NA	48"	NA	Brown moist silt, sand, gravel to 48 inches.				

O'BRIEN & GERE ENGINEERS, INC.						TEST BORING LOG	REPORT OF BORING				
Client: GM Syracuse						Sampler: NA (GEOPROBE)		Page 2 of 3			
Proj. Loc: Ley Creek						Hammer: NA (GEOPROBE)		Location: B1 through B16			
File No.: 4966/34128						Fall: NA (GEOPROBE)		Start Date: 11/7/2005		End Date: 11/7/2005	
Boring Company: Parratt Wolff Inc.						Screen Riser		<input type="checkbox"/> = <input type="checkbox"/> \ <input type="checkbox"/>		Grout Sand Pack Bentonite	
Foreman:											
OBG Geologist: Nathyn M. Knipe											
Depth Below Grade	No.	Depth (feet)	Blows /6"	Penetr/ Recovery	"N" Value	Sample Description	Stratum Change General Descript	Equip. Installed	Field Testing		
									PID (ppm)	UV	
B8	0	4	NA	48"	NA	Brown moist silt, sand, fine gravel, and vegetative matter to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 36 inches. Hard reddish brown silt and gravel from 36 to 48 inches.					
B9	0	4	NA	48"	NA	Brown moist silt, sand, fine gravel, and vegetative matter to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 36 inches. Hard reddish brown silt and gravel from 36 to 48 inches.					
B10	0	4	NA	48"	NA	Brown moist silt, sand, fine gravel, and vegetative matter to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 32 inches. Hard reddish brown silt and gravel from 32 to 48 inches.					
B11	0	4	NA	48"	NA	Brown moist silt, sand, fine gravel, and vegetative matter to 24 inches. Dark brownish black silt and sand with petroleum odor from 24 inches to 32 inches. Hard reddish brown silt and gravel from 32 to 48 inches.					
B12	0	4	NA	48"	NA	Brown moist silt, sand, fine gravel, and vegetative matter to 30 inches. Dark brown silt and sand with slight petroleum odor from 30 inches to 36 inches. Hard reddish brown silt and gravel from 36 to 48 inches.					
B13	0	4	NA	48"	NA	Brown moist silt, sand, gravel to 48 inches.					
	4	8				Hard reddish brown silt and gravel.					
B14	0	4	NA	48"	NA	Brown moist silt, fine sand, gravel to 48 inches.					
	4	8	NA	48"	NA	Brown silt with some CMF sand and gravel					



## ATTACHMENT 2

Sampling and analytical methodologies described in the October 1999 Final Work Plan for the Supplemental RI/FS at the Former IFG Facility and Ley Creek Deferred Media (October 1999 SRI WP) will be followed during the collection of the soil samples, as well as the boring advancements. The following deviations are proposed for the soil sample collection and the boring advancements, as applicable:

### Supplemental Remedial Investigation/Feasibility Study Work Plan

#### 1) Page 49, 5.9 Task 9 – Surveying

- Surface soil sample locations will be documented with a hand held global positioning unit (GPS) that has sub-meter (less than three feet) accuracy.

### Field Sampling Plan

#### 1) Page 3, 2.3 Sampling equipment

- Disposable aluminum trays will be utilized to homogenize composite samples.

#### 2) Page 15-17, 5.1 Shallow/deep overburden

- Soil borings will be advanced utilizing a direct-push method
- A hydrogeologist or engineer will describe each soil sample including, soil type, color, stratification/layer, and odor or other observations
- Samples will not be screened with UV light or portable photoionization detector (PID)
- Drill cuttings will be placed back in the borehole and any remaining void in the borehole will be filled with bentonite.

### Quality Assurance Project Plan

#### 1) Page 13, Table 5-1 *Sampling efforts, objectives, analyses, data uses, and analytical level.*

- Soil samples will be analyzed for PCBs only.

#### 2) Page 84, Table 13-4 *Pesticides NYSDEC ASP Method 8081A and PCBs NYSDEC ASP Method 8082 Quality Control Requirements and Corrective Actions (where applicable)*

- Confirmation analysis will be performed at a 10% per matrix frequency for all analyses and results.