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Counsel's Request

DRAFT

PARCEL A-1
PHASE III ENVIRONMENTAL SITE ASSESSMENT

ADDENDUM NO. 1

General Motors Corporation
Clark Avenue Site
Detroit, Michigan

MARCH 1998

REF. NO. 8889 (32)

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CONESTOGA-ROVERS & ASSOCIATES

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 ANALYTICAL RESULTS	2
3.0 CONCLUSIONS	3

LIST OF FIGURES
(Following Text)

FIGURE 3.1 APPROXIMATE EXTENT OF IMPACTED SOIL

LIST OF TABLES
(Following Text)

TABLE 2.1 SUMMARY OF DETECTED LEAD IN SOIL SAMPLES

1.0 INTRODUCTION

Consistent with a request by General Motors Corporation (GM), Conestoga-Rovers & Associates (CRA) has developed the following addendum to the Parcel A-1 Phase III Environmental Site Assessment (Phase III ESA Addendum No. 1) for a portion of the GM Clark Avenue Facility in Detroit, Michigan. The Site is defined as Parcel A-1, as identified on a survey by David C. Adams & Son, dated November 14, 1997 (Site).

This Phase III ESA Addendum No. 1 was developed to address changes in applicable criteria by the Michigan Department of Environmental Quality (MDEQ) - Environmental Response Division (ERD) pursuant to Act 451, Part 201.

This Phase III ESA Addendum No. 1 compares the Phase III ESA analytical data from soil samples collected during the period from September 1996 through February 1997, to the following criteria:

- Direct Contact Criteria;
- Soil Saturation Criteria;
- Ambient Air; and
- Indoor Air.

2.0 ANALYTICAL RESULTS

The location and number of soil samples collected is described in the Phase III ESA Report. The following sections provide a summary of detected compounds in soil samples which exceed the most restrictive Act 451, Part 201 industrial soil criteria.

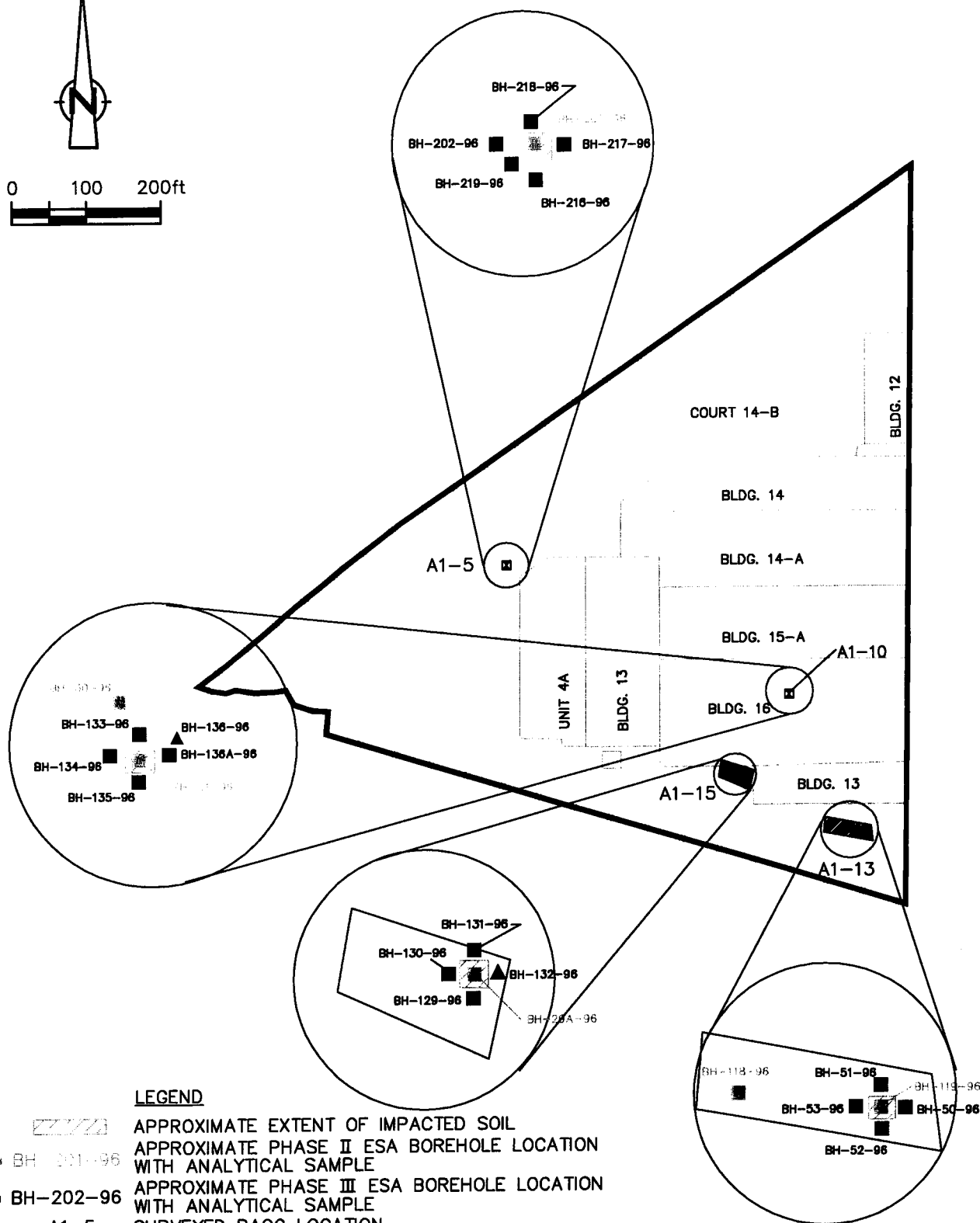
A summary of detected lead in soil samples from AOCs A1-5, A1-10, A1-13, and A1-15 is presented in Table 2.1. Lead was not detected above the most restrictive industrial soil criteria in any of the samples.

3.0 CONCLUSIONS

Based on the results of the Phase III ESA for the Site and the re-evaluation of the data with respect to the revised industrial criteria presented in this addendum, the approximate extent of impacted soil at AOCs A1-5, A1-10, A1-13, and A1-15 has been delineated, as presented on Figure 3.1.



0 100 200ft



LEGEND

- APPROXIMATE EXTENT OF IMPACTED SOIL
- BH-201-96 APPROXIMATE PHASE II ESA BOREHOLE LOCATION WITH ANALYTICAL SAMPLE
- BH-202-96 APPROXIMATE PHASE III ESA BOREHOLE LOCATION WITH ANALYTICAL SAMPLE
- A1-5 SURVEYED PAOC LOCATION
- A1-15 SURVEYED PAOC AREA
- BH-136-96 APPROXIMATE PHASE III ESA BOREHOLE LOCATION WITHOUT ANALYTICAL SAMPLE

**APPROXIMATE EXTENT OF IMPACTED SOIL-PARCEL A-1
GENERAL MOTORS CLARK AVENUE SITE
Detroit, Michigan**

figure 3.1

CRA

TABLE 2.1

SUMMARY OF DETECTED PARAMETERS IN SOIL SAMPLES
 PHASE III ESA ADDENDUM NO. 1
 PARCEL A-1
 GM CLARK AVENUE FACILITY
 DETROIT, MICHIGAN

AOC No.	Michigan Generic Residential Direct Contact Criteria (1)	Michigan Generic Industrial Direct Contact Criteria (2)	Soil Saturation (Csat) (4)	Residential Ambient Air Finite Source (5 m) (3)	Industrial/Commercial Ambient Air Finite Source (5 m) (3)	Residential Volatilization to Indoor Air Inhalation Criteria (4)	Industrial/Commercial Volatilization to Indoor Air Inhalation Criteria (4)	A1-5 BH-216-96 120396-SF-368 2-4 12/3/96
Sample Location								
Sample ID (S-8889-)								
Sample Depth (feet bgs)								
Date Sampled								
Parameter (mg/kg)								
Lead	400	400	NA	ID	ID	--	--	43

Notes:

J - The associated numerical value is an estimated quantity.

NA - Not applicable

ID - Inadequate data to develop criterion.

-- - Criterion not available.

AOC - Area of Concern.

bgs - below ground surface.

Shaded number indicates most restrictive industrial criterion.

(1) Values taken from MDEQ Operational Memorandum #8, Revision 4, dated June 5, 1995.

(2) Values taken from MDEQ Operational Memorandum #14, Revision 2, dated June 6, 1995.

(3) Values taken from MDEQ-ERD Part 201 Generic Soil Inhalation Criteria for Ambient Air: Technical Support Document, dated April 23, 1997 (Modifier of 0.5 used for 13-acre parcel).

(4) Values taken from MDEQ-ERD Draft Part 201 Generic Groundwater and Soil Volatilization to Indoor Air Criteria: Technical Support Document, dated December 21, 1997.

**SUMMARY OF DETECTED PARAMETERS IN SOIL SAMPLES
PHASE III ESA ADDENDUM NO. 1
PARCEL A-1
GM CLARK AVENUE FACILITY
DETROIT, MICHIGAN**

AOC No.	A1-5	A1-5	A1-5	A1-5	A1-5	A1-5	A1-5	A1-5	A1-5	A1-5	A1-10	A1-10
Sample Location	BH-216-96	BH-216-96	BH-217-96	BH-217-96	BH-218-96	BH-218-96	BH-218-96	BH-219-96	BH-219-96	BH-219-96	BH-133-96	BH-133-96
Sample ID (S-8889-)	120396-SF-369	120396-SF-370	120396-SF-371	120396-SF-372	120396-SF-373	120396-SF-374	120396-SF-375	120396-SF-376	120396-SF-376	100896-PFR-177	100896-PFR-178	100896-PFR-178
Sample Depth (feet bgs)	2-4 (Dup.)	8-10	4-6	8-10	4-6	8-10	4-6	10-12	10-12	13-14	15-16	15-16
Date Sampled	12/3/96	12/3/96	12/3/96	12/3/96	12/3/96	12/3/96	12/3/96	12/3/96	12/3/96	10/8/96	10/8/96	10/8/96
<u>Parameter (mg/kg)</u>												
Lead	29	9	200	9	95	8	390	10	186 J	13.2 J		

TABLE 2.1

SUMMARY OF DETECTED PARAMETERS IN SOIL SAMPLES
 PHASE III ESA ADDENDUM NO. 1
 PARCEL A-1
 GM CLARK AVENUE FACILITY
 DETROIT, MICHIGAN

AOC No.	A1-10	A1-10	A1-10	A1-10	A1-10	A1-10	A1-10	A1-10	A1-10	A1-13	A1-13
Sample Location	BH-134-96	BH-134-96	BH-135-96	BH-135-96	BH-135-96	BH-135-96	BH-135-96	BH-136A-96	BH-136A-96	BH-50-96	BH-50-96
Sample ID (S-8889-)	100896-PFR-179	100896-PFR-180	100896-PFR-181	100896-PFR-182	100896-PFR-183	100896-PFR-184	100796-KMV-300	100896-PFR-184	100796-KMV-300	100796-KMV-301	100796-KMV-301
Sample Depth (feet bgs)	13-14	15-15.5	11.5-12	15-15.5	12-12.5	15.5-16	2-4	15.5-16	2-4	8-10	8-10
Date Sampled	10/8/96	10/8/96	10/8/96	10/8/96	10/8/96	10/8/96	10/7/96	10/8/96	10/7/96	10/7/96	10/7/96
<u>Parameter (mg/kg)</u>											
Lead	213 J	10.1 J	53.1 J	11.6 J	43.6 J	7.64 J	278	7.64 J	278	17	17

TABLE 2.1

SUMMARY OF DETECTED PARAMETERS IN SOIL SAMPLES

PHASE III ESA ADDENDUM NO. 1

PARCEL A-1

GM CLARK AVENUE FACILITY
DETROIT, MICHIGAN

AOC No.	A1-13	A1-13	A1-13	A1-13	A1-13	A1-13	A1-13	A1-13	A1-15	A1-15
Sample Location	BH-51-96	BH-52-96	BH-52-96	BH-52-96	BH-53-96	BH-53-96	BH-53-96	BH-53-96	BH-129-96	BH-129-96
Sample ID (S-8889-)	100796-KMV-302	100796-KMV-303	100796-KMV-304	100796-KMV-305	100796-KMV-306	100796-KMV-307	100796-KMV-306	100796-KMV-307	100796-PFR-171	100796-PFR-172
Sample Depth (feet bgs)	8-9.5	2-4	8-10	8-10	4-5	7-8	4-5	7-8	9.5-10	15.5-16
Date Sampled	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96

Parameter (mg/kg)

Lead

59	11	81	16	6	10	6	13
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TABLE 2.1

SUMMARY OF DETECTED PARAMETERS IN SOIL SAMPLES
 PHASE III ESA ADDENDUM NO. 1

PARCEL A-1
 GM CLARK AVENUE FACILITY
 DETROIT, MICHIGAN

AOC No.	A1-15	A1-15	A1-15	A1-15	A1-15
Sample Location	BH-130-96	BH-130-96	BH-131-96	BH-131-96	BH-131-96
Sample ID (S-8889-)	100796-PFR-173	100796-PFR-174	100796-PFR-175	100796-PFR-175	100796-PFR-176
Sample Depth (feet bgs)	9-9.5	2-14	9.5-10	9.5-10	12-12.5
Date Sampled	10/7/96	10/7/96	10/7/96	10/7/96	10/7/96
<u>Parameter (mg/kg)</u>					
Lead	40	19	71	71	16