Truck & Bus Group

Truck & Bus Group
Shreveport Assembly Plant
GENERAL MOTORS CORPORATION
7600 General Motors Blvd.
P. O. Box 30011
Shreveport, LA 71130-0011

SAP 90-168
A:EXPINV

December 7, 1990

Mr. Leon Waller
Louisiana Dept. of Environmental Quality
Groundwater Protection Division
P. O. Box 44274
Baton Rouge, LA 70804

Dear Mr. Waller:

Subj: GM Shreveport Assembly Plant Facility Expansion
Investigation II

Our conversation of December 6, 1990 indicated that although you have no concerns with our proposed project as described in our December 5, 1990 letter, in order to provide notification to LDEQ-AQD advising them of your lack of objection to the issuance of the air permit variance, we must provide you with information in regard to the final disposition of the soil around Boring B-5.

GM does not believe the presence of 2-Hexanone at levels of 0.14 mg/kg in the soil sample from Boring B-5 indicates significant risk to health and the environment. If the additional borings indicate the presence of 2-Hexanone above risk based standards, then GM will consider a site-specific risk analyses of 2-Hexanone. Although EPA has failed to set standards for this specific compound, an objective plan for possible action should be made in our meeting of December 17, 1990 once the information from the additional borings is acquired.

If you have any questions or comments, please contact me at 318/459-9267.

Sincerely,

Olin Desonier
Environmental Engineer

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Truck & Bus Group

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Shreveport Assembly Plant
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Mr. Leon Waller
Louisiana Dept. of Environmental Quality
Groundwater Protection Division
P. O. Box 44274
Baton Rouge, LA 70804

Dear Mr. Waller:

Subj: GM Shreveport Assembly Plant Facility Expansion
Investigation II

This is to confirm our December 6, 1990 conversation, wherein you indicated that LaDEQ had no objections with our proposed project as described in our December 5, 1990 letter. You also indicated that you would notify LDEQ-Air Quality Division that Groundwater Protection Division would not object to the issuance of the air variance, provided we submit to you information about the final disposition of the soil around Boring B-5.

GM does not believe the presence of 2-Hexanone at levels of 0.14 mg/kg in the soil sample from Boring B-5 indicates significant risk to health and the environment. If the additional borings indicate the presence of 2-Hexanone above risk based standards, then a site-specific risk analyses of 2-Hexanone should be considered. Although EPA has failed to set standards for this specific compound, an objective plan for possible action should be made in our meeting of December 17, 1990.

Any areas determined to exceed the risk based levels as agreed to between GM and LDEQ will be addressed at the December 17, 1990 meeting. GM will identify applicable relevant and appropriate requirements for the media of concern and evaluate possible alternatives. We will consider any alternative methods of remediation recognized and approved by USEPA.

If you have any questions or comments, please contact me at 318/459-9267.

Sincerely,

Olin Desonier
Environmental Engineer

GENERAL MOTORS CORPORATION
SHREVEPORT, LOUISIANA

EXPANSION ASSESSMENT
II

DECEMBER, 1990

PREPARED BY:

C-K ASSOCIATES, INC.
2001 E. 70TH STREET, SUITE 503
SHREVEPORT, LOUISIANA 71105
(318) 797-8636

C-K ASSOCIATES' PROJECT NO. 12-454-1

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APPENDICES

1.0 INTRODUCTION

General Motors Corporation's (General Motors) Assembly Plant is a large manufacturing facility located in Shreveport, Louisiana, western Caddo Parish (Figure 1). The plant assembles light duty trucks. The assembly plant occupies approximately 45 acres of a 440 acre site and employs about 2,700 people. Construction of the plant began in 1978 and was completed by 1981. A map of the facility is included as Figure 2 and an aerial photograph is included as Figure 3.

The plant receives its sub-assemblies and parts are via railroad freight car and overland truck. The main processes that occur at the plant include: welding of steel sub-assemblies and parts into trucks and sheet-metal assemblies; washing and painting facilities (main hydrocarbon source); trim shop, where inside and outside hardware are assembled to the truck; chassis area, where the engine, axle, transmission and associated parts are assembled to the chassis frame; and the final assembly department that completes assembly operations for a finished truck. Other operations consist of final truck repairs, maintenance, cushion assembly, administrative offices, and other minor associated activities.

In order to satisfy consumer demand and future product modifications, General Motors has proposed two areas of expansion. Site assessments were conducted at each area in accordance with the Secretary of the Department of Environmental Quality (DEQ), Dr. Paul Templet's 1989 memorandum regarding plant expansions where soil excavation or pile driving will be conducted (Appendix A).

Prior to this assessment an assessment was conducted at two other expansion areas at the site. These areas previously assessed are shown on Figure 2 and are referenced as Areas A and B. The findings of the previous assessment at Area A and B are found in the Expansion Assessment Report, dated August 1990.

2.0 FIELD INVESTIGATION

Consistent with guidance provided by DEQ (Mr. Leon Waller), four soil borings were drilled in order to access the subsurface soils at the proposed expansion areas. The borings were placed in locations pre-determined by General Motors' environmental engineers in conjunction with DEQ Groundwater Protection personnel. Two of the borings were located within the area to be occupied by the proposed Regenerative Incinerator Unit near the west side of the assembly plant and two other borings were placed within the proposed Roll Test Booth expansion area at the northwest end of the final line (Figure 2). Each of the four borings were drilled to a depth ranging from 25 to 35 feet below the ground surface. The soil borings are plotted on the soil boring location maps included as Figures 4 and 5.

Soil samples were continuously collected with a shelby tube to the completion depth of each boring. All soil samples and auger cuttings were visually inspected by the on-site hydrogeologist. Detailed boring logs were prepared which included sample numbers, sample depths, visual description of each sample, measured consistency, Unified Soil Classification System (USCS) descriptions, and other pertinent information relative to the drilling operations. The completed soil boring logs are found in Appendix B.

A portion of each sample was retained for potential laboratory analyses. Samples selected for laboratory analyses were from zones having unnatural discoloration or unusual odors. If no unnatural discoloration or unusual odors were observed from soil samples collected from a boring, samples collected from five foot increments were retained to produce a single composite sample. If groundwater was encountered within a boring a sample was collected. The selected sample(s) from each boring were analyzed for a specific inventory of volatile organic compounds (VOCs) as requested by the DEQ.

3.0 EXPANSION AREA C (INCINERATION UNIT)

The proposed Regenerative Incineration Unit will be used to incinerate VOC emissions originating from the paint ovens and body ELPO ovens. The foundation for the unit (Figure 4) will cover an area of 15,342 square feet and will be supported by an unspecified number of reinforced concrete pilings, each approximately 23 feet deep.

On November 6, C-K Associates conducted an assessment at the proposed Incinerator Unit expansion area. Subsurface soils were accessed with soil borings B-7 and B-8 to a depth of 25 feet each. The soil borings encountered 18 to 20 feet of silty clay with a one foot zone of saturated clayey sand at 8 to 9 feet. Below the silty clay a homogeneous hard clay with horizontally oriented fine grain sand and silt laminations was encountered. This unit was continuous to the completion depth of both borings.

Soil samples collected at B-7 (sample No. B-7B) and B-8 (sample No. B-8B) were individually composited as described in Section 2.0. Groundwater samples (sample Nos. B-7A and B-8A) were also collected from the open boreholes and were submitted along with the soil samples to West-Paine Laboratories for the required VOC analyses (EPA Method 8240).

The laboratory VOC analyses indicated the presence of chloroform (0.02 mg/kg: Detection Limit 0.01 mg/kg) in the composite soil sample (B-8A) collected from B-8. The VOC analyses conducted on the composite soil sample (B-7A) collected from B-7 and the groundwater samples (B-7B and B-8B) collected from B-7 and B-8 were found to be below the detectable limits.

The laboratory analyses are summarized on Table 1. Completed laboratory reports and chain of custody documentation are found in Appendix C.

Upon reaching the completion depth of each boring the drilling equipment was retracted and the boreholes were grouted up to the ground surface with a cement-bentonite slurry.

4.0 EXPANSION AREA D (ROLL TEST BOOTH)

The Roll Test Booth expansion area will be used for the purpose of electronically testing assembled vehicles. The foundation for the expansion area will cover an area of 8,100 square feet and will be supported by five reinforced concrete pilings, each approximately 20 feet deep.

On November 5, 1990, C-K Associates conducted a site assessment at the Roll Test Booth expansion area. The subsurface soils were accessed with soil borings B-5 and B-6 to a depth of 35 feet (Figure 5). The soil borings encountered undifferentiated fill to a depth of 4 to 5 feet below the ground surface. Underlying the undifferentiated fill, silty clay was encountered to a depth of 10 to 12 feet. Below the silty clay a homogeneous hard clay with horizontally oriented fine grain sand and silt laminations was encountered. This unit was continuous to the completion depth of both borings.

Soil samples collected at B-5 (sample No. B-5B) and B-6 (sample No. B-6B) were individually composited as described in Section 2.0. Groundwater samples (sample Nos. B-5A and B-6A) were also collected from the open boreholes and were submitted along with the soil samples to West-Paine Laboratories for the required VOC analyses.

The laboratory VOC analyses indicated the presence of 2-hexanone (0.14 mg/kg: Detection Limit - 0.05 mg/kg) in the composite soil sample (No. B-5A) collected from B-5 and chloroform (0.01 mg/kg: Detection Limit - 0.01 mg/kg) was detected in the composite soil sample (No. B-6A) collected from B-6. VOC analyses conducted on the groundwater samples (No. B-5B and B-6B) were found to be below the detectable limits.

The laboratory analyses are summarized on Table 1. Completed laboratory reports and chain of custody documentation are found in Appendix C.

Subsequent to attaining the completion depth of the boring, the drilling equipment was retracted and the borehole was grouted up to the ground surface with a cement-bentonite slurry.

5.0 SUMMARY

2-hexanone (0.14 mg/kg) was detected in the composite soil sample collected from B-6 at Expansion Area D (Roll Test Booth). Chloroform (0.02 mg/kg) was detected in the composite soil sample collected from B-8 at Expansion Area C (Incinerator Unit). Laboratory VOC analyses conducted on the composite soil sample from B-7 and the groundwater samples collected from each of the four borings were found to be below the detectable limits.

TABLE 1
ANALYTICAL DATA

SOIL

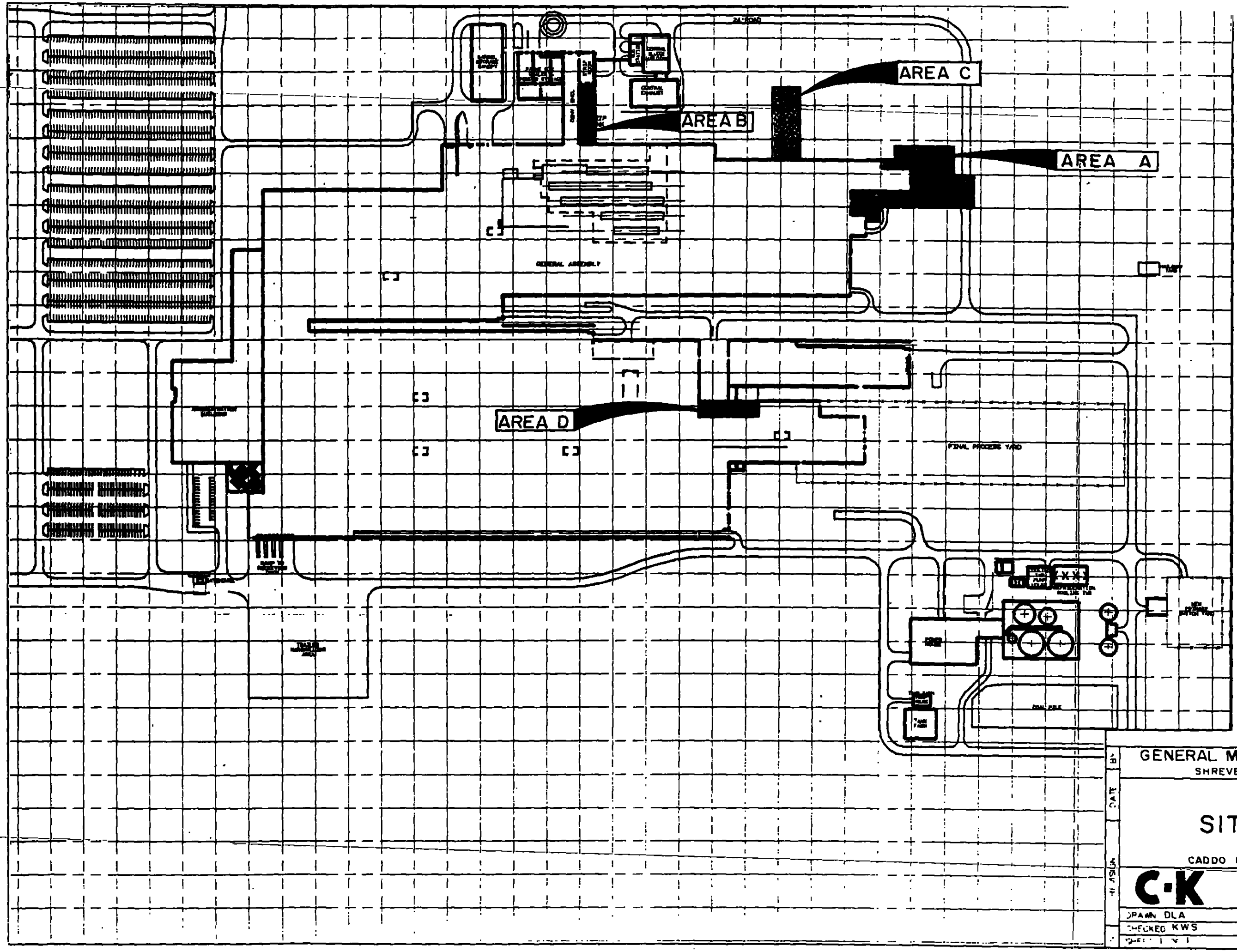
Boring No.	Sample No.	Volatile Organics	(mg/kg)	Detection Limit (mg/kg)
B-5	B-5B	2-Hexanone	0.14	0.05
B-6	B-6B	Chloroform	0.01	0.01
B-7	B-7B	BDL	----	----
B-8	B-8B	Chloroform	0.02	0.01

GROUNDWATER

Boring No.	Sample No.	Volatile Organics (ug/L)
B-5	B-5A	BDL
B-6	B-6A	BDL
B-7	B-7A	BDL
B-8	B-8A	BDL

Note: Only those parameters which were detected above the detection limit were reported. Completed laboratory reports and chain of custody documentation are found in Appendix C.

BDL Below detection limit.



N

LEGEND:

AREA OF PLANNED EXPANSION

NOTE:

BASE DRAWING TAKEN FROM G.M. CORPORATION "PLOT PLAN", DATED 3/18/89.

SCALE: 1" = 280'
APPROXIMATE

FIGURE 2

GENERAL MOTORS CORPORATION
SHREVEPORT, LOUISIANA

SITE MAP

CADDO PARISH, LOUISIANA

C·K ASSOCIATES, INC.
BATON ROUGE, LOUISIANA

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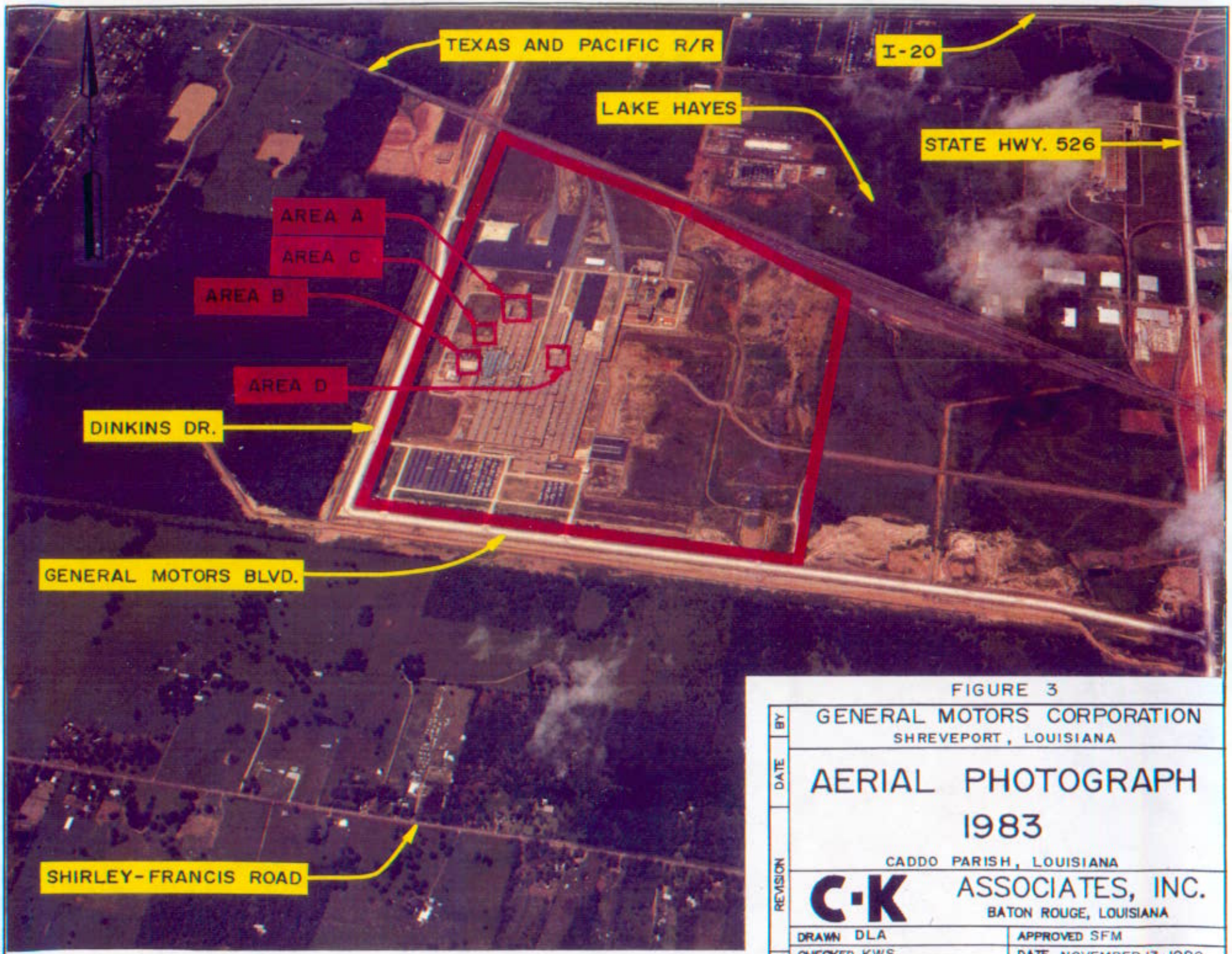
CHECKED KWS	DATE DECEMBER 13, 1990
SHEET 1 OF 1	DWG. NO. B12-455-02

NO. | DATE | REVISION



NOTE: GMC PHOTOGRAPH, DATE 1983 SCALE: UNKNOWN

FIGURE 3

GENERAL MOTORS CORPORATION
SHREVEPORT, LOUISIANA

AERIAL PHOTOGRAPH 1983

CADDO PARISH, LOUISIANA

C·K ASSOCIATES, INC.
BATON ROUGE, LOUISIANA

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SHEET 1 OF 1	DWG. NO. A12-455-03

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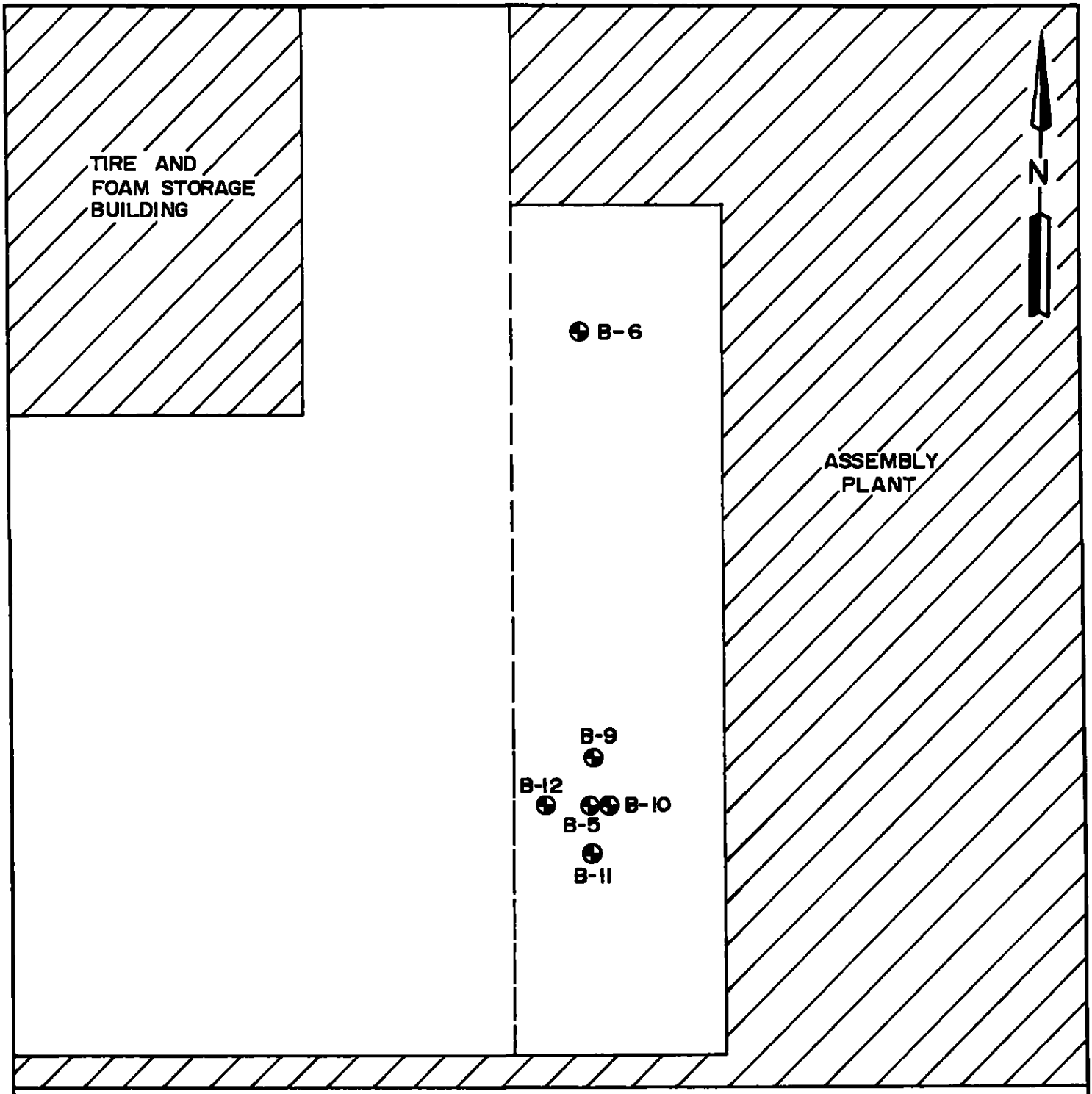

30 15 0 30

SCALE-FEET

1" = 30'

LEGEND:

——— LIMITS OF PLANNED EXPANSION

B-5 SOIL BORING LOCATION

FIGURE 4

GENERAL MOTORS CORPORATION

SHREVEPORT, LOUISIANA

SOIL BORING LOCATION MAP
EXPANSION AREA D

CADDO PARISH, LOUISIANA

C-K ASSOCIATES, INC.

BATON ROUGE, LOUISIANA

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