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 90-120

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 17, 1990

Mr. Kenny Qualls
Louisiana Dept. of Env. Quality
P. O. Box 44091
Baton Rouge, LA 70804-4091

Dear Mr. Qualls:

Subj: General Motors Truck & Bus Group, Shreveport Assembly
Site Expansion Assessment - 325 Project

Please find enclosed two copies of the soil/groundwater assessment conducted in accordance with the November 15, 1989 memorandum issued by Dr. Paul Templet. The assessment was undertaken with the guidance of Mr. Leon Waller of your staff, and confirmed the absence of soil and groundwater contaminants.

If you have any questions regarding the enclosed documents, please feel free to contact me at 318/459-9267. Once you are satisfied with the results, please notify the Air Division of General Motors' compliance with the November 15, 1989 memorandum so that the air permit process may proceed.

Thank you very much for your help in this matter.

Sincerely,

Olin Désonier
Environmental Engineer

enclosures

GENERAL MOTORS CORPORATION
SHREVEPORT, LOUISIANA

EXPANSION ASSESSMENT

AUGUST, 1990

PREPARED BY:

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

C-K ASSOCIATES' PROJECT NO. 12-452-1

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1.0 INTRODUCTION

General Motors Corporation's (General Motors) Assembly Plant is a vehicle assembly 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 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 (LDEQ), Dr. Paul Templet's 1989 memorandum regarding plant expansions where soil excavation or pile driving will be conducted (Appendix A).

2.0 FIELD INVESTIGATION

Consistent with guidance provided by LDEQ (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 LDEQ Groundwater Protection Division Personnel. Three of the borings were placed within the area to be occupied by the proposed oven expansion at the northwest corner of the assembly plant (Figure 2). A fourth boring was placed within the proposed carrier bank expansion area on the west side of the assembly plant (Figure 2). Each of the four borings were drilled to a depth of 25 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, Organic Vapor Analyzer (OVA) measurements, and other pertinent information relative to the drilling operations. The completed soil boring logs are found in Appendix B.

Each soil sample collected was trimmed to remove the smear zone formed during sample acquisition. A portion of each sample was placed within a properly labeled Zip-Lock bag for OVA analyses. Each bagged sample was then set aside for 15 minutes prior to analyzing with the OVA. The OVA reading was obtained by inserting the probe into the mouth of the bag. The sample was then disaggregated and the highest reading was measured and recorded.

The remaining portion of each sample was retained for potential laboratory analyses. Samples selected for laboratory analyses were from zones having the highest field OVA measurements. If no elevated OVA measurements were recorded at a boring, samples collected from 5 foot increments were retained to produce a single composite sample. The selected sample(s) from each boring were analyzed for a specific inventory of volatile organic compounds (VOC) as requested by the LDEQ.

3.0 EXPANSION AREA A (OVEN EXTENSION)

The proposed oven extension will bake an exterior paint finish onto the surface of unassembled truck body panels. The foundation for the oven extension (Figure 4) will cover an area of 43,875 square feet. No pilings will be used to support the foundation. The foundation will consist solely of a 3 foot thick slab of reinforced concrete.

On July 16 and 17, 1990, C-K Associates, Inc. (C-K Associates) conducted soil sampling at the proposed oven expansion area. Subsurface soils were accessed with 3 soil borings advanced to depths of 25 feet each. The soil borings encountered 2 to 4 feet of undifferentiated fill underlain by a very stiff silty clay. Below the silty clay at a depth of 8 to 12 feet below the surface a homogeneous hard clay with horizontally oriented fine grain sand and silt laminations was encountered. This unit was continuous to the completion depth of each boring.

No elevated OVA measurments were recorded at B-1 or B-2. Soil samples collected at B-1 (Sample No. B1-A) and B-2 (Sample No. B2-A) were individually composited as described in Section 2.0. OVA measurements recorded at B-3 indicated a maximum reading of 5 ppm at a depth of 4 to 8 feet below the ground surface. A soil sample (B3-A) was retained from this zone for laboratory analysis. Each of the selected soil samples were submitted to West-Paine Laboratories for the required VOC analyses (EPA Method 8240).

The laboratory reports generated indicated that the VOC's analyzed for in each soil sample were found to be below the detectable limits (<0.10 mg/kg) for each of the three borings. The laboratory analyses are summarized on Table 1. Completed laboratory reports and chain of custody documentation are found in Appendix C.

No groundwater samples were collected from B-1, B-2 or B-3 as no saturated zones were encountered during drilling operations. 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 B (CARRIER BANK)

The carrier bank expansion area will be used for empty carrier storage and carrier cleaning operations. The foundation for the expansion area will cover an area of 8,100 square feet and will be supported by 50 reinforced concrete pilings, each approximately 23 feet deep.

On July 17, 1990, C-K Associates conducted a site assessment at the carrier bank expansion area. The subsurface soil was accessed with one centrally located soil boring (B-4) as shown on Figure 4. The soil boring encountered undifferenti-ated fill to a depth of 10 feet below the ground surface. Below the fill, alternating units of clayey sand and silty clay were encountered to the completion depth of 25 feet. Perched groundwater was encountered within a clayey sand unit 10-12 feet below the ground surface. Soil samples collected below this unit were unsaturated to the completion depth.

The OVA indicated the presence of volatile organics at depths of 8 to 12 feet below the ground surface. In order to further investigate this interval, laboratory samples were collected from the soil and groundwater (B4-B and B4-A) and submitted to West-Paine Laboratories for the VOC analyses (EPA Method 8240) required by the DEQ.

The resulting laboratory reports indicated the volatile organic parameters analyzed were below the detection limits in both the soil (<0.10 mg/kg) and groundwater (<10 ug/L) samples collected. The chromatagrams were further reviewed by the laboratory to insure that no extraneous unidentified peaks were present, and none were found. Based on the laboratory analyses of the soil and groundwater from the clayey sand unit, the volatile organics detected by the OVA may be natural methane. The analytical results are summarized on Table 1. The completed laboratory reports and chain of custody documentation is 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

Based upon the results of the field and laboratory investigation no VOC's were encountered at Expansion Area A (Oven Extension). The presence of organic vapors were indicated with the OVA at B-4 in Expansion Area B (carrier bank). However, laboratory analyses for the VOC's requested by the DEQ indicated that all were below detection limits and no extraneous unidentified peaks were noted on the chromatagrams as provided in Appendix C.

Table 1

Analytical Data

Boring No.	Sample No.	Soil Volatile Organics (mg/kg)	Water Volatile Organics (ug/L)
B-1	B1-A	<0.10	--
B-2	B2-A	<0.10	--
B-3	B3-A	<0.10	--
B-4	B4-B	<0.10	--
B-4	B4-A	--	<10

Note: Completed Laboratory Reports and Chain of Custody Documentation are found in Appendix C.