FID 230004500
ERR/ERP

TRIAD
ENGINEERING
INCORPORATED

March 27, 1995

Ms. Pamela A. Mylotta
Environmental Repair Project Manager
State of Wisconsin Department of Natural Resources
4041 N. Richards Street
P.O. Box 12436
Milwaukee, Wisconsin 53212

RE: Proposed Area 3 SVE System
Chrysler Corporation, Kenosha Main Plant
Kenosha, Wisconsin
Triad Engineering Project No. W943324.3B

Dear Ms. Mylotta:

This letter was prepared on behalf of Chrysler Corporation (Chrysler) to summarize the proposed design and implementation of a soil vapor extraction (SVE) system in Area 3 of the Chrysler, Kenosha Main Plant (Figure 1). The system will be operated in conjunction with the existing groundwater recovery and treatment system in this area to address the release of gasoline range and chlorinated volatile organic compounds to soil and groundwater. The approach focuses on implementing SVE in hotspot areas using new SVE wells and existing groundwater recovery sumps as SVE extraction points. Additional soil data will be acquired during installation activities to refine the design. Based on system performance, the SVE system may be expanded in the future.

The proposed SVE design and installation activities will consist of the following:

- Installation of six 4-inch diameter SVE wells and ten 1-inch diameter vapor observation probes as shown on Figure 2.

- Collection of 16 to 20 unsaturated soil samples (one soil sample from each SVE well and observation probe boring) and submittal to a state-certified laboratory for analysis of volatile organic compounds (VOCs; EPA Method 8021), diesel range organics (DRO+5; WDNR Modified DRO Method, extended time window) and gasoline range organics (GRO; WDNR Modified GRO Method).

325 east chicago street
milwaukee, wisconsin 53202
414/291-8840
fax: 414/291-8841

- Installation of additional SVE wells if affected unsaturated soil (above the water table) is observed in selected observation probe soil borings (OP-8 through OP-13 only).

- Reinstallation of select observation probes (if affected unsaturated soils are identified during probe installation) approximately 30 feet from the additional SVE wells (assume four additional SVE wells, so there are ten SVE wells total).

- Installation of two 6-inch diameter underground header networks to facilitate vapor recovery and potential future expansion of the SVE well network (if necessary). The header networks will be plumbed to two separate SVE blower systems. The conceptual header networks are shown in Figure 2.

- Plumbing the new SVE wells, one existing SVE well and three existing sumps to the header networks.

System design and implementation is further defined below.

Existing groundwater recovery sumps and wells within affected areas of the Area 3 site will be used in conjunction with new SVE wells to recover soil vapor from the hotspot areas. Soil vapor observation probes will be installed at the edges of the anticipated SVE well radius of influence (approximately 30 feet minimum) to monitor the effect of the wells and to obtain additional soil characterization data. If affected soils are observed in observation probe borings OP-8 through OP-13, an additional SVE well will be located approximately 50 to 60 feet from the adjacent SVE well. The location of the observation probe will then be moved in the direction of the arrow (see Figure 2) to the edge of the new SVE well radius of influence. Based on historical information and soil sample data, affected soils in the vicinity of observation probes OP-1 through OP-7 are believed to be contained within the Building 6A foundation walls. Therefore, no additional SVE wells or observation probes are anticipated to be installed in this area.

The proposed SVE system will also be designed so that it is expandable. The anticipated design includes installation of two main SVE piping header networks. The first header network will be located beneath the berm which overlies Building 6A and the second header (trending north-south) will be placed adjacent to the west walls of Buildings 5, 5A, 6, and 6A. The use of these proposed header networks will facilitate the future installation of additional SVE wells (if required) without incurring excessive trenching costs. Each header network will be connected to a separate SVE unit. One unit will be placed in the existing Area 3 remediation building and connected to the closer of the two header piping networks. The second SVE unit will be a portable enclosed trailer-mounted system which will be plumbed to the second header piping network. The advantage of the trailer-mounted system is that it may be used at another location for SVE pilot testing or SVE remediation (if necessary). The portable SVE system also eliminates the construction, maintenance and eventual demolition costs associated with a more permanent structure.

A recommendation report presenting the rationale for selecting SVE for this area will be submitted to you during May 1995. A report summarizing new soil sample results, system installation, and a proposed performance monitoring plan will be submitted following installation and start up.

We trust this information meets your needs. If you have any questions or comments, please do not hesitate to call.

Sincerely,

TRIAD ENGINEERING INC.

Ross M. Creighton
Hydrogeologist

TRIAD ENGINEERING INC.

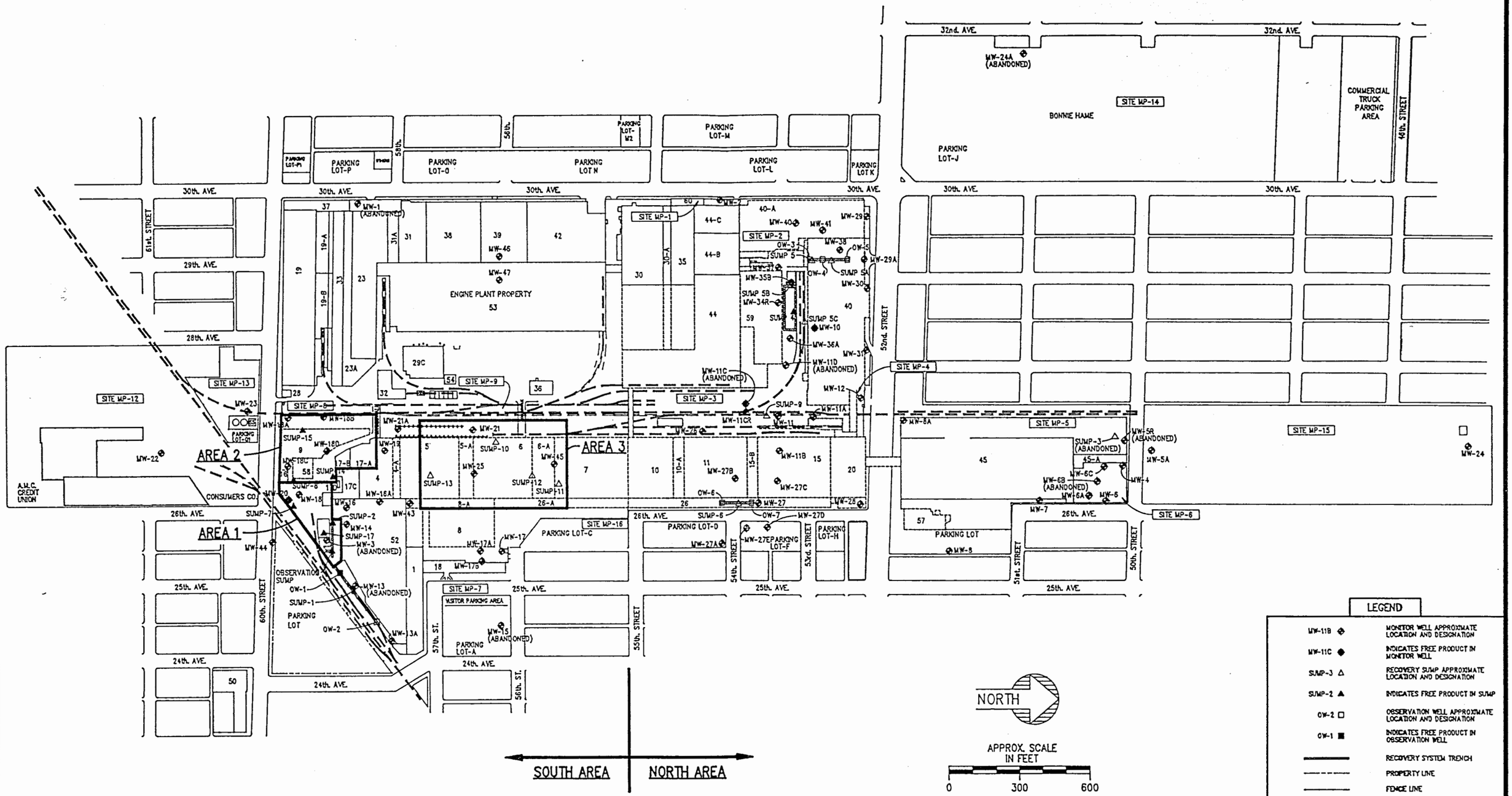
Richard J. Binder, CPG, CGWP
Project Manager

RMC:klb
W943324\943324.3B\943324-L

Attachment

cc: Greg Rose, Chrysler - Pollution Prevention and Remediation; Corporate
Curt Chapman, Chrysler - Pollution Prevention and Remediation; Corporate
Jack Bugno, Chrysler - Pollution Prevention and Remediation; Kenosha Main Plant

32439-20
1-28-95



TRIAD ENGINEERING INCORPORATED

FIGURE 1
CHRYSLER KENOSHA MAIN PLANT
FACILITY LAYOUT

3243B-21
3-21-95

N

HOT SPOT AREA

OP-13

OP-11

4"Ø SCH 40 PVC PIPE, TYP

OP-10

GP-1

BTJ-2

OP-8

45-F

SVE-6

MP-9T

MP-9G

SVE-7

MW-21

BTJ-3

PRC-2

SUMP-10

NEW TRAILER MOUNTED SVE SYSTEM TO BE LOCATED ADJACENT TO SUMP-10

OP-9

BLDG. 6A

45-I

OP-7

45-H

BLDG. 7

OP-12

BLDG. 5

BLDG. 6

EXISTING BERM

SVE-5

HOT SPOT AREA

BLDG. 5A

EXISTING BURIED FOUNDATION, TYP

OP-6

4"Ø SCH 40 PVC PIPE, TYP

PRC-1

UST EXCAVATION

EXISTING AREA 3 TREATMENT BUILDING

SVE-4

OP-3

SUMP-13

MP-16A

SUMP-12

45-B

NEW SKID MOUNTED SVE SYSTEM INSTALLED IN EXISTING BUILDING

45-J

OP-2

OP-1

MW-45

45-G

GP-4

OP-5

SVE-3

SVE-1 (EXISTING)

MP-16C

MW-25

45-A

SVE-2

SUMP-11

MP-16B

OP-4

EXISTING BERM

NOTE:
THE ESTIMATED MINIMUM RADIUS OF INFLUENCE OF EACH SVE WEL IS 30 FEET BASED ON PILOT TEST RESULTS. THE MAJORITY OF THE AFFECTED AREA IS PAVED.

SITE PLAN

SCALE IN FEET

0 10 20 30 40

LEGEND:

- PROPOSED SOIL VAPOR EXTRACTION (SVE) OBSERVATION PROBE, ARROW INDICATES DIRECTION PROBE WILL MOVE IF AFFECTED UNSATURATED SOILS ARE OBSERVED
- BORING LOCATION
- MONITORING WELL LOCATION
- PROPOSED SVE WELL
- EXISTING OBSERVATION PROBE

TRIAD ENGINEERING INCORPORATED

FIGURE 2
CRYSLER KENOSHA MAIN PLANT
AREA 3 CONCEPTUAL SVE DESIGN