GME CONSULTANTS, INC.
CONSULTING ENGINEERS
Lake Shore Drive / P.O. Box 250
Crosby, MN 56441 / (218) 546-6371

August 7, 1990

Ms. Jan Berryhill
Minnesota Pollution Control Agency
Tanks and Spills Section
Hazardous Waste Division
520 Lafayette Road North
St. Paul, Minnesota 55155

RE: Soil Landspreading Application, Dittmer Oil Company, Fairfax, Minnesota

Dear Ms. Berryhill:

On behalf of Dittmer Oil Company, enclosed is a copy of a completed application to land apply petroleum contaminated soil. As we have discussed, please review the application and provide Dittmer Oil Company with written authorization to proceed with the landspreading as soon as possible. Further, please include your approval or conditional approval of the report we have previously submitted so that a Petrofund Application can be pursued for the gasoline release portion of the project. We would like to apply for Petrofund by the August 20, 1990 deadline.

If you have any questions, please contact me at 218-546-6371. We appreciate your timely review.

Sincerely,

GME CONSULTANTS, INC.

Mark D. Millsop

Mark D. Millsop
Senior Hydrogeologist
Environmental Division Manager

Enclosure: Application to Land Apply Petroleum Contaminated Soil

c: Mr. Bob Dittmer
Dittmer Oil Company, Inc.
Highways 4 & 19
Fairfax, Minnesota 55332

Mr. Bruce Store
Rollie's Sales and Service
Highway 27 West
Osakis, Minnesota 56360

APPLICATION TO LAND APPLY PETROLEUM CONTAMINATED SOIL

Minnesota Pollution Control Agency
Tanks and Spills Section
April 25, 1990

Refer to the Minnesota Pollution Control Agency (MPCA) document "Land Application of Petroleum Contaminated Soil: Single Application Sites" for specific information on acceptable soil and site criteria.

I. BACKGROUND INFORMATION

A. Tank owner/operator mailing address:

Contact: Mr. Bob Dittmer
Company name: Dittmer Oil Co., Inc.
Street/Box: Hwys 4+19
City, Zip: Fairfax, 55332
Telephone: 507-426-7218

B. Site from which contaminated soil originated:

Company name: } Same as A. above
Street:
City, Zip:
County:

C. Address or legal descripton of land spreading site:

Contact: Tom Palmer
Street: Hwy 19
City, Zip: Fairfax, 55332
Telephone: 507-426-8256 or 7611

SE 1/4 of SE 1/4 of Section 5, Township 112N, Range 32W Township Name Cairo

D. Consultant ~~(or other)~~ preparing this form:

Contact: Mark Millsop
Company name: GME Consultants
Street/Box: P.O. Box 250
City, Zip: Crosby, 56441
Telephone: 218-546-6371

E. MPCA Site ID#: LEAK0000 1940
F. Volume of soil to be land applied (cubic yards): ~300 yards^3
G. Projected date of application of soil: ~August 22, 1990
H. Have there been past waste disposal activities at the proposed site?
No X Yes ___, please explain.
Not to our knowledge

II. SITE AND SOIL CHARACTERISTICS

A. Site slope (percent): ~0-2
B. Distance to surface water (feet or miles): ~1000'+ (ditch)
C. Distance to nearest building or residence (feet): ~200-300' from residence
D. Depth to seasonal high water table (feet): ~3-5'
Depth to field tile lines (feet): ~3-4', 5 to 6' near residence
If bedrock exists at 8 feet or less, indicate depth (feet): NA
E. Area of land to be used (square feet or acres): ~1/2 to 3/4 acre
F. Spreading thickness (inches): ~4"

III. SOIL SAMPLING RESULTS

A. If soil nutrient tests were conducted, list the results below: NA

Sample Number	Organic Matter, Percent	Extractable Phosphorus, ppm

If fertilizers will be applied, provide application rates: NA
_____ lbs. nitrogen/acre, _____ lbs. P_2O_5/acre, _____ lbs. sulfur/acre

B. Circle the type(s) of petroleum contamination: (probable unleaded gas), and (regular gas), diesel fuel, No. 2 fuel oil, waste oil, other (please specify) _____.

List the appropriate soil sample analytical results from the excavated contaminated soil (refer to the MPCA document "Soil and Ground Water Analysis at Petroleum Release Sites"). If the petroleum was not gasoline or fuel oil attach a separate table.

Sample Number	THC as (gas) or FO ppm	Benzene ppm	Ethyl-benzene ppm	Toluene ppm	Xylene ppm	MTBE ppm	Lead ppm
S-5	80 mg/kg	1.34	BTO	31.0	36.9	—	—
S-12	17 "	0.14	<0.01	0.29	1.07	—	—

NOTE: ATTACH COPIES OF LABORATORY RESULTS AND CHAIN OF CUSTODY FORMS

IV. FIGURES

Include the following figures:

The available "preliminary" soils mapping info is attached.

A. Copy of county soil survey map (if the county has been mapped) with copies of the interpretation tables or interpretation sheets.
B. Site location map with exact application location marked (scale should be approximately one inch = 50 feet)

****

Signature and Title of MPCA Staff Inspector (or other authorized inspector):

_____ Date Inspected : _____

Signature and Title of County Official: _____

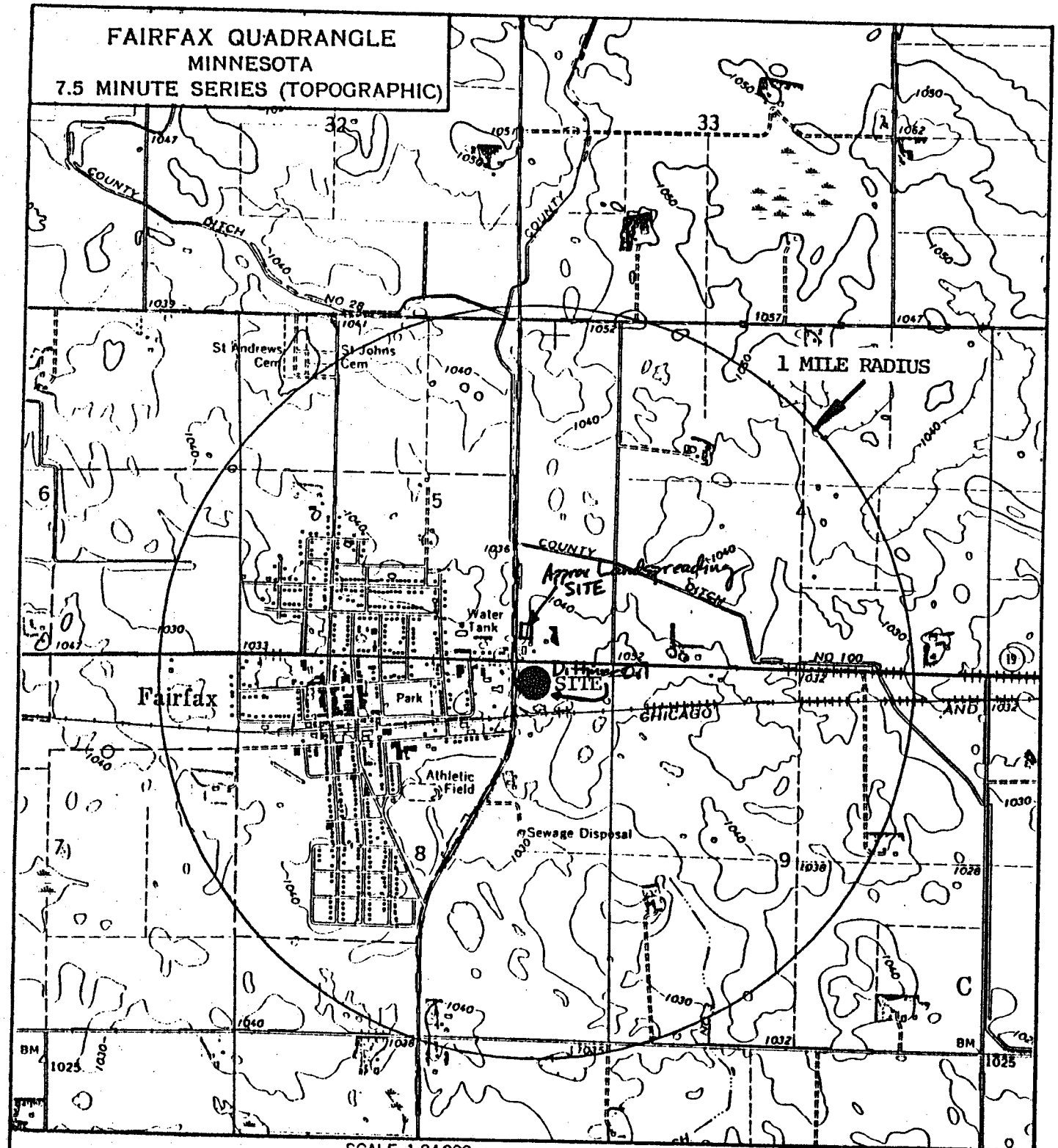
Signature and Title of City/Township Official: _____

} see attached letters

****

Mail to:

Minnesota Pollution Control Agency
Attention: (Project Manager)
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road
St. Paul, Minnesota 55155



GME CONSULTANTS, INC.
14000 21st Avenue North
Minneapolis, MN 55447

RBE	MDM	3-10-90	2373

FIGURE 1
SITE LOCATION

CONOCO®

DITTMER CONOCO TRUCK STOP

Hwys. 4 and 19 - Phone 507-426-7218
Fairfax, Minnesota 55332

GOODYEAR

Petroleum Products

July 27, 1990

G. M. E. Consultants
P.O. Box 250
Crosby, Mn. 56441

Enclosed please find letter from Cairo Township clerk David Rieke in regard to depositing waste soil.

Leo Clobes, Dittmer Oil Manager, has talked to Jim Tenley, Renville Cty Solid Waste Representative in regard to this.

Dittmer Oil Co. Inc.
Fairfax, Mn. 55332

Jim has given his approval to Leo.
Mark

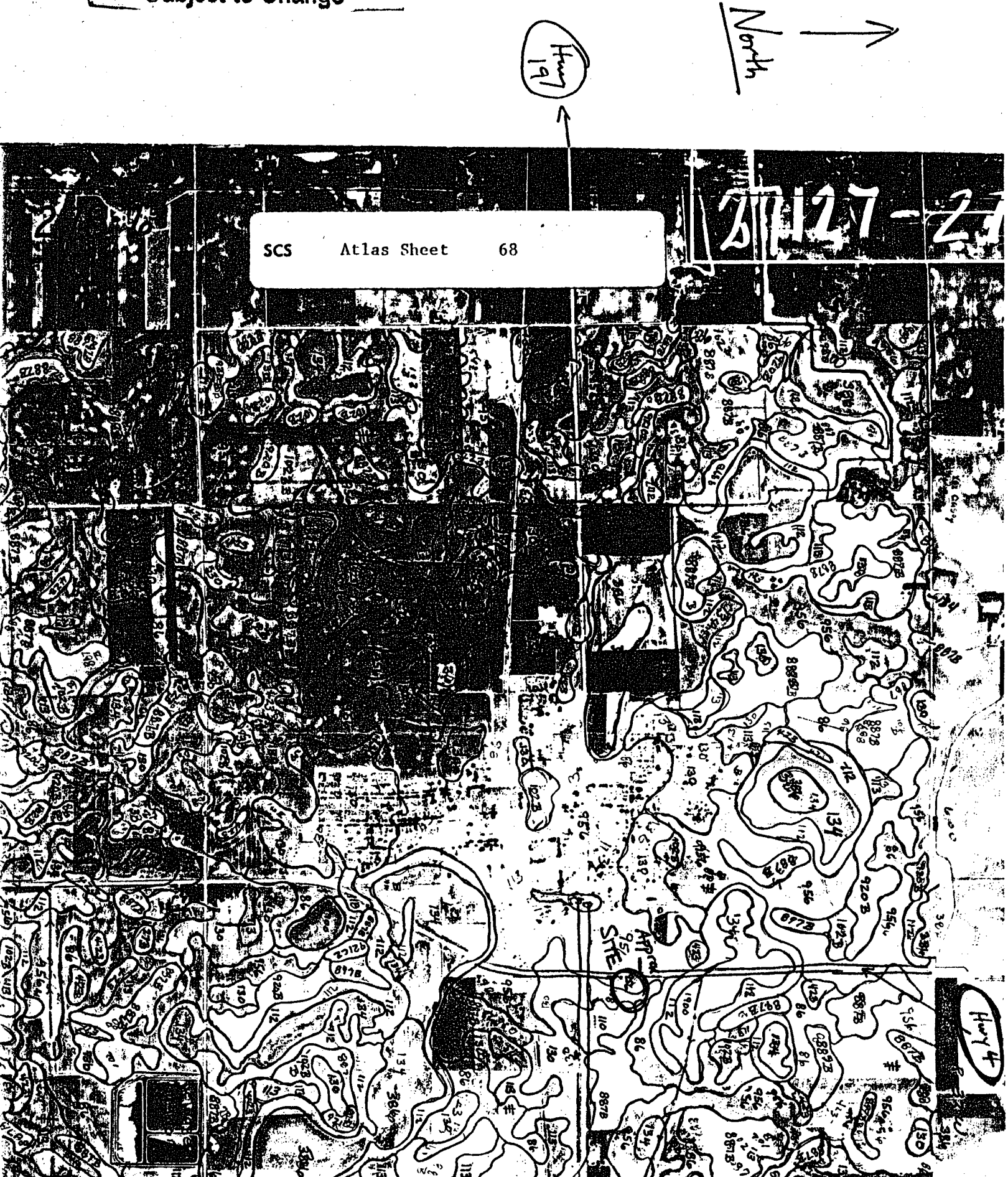
July 11, 1990

The Cairo Town Board met and discussed the proposal of Dittmer Oil depositing soil on the Tom Palmer farm.

Lloyd Hindeman made a motion to allow Dittmer Oil to deposit soil on the Tom Palmer farm whenever it wishes to if said land owner agrees. Wally Dickmeyer second. Motion carried.

Clerk David Rieke - RR 1, Box 169
Lloyd Hindeman Fairfax 55332
Tim Nachreiner
Wallace Dickmeyer

Preliminary Soils Information
Subject to Change



3-30-90

county_name	pubsym	musym	muname
RENVILLE	TRIAL	8B	SPARTA LOAMY SAND, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	8C	SPARTA LOAMY SAND, 6 TO 12 PERCENT SLOPES
RENVILLE		27A	DICKINSON FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
RENVILLE	TRIAL	27B	DICKINSON FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE		35	BLUE EARTH MUCKY SILTY CLAY LOAM
RENVILLE	TRIAL	39A	WADENA LOAM, 0 TO 2 PERCENT SLOPES
RENVILLE	TRIAL	39B	WADENA LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	41A	ESTHERVILLE SANDY LOAM, 0 TO 2 PERCENT SLOPES
RENVILLE	TRIAL	41B	ESTHERVILLE SANDY LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	41C	ESTHERVILLE SANDY LOAM, 6 TO 12 PERCENT SLOPES
RENVILLE	TRIAL	84	BROWNTON SILTY CLAY LOAM
RENVILLE		85	CALCO SILTY CLAY LOAM, OCCASIONALLY FLOODED
RENVILLE		86	CANISTEO CLAY LOAM
RENVILLE	TRIAL	94B	TERRIL LOAM, 2 TO 8 PERCENT SLOPES
RENVILLE	TRIAL	94C	TERRIL LOAM, 8 TO 12 PERCENT SLOPES
RENVILLE	TRIAL	100B	COPASTON LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	106B	LESTER LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE		107	WINGER SILTY CLAY LOAM
RENVILLE		108	MCINTOSH SILT LOAM
RENVILLE	TRIAL	109	CORDOVA CLAY LOAM
RENVILLE	TRIAL	110	MARNA SILTY CLAY LOAM
RENVILLE		112	HARPS CLAY LOAM
RENVILLE		113	WEBSTER CLAY LOAM
RENVILLE	TRIAL	128B	GROGAN SILT LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE		130	NICOLLET CLAY LOAM
RENVILLE		134	OKOBOJI SILTY CLAY LOAM
RENVILLE	TRIAL	136	MADELIA SILTY CLAY LOAM
RENVILLE		140	SPICER SILTY CLAY LOAM
RENVILLE	TRIAL	211	LURA SILTY CLAY
RENVILLE	TRIAL	219	ROLFE SILT LOAM
RENVILLE	TRIAL	227	LEMOND LOAM
RENVILLE	TRIAL	230	GUCKEEN SILTY CLAY LOAM
RENVILLE	TRIAL	239	LE SUEUR CLAY LOAM
RENVILLE		247	LINDER LOAM
RENVILLE	TRIAL	248	LOMAX LOAM
RENVILLE		255	MAYER LOAM
RENVILLE		269	MILLINGTON CLAY LOAM, OCCASIONALLY FLOODED
RENVILLE	TRIAL	275B	OCHEYEDAN LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	282	HANSKA LOAM
RENVILLE	TRIAL	317	OSHAWA SILTY CLAY LOAM
RENVILLE	TRIAL	321	TILFER SILTY CLAY LOAM, OCCASIONALLY FLOODED
RENVILLE		327A	DICKMAN SANDY LOAM, 0 TO 2 PERCENT SLOPES
RENVILLE		327B	DICKMAN SANDY LOAM, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	329	CHASKA LOAM, OCCASIONALLY FLOODED
RENVILLE		344	QUAM SILTY CLAY LOAM
RENVILLE	TRIAL	349	CALCO SILTY CLAY LOAM, WET, OCCASIONALLY FLOODED
RENVILLE	TRIAL	362	MILLINGTON CLAY LOAM, FREQUENTLY FLOODED
RENVILLE		386	OKOBOJI MUCKY SILTY CLAY LOAM
RENVILLE	TRIAL	392	BISCAY LOAM
RENVILLE		423	SEAFORTH LOAM
RENVILLE	TRIAL	444	CANISTEO SILTY CLAY LOAM
RENVILLE		446	NORMANIA LOAM
RENVILLE	TRIAL	463A	MINNEISKA FINE SANDY LOAM, OCCASIONALLY FLOODED
RENVILLE	TRIAL	463B	MINNEISKA FINE SANDY LOAM, 1 TO 4 PERCENT SLOPES
RENVILLE	TRIAL	525	MUSKEGO MUCK
RENVILLE	TRIAL	539	KLOSSNER MUCK

county_name	pubsym	musym	muname
RENVILLE		574	DU PAGE LOAM, OCCASIONALLY FLOODED
RENVILLE	TRIAL	575	NISHNA SILTY CLAY LOAM, OCCASIONALLY FLOODED
RENVILLE		597	TARA SILT LOAM
RENVILLE	TRIAL	611B	HAMICK GRAVELLY LOAMY COARSE SAND, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	611C	HAMICK GRAVELLY LOAMY COARSE SAND, 6 TO 12 PERCENT SLOPES
RENVILLE	TRIAL	611D	HAMICK GRAVELLY LOAMY COARSE SAND, 12 TO 18 PERCENT SLOPES
RENVILLE	TRIAL	611F	HAMICK GRAVELLY LOAMY COARSE SAND, 18 TO 40 PERCENT SLOPES
RENVILLE	TRIAL	817	CANISTEO-SEAFORTH COMPLEX
RENVILLE	TRIAL	847	WINGER-QUAM COMPLEX
RENVILLE		887B	CLARION-SWANLAKE COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE		891B	DOLAND-SWANLAKE COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	897B	SEAFORTH-SWANLAKE COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	899	HARPS-OKOBOJI COMPLEX
RENVILLE	TRIAL	920B	CLARION-SWANLAKE-HAMICK COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	920C2	CLARION-STORDEN-HAMICK COMPLEX, 6 TO 12 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	920D2	CLARION-STORDEN-HAMICK COMPLEX, 12 TO 18 PERCENT SLOPES, ERODED
RENVILLE		921C2	CLARION-STORDEN COMPLEX, 6 TO 12 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	921F	CLARION-STORDEN COMPLEX, 18 TO 40 PERCENT SLOPES
RENVILLE		923E	COPASTON-ROCK OUTCROP COMPLEX, 0 TO 40 PERCENT SLOPES
RENVILLE		927	HARPS-SEAFORTH-OKOBOJI COMPLEX
RENVILLE		954B	VES-SWANLAKE COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE		954C2	VES-STORDEN COMPLEX, 6 TO 12 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	954D2	STORDEN-VES COMPLEX, 12 TO 18 PERCENT SLOPES, ERODED
RENVILLE		956	CANISTEO-GLENCOE COMPLEX
RENVILLE	TRIAL	960D2	STORDEN-CLARION COMPLEX, 12 TO 18 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	999B	VES-SWANLAKE-HAMICK COMPLEX, 2 TO 6 PERCENT SLOPES
RENVILLE	TRIAL	999C2	VES-STORDEN-HAMICK COMPLEX, 6 TO 12 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	999D2	VES-STORDEN-HAMICK COMPLEX, 12 TO 18 PERCENT SLOPES, ERODED
RENVILLE	TRIAL	999F	VES-STORDEN-ESTHERVILLE COMPLEX, 18 TO 40 PERCENT SLOPES
RENVILLE		1030	UDORTHENTS-PITS, GRAVEL COMPLEX
RENVILLE	TRIAL	1055	OKOBOJI AND KLOSSNER SOILS, PONDED
RENVILLE	TRIAL	1641	MILLINGTON-MINNEISKA COMPLEX, FREQUENTLY FLOODED
RENVILLE	TRIAL	1642	BROWNTON-LURA COMPLEX
RENVILLE	TRIAL	1802	QUAM-SPICER COMPLEX
RENVILLE	TRIAL	1833	COLAND CLAY LOAM, OCCASIONALLY FLOODED
RENVILLE	TRIAL	1877	FOSTORIA CLAY LOAM
RENVILLE		1900	OKOBOJI-CANISTEO COMPLEX
RENVILLE	TRIAL	1917	NISHNA SILTY CLAY, PONDED
RENVILLE	TRIAL	1919C	CLARION-TERRIL COMPLEX, 8 TO 15 PERCENT SLOPES
RENVILLE	TRIAL	1958	KATO VARIANT SILTY CLAY LOAM
RENVILLE	TRIAL	1999	MINNEISKA-KALMARVILLE COMPLEX, FREQUENTLY FLOODED

86-Canisteo clay loam

Composition
Canisteo soil and similar soils: 85 to 95 percent
Contrasting inclusions: 5 to 15 percent

Setting
Landform and position on the landform: Low flats and convex rims of depressions on till plains
Slope range: 0 to 2 percent
Shape of areas: Irregular
Size of areas: 3 to 145 acres

Typical Profile
Typical pedon not found ...

Soil Properties and Qualities
Drainage class: Poorly drained
Permeability: Moderate
Available water capacity: High
Organic matter content: High
Surface runoff: Slow
Depth to water table: 1 to 3 feet

Inclusions
Contrasting inclusions:
Somewhat poorly drained and moderately well drained Nicollet soils are in higher lying positions and have surface layers leached of lime
Very poorly drained Okoboji soils are in closed depressions and are subject to ponding
Moderately well drained Seaforth soils are in higher lying positions

Similar soils:
Soils that have a higher content of lime
Soils that have a surface layer leached of lime
Soils that have a dark colored surface layer greater than 24 inches thick
Soils that have a surface layer of loam or silty clay loam

Use and Management
Cropland:
Major management factors: pH, seasonal high water table
A high content of lime results in a fertility imbalance that restricts the availability of essential plant nutrients. Crop varieties that are tolerant of the high lime content should be selected.
If worked when wet this soil will compact and form clods.
Most crops suited to the county can be grown if adequate drainage is provided.

Interpretive Groups
Land capability classification: 2w

Windbreak suitability group: 2K

130-Nicollet clay loam

Composition
Nicollet soil and similar soils: 85 to 95 percent
Contrasting inclusions: 5 to 15 percent

Setting
Landform and position on the landform: Low knolls, slightly convex side slopes, or low summits on till plains
Slope range: 1 to 3 percent
Shape of areas: Irregular
Size of areas: 3 to 200 acres

Typical Profile
0 to 16 inches-black, friable clay loam
16 to 20 inches-very dark grayish brown, friable clay loam
20 to 26 inches-dark grayish brown, friable clay loam
26 to 35 inches-olive brown, friable, mottled clay loam
35 to 44 inches-light olive brown, friable, mottled, calcareous clay loam
44 to 60 inches-light olive brown, friable, mottled, calcareous loam

Soil Properties and Qualities
Drainage class: Somewhat poorly drained and moderately well drained
Permeability: Moderate
Available water capacity: High
Organic matter content: High
Surface runoff: Slow
Depth to water table: 2.5 to 5 feet

Inclusions
Contrasting inclusions:
Poorly drained Canisteo and Webster soils are in lower lying positions
Well drained Clarion and Swanlake soils are in higher lying positions
Soils with seams or pockets of sand or gravel

Similar soils:
Soils that have lime at or near the surface
Soils that have more clay in the subsoil
Soils that have accumulations of lime in the lower part of the subsoil
Soils that have a surface layer of loam

Use and Management
Cropland:
Major management factors: None
This soil is well suited to cultivated crops.

Interpretive Groups
Land capability classification: 1

Windbreak suitability group: 1

134-Okoboji silty clay loam

Composition
Okoboji soil and similar soils: 85 to 95 percent
Contrasting inclusions: 5 to 15 percent

Setting
Landform and position on the landform: Depressions on till plains
Slope range: 0 to 1 percent
Shape of areas: Circular or oblong
Size of areas: 3 to 80 acres

Typical Profile
0 to 19 inches-black, friable silty clay loam
19 to 28 inches-black, friable, mottled silty clay loam
28 to 35 inches-very dark gray, friable, mottled silty clay loam
35 to 60 inches-olive gray, friable, mottled, calcareous silty clay loam

Soil Properties and Qualities
Drainage class: Very poorly drained
Permeability: Moderately slow
Available water capacity: High
Organic matter content: High or very high
Surface runoff: Ponded
Depth to water table: 1 foot above surface to 1 foot below

Inclusions
Contrasting inclusions:
Very poorly drained Blue Earth soils formed from coprogenous earth and are in similar landscape positions
Poorly drained Canisteo, Madelia, Spicer, and Webster soils have less clay and are in higher lying positions
Poorly drained Harps soils are on rims of the depressions
Very poorly drained Klossner soils are organic to a depth of more than 16 inches and are typically near the center of depressions

Similar soils:
Soils that have glacial till in the underlying material
Soils that have lime at or near the surface
Soils that have a dark colored surface layer less than 24 inches thick or more than 48 inches thick
Soils that have a surface layer of clay loam or silt loam
Soils that have more silt and less clay in the surface layer and subsoil
Soils that have a surface layer of mucky silty clay loam

Use and Management
Cropland:
Major management factors: Seasonal high water table, ponding
If worked when wet this soil will compact and form clods.
Most crops suited to the county can be grown if adequate drainage is provided. Surface inlets reduce the length of periods of ponding.

Interpretive Groups
Land capability classification: 3w
Windbreak suitability group: 2W

887B-Clarion-Swanlake complex, 2 to 6 percent slopes

Composition
Clarion soil and similar soils: 55 to 70 percent
Swanlake soil and similar soils: 20 to 30 percent
Contrasting inclusions: 10 to 15 percent

Setting
Landform and position on the landform: Clarion-summits and convex side slopes; Swanlake-shoulder slopes; on till plains
Shape of areas: Irregular
Size of areas: 3 to 80 acres

Typical Profile
Clarion:
0 to 10 inches-black, friable loam
10 to 13 inches-dark brown, friable loam
13 to 17 inches-brown to dark brown, friable loam
17 to 25 inches-dark yellowish brown, friable loam
25 to 34 inches-light olive brown, friable, calcareous loam
34 to 60 inches-light olive brown, friable, mottled, calcareous loam

Swanlake:
0 to 8 inches-very dark grayish brown, friable, calcareous loam
8 to 14 inches-olive brown, friable, calcareous loam
14 to 60 inches-light olive brown, friable, calcareous loam

Soil Properties and Qualities
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Organic matter content: Clarion-moderate or high; Swanlake-moderate
Surface runoff: Medium
Depth to water table: Greater than 6 feet

Inclusions
Contrasting inclusions:
Somewhat poorly drained and moderately well drained Nicollet soils are on lower parts of side slopes
Moderately well drained Seaforth soils are on lower parts of side slopes
Poorly drained Webster soils are in lower lying positions or in drainageways
Soils with seams or pockets of sand or gravel

Similar soils:
Soils that have light colored surface layers
Soils that have a dark colored surface layer more than 24 inches thick

Use and Management
Cropland:

Major management factors: Slope gradient-both; Swanlake-pH
Reduce the risk of erosion by using grassed waterways in conjunction with tillage practices that leave crop residue on the soil surface during the spring and early summer.
A high content of lime in the Swanlake soil results in a fertility imbalance that restricts the availability of essential plant nutrients. Crop varieties that are tolerant of the high lime content should be selected.

Interpretive Groups
Land capability classification: 2e
Windbreak suitability group: Clarion-3; Swanlake-8

956-Canisteo-Glencoe complex

Composition
Canisteo soil and similar soils: 50 to 60 percent
Glencoe soil and similar soils: 30 to 40 percent
Contrasting inclusions: 10 to 15 percent

Setting
Landform and position on the landform: Canisteo-low flats and convex rims of depressions; Glencoe-depressions; on till plains
Slope range: Canisteo-0 to 2 percent; Glencoe-0 to 1 percent
Shape of areas: Irregular
Size of areas: 10 to 1500 acres

Typical Profile
Canisteo:
0 to 14 inches-black, friable, calcareous clay loam
14 to 20 inches-black, friable, calcareous loam
20 to 29 inches-dark grayish brown, friable, calcareous loam
29 to 60 inches-grayish brown, friable, mottled, calcareous loam

Glencoe:
0 to 8 inches-black, friable, calcareous silty clay loam
8 to 26 inches-black, friable silty clay loam
26 to 30 inches-very dark gray, friable clay loam
30 to 43 inches-dark grayish brown, friable, mottled clay loam
43 to 60 inches-olive gray, friable, mottled, calcareous loam

Soil Properties and Qualities
Drainage class: Canisteo-poorly drained; Glencoe-very poorly drained
Permeability: Canisteo-moderate; Glencoe-moderate or moderately slow
Available water capacity: High
Organic matter content: Canisteo-high; Glencoe-high or very high
Surface runoff: Canisteo-slow; Glencoe-ponded
Depth to water table: Canisteo-1 to 3 feet; Glencoe-1 foot above surface to 1 foot below

Inclusions
Contrasting inclusions:
Somewhat poorly drained and moderately well drained Nicollet soils are in higher lying positions
Moderately well drained Seaforth soils are in higher lying positions

Similar soils:
Soils on rims of depressions that have accumulations of lime at or near the surface
Soils in depressions that have more clay in the surface layer and subsoil
Soils that have gypsum crystals at or near the surface

Use and Management

Cropland:
Major management factors: Seasonal high water table-both; Glencoe-ponding; Canisteo-pH
If worked when wet these soils will compact and form clods. Most crops suited to the county can be grown if adequate drainage is provided. Surface inlets reduce the length of periods of ponding in the Glencoe soil.
A high content of lime in the Canisteo soil results in a fertility imbalance that restricts the availability of essential plant nutrients. Crop varieties that are tolerant of the high lime content should be selected.

Interpretive Groups
Land capability classification: Canisteo-2w; Glencoe-3w
Windbreak suitability group: Canisteo-2K; Glencoe-2W

FECL **Fire & Environmental Consulting Laboratories, Inc.**

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167

January 15, 1990

GME Consultants, Inc.
Post Office Box 250
Crosby, MN 56441

Attention: Mr. Mark Millsop

Analytical Laboratory Report

FECL #: 3415-89-E1-27

Samples Collected by:
Unknown

Samples Analyzed by: M. Murshak, V. Murshak
Analyses Requested by: Mark Millsop
P.O. #: Verbal

Date/Time Samples Submitted:
11/28/89 2:00 p.m.

Submitting Company: GME Consultants
Post Office Box 250
Crosby, MN 56441

Project Description: Rollie's Tank Service

FECL #: 3415-89-E1
Tag: Product from Tank T-2
(Oldest Tank)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11-20-89

FECL #: 3415-89-E2
Tag: Product from Tank T-3
(Tank with Leaky Union)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11-20-89

FECL #: 3415-89-E3
Tag: Product from Tank T-1
(Newest Tank)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E4
Tag: Product and Water from
Excavation
Container: Glass Jar
Sample Type: Product, Ground Water
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E5
Tag: S-1
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E6
Tag: S-2
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E7
Tag: S-3
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E8
Tag: S-4
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E9
Tag: S-5
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E10
Tag: S-6
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E11
Tag: S-7
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E12
Tag: S-8
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E13
Tag: S-9
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E14
Tag: S-10
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E15
Tag: S-11
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E16
Tag: S-12
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E17
Tag: S-13
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E18
Tag: S-14
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E19
Tag: S-15
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E20
Tag: S-16
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E21
Tag: S-17
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E22
Tag: S-18
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E23
Tag: S-19
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E24
Tag: S-20
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E25
Tag: S-21
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E26
Tag: S-22
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E27
Tag: S-23
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

Analytical Laboratory Report
GME Consultants, Inc.
FECL #: 3415-89-E1-27
January 15, 1990

FECL #:	3415-89-E1	3415-89-E2	3415-89-E3	3415-89-E4
Tag:	Product from Tank T-2 (oldest tank)	Product from Tank T-3 (tank with leaky union)	Product from Tank T-1 (newest tank)	Product and Water from excavation

FECL #:	3415-89-E5	3415-89-E6
Tag:	S-1	S-2

Purgeable Aromatics

Benzene	<0.01 mg/kg	<0.01 mg/kg
Toluene	<0.01 mg/kg	<0.01 mg/kg
Ethyl benzene	<0.01 mg/kg	<0.01 mg/kg
p,m-Xylene	<0.01 mg/kg	0.04 mg/kg
o-Xylene	<0.01 mg/kg	0.02 mg/kg

Organic

Type of Petroleum Hydrocarbons	Not Detected	Product and water from Excavation

FECL #:	**3415-89-E7**	**3415-89-E8**	**3415-89-E9**
Tag:	S-3	S-4	S-5
Purgeable Aromatics			
Benzene	<0.01 mg/kg	<0.01 mg/kg	1.34 mg/kg
Toluene	0.15 mg/kg	0.20 mg/kg	31.0 mg/kg
Ethyl benzene	0.44 mg/kg	<0.01 mg/kg	6.70 mg/kg
p,m-Xylene	0.08 mg/kg	0.03 mg/kg	25.4 mg/kg
o-Xylene	<0.01 mg/kg	<0.01 mg/kg	11.5 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product and Water from Excavation	Product and Water from Excavation	Product from Tank T-3 (Tank with Leaky Union)

FECL #:	**3415-89-E10**	**3415-89-E11**	**3415-89-E12**
Tag:	S-6	S-7	S-8
Purgeable Aromatics			
Benzene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Toluene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Ethyl benzene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
p,m-Xylene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
o-Xylene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product and water from Excavation	Product and water from Excavation	Not Detected

Analytical Laboratory Report
GME Consultants, Inc.
FECL #: 3415-89-E1-27
January 15, 1990

FECL #:	**3415-89-E13**	**3415-89-E14**	**3415-89-E15**
Tag:	S-9	S-10	S-11
Purgeable Aromatics			
Benzene	<0.01 mg/kg	3.01 mg/kg	<0.01 mg/kg
Toluene	<0.01 mg/kg	13.0 mg/kg	<0.01 mg/kg
Ethyl benzene	<0.01 mg/kg	2.36 mg/kg	<0.01 mg/kg
p,m-Xylene	<0.01 mg/kg	7.73 mg/kg	<0.01 mg/kg
o-Xylene	<0.01 mg/kg	3.20 mg/kg	<0.01 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Not Detected	Product from Tank T-1 (newest tank)	Not Detected

FECL #:	**3415-89-E16**	**3415-89-E17**	**3415-89-E18**
Tag:	S-12	S-13	S-14
Purgeable Aromatics			
Benzene	0.14 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Toluene	0.29 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Ethyl benzene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
p,m-Xylene	0.84 mg/kg	<0.01 mg/kg	<0.01 mg/kg
o-Xylene	0.23 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product from Tank T-2 (closest tank)	Not Detected	Product and Water from Excavation

FECL #:	**3415-89-E19**	**3415-89-E20**	**3415-89-E21**
Tag:	S-15	S-16	S-17
Purgeable Aromatics			
Benzene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Toluene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Ethyl benzene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
p,m-Xylene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
o-Xylene	<0.01 mg/kg	<0.01 mg/kg	<0.01 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product and Water from Excavation	Product and Water from Excavation	Product and Water from Excavation

FECL #:	**3415-89-E22**	**3415-89-E23**	**3415-89-E24**
Tag:	S-18	S-19	S-20
Purgeable Aromatics			
Benzene	0.84 mg/kg	2.31 mg/kg	2.40 mg/kg
Toluene	0.53 mg/kg	9.96 mg/kg	2.25 mg/kg
Ethyl benzene	0.71 mg/kg	1.66 mg/kg	1.30 mg/kg
p,m-Xylene	2.07 mg/kg	5.91 mg/kg	4.20 mg/kg
o-Xylene	0.14 mg/kg	2.53 mg/kg	0.62 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product from Tank T-3 (tank with leaky union)	Product from Tank T-1 (newest tank)	Product from Tank T-3 (tank with leaky union

Analytical Laboratory Report
GME Consultants, Inc.
FECL #: 3415-89-E1-27
January 15, 1990

FECL #:	**3415-89-E25**	**3415-89-E26**	**3415-89-E27**
Tag:	S-21	S-22	S-23
Purgeable Aromatics			
Benzene	2.05 mg/kg	1.14 mg/kg	<0.01 mg/kg
Toluene	9.73 mg/kg	28.8 mg/kg	1.80 mg/kg
Ethyl benzene	2.13 mg/kg	8.45 mg/kg	1.00 mg/kg
p,m-Xylene	8.11 mg/kg	29.4 mg/kg	3.30 mg/kg
o-Xylene	2.57 mg/kg	11.5 mg/kg	1.70 mg/kg
Organic			
Type of Petroleum Hydrocarbons	Product from Tank T-1 (newest tank)	Product from Tank T-1 (newest tank)	Product and Water from Excavation

V. F. Murshak

Violetta F. Murshak
Laboratory Manager

VFM/ab

Fire & Environmental
Consulting Laboratories, Inc.

One East Complex 1451 East Lansing Dr., Suite 222 East Lansing, MI 48823 (517) 332-0167

March 12, 1990
(Supplemental Report)

GME Consultants, Inc.
Post Office Box 250
Crosby, MN 56441

Attn: Mr. Mark Millsop

Analytical Laboratory Report

FECL #: 3415-89-E1-27

Samples Collected by:
Unknown
Date/Time Samples Submitted:
11/28/89 2:00 p.m.

Samples Analyzed by: M. Murshak, V. Murshak
Analyses Requested by: Mark Millsop
P.O. #: Verbal

Submitting Company: GME Consultants
Post Office Box 250
Crosby, MN 56441

Project Description: Rollie's Tank Service

FECL #: 3415-89-E1
Tag: Product from Tank T-2
(Oldest Tank)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11-20-89

FECL #: 3415-89-E2
Tag: Product from Tank T-3
(Tank with Leaky Union)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11-20-89

FECL #: 3415-89-E3
Tag: Product from Tank T-1
(Newest Tank)
Container: Glass Jar
Sample Type: Product
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E4
Tag: Product and Water from
Excavation
Container: Glass Jar
Sample Type: Product, Ground Water
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E5
Tag: S-1
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E6
Tag: S-2
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E7
Tag: S-3
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E8
Tag: S-4
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E9
Tag: S-5
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E10
Tag: S-6
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E11
Tag: S-7
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E12
Tag: S-8
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E13
Tag: S-9
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E14
Tag: S-10
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E15
Tag: S-11
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E16
Tag: S-12
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E17
Tag: S-13
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E18
Tag: S-14
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E19
Tag: S-15
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E20
Tag: S-16
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E21
Tag: S-17
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E22
Tag: S-18
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E23
Tag: S-19
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E24
Tag: S-20
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E25
Tag: S-21
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E26
Tag: S-22
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #: 3415-89-E27
Tag: S-23
Container: Glass Jar
Sample Type: Soil
Preservation: None
Sampling date/time: 11/20/89

FECL #:	Column 1 Estimated Volatile Total Petroleum Hydrocarbons Based on the type reported in Column 2	Column 2 Type of Petroluem Hydrocarbons based on closest match of GC/MS Chromatogram	Column 3 Date of Analysis
3415-89-E5 Tag: S-1	Not Detected	N/A	12-7-89
3415-89-E6 Tag: S-2	3 mg/kg	Product and Water from Excavation (3415-89-E4)	12-7-89
3415-89-E7 Tag: S-3	20 mg/kg	Product and Water from Excavation (3415-89-E4)	12-7-89
3415-89-E8 Tag: S-4	22 mg/kg	Product and Water from Excavation (3415-89-E4)	12-7-89
3415-89-E9 Tag: S-5	80 mg/kg	Product from Tank T-3 (Tank with Leaky Union) (3415-89-E2)	12-7-89
3415-89-E10 Tag: S-6	0.5 mg/kg	Product and Water from Excavation (3415-89-E4)	12-7-89
3415-89-E11 Tag: S-7	0.5 mg/kg	Product and Water from Excavation (3415-89-E4)	12-7-89

FECL #:	Column 1 Estimated Volatile Total Petroleum Hydrocarbons Based on the type reported in Column 2	Column 2 Type of Petroluem Hydrocarbons based on closest match of GC/MS Chromatogram	Column 3 Date of Analysis
3415-89-E12 Tag: S-8	Not Detected	N/A	12-7-89
3415-89-E13 Tag: S-9	Not Detected	N/A	12-7-89
3415-89-E14 Tag: S-10	49 mg/kg	Product from Tank T-1 (Newest Tank)	12-8-89
3415-89-E15 Tag: S-11	Not Detected	N/A	12-8-89
3415-89-E16 Tag: S-12	17 mg/kg	Product from Tank T-2 (Closest Tank) (3415-89-E1)	12-9-89
3415-89-E17 Tag: S-13	Not Detected	N/A	12-9-89
3415-89-E18 Tag: S-14	52 mg/kg	Product and Water from Excavation (3415-89-E4)	12-9-89
3415-89-E19 Tag: S-15	14 mg/kg	Product and Water from Excavation (3415-89-E4)	12-12-89

Analytical Laboratory Report
GME Consultants, Inc.
FECL #: 3415-89-E1-27 (Supplemental Report)
March 12, 1990

FECL #:	Column 1 Estimated Volatile Total Petroleum Hydrocarbons Based on the type reported in Column 2	Column 2 Type of Petroluem Hydrocarbons based on closest match of GC/MS Chromatogram	Column 3 Date of Analysis
3415-89-E20 Tag: S-16	8 mg/kg	Product and Water from Excavation (3415-89-E4)	12-12-89
3415-89-E21 Tag: S-17	1 mg/kg	Product and Water from Excavation (3415-89-E4)	12-13-89
3415-89-E22 Tag: S-18	41 mg/kg	Product from Tank T-3 (Tank with Leaky Union) (3415-89-E2)	12-13-89
3415-89-E23 Tag: S-19	60 mg/kg	Product from Tank T-1 (Newest Tank) (3415-89-E3)	12-14-89
3415-89-E24 Tag: S-20	64 mg/kg	Product from Tank T-3 (Tank with Leaky Union) (3415-89-E2)	12-14-89
3415-89-E25 Tag: S-21	93 mg/kg	Product from Tank T-1 (Newest Tank) (3415-89-E3)	12-14-89

Analytical Laboratory Report
GME Consultants, Inc.
FECL #: 3415-89-E1-27 (Supplemental Report)
March 12, 1990

FECL #:	Column 1 Estimated Volatile Total Petroleum Hydrocarbons Based on the type reported in Column 2	Column 2 Type of Petroluem Hydrocarbons based on closest match of GC/MS Chromatogram	Column 3 Date of Analysis
3415-89-E26 Tag: S-22	192 mg/kg	Product from Tank T-1 (Newest Tank) (3415-89-E3)	12-14-89
3415-89-E27 Tag: S-23	128 mg/kg	Product and Water from Excavation (3415-89-E4)	12-14-89

The method used to analyze all samples was Purge & Trap, GC/MS

V. F. Murshak

Violetta F. Murshak
Laboratory Manager

VFM/ra

Fire & Environmental Consulting Laboratories, Inc.
One East Complex • 1451 East Lansing Dr., Ste. 222 • East Lansing, MI 48823
PHONE (517) 332-0167
FAX (517) 332-6333

CHAIN OF CUSTODY RECORD

Client/P.O.#: GME Consultants Contact Person: Mark Millsop Address: 14000 21ST Ave. No., Minneapolis

Project No. | Client: Rollie's Tank Service

Sampler(s) (Signature): Mark D. Millsop | Affiliation: GME

PRESERVED CODE → A A A
REFRIGERATE (Y/N) → Y Y Y
BOTTLE TYPE → P L O S G W

SAMPLE TYPE: GW WW SW SOIL OTHER Product = P

CODE: A = None, B = HNO_3, C = H_2SO_4, D = NaOH, E = _____

FEC Lab No.	Yr. Date	Time	SAMPLE TAG	Total Number Of Containers	P	L	O	S	G	W	Analyses
	11-2[illegible]	AM	Product from Tank T-2 (oldest tank)	1	X						BTEX, TPHC as gas and fuel and "fingerprint" it — should be gas with eth
	11-2[illegible]	AM	Product from Tank T-3 (tank with leaky union)	1	X						" " — should be regular leaded gas
	11-2[illegible]	AM	Product from Tank T-1 (newest tank)	1	X						" " — should be unleaded premium gas
	11-22	AM	Product and water from excavation A	2	X		X				Analyze Product Phase and Analyze Water Phase → BTEX + TPHC (Which of above products does it match)
	11-20	PM	S-1	1		X					BTEX + TPHC (+ lead?)
	11-20	PM	S-2	1		X					" "
	11-20	PM	S-3	1		X					" "

Relinquished by (Sig.)	Date	Time	Relinquished to lab by (Sig.)	Date	Time
Mark D. Millsop	11-28-89	2:00 PM (CST)	Mark D. Millsop	11-28-89	CST 2:00 PM
Received by (Sig.)	**Date**	**Time**	**Received for lab by (Sig.)**	**Date**	**Time**
			Rosanne Ames	11-28-89	2:00pm
Relinquished by (Sig.)	**Date**	**Time**	Seal #_____ Seal Intact Yes No Initials_____		
			Seal #_____ Seal Intact Yes No Initials_____		
Received by (Sig.)	**Date**	**Time**	Notes: (Temp. on arrival) _____		

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One East Complex • 1451 East Lansing Dr., Ste. 222 • East Lansing, MI 48823
PHONE (517) 332-0167
FAX (517) 332-6333

CHAIN OF CUSTODY RECORD

Client/P.O.#: GME Contact Person: Mark Millsop Address: Minneapolis, MN

Project No.	Client	Total Number Of Containers	PRESERVED CODE →	REFRIGERATE (Y/N) →	BOTTLE TYPE →	SAMPLE TYPE: GW WW SW SOIL OTHER P	Analyses
	Rollie's Tank		A	Y	40 VOA		
Sampler(s) (Signature): Mark D. Millsop	Affiliation:						

CODE: A = None, B = HNO_3, C = H_2SO_4, D = NaOH, E = _____

FEC Lab No.	Yr. 89 Date	Time	SAMPLE TAG	Total Number Of Containers	Preserved Code	Refrigerate (Y/N)	Bottle Type	Analyses
	11-20	PM	S-4	1	X			BTEX, TPHC
	11-21	AM	S-5	1	X			
	"	"	S-6	1	X			
	"	"	S-7	1	X			
	"	"	S-8	1	X			
	"	"	S-9	1	X			
	"	"	S-10	1	X			

Relinquished by (Sig.)	Date	Time	Relinquished to lab by (Sig.)	Date	Time
			Mark D. Millsop	11-28-89	CST 2:00 PM
Received by (Sig.)	Date	Time	Received for lab by (Sig.)	Date	Time
			Rosanne Ames	11-28-89	2:00 PM
Relinquished by (Sig.)	Date	Time	Seal # _____ Seal Intact Yes No Initials _____		
			Seal # _____ Seal Intact Yes No Initials _____		
Received by (Sig.)	Date	Time	Notes: (Temp. on arrival) _____		

Fire & Environmental Consulting Laboratories, Inc.
One East Complex • 1451 East Lansing Dr., Ste. 222 • East Lansing, MI 48823
PHONE (517) 332-0167
FAX (517) 332-6333

CHAIN OF CUSTODY RECORD

Client/P.O.#: GME Contact Person: Mark Millsop Address: Minneapolis, MN

Project No.	Client	Total Number Of Containers	PRESERVED CODE →	REFRIGERATE (Y/N) →	BOTTLE TYPE →	SAMPLE TYPE: GW WW SW SOIL OTHER
	Rollie's Tank		A	Y	5 10 L	

Sampler(s) (Signature): Mark D. Millsop Affiliation: GME

CODE: A = None, B = HNO_3, C = H_2SO_4, D = NaOH, E = _____

FEC Lab No.	Yr. 89 Date	Time	SAMPLE TAG	Total Number Of Containers	Analyses
	11-21	PM	S-11	1	X BTEX, TPHC
	11-21	PM	S-12	1	X
	"	"	S-13	1	X
	"	"	S-14	1	X
	"	"	S-15	1	X
	"	"	S-16	1	X
	"	"	S-17	1	X

Relinquished by (Sig.)	Date	Time	Relinquished to lab by (Sig.)	Date	Time
			Mark D. Millsop	11-28-89	CST 2:00 PM
Received by (Sig.)	**Date**	**Time**	**Received for lab by (Sig.)**	**Date**	**Time**
			Roseanne Ames	11-28-89	2:00 pm
Relinquished by (Sig.)	**Date**	**Time**	Seal #_____ Seal Intact Yes No Initials_____		
			Seal #_____ Seal Intact Yes No Initials_____		
Received by (Sig.)	**Date**	**Time**	Notes: (Temp. on arrival) _____		

Fire & Environmental Consulting Laboratories, Inc.
One East Complex • 1451 East Lansing Dr., Ste. 222 • East Lansing, MI 48823
PHONE (517) 332-0167
FAX (517) 332-6333

CHAIN OF CUSTODY RECORD

Client/P.O.#: GME Contact Person: Mark Millsop Address: Minneapolis, MN

Project No.	Client	Sampler(s) (Signature)	Affiliation
	Rollie's Tank	Mark D. Millsop	GME

FEC Lab No.	Yr. '89 Date	Time	SAMPLE TAG	Total Number Of Containers	PRESERVED CODE → A	REFRIGERATE (Y/N) → Y	BOTTLE TYPE → 500 L	Analyses
	11-22	AM	S-18	1	X			BTEX + TPHC
	"	"	S-19	1	X			
	"	"	S-20	1	X			
	"	"	S-21	1	X			
	"	"	S-22	1	X			
	"	"	S-23	1	X			

SAMPLE TYPE: GW WW SW SOIL OTHER

CODE: A = None, B = HNO_3, C = H_2SO_4, D = NaOH, E = ____

Relinquished by (Sig.)	Date	Time
Received by (Sig.)	**Date**	**Time**
Relinquished by (Sig.)	**Date**	**Time**
Received by (Sig.)	**Date**	**Time**

Relinquished to lab by (Sig.)	Date	Time
Mark D. Millsop	11-28-89	CST 2:00 PM
Received for lab by (Sig.)	**Date**	**Time**
Roxanne Ames	11-28-89	2100 PM

Seal #____ Seal Intact Yes No Initials____

Seal #____ Seal Intact Yes No Initials____

Notes: (Temp. on arrival)