INTERIM REPORT

CHRYSLER TRENTON CHEMICAL
UNDERGROUND STORAGE TANK CLOSURE SUMMARY

Prepared by:

Hart Engineers, Inc.
3000 Town Center, Suite 315
Southfield, MI 48075

January 30, 1989

US EPA RECORDS CENTER REGION 5
409662

Chrysler Trenton Chemical
Underground Storage Tank Closure Summary

Chrysler Motors Corporation retained HART Engineers, Inc. to manage the removal and disposal of nine underground storage tanks at the Trenton Chemical Facility. Another tank was to be abandoned in place. The work was performed in three distinct areas, the main underground tank farm (7 tanks - Numbers 23 through 29), the resin tank area (2 tanks - Numbers 41 and 42), and below the maintenance building (abandoned tank - Number 46). The tank locations are shown on Figures 1 and 2, and Table 1 presents a list of tank contents. Chemical Waste Management, Inc. (CWM) has been hired by Chrysler as general contractors for the project.

Tank removal began in the main underground tank farm on November 9, 1988. The air in the tank was tested for percent LEL and recorded prior to tank removal. After tank removal, a composite sample along the length of the excavation was taken from the soil directly below the tank. The excavated soil was returned to the hole and the next tank was removed. This procedure continued for each of the seven tanks in the main tank farm. After removal, CWM tested the air in the tanks for percent LEL, purged if necessary, and cut off the top half of the tank. Any residual product in the tank was solidified and transferred into 30 gallon drums, and the tank was then cut into small pieces. The scrap metal was stockpiled on-site for subsequent disposal. The same procedure was followed for the two resin tanks. All nine tanks were removed from the ground as of November 23, 1988. Several trenches were excavated adjacent to the former underground tank farm down to bedrock and composite samples were obtained (See Figure 3 for sample locations). The analytical data resulting from this sampling is attached.

(CL5146B/23)

The soil immediately surrounding the tanks in the main tank farm area was found to contain xylenes. Approximately 2,050 tons (1367 cubic yds) of material was excavated and manifested as a U239 hazardous waste to Adams Center Landfill, located in Fort Wayne, Indiana. The extent of excavation is detailed in Figure 4. The scrap metal from the tanks and the associated piping, was sent to the landfill along with the contaminated soil. Clean fill material will be used to replace the excavated soil. Backfill operations should be completed by January 27, 1989.

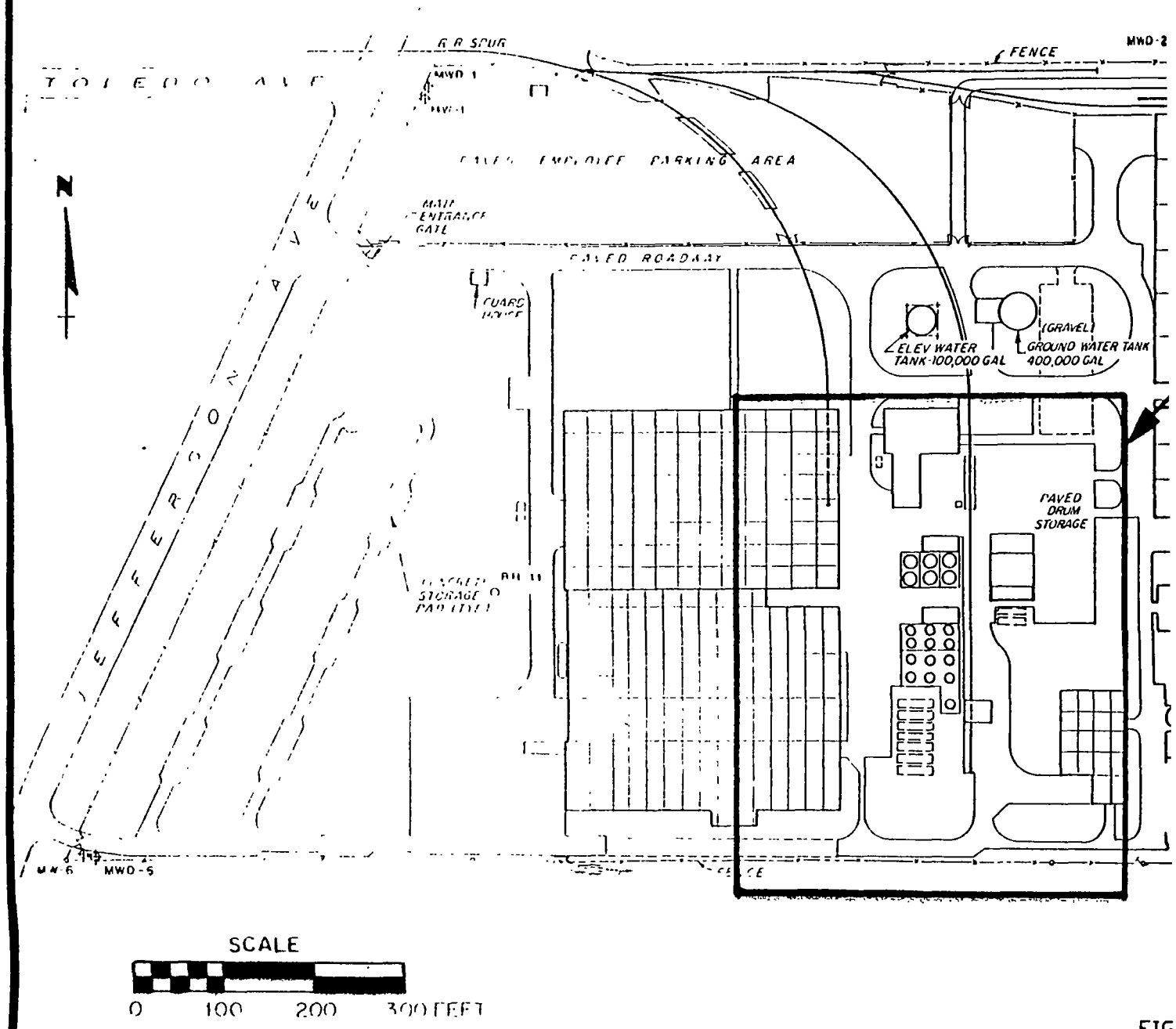
A tank tightness test was performed on the abandoned tank below the maintenance building by D.C. Electronics on December 7, 1988. The tank system tested tight according to the Precision Test Criteria established by the N.F.P.A. publication 329. Flowable Fill Mix Number Three will be used to fill the tank. This mixture is approved for tank abandonment fill by the State of Michigan Fire Marshall.

(CL5146B/23)

TABLE 1 - Tank Contents and Location

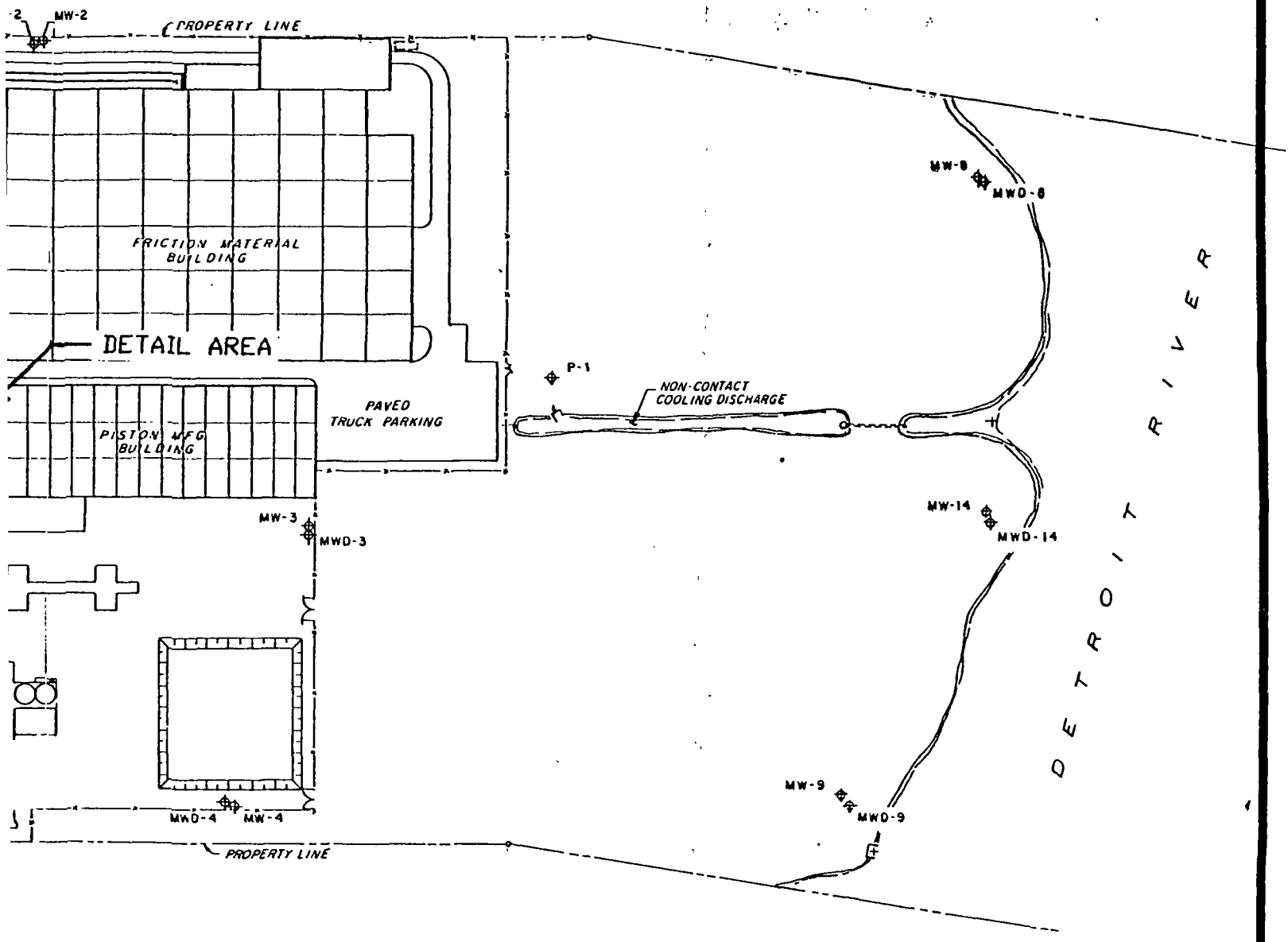
Tank Number	Contents	Location
23	Plasticizer	Main Underground Tank Farm
24	Lubricating Oil	Main Underground Tank Farm
25	Lubricating Oil	Main Underground Tank Farm
26	Mineral Seal Oil	Main Underground Tank Farm
27	Cutting Oil Base A	Main Underground Tank Farm
28	Xylol (xylene)	Main Underground Tank Farm
29	Honing Oil	Main Underground Tank Farm
41	Resin/Solvent Mixture	Resin Tank Area
42	Resin	Resin Tank Area
46	Oil - Fuel Grade No. 2	Below Maintenance Building

(CL5146B/26)


R.R. SPUR
FENCE
MWD-2
MWD-1
PAVED EMPLOYEE PARKING AREA
MAIN ENTRANCE GATE
PAVED ROADWAY
GUARD HOUSE
ELEV WATER TANK-100,000 GAL
(GRAVEL) GROUND WATER TANK 400,000 GAL
PAVED DRUM STORAGE
MW-6
MWD-5
N
SCALE
0
100
200
300 FEET

FIG

SIT


MW-2
PROPERTY LINE
FRICTION MATERIAL BUILDING
DETAIL AREA
PISTON MFG BUILDING
PAVED TRUCK PARKING
P-1
NON-CONTACT COOLING DISCHARGE
MW-8
MWD-8
MW-14
MWD-14
MW-3
MWD-3
MW-9
MWD-9
MWD-4
MW-4
PROPERTY LINE
DETROIT RIVER

GURE 1

'E MAP

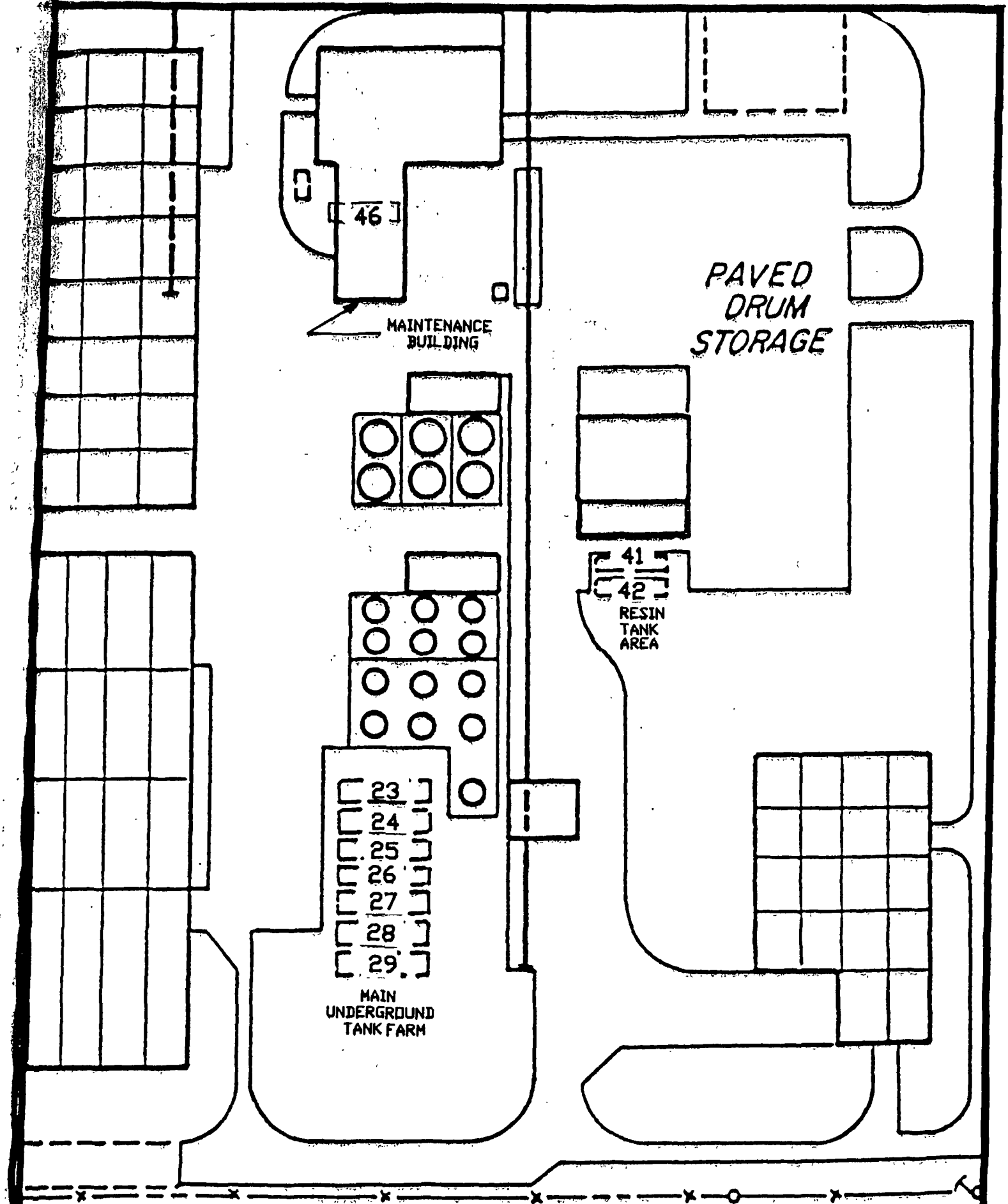


FIGURE 2

TANK LOCATIONS

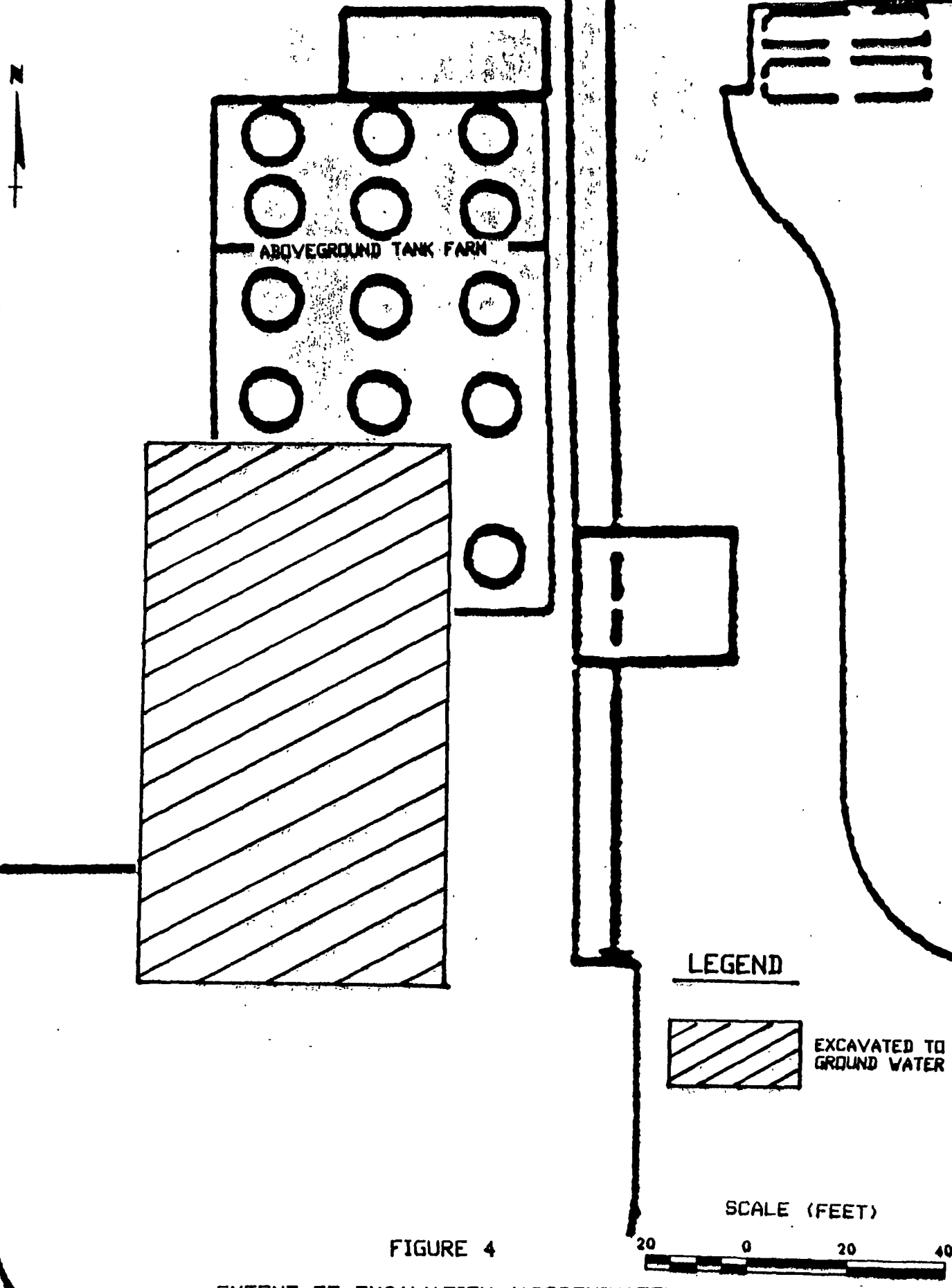


FIGURE 4

EXTENT OF EXCAVATION (APPROXIMATE)

TRENTON CHEMICAL TANK REMOVAL

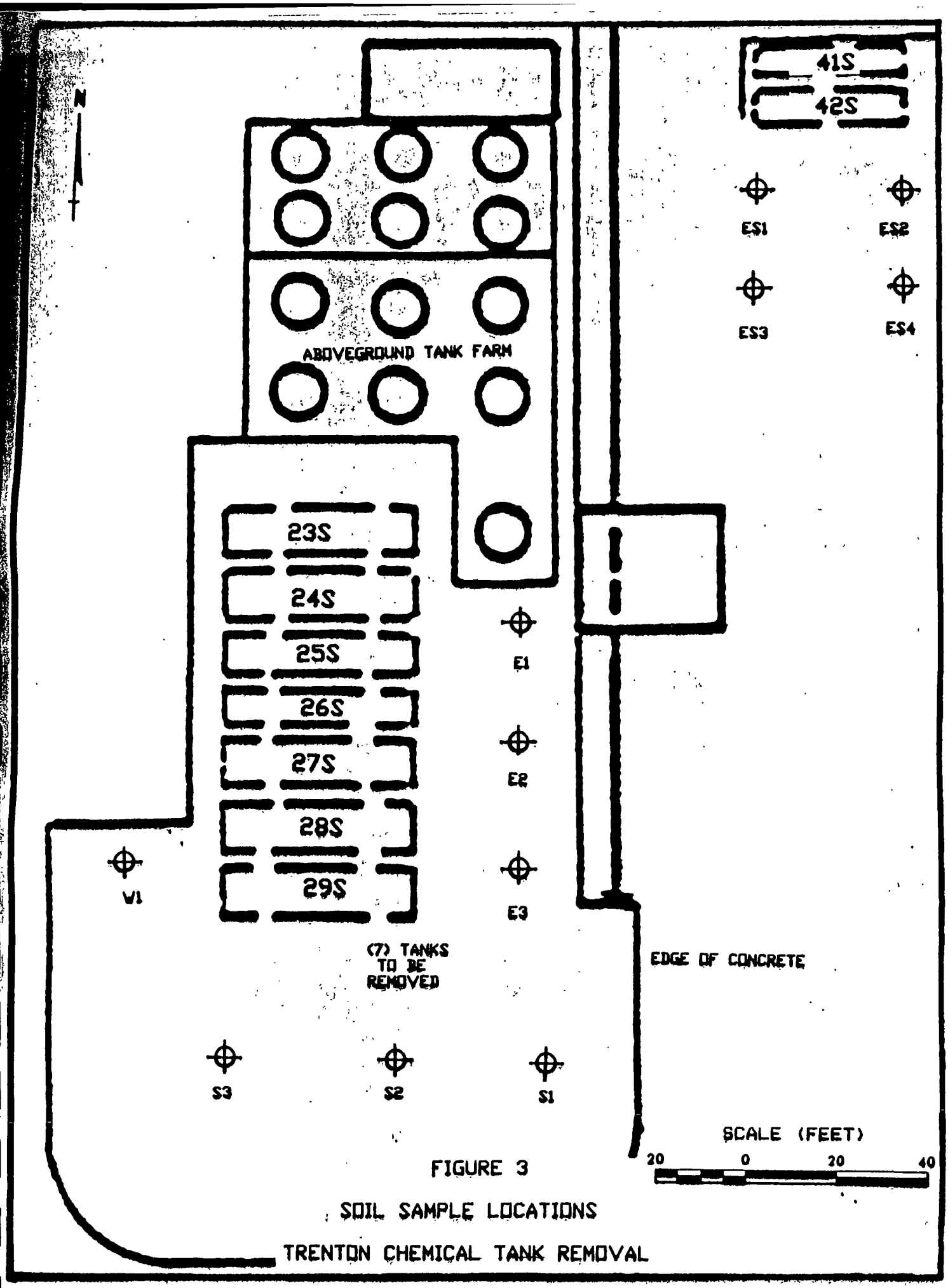


FIGURE 3

SOIL SAMPLE LOCATIONS

TRENTON CHEMICAL TANK REMOVAL

APPENDIX A

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received: 11-15-88
ALD Number 48429
Client I.D.. CTCTJ-23S

Physical Description:
99% Brown Solid
1% Free Liquid
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	6.7
Sulfide, S, mg/kg	8
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<5
Aroclor 1254	--
Aroclor 1260	<2
Total Petroleum Hydrocarbons, mg/kg	470

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1,1988

Date Received: 11-15-88
ALD Number: 48429
Client I.D.: CTCTJ-23S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	BDL	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	0.23	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	BDL	0.02
Copper, Cu, mg/l	BDL	0.02
Zinc, Zn, mg/l	BDL	0.02
Cyanide, CN, mg/l	0.18	0.02
Nickel, Ni, mg/l	BDL	0.02

Christopher P. Jr.
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 8.2 mls of 0.5 N acetic acid, the final pH was 4.9.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 1, 1988

Date Received 11-15-88
ALD Number. 48429
Client I D.. CTCTJ-23S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	300 mg/kg
Acetone	94 mg/kg		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jones
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received 11-15-88

Lab Number 48429

Page 1

CTCTJ-23S

December 1, 1988

HAZARDOUS SUBSTANCE LIST

VOLATILES

Detection Limits ug/kg		Detection Limits ug/kg	
Chloromethane	<5	Toluene	<5
Bromomethane	<5	Chlorobenzene	<5
Vinyl Chloride	<5	Ethyl Benzene	<5
Chloroethane	<5	Styrene	<5
Methylene Chloride	<50	Xylenes	<5
Acetone	<25		
Carbon Disulfide	<5		
1,1-Dichloroethene	<5		
1,1-Dichloroethane	<5		
trans-1,2-Dichloroethene	<5		
Chloroform	<5		
1,2-Dichloroethane	<5		
2-Butanone	<5		
1,1,1-Trichloroethane	<5		
Carbon Tetrachloride	<5		
Vinyl Acetate	<5		
Bromodichloromethane	<5		
1,1,2,2-Tetrachloroethane	<5		
1,2-Dichloropropane	<5		
trans-1,3-Dichloropropene	<5		
Trichloroethene	<5		
Dibromochloromethane	<5		
1,1,2-Trichloroethane	<5		
Benzene	<5		
cis-1,3-Dichloropropene	<5		
2-Chloroethyl Vinyl Ether	<5		
Bromoform	<5		
2-Hexanone	<5		
4-Methyl-2-pentanone	<5		
Tetrachloroethene	<5		

Christopher P. Gr[illegible]

Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 29, 1988

Date Received 11-15-88
ALD Number. 48428
Client I.D . CTCTJ-24 S

Physical Description.
95% Brown Solid
5% Free Liquid
Solvent Odor

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	4.3
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	1
PCB, mg/kg	
Aroclor 1242	<3
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	250

Christopher P Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 29, 1988

Date Received: 11-15-88
ALD Number: 48428
Client I.D.: CTCTJ-24 S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	BDL	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	BDL	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Laboratory Manager

BDL - Below Detection Limit

130 grams of sample was leached into 2100 mls of deionized water and brought to a final volume of 2660 mls. After the addition of 3.2 mls of 0.5 N acetic acid, the final pH was 5.1.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 29, 1988

Date Received. 11-15-88
ALD Number 48428
Client I D CTCTU-24 S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0 5	Toluene	<0.5
Bromomethane	<0 5	Chlorobenzene	<0 5
Vinyl Chloride	<0 5	Ethyl Benzene	<0 5
Chloroethane	<0 5	Styrene	<0 5
Methylene Chloride	<0.5	Xylenes	<0 5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0 5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Jack
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 29, 1988

Date Received: 11-15-88
ALD Number: 48428
Client I.D.: CTCTJ-24 S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	42 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	520 mg/kg
Acetone	6 mg/kg		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

BDL-Below Detection Limit.

Christopher P. Geck
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 30, 1988

Date Received: 11-14-88
ALD Number: 48273
Client I.D.: CTCTJ-25S

Physical Description.
100% Brown Solid
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	8
Reactivity	Not Reactive
Cyanide, CN, mg/kg	7.5
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	1500

Christopher P. Jack
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 30, 1988

Date Received: 11-14-88
ALD Number: 42873
Client I.D.: CTCTJ-25S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.49	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	0.53	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.06	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	0.04	0.02

Christopher P. Gre
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 370 mls of 0.5 N acetic acid, the final pH was 5.1.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received: 11-22-88
ALD Number: 48273
Client I.D.: CTCTJ-25S

November 30, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	8 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	89 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher

Laboratory M

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 30, 1988

Date Received: 11-22-88
ALD Number: 48273
Client I.D.: CTCTJ-25S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

	Detection Limits mg/kg		Detection Limits mg/kg
Chloromethane	<1.0	Toluene	<5.0
Bromomethane	<1.0	Chlorobenzene	<5.0
Vinyl Chloride	<1.0	Ethyl Benzene	<5.0
Chloroethane	<1.0	Styrene	<1.0
Methylene Chloride	<1.0	Xylenes	<1.0
Acetone	<10		
Carbon Disulfide	<5.0		
1,1-Dichloroethene	<5.0		
1,1-Dichloroethane	<5.0		
trans-1,2-Dichloroethene	<5.0		
Chloroform	<5.0		
1,2-Dichloroethane	<5.0		
2-Butanone	<5.0		
1,1,1-Trichloroethane	<5.0		
Carbon Tetrachloride	<5.0		
Vinyl Acetate	<5.0		
Bromodichloromethane	<5.0		
1,1,2,2-Tetrachloroethane	<5.0		
1,2-Dichloropropane	<5.0		
trans-1,3-Dichloropropene	<5.0		
Trichloroethene	<5.0		
Dibromochloromethane	<5.0		
1,1,2-Trichloroethane	<5.0		
Benzene	<5.0		
cis-1,3-Dichloropropene	<5.0		
2-Chloroethyl Vinyl Ether	<5.0		
Bromoform	<5.0		
2-Hexanone	<5.0		
4-Methyl-2-pentanone	<5.0		
Tetrachloroethene	<5.0		

Laboratory

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

December 1, 1988

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Date Received: 11-14-88
ALD Number: 48272
Client I.D.: CTCTJ-26S

Physical Description:
95% Brown Solid
5% Opaque Free Liquid
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	1
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	1800

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received: 11-14-88
ALD Number: 48272
Client I.D.: CTCTJ-26S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	0.21	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	0.09	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	BDL	0.02
Copper, Cu, mg/l	BDL	0.02
Zinc, Zn, mg/l	0.04	0.02
Cyanide, CN, mg/l	0.04	0.02
Nickel, Ni, mg/l	BDL	0.02

Christopher P. Gr[illegible]
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 7.1 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 1, 1988

Date Received: 11-14-88
ALD Number: 48272
Client I.D.: CTCTJ-26S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	280 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	2000 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jack
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received 11-14-88
Acq Number 48272
Client I.D. CTCTJ-26S

December 1, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<10	Toluene	<10
Bromomethane	<10	Chlorobenzene	<10
Vinyl Chloride	<10	Ethyl Benzene	<10
Chloroethane	<10	Styrene	<10
Methylene Chloride	<10	Xylenes	<10
Acetone	<100		
Carbon Disulfide	<50		
1,1-Dichloroethene	<10		
1,1-Dichloroethane	<10		
trans-1,2-Dichloroethene	<10		
Chloroform	<10		
1,2-Dichloroethane	<10		
2-Butanone	<10		
1,1,1-Trichloroethane	<10		
Carbon Tetrachloride	<10		
Vinyl Acetate	<10		
Bromodichloromethane	<10		
1,1,2,2-Tetrachloroethane	<10		
1,2-Dichloropropane	<10		
trans-1,3-Dichloropropene	<10		
Trichloroethene	<10		
Dibromochloromethane	<10		
1,1,2-Trichloroethane	<10		
Benzene	<10		
cis-1,3-Dichloropropene	<10		
2-Chloroethyl Vinyl Ether	<10		
Bromoform	<10		
2-Hexanone	<10		
4-Methyl-2-pentanone	<10		
Tetrachloroethene	<10		

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 2, 1988

Date Received: 11-14-88
ALD Number: 48271
Client I.D.: CTCTJ-27S

Physical Description:

99% Medium Brown Soil
1% Brown Free Liquid
Solvent Odor

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	8.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	17
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	1100

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 2, 1988

Date Received: 11-14-88
ALD Number: 48271
Client I.D.: CTCTJ-27S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	0.55	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	0.09	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	0.02	0.02
Copper, Cu, mg/l	BDL	0.02
Zinc, Zn, mg/l	0.06	0.02
Cyanide, CN, mg/l	BDL	0.02
Nickel, Ni, mg/l	0.04	0.02

Christopher P. Jeck
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and borught to a final volume of 2000 mls. After the addition of 20 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 2, 1988

Date Received: 11-14-88
ALD Number: 48271
Client I.D.: CTCTJ-27S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	130 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	1300 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jeb
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 2, 1988

Date Received: 11-14-88
ALD Number: 48271
Client I.D.: CTCTJ-27S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<10	Toluene	<10
Bromomethane	<10	Chlorobenzene	<10
Vinyl Chloride	<10	Ethyl Benzene	<10
Chloroethane	<10	Styrene	<10
Methylene Chloride	<10	Xylenes	<10
Acetone	<100		
Carbon Disulfide	<50		
1,1-Dichloroethene	<10		
1,1-Dichloroethane	<10		
trans-1,2-Dichloroethene	<10		
Chloroform	<10		
1,2-Dichloroethane	<10		
2-Butanone	<10		
1,1,1-Trichloroethane	<10		
Carbon Tetrachloride	<10		
Vinyl Acetate	<10		
Bromodichloromethane	<10		
1,1,2,2-Tetrachloroethane	<10		
1,2-Dichloropropane	<10		
trans-1,3-Dichloropropene	<10		
Trichloroethene	<10		
Dibromochloromethane	<10		
1,1,2-Trichloroethane	<10		
Benzene	<10		
cis-1,3-Dichloropropene	<10		
2-Chloroethyl Vinyl Ether	<10		
Bromoform	<10		
2-Hexanone	<10		
4-Methyl-2-pentanone	<10		
Tetrachloroethene	<10		

Christopher P. Jack
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 22, 1988

Date Received: 11-10-88
ALD Number. 48105
Client I.D.: CTCTJ-28S

Physical Description:
99% Black Solid, 1% Free Liquid
Solvent Odor

As Received

Ignitability, °F	105
(ph 1:1 slurry)	7.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	33
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	870

QA/QC Note: One bad Cyanide Standard in run.

Christopher P. Gel
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Date Received: 11-10-88
ALD Number: 48105
Client I.D.: CTCTJ-28S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	1.4	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	0.20	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	0.02	0.02
Zinc, Zn, mg/l ----------	0.13	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	0.08	0.02

Christopher P. Jeck
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600mls of deionized water and brought to a final volume of 2000 mls. After the addition of 71 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-10-88
ALD Number: 48105
Client I.D.: CTCTJ-28S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene --------	890 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes ----------	8200 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

BDL-Below Detection Limit.

Christopher P. Jeck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received: 11-10-88
ALD Number. 48105
Client I.D . CTCTJ-28S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

	Detection Limits mg/kg
Chloromethane	<50
Bromomethane	<50
Vinyl Chloride	<50
Chloroethane	<50
Methylene Chloride	<50
Acetone	<500
Carbon Disulfide	<250
1,1-Dichloroethene	<50
1,1-Dichloroethane	<50
trans-1,2-Dichloroethene	<50
Chloroform	<50
1,2-Dichloroethane	<50
2-Butanone	<50
1,1,1-Trichloroethane	<50
Carbon Tetrachloride	<50
Vinyl Acetate	<50
Bromodichloromethane	<50
1,1,2,2-Tetrachloroethane	<50
1,2-Dichloropropane	<50
trans-1,3-Dichloropropene	<50
Trichloroethene	<50
Dibromochloromethane	<50
1,1,2-Trichloroethane	<50
Benzene	<50
cis-1,3-Dichloropropene	<50
2-Chloroethyl Vinyl Ether	<50
Bromoform	<50
2-Hexanone	<50
4-Methyl-2-pentanone	<50
Tetrachloroethene	<50

	Detection Limits mg/kg
Toluene	<50
Chlorobenzene	<50
Ethyl Benzene	<50
Styrene	<50
Xylenes	<50

Christopher P. Geck
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 30, 1988

Date Received: 11-9-88
ALD Number: 48011
Client I.D.: CTCTJ-29S

Physical Description:

100% Brown Soil
Solvent Odor

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	5
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	9300

Christopher P. Jack
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 30, 1988

Date Received: 11-9-88
ALD Number: 48011
Client I.D.: CTCTJ-29S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	0.40	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	0.23	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	0.02	0.02
Copper, Cu, mg/l	0.02	0.02
Zinc, Zn, mg/l	0.10	0.02
Cyanide, CN, mg/l	BDL	0.02
Nickel, Ni, mg/l	0.05	0.02

Christopher P. Grek
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 270 mls of 0.5 N acetic acid, the final pH was 4.8.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 30, 1988

Date Received: 11-9-88
ALD Number. 48011
Client I.D.: CTCTJ-29S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	2.4 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

BDL-Below Detection Limit.

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 30, 1988

Date Received: 11-9-88
ALD Number: 48011
Client I.D.: CTCTJ-29S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. [illegible]
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 23, 1988

Date Received: 11-11-88
ALD Number: 48157
Client I.D.: CTCTJ-E1

Physical Description:

100% Solid, Brown and White Coloring

As Received

Ignitability, °F ---------- >200

(pH 1:1 slurry) ---------- 11.6

Reactivity ---------- Not Reactive

Cyanide, CN, mg/kg ---------- 110

Sulfide, S, mg/kg ---------- <2

Paint Filter Test-(free liquid), % ------ <0.1

PCB, mg/kg

Aroclor 1242 ---------- <1

Aroclor 1254 ---------- --

Aroclor 1260 ---------- <1

Total Petroleum Hydrocarbons, TPH, mg/kg -- 26,000

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 23, 1988

Date Received. 11-11-88
ALD Number: 48157
Client I.D.: CTCTJ-E1

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.86	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	0.57	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.10	0.02
Cyanide, CN, mg/l ----------	0.37	0.02
Nickel, Ni, mg/l ----------	0.04	0.02

Christopher P. Peck
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 7.2

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-11-88
ALD Number: 48157
Client I.D.: CTCTJ-E1

Novmeber 23, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Geck
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 23, 1988

Date Received: 11-11-88
ALD Number: 48157
Client I.D.: CTCTJ-E1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfice	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Geck
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 23, 1988

Date Received: 11-11-88
ALD Number: 48158
Client I.D.: CTCTJ-E2

Physical Description:
100% Brown Solid with White Coloring

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	11.6
Reactivity	Not Reactive
Cyanide, CN, mg/kg	46
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, TPH, mg/kg	27,000

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Novmeber 23, 1988

Date Received: 11-11-88
ALD Number: 48158
Client I.D.: CTCTJ-E2

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	1.2	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	0.03	0.02
Lead, Pb, mg/l ----------	0.68	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	BDL	0.02
Cyanide, CN, mg/l ----------	0.02	0.02
Nickel, Ni, mg/l ----------	0.02	0.02

Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 7.3

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received: 11-11-88
ACD Number: 48158
Client I.D.: CTCTJ-E2

November 23, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jack
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 23, 1988

Date Received. 11-11-88
ALD Number. 48158
Client I D.. CTCTJ-E2

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Geck
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 23, 1988

Date Received. 11-11-88
ALD Number: 48159
Client I D.: CTCTJ-E3

Physical Description:

100% Grey and Brown Solid
Clay Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	11.6
Reactivity	Not Reactive
Cyanide, CN, mg/kg	2.6
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<5
Aroclor 1254	--
Aroclor 1260	<2
Total Petroleum Hydrocarbons, mg/kg	19,000

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

November 23, 1988

Date Received: 11-11-88
ALD Number: 48159
Client I.D.: CTCTJ-E3

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	1.3	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	0.05	0.02
Lead, Pb, mg/l ----------	0.62	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	
Silver, Ag, mg/l ----------	BDL	
Copper, Cu, mg/l ----------	BD[illegible]	
Zinc, Zn, mg/l ----------		
Cyanide, CN, mg/l ----------		
Nickel, Ni, mg/l ----------	BDL	

BDL - Below Detection Limit

100 grams of sample was leached into 1600 m
to a final volume of 2000 mls. After the ad
acid, the final pH was 7.8.

[illegible] P. [illegible]
[illegible]atory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 23, 1988

Date Received. 11-11-88
ALD Number. 48159
Client I.D.: CTCTJ-E3

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes ----------	3.6 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jeck
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

November 23, 1988

Date Received: 11-11-88
ALD Number: 48159
Client I.D.: CTCTJ-E3

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-Pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Jack
Laboratory Manager

Burmah
Burmah Technical Services, Inc
Analytical Laboratories Division
406 Auburn Avenue
Pontiac Michigan 48058
313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 6, 1988

Date Received 11-16-88
ALD Number: 48543
Client I.D.: CTCTJ-S1

Physical Description:

100% Grey Solid
Solvent Odor

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	6.5
Reactivity	Not Peactive
Cyanide, CN, mg/kg	27
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	1500

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Date Received: 11-16-88
ALD Number: 48543
Client I.D.: CTCTJ-S1

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.15	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.05	0.02
Cyanide, CN, mg/l ----------	0.03	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 21 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received: 11-16-88
ALD Number: 48543
Client I.D.: CTCTJ-S1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene--------	24 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes----------	470 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jr.
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received: 11-16-88
ALD Number: 48543
Client I.D.: CTCTJ-S1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	<1.0	Toluene	<1.0
Bromomethane	<1.0	Chlorobenzene	<1.0
Vinyl Chloride	<1.0	Ethyl Benzene	<1.0
Chloroethane	<1.0	Styrene	<1.0
Methylene Chloride	<1.0	Xylenes	<1.0
Acetone	<10.0		
Carbon Disulfide	<5.0		
1,1-Dichloroethene	<1.0		
1,1-Dichloroethane	<1.0		
trans-1,2-Dichloroethene	<1.0		
Chloroform	<1.0		
1,2-Dichloroethane	<1.0		
2-Butanone	<1.0		
1,1,1-Trichloroethane	<1.0		
Carbon Tetrachloride	<1.0		
Vinyl Acetate	<1.0		
Bromodichloromethane	<1.0		
1,1,2,2-Tetrachloroethane	<1.0		
1,2-Dichloropropane	<1.0		
trans-1,3-Dichloropropene	<1.0		
Trichloroethene	<1.0		
Dibromochloromethane	<1.0		
1,1,2-Trichloroethane	<1.0		
Benzene	<1.0		
cis-1,3-Dichloropropene	<1.0		
2-Chloroethyl Vinyl Ether	<1.0		
Bromoform	<1.0		
2-Hexanone	<1.0		
4-Methyl-2-pentanone	<1.0		
Tetrachloroethene	<1.0		

Christopher P. Grab
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received. 11-16-88
ALD Number. 48544
Client I D . CTCTJ-S2

Physical Description:
100% Brown Solid

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	6.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	25
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	8.3
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	660

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received: 11-16-88
ALD Number: 48544
Client I.D.: CTCTJ-S2

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	0.12	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	BDL	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	BDL	0.02
Copper, Cu, mg/l	BDL	0.02
Zinc, Zn, mg/l	0.32	0.02
Cyanide, CN, mg/l	BDL	0.02
Nickel, Ni, mg/l	0.06	0.02

Christopher P. Jack
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionzied water and brought to a final volume of 2000 mls. After the addition of 80 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 1, 1988

Date Received: 11-16-88
ALD Number: 48544
Client I.D.: CTCTJ-S2

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-16-88
ALD Number. 48544
Client I.D.: CTCTJ-S2

December 1, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received 11-16-88
ALD Number. 48545
Client I.D.: CTCTJ-S3

Physical Description.
100% Brown Solid

As Received

Ignitability, °F	>200
(pH 1.1 slurry)	6.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	13
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	<75

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 1, 1988

Date Received: 11-16-88
ALD Number: 48545
Client I.D.: CTCTJ-S3

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l	BDL	0.005
Barium, Ba, mg/l	0.42	0.1
Cadmium, Cd, mg/l	BDL	0.01
Chromium, Cr, mg/l	BDL	0.02
Lead, Pb, mg/l	BDL	0.05
Mercury, Hg, mg/l	BDL	0.0005
Selenium, Se, mg/l	BDL	0.005
Silver, Ag, mg/l	BDL	0.02
Copper, Cu, mg/l	BDL	0.02
Zinc, Zn, mg/l	BDL	0.02
Cyanide, CN, mg/l	BDL	0.02
Nickel, Ni, mg/l	BDL	0.02

Christopher P. Jack
Laboratory Manager

BDL - Below Detection Limit

100 grams of smaple was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 6.8.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received. 11-16-88
ALD Number. 48545
Client I D.: CTCTJ-S3

December 1, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	3.6 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. G.
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received. 11-16-88
ALD Number: 48545
Client I.D.: CTCTJ-S3

December 1, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. G.

Laboratory Manager

Burmah Technical Services, Inc
Analytical Laboratories Division
408 Auburn Avenue
Pontiac, Michigan 48058
313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48588
Client I.D.: CTCTJ-W1

Physical Description:
100% Solid
Black and Brown Colcring

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	6.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	3.3
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	1
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	86

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48588
Client I.D.: CTCTJ-1/1

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.38	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.06	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Christopher P. Ca

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48588
Client I.D.: CTCTJ-W1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. [illegible]
Laboratory Manager

BDL-Below Detection Limit.

rmah

IM/CTC SUBSURFACE REMEDIATION

December 5, 1988

ıte Received: 11-17-88
D Number: 48588
ıient I.D.: CTCTJ-W1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
ıloromethane	<0.5	Toluene	<0.5
romomethane	<0.5	Chlorobenzene	<0.5
ınyl Chloride	<0.5	Ethyl Benzene	<0.5
hloroethane	<0.5	Styrene	<0.5
ethylene Chloride	<0.5	Xylenes	<0.5
cetone	<5.0		
arbon Disulfide	<2.5		
,1-Dichloroethene	<0.5		
,1-Dichloroethane	<0.5		
rans-1,2-Dichloroethene	<0.5		
hloroform	<0.5		
,2-Dichloroethane	<0.5		
-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
arbon Tetrachloride	<0.5		
inyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. [illegible]
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 8, 1988

Date Received 11-17-88
ALD Number: 48586
Client I D . CTCTJ-41 S

Physical Description:

100% Light Brown Solid

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	<1
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	---
Aroclor 1254	≤1.0
Aroclor 1260	---
Total Petroleum Hydrocarbons, mg/kg	<75

Christopher P. Geck
Laboratory Manager

Where a number is reported as "≤" (less than or equal to), the number represents the amount of the compound that is/could be present assuming that the entire observed response is the compound of concern.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Date Received: 11-17-88
ALD Number: 48586
Client I.D.: CTCTJ-41S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.09	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.02	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Christopher P. Gelb
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 114 mls of 0.5 N acetic acid, the final pH was 4.9.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-17-88
ALD Number. 48586
Client I D.: CTCTJ-41S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL

Acetone ---------- 11 mg/kg

Carbon Disulfide	BDL
1,1-Dichloroethene	BDL
1,1-Dichloroethane	BDL
trans-1,2-Dichloroethene	BDL
Chloroform	BDL
1,2-Dichloroethane	BDL
2-Butanone	BDL
1,1,1-Trichloroethane	BDL
Carbon Tetrachloride	BDL
Vinyl Acetate	BDL
Bromodichloromethane	BDL
1,1,2,2-Tetrachloroethane	BDL
1,2-Dichloropropane	BDL
trans-1,3-Dichloropropene	BDL
Trichloroethene	BDL
Dibromochloromethane	BDL
1,1,2-Trichloroethane	BDL
Benzene	BDL
cis-1,3-Dichloropropene	BDL
2-Chloroethyl Vinyl Ether	BDL
Bromoform	BDL
2-Hexanone	BDL
4-Methyl-2-pentanone	BDL
Tetrachloroethene	BDL

Christopher P. G.
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received: 11-17-88
ALD Number: 48586
Client I.D.: CTCTJ-41S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Gre

Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received. 11-17-88
ALD Number. 48587
Client I D : CTCTJ-42S

Physical Description:
100% Light Brown Solid
Solvent Odor

As Received

Ignitability, °F	>200
(ph 1:1 slurry)	6.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	5.2
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	6.3
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	86

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48587
Client I.D.: CTCTJ-42S

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.11	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	0.09	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.03	0.02
Cyanide, CN, mg/l ----------	0.02	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Christopher P. Jack
Manager

BDL - Below Detection Limit
100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 140 mls of 0.5 N acetic acid, the final pH was 5.0.

urmah

WM/CTC SUBSURFACE REMEDIATION

December 5, 1988

ate Received: 11-17-88
LD Number: 48587
lient I.D.: CTCTJ-42S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

hloromethane	BDL
romomethane	BDL
inyl Chloride	BDL
hloroethane	BDL
ethylene Chloride	BDL
cetone	BDL
arbon Disulfide	BDL
1,1-Dichloroethene	BDL
1,1-Dichloroethane	BDL
trans-1,2-Dichloroethene	BDL
hloroform	BDL
1,2-Dichloroethane	BDL
2-Butanone	BDL
1,1,1-Trichloroethane	BDL
Carbon Tetrachloride	BDL
Vinyl Acetate	BDL
Bromodichloromethane	BDL
1,1,2,2-Tetrachloroethane	BDL
1,2-Dichloropropane	BDL
trans-1,3-Dichloropropene	BDL
Trichloroethene	BDL
Dibromochloromethane	BDL
1,1,2-Trichloroethane	BDL
Benzene	BDL
cis-1,3-Dichloropropene	BDL
2-Chloroethyl Vinyl Ether	BDL
Bromoform	BDL
2-Hexanone	BDL
4-Methyl-2-pentanone	BDL
Tetrachloroethene	BDL

Toluene	11 mg/kg
Chlorobenzene	BDL
Ethyl Benzene	80 mg/kg
Styrene	BDL
Xylenes	620 mg/kg

Christopher P. Geb
Laboratory Manager

BDL-Below Detection Limit.

lurmah

WM/CTC SUBSURFACE REMEDIATION

December 5, 1988.

ate Received. 11-17-88
LD Number: 48587
lient I.D.: CTCTJ-42S

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Jacob
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48589
Client I.D.: CTCTJ-ES1

Physical Description:

100% Grey and Brown Coloring
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	6.5
Reactivity	Not Reactive
Cyanide, CN, mg/kg	<1
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	1.4
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	1500

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48589
Client I.D.: CTCTJ-ES1

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.76	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.05	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	BDL	0.02

Laboratory Manager

BDL - Below Detection Limit

120 grams of sample was leached into 1900 mls of deionized water and brought to a final volume of 2400 mls. After the addition of 480 mls of 0.5 N acetic acid, the final pH was 5.6.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48589
Client I.D.: CTCTJ-ES1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	11 mg/kg		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

...atory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48589
Client I.D.: CTCTJ-ES1

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Gibb
Laboratory Manager

Burmah

Burmah Technical Services, Inc
Analytical Laboratories Division

408 Auburn Avenue
Pontiac, Michigan 48058

313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988 .

Date Received 11-17-88
ALD Number: 48590
Client I.D CTCTJ-ES2

Physical Description
100% Black Solid

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	<1
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	2.2
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	5900

Christopher P. Jack
Laboratory Manager

?

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48590
Client I.D.: CTCTJ-ES2

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	2.2	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.52	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	0.16	0.02

Christopher P. Jeb
Laboratory Manager

BDL - Below Detection Limit
100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 280 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48590
Client I.D.: CTCTJ-ES2

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

Christopher P. Jack
Laboratory Manager

BDL-Below Detection Limit.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48590
Client I.D.: CTCTJ-ES2

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. Jeck
Laboratory Manager

Burmah
Burmah Technical Services, Inc
Analytical Laboratories Division
408 Auburn Avenue
Pontiac, Michigan 48058
313-334-4747

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48591
Client I.D.: CTCTJ-ES3

Physical Description:

100% Brown Solid
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	6.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	1.8
Sulfide, S, mg/kg	4.3
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	--
Aroclor 1254	3
Aroclor 1260	--
Total Petroleum Hydrocarbons, mg/kg	6600

Christopher P. Geck
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 5, 1988

Date Received: 11-17-88
ALD Number: 48591
Client I.D.: CTCTJ-ES3

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	0.49	0.1
Cadmium, Cd, mg/l ----------	BDL	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	BDL	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	BDL	0.02
Zinc, Zn, mg/l ----------	0.09	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	0.02	0.02

Christopher P. [illegible]
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 5.0.

Burmah

CWM/CTC SUBSURFACE REMEDIATION

December 5, 1988

Date Received: 11-17-88
ALD Number: 48591
Client I.D.: CTCTJ-ES3

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	0.5 mg/kg
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	12 mg/kg
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

BDL-Below Detection Limit.

Christopher P. Graf
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION

Date Received: 11-17-88
ALD Number: 48591
Client I.D.: CTCTJ-ES3

December 5, 1988

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

	Detection Limits mg/kg		Detection Limits mg/kg
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. G.
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

December 8, 1988

Date Received 11-17-88
ALD Number 48592
Client I D . CTCTJ-ES4

Physical Description:

100% Grey Solid
Solvent Odor

As Received

Ignitability, °F	>200
(pH 1:1 slurry)	7.0
Reactivity	Not Reactive
Cyanide, CN, mg/kg	1.0
Sulfide, S, mg/kg	<2
Paint Filter Test-(free liquid), %	<0.1
PCB, mg/kg	
Aroclor 1242	<1
Aroclor 1254	--
Aroclor 1260	<1
Total Petroleum Hydrocarbons, mg/kg	6200

Christopher P. Jack
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
SOIL SAMPLES

Date Received: 11-17-88
ALD Number: 48592
Client I.D.: CTCTJ-ES4

EP Toxicity		Detection Limits mg/l
Arsenic, As, mg/l ----------	BDL	0.005
Barium, Ba, mg/l ----------	1.9	0.1
Cadmium, Cd, mg/l ----------	0.02	0.01
Chromium, Cr, mg/l ----------	BDL	0.02
Lead, Pb, mg/l ----------	0.09	0.05
Mercury, Hg, mg/l ----------	BDL	0.0005
Selenium, Se, mg/l ----------	BDL	0.005
Silver, Ag, mg/l ----------	BDL	0.02
Copper, Cu, mg/l ----------	0.05	0.02
Zinc, Zn, mg/l ----------	0.43	0.02
Cyanide, CN, mg/l ----------	BDL	0.02
Nickel, Ni, mg/l ----------	0.14	0.02

Christopher P. Geb
Laboratory Manager

BDL - Below Detection Limit

100 grams of sample was leached into 1600 mls of deionized water and brought to a final volume of 2000 mls. After the addition of 400 mls of 0.5 N acetic acid, the final pH was 5.7

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-17-88
ALD Number: 48592
Client I.D.: CTCTJ-ES4

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Chloromethane	BDL	Toluene	BDL
Bromomethane	BDL	Chlorobenzene	BDL
Vinyl Chloride	BDL	Ethyl Benzene	BDL
Chloroethane	BDL	Styrene	BDL
Methylene Chloride	BDL	Xylenes	BDL
Acetone	BDL		
Carbon Disulfide	BDL		
1,1-Dichloroethene	BDL		
1,1-Dichloroethane	BDL		
trans-1,2-Dichloroethene	BDL		
Chloroform	BDL		
1,2-Dichloroethane	BDL		
2-Butanone	BDL		
1,1,1-Trichloroethane	BDL		
Carbon Tetrachloride	BDL		
Vinyl Acetate	BDL		
Bromodichloromethane	BDL		
1,1,2,2-Tetrachloroethane	BDL		
1,2-Dichloropropane	BDL		
trans-1,3-Dichloropropene	BDL		
Trichloroethene	BDL		
Dibromochloromethane	BDL		
1,1,2-Trichloroethane	BDL		
Benzene	BDL		
cis-1,3-Dichloropropene	BDL		
2-Chloroethyl Vinyl Ether	BDL		
Bromoform	BDL		
2-Hexanone	BDL		
4-Methyl-2-pentanone	BDL		
Tetrachloroethene	BDL		

BDL-Below Detection Limit.

Christopher P. Grab
Laboratory Manager

Burmah

CWM/CTC SUBSURFACE REMEDIATION
Date Received. 11-17-88
ALD Number. 48592
Client I.D.: CTCTJ-ES4

HAZARDOUS SUBSTANCE LIST (HSL)

VOLATILES

Detection Limits mg/kg		Detection Limits mg/kg	
Chloromethane	<0.5	Toluene	<0.5
Bromomethane	<0.5	Chlorobenzene	<0.5
Vinyl Chloride	<0.5	Ethyl Benzene	<0.5
Chloroethane	<0.5	Styrene	<0.5
Methylene Chloride	<0.5	Xylenes	<0.5
Acetone	<5.0		
Carbon Disulfide	<2.5		
1,1-Dichloroethene	<0.5		
1,1-Dichloroethane	<0.5		
trans-1,2-Dichloroethene	<0.5		
Chloroform	<0.5		
1,2-Dichloroethane	<0.5		
2-Butanone	<0.5		
1,1,1-Trichloroethane	<0.5		
Carbon Tetrachloride	<0.5		
Vinyl Acetate	<0.5		
Bromodichloromethane	<0.5		
1,1,2,2-Tetrachloroethane	<0.5		
1,2-Dichloropropane	<0.5		
trans-1,3-Dichloropropene	<0.5		
Trichloroethene	<0.5		
Dibromochloromethane	<0.5		
1,1,2-Trichloroethane	<0.5		
Benzene	<0.5		
cis-1,3-Dichloropropene	<0.5		
2-Chloroethyl Vinyl Ether	<0.5		
Bromoform	<0.5		
2-Hexanone	<0.5		
4-Methyl-2-pentanone	<0.5		
Tetrachloroethene	<0.5		

Christopher P. [illegible]
Laboratory Manager