UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

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U.S. ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	
Occidental Chemical Corporation P.O. Box 295 Old Channel Trail Montague, Michigan	ADMINISTRATIVE ORDER EPA Docket No.: V-W- 009-
EPA I.D. No.: MID 006 014 906	Proceeding under Section 3008(h) of the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. Section 6928(h).

I. JURISDICTION

This ADMINISTRATIVE ORDER is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency (EPA) by Section 3008(h) of the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6928(h). The authority vested in the Administrator has been delegated to the Regional Administrator in Region V and has been further delegated to the Director of the Waste Management Division (Waste Management Division Director) by EPA Delegation Nos. 8-31 and 8-32, dated April 16, 1985, and May 15, 1986, respectively.

This Administrative Order is issued to the Occidental Chemical Corporation (Respondent), the owner and operator of a facility (the Facility) located at Old Channel Trail, Montague, Michigan. It is based upon the administrative record compiled by EPA, which is incorporated herein by reference. The record is

available for review by Respondent and the public at EPA's office at 77 W. Jackson Blvd., Chicago, Illinois 60604.

On October 30, 1986, EPA granted the state of Michigan authorization to operate a hazardous waste program in lieu of the federal hazardous waste program, pursuant to §3008(b) of RCRA, 42 U.S.C. §6926(b). The state, however, does not have authority to enforce RCRA §3008(h), 42 U.S.C. ¶6928(h).

II. PARTIES BOUND

A. This Order shall apply to and be binding upon the Respondent and its officers, directors, employees, agents, trustees, receivers, and successors and assigns, and upon all persons, including but not limited to independent contractors, contractors, and consultants acting under or for the Respondent.

B. No change in ownership or corporate or partnership status relating to the Facility will in any way alter the Respondent's responsibility under this Order. Respondent will be responsible for and liable for any failure to carry out all the activities required of Respondent by the terms of and pursuant to this Order.

C. The Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants retained to conduct or monitor any portion of the work performed pursuant to this Order within one (1) week of the effective date of this Order or date of such retention (whichever occurs first), and shall condition all such contracts on compliance with the terms of this Order.

D. The Respondent shall give notice of this Order to any successor in interest prior to transfer of ownership or operation of the Facility and shall notify the EPA no later than ninety (90) days prior to such scheduled transfer.

III. STATEMENT OF PURPOSE

The objectives of this Order are for the Respondent to: 1) fully determine and document the nature and extent of known and suspected releases of hazardous wastes and hazardous constituents at and from the Facility into the environment; 2) to fully evaluate the adequacy and protectiveness of Respondent's previous and existing state-required or other corrective action, closure and remedial activities (soil excavation, groundwater extraction, etc.) including those taken pursuant to an October 30, 1979, Michigan State Court Consent Judgement (Civ. Action No. 79-22878-CE) to address the actual and potential releases at and from the Facility; 3) to determine whether and what, if any, immediate interim measures should be taken, in conjunction with and/or independent of previous and existing measures taken at the Facility, to initially address the actual and potential releases at and from the Facility; 4) to determine whether and what, if any, supplemental and/or additional long-term corrective measures should be implemented at the Facility; and 5) to implement interim and/or long-term corrective measures, if determined to be necessary by EPA.

To achieve these objectives, the issuance of this Order requires Respondent to perform a RCRA Facility Investigation

(RFI) to fully determine and document the nature and extent of any release of hazardous wastes and hazardous constituents at or from the Facility in Montague, Michigan.

Additionally, if such activities are determined necessary by EPA based on the RFI and available information, this Order sets forth procedures for performance of: (1) Interim Measures (IM) at the Facility to mitigate, remediate or otherwise address potential threats to human health and the environment; (2) a Corrective Measures Study (CMS) to identify and evaluate alternatives for corrective action necessary to prevent, remediate, mitigate or otherwise address any migration or releases of hazardous wastes or hazardous constituents at or from the Facility; and (3) the implementation of the Corrective Measure or Measures selected by EPA at the Facility.

IV. FINDINGS OF FACT

A. The Respondent is a New York corporation doing business in the State of Michigan whose registered agent in the State of Michigan is The Corporation Company, 615 Griswold, Detroit, Michigan 48226 [Ref: Mich. Dept. of Commerce]. The Respondent is a person as defined in Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15) and 40 CFR 260.10.

B. Respondent is a generator of a hazardous waste and an owner and operator of a hazardous waste management facility located in the northwest 1/4, Section 30, T.11., R.17., Old Channel Trail, Montague, Michigan. [Ref: USGS Montague Quadrangle 15 min. topographic map]. The Respondent engaged in

the treatment, storage and disposal of hazardous waste at the Facility that is subject to interim status requirements, 40 CFR Part 265. According to Respondent's November 17, 1980, RCRA Part A Permit Application, Respondent treated hazardous waste by carbon adsorption, stored hazardous waste in containers, and disposed of hazardous waste in injection wells and landfills.

C. The Facility was operated by Hooker Chemical and Plastics Corporation (Hooker), the predecessor to Respondent, as a hazardous waste management facility on and after November 19, 1980, the applicable date which renders facilities subject to interim status requirements or the requirement to have a permit under Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925, respectively.

D. On August 19, 1980, Hooker submitted a Notification of Hazardous Waste Activity for the Facility located at Old Channel Trail, Montague, Michigan (Figure 1), as required by 3010(a) of RCRA, 42 U.S.C. §6930(a). In the Notification, Hooker identified itself as a generator of hazardous waste, an owner and operator of a treatment, storage, and disposal facility for hazardous waste, and owner and operator of underground injection wells.

E. (1) On November 17, 1980, Hooker filed a RCRA Part A permit application as required by Section 3005(a) of RCRA, 42 U.S.C. §6925(a), and identified itself as handling the following hazardous wastes at the Facility:

(a) Wastes exhibiting the characteristic of ignitability as defined in 40 CFR 261.21 (EPA hazardous waste number D001).

(b) Wastes exhibiting the characteristic of corrosivity as defined in 40 CFR 261.22 (EPA hazardous waste number D002).

(c) Hazardous Wastes from Non-specific Sources (40 CFR 261.31):

F001-spent halogenated solvents used in degreasing:

tetrachloroethylene,
trichloroethylene,
1,1,1-trichloroethane,
carbon tetrachloride,
chlorinated fluorocarbons, and sludges from the recovery of these solvents in degreasing operations.

F002-spent halogenated solvents:

tetrachloroethylene,
methylene chloride,
trichloroethylene,
1,1,1-trichloroethane,
chlorobenzene,
1,1,2-trichloro-1,2,2-trifluoroethane,
ortho-dichlorobenzene,
trichlorofluoromethane, and still bottoms from the recovery of these solvents.

F003-spent non-halogenated solvents which may include more than one of the following:

xylene,
acetone,
ethyl acetate,
ethyl benzene,
ethyl ether,
methyl isobutyl ketone,
n-butyl alcohol,
cyclohexanone,
methanol, and
still bottoms from the recovery of these solvents.

F004-spent non-halogenated solvents which may include more than one of the following:

cresols,
cresylic acid,
nitrobenzene, and
still bottoms from the recovery of these solvents.

F005-spent non-halogenated solvents which may include more than one of the following:

toluene,
methyl ethyl ketone,
carbon disulfide,
isobutanol,
pyridine, and
still bottoms from the recovery of these solvents.

(d) Commercial Chemical Product Hazardous Wastes:

U044 Chloroform/Methane, trichloro-
U127 Hexachlorobenzene
U128 Hexachlorobutadiene
U130 Hexachlorocyclopentadiene
U210 Tetrachloroethylene
U211 Methane, tetrachloro-

(2) Revisions to the original RCRA Part A permit application were received on December 31, 1981, January 29, 1982, February 1, 1983, and December 12, 1984. The revisions amended the amount of waste disposed of on-site and notified EPA of a change in corporate status. Specifically, in the February 1, 1983, revision, Hooker notified EPA that its corporate name had been changed to Occidental Chemical Corporation, Box 728, 360 Rainbow Boulevard, South, Niagara Falls, New York 14302. Hooker owned and operated the Facility from 1952 until 1983. From 1983, Respondent was the owner and operator of the Facility within the meaning of 40 CFR 260.10.

F. (1) The Facility generally is bounded on the south by Old Channel Trail, on the east by Whitbeck Road, on the west by Lamos Road, and on the north by Hancock Street. White Lake, which is a water body adjacent to the communities of Montague and Whitehall, is immediately to the south and southwest of the

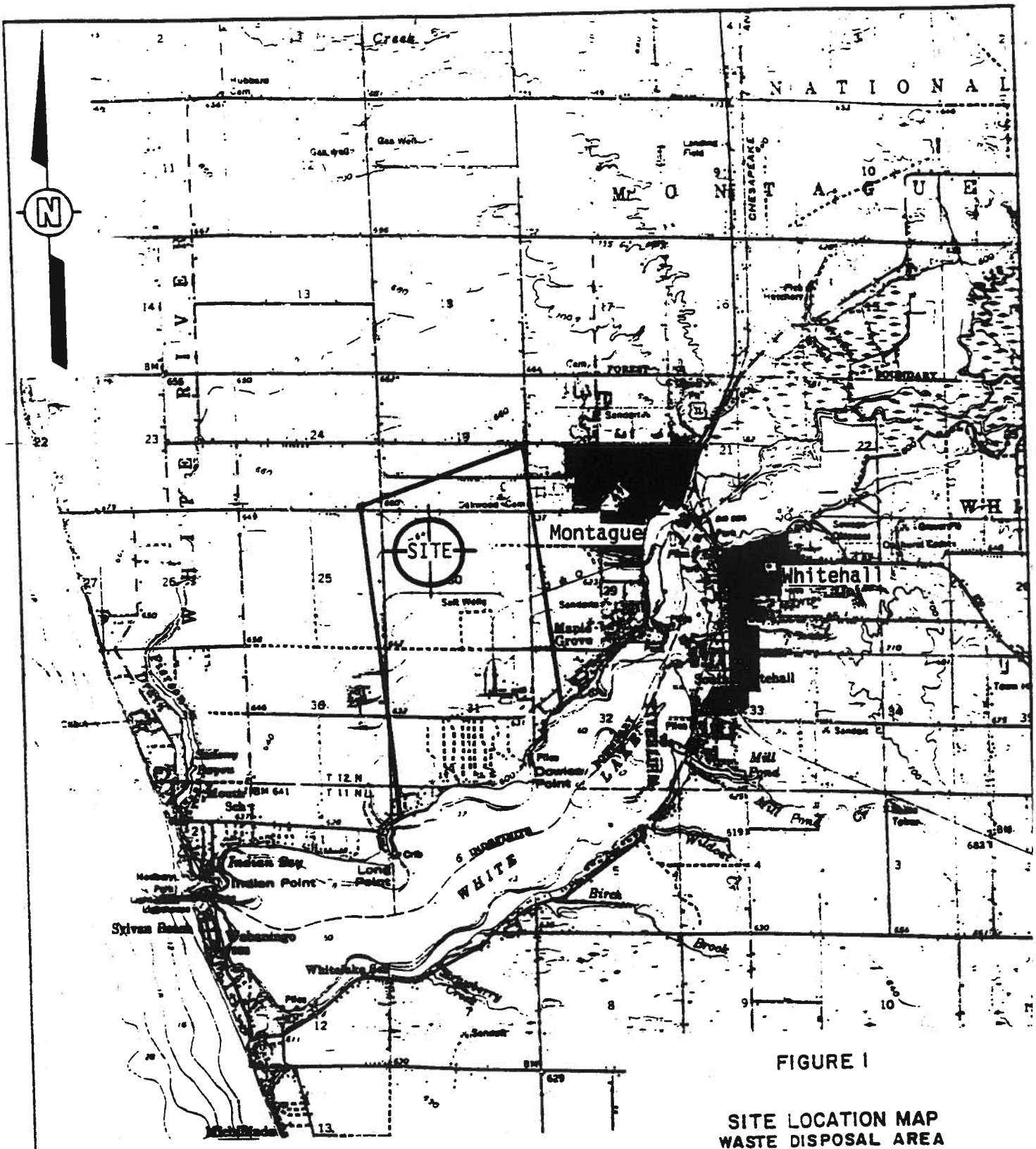


FIGURE 1

SITE LOCATION MAP
WASTE DISPOSAL AREA
MONTAGUE, MICHIGAN

REFERENCE:
15 MINUTE U.S.G.S. TOPOGRAPHIC MAP OF MONTAGUE, MICHIGAN QUADRANGLE DATED: 1959 - SCALE: 1:62500.

REFERENCE:
15 MINUTE U.S.G.S. TOPOGRAPHIC MAP OF MONTAGUE, MICHIGAN QUADRANGLE DATED: 1959 - SCALE: 1:62500.

Facility. White Lake, approximately 4 miles long, empties directly into Lake Michigan via a narrow channel at the west end of the lake. The Facility is located approximately 1.5 miles northeast of the outlet to Lake Michigan. The Facility comprises approximately 860 acres of land. (See Figure 1).

(2) According to correspondence and submissions to EPA from the Facility, Respondent historically engaged in the production of gaseous chlorine, sodium hydroxide, hydrogen gas and various fine chemical derivatives.

(a) The basic process at the plant utilized an electrolytic reaction to produce the gaseous chlorine, hydrogen gas and sodium hydroxide. Brine was derived from salt formations by pumping water into the strata and extracting the salt and water concentrate. The brine was softened to remove the calcium and magnesium ions prior to injecting it into the electrolytic cells as a saturated solution. Electrolytic cells accomplished the electrochemical breakdown of the brine to produce chlorine, hydrogen and a weak sodium hydroxide solution. The individual cells were periodically removed from service for cleaning and replacement of an asbestos diaphragm. The chlorine produced from cells was cooled by direct contact with water and was dried by passing through sulfuric acid drying towers. The chlorine was compressed and passed through two freon charged refrigerated liquefiers before it was stored. The mixture of sodium hydroxide and brine remaining in the cells was passed

through triple effect evaporators for concentrating. The concentrate was then cooled to form salt precipitates and centrifuged to separate the salt from the sodium hydroxide. The sodium hydroxide was then purified and filtered before storage.

(b) Chlorine gas was further utilized in the plant's fine chemical production. Hexachlorocyclopentadiene (C-56) was the principle product of this process. Muriatic acid and anhydrous HCl were also produced in this process. The process utilized chlorine and initially pentane, and later dicyclopentadiene. A refined oil was used as a carrier to improve heat transfer for conditioning the dicyclopentadiene feed. The waste oil was removed from the Facility by a private waste hauler and subsequently incinerated. Hexachlorobenzene and hexachlorobutadiene were derived from this process and disposed of with the still residue by incineration. Prior to the discontinuation of manufacturing operations in 1982, the site consisted of, among other things, a drum storage area, a fine chemical production area, underground injection wells, a carbon filtration building, a wastewater treatment facility, and a power plant.

(3) Based on the relevant literature, a description of the geological conditions, aquifers and groundwater flow conditions in the area of the Facility are, briefly, as follows [Ref: Walker Wells, Inc., 1980, 1981]:

(a) Geology. The surficial geology of the White Lake coastal region consists of approximately 300 feet of unconsolidated sediments underlain by bedrock of Mississippian age which consists mainly of dense shale/ with interbedded sandstones. The upper 100-150 feet of unconsolidated sediments are made up of a sand rich unit consisting of eolian sands and glacial lake bed sands with thin, discontinuous silt and clay layers. The sands in the upper unit tend to be well sorted ranging in grain size from fine to medium and having a fairly homogeneous nature.

(b) Hydrogeology: The saturated sands underlying the study area comprise a water table aquifer. Depth to groundwater on average is 34 feet. Aquifer thickness ranges from approximately 36 to 75 feet. A report prepared by Walker Wells, Inc. (1980) suggests that the primary aquifer thickness control is associated with an ancestral, surface-water drainage system which was formed in the underlying clay beds prior to the deposition of the water-table aquifer materials (Figure 2). Water-table conditions exist throughout the aquifer due to the thin, discontinuous nature of interbedded silt and clay layers and the absence of extensive, impermeable confining units. The direction of groundwater flow is to the south-southeast in the upgradient recharge areas and gradually changes to the southeast near White Lake which is a discharge point for the groundwater. The hydraulic conductivity of this upper aquifer ranges from

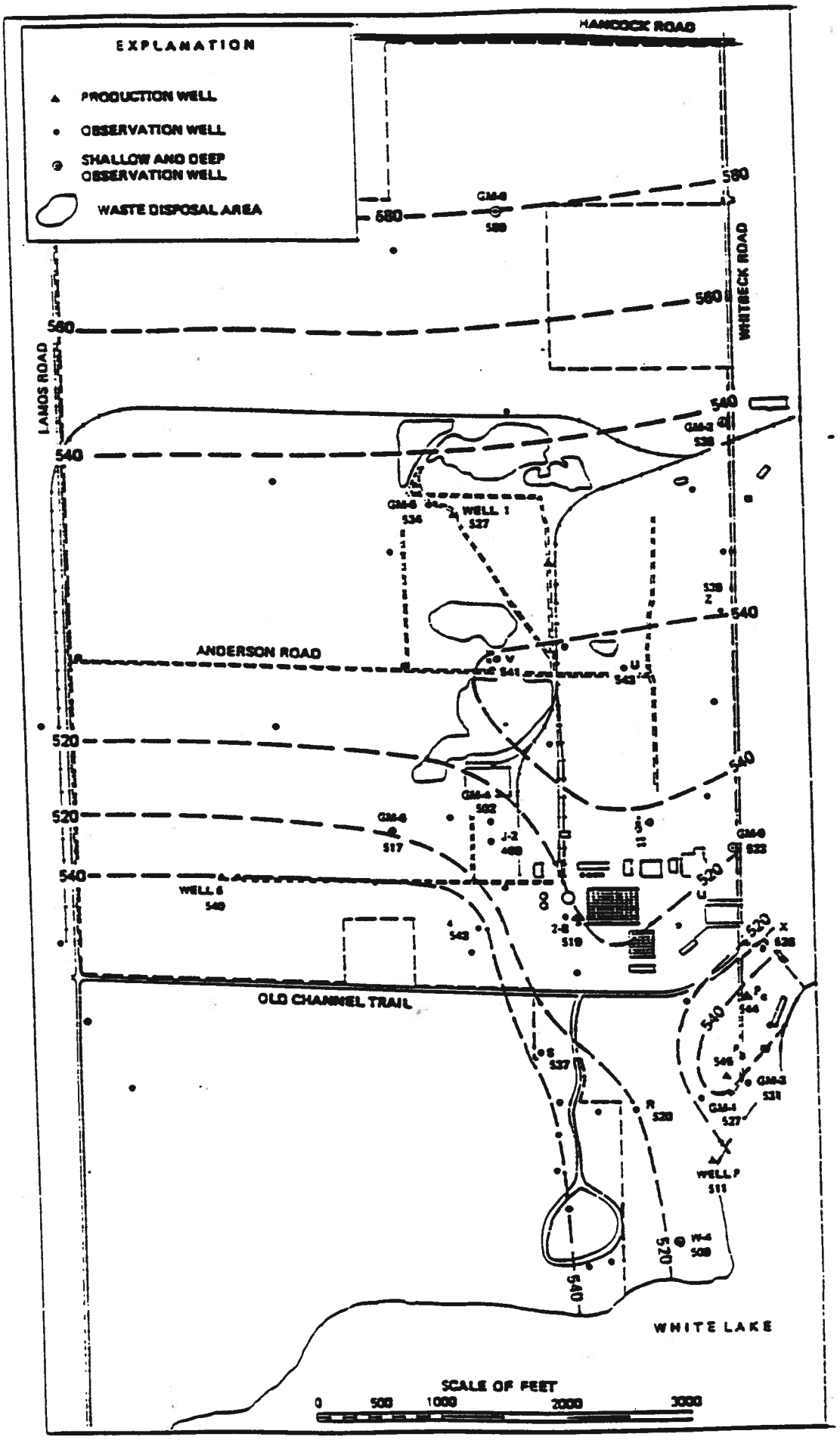


Figure 2 : General configuration of the base of the surficial water-table aquifer (Walker, 1981).

45 to 95 ft/day (1.6×10^{-2} to 3.4×10^{-2} cm/sec). Groundwater velocities have been calculated to be approximately 1.5 ft/day under natural conditions.

The upper sand unit is isolated from the lower sand units by intervening glacial till made up of dense clay which ranges in thickness from about 10 to more than 90 feet. Thisunderlying confining bed is thick (≈80 feet) in the northern portion of the Facility, thins to approximately 10 feet near the southern edge of the Facility, and thickens again to the south.

The lower unconsolidated sediments are made up of poorly sorted and clay rich glacial till. Hydraulic conductivity is estimated to be less than 1.4×10^{-4} ft/day (5×10^{-8} cm/sec). The glacial till contains a few interbedded layers of very fine sand that, where present, range in thickness from less than 10 to approximately 50 feet. These lower sand units contain limited quantities of groundwater under confined conditions.

(4) On October 30, 1979, the Ingham County Michigan Circuit Court entered a Consent Judgment to resolve contamination problems at Hooker's Montague, Michigan Facility, Civil Action No. 79-22878-CE (the State Judgement). [Ref: State Judgement]. The State Judgment required Hooker to implement, under the supervision of the Michigan Department of Natural Resources (MDNR), a detailed pollution abatement plan including the purging

and treating of contaminated groundwater and the removal and proper disposal of solid and liquid toxic wastes disposed of at 12 solid waste management units (SWMUs). The State Judgement required that removal of wastes at the Facility be accomplished through excavation to specified depths of the wastes from 11 specified areas and from the hexachlorocyclopentadiene (C-56) production area (Area XII) (Figure 3). Excavated materials were to be disposed in a containment vault to be constructed on-site. Some specific requirements of the State Judgement are as follows:

(a) All materials and soils in Areas I, II, III, IV, V, VI, VII, VIII, IX, and XI to a depth of three (3) inches below the surface of the ground would be removed and placed in a containment vault(s). General construction criteria for the containment vault was specified in the State Judgment.

(b) All soils below a depth of three (3) inches from the surface of the ground in Areas I, II, VII, and XI were to remain in place.

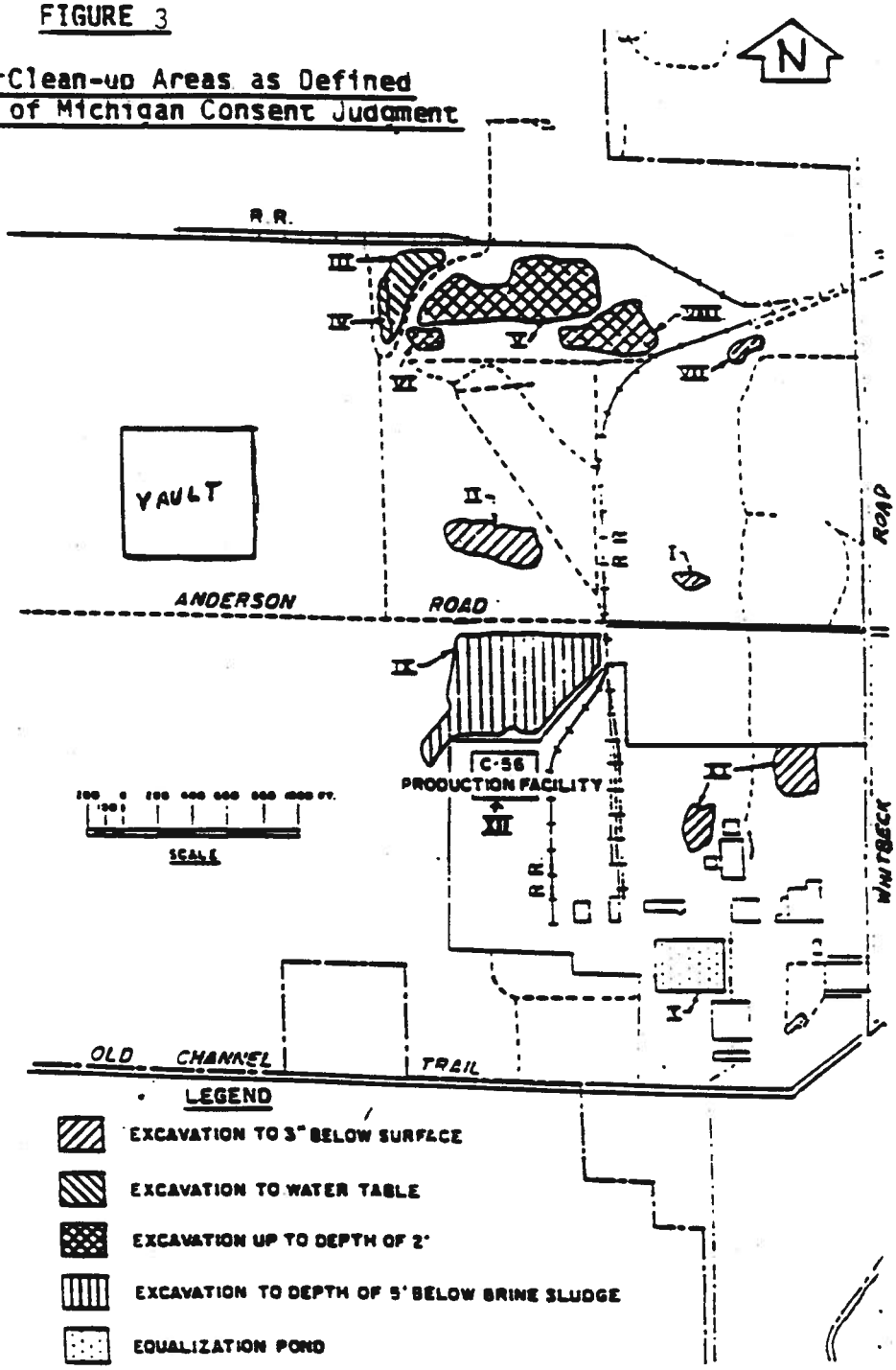
(c) All soils from three (3) inches below the surface of the ground down to the depth of the water table in Areas III and IV would be excavated and placed in the containment vault(s).

(d) All soils in Areas V, VI, and VIII from three (3) inches below the surface of the ground up to a depth of two (2) feet from the surface of the ground would be excavated and placed in the containment vault(s); however, the depth of excavation in Areas V, VI, and VIII would continue to the depth necessary to remove any and all chlorinated hydrocarbon contamination observed during excavation.

(e) All soils in Area IX would be excavated to a depth of five (5) feet below the furthest extent of the brine sludge and be placed along with the overlying brine sludge in the containment vault(s). However, the depth of excavation in Area IX would continue to a depth necessary to remove chlorinated hydrocarbon contamination which is or may be uncovered in the upper five (5) feet of soil.

FIGURE 3

Locations of Clean-up Areas as Defined in the 1979 State of Michigan Consent Judgment



(f) Following excavation of the areas identified in subparagraphs (c), (d) and (e), above, Hooker was required to regrade the areas in accordance with good engineering practice.

(g) All contents of the equalization pond identified as Area X would be removed. The liquid would be treated with activated carbon to remove chlorinated hydrocarbons prior to discharge with the plant effluent through outfall No. 001 in accordance with Hooker's National Pollution Discharge Elimination System, Permit No. MI 0002631. The remaining semi-solids would be solidified and placed in a containment vault.

(h) The entire C-56 production facility (Area XII) which had been closed in 1977 would be dismantled of and non-salvageable components disposed. Dismantling, salvaging and disposal were to be conducted pursuant to criteria specified in the State Judgment.

(i) A leachate collection system would be installed at the Facility for leachate generated in the containment Vault. The leachate generated in the Vault was required to be collected and piped to a carbon treatment unit; the effluent from the unit was to be discharged pursuant to a National Pollution Discharge Elimination System (NPDES) permit.

(5) According to the January 29, 1982, Part A Application, the Vault was designed to hold approximately 905,000 cubic yards of hazardous waste and hazardous constituents, including soils and sediment. The specific amounts and types of wastes which were ultimately disposed of in the Vault are unknown, since it appears that little or no characterization or sampling of the materials occurred prior to entombment. The specific construction details of the Vault are not known.

(6) In November 1981, staff of the MDNR inspected portions of Area IX and Area XII (the C-56 production facility area) which had been excavated. [Ref: May 22, 1985 State of Michigan "Motion to enforce Consent Judgement" and accompanying affidavit of Mr.

James G. Truchan]. During this inspection, the MDNR staff observed areas of soil in which C-56 appeared to be present. In a letter dated November 23, 1981, the Director of the MDNR notified Hooker that this additional C-56 contamination had been observed and directed Hooker to remove those identified areas of C-56 contaminated soil pursuant to specific criteria as outlined in the State Judgement. [Ref: Truchan affidavit, ¶7].

(7) On January 27, 1982, a MDNR contractor collected samples of soil between excavations at Areas IX and XII. [Ref: Truchan affidavit, ¶8]. Laboratory analyses of those samples showed substantial concentrations of toxic organic waste including C-56. [Ref: Id.]. In a letter dated March 19, 1982, the Director of MDNR forwarded the results of that soil sampling to Hooker and reiterated the State's request that the heavily contaminated soils between Area IX and the C-56 production facility (Area XII) be removed and properly disposed of in the Vault constructed pursuant to the Consent Judgment. [Ref: Id.].

(8) In April 1982, after extensive additional discussions between the MDNR and Hooker concerning the aforementioned request, Hooker agreed to selectively remove approximately 20,000 cubic yards of visibly contaminated soils from the areas north of the C-56 production facility (Area XII) and south of Area IX. Ultimately, Hooker removed approximately 32,000 cubic yards of contaminated soils from the area in question, which has sometimes been referred to as "no-man's land" by the parties involved. [Ref: Truchan Affidavit, ¶9].

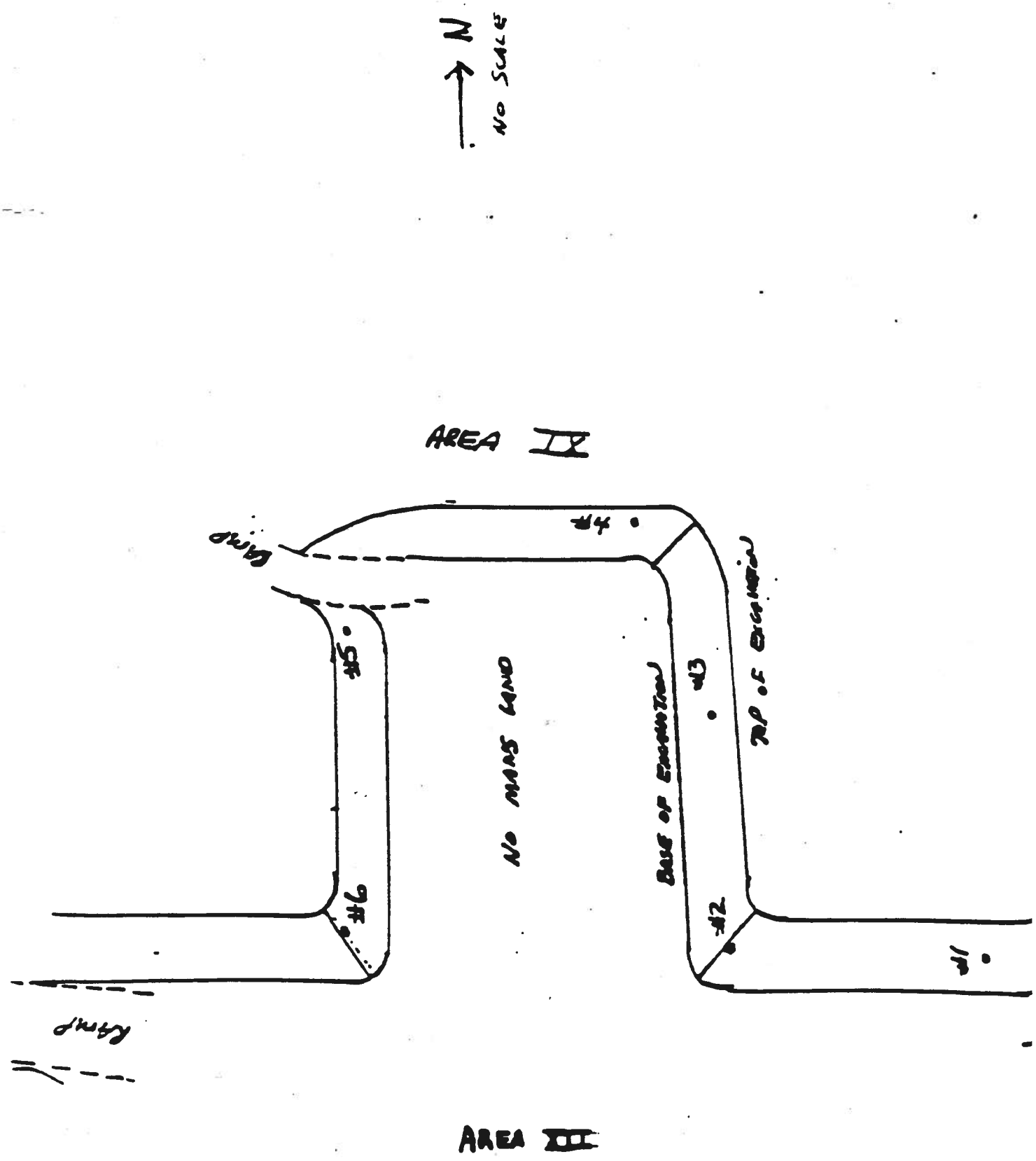
(9) However, even after completion of that selective excavation, a substantial volume (approximately 80,000 to 100,000 cubic yards) of heavily contaminated soil remained in "no-man's land". [Ref: Id.]. Hooker refused to remove any of this additional contaminated material, stating that the waste disposal vault could not accommodate those contaminated materials, that Hooker was not obligated to do so by the Judgement, and that any C-56 contamination would be captured by the groundwater purge system. [Ref: Id.].

(10) In a letter dated June 1, 1982, the Director of the MDNR again requested Hooker to remove all of the heavily contaminated soils from the area between Area IX and Area XII. The letter further stated that if the existing disposal vault could not contain all of the C-56 contaminated material, a second, comparable vault should be constructed. [Ref: Truchan affidavit, ¶10].

(11) On June 23, 1982, MDNR's Water Quality Division staff received a request from James Truchan of MDNR's Environmental Enforcement Division to conduct an on-site inspection of the so-called "no man's land" area (see Figure 4). According to Truchan, Hooker had removed an additional 27,000 cubic yards from this area and was claiming to have the area cleaned up. It was requested that an inspection be conducted by MDNR on June 24, 1982, to confirm this. [Ref: Truchan affidavit, Appendix 4, Document 2 (June 24, 1982, MDNR Water Quality Division Sampling Report)].

FIGURE 4

Locations of Soil Samples Collected at Hooker Chemical by MDNR on June 24, 1982.



(12) As discussed in the June 24, 1982, MDNR Sampling Report, on June 24, 1982, Gene Mogg and Dale DeKraker, MDNR inspectors, conducted the requested inspection. Prior to entering the area, contact was made with Mr. Brad Bundy, a representative of Hooker, to notify him of the intended entrance into the area. Mr. Bundy confirmed that the additional yardage had been removed and that the total amount of contaminated soil excavated from the area now totaled approximately 32,000 cubic yards. He further stated that the existing vault could not accept additional materials and was in the process of being capped with clay. He also stated that all contaminated haul roads from the "no-man's land" had been removed and all equipment had been decontaminated. During the discussion with Mr. Bundy, Hooker's on site representative, Mr. Walt Powell, was also notified of the intended inspection, but did not choose to accompany staff into the area.

Mr. DeKraker and Mr. Mogg entered the area at approximately 9:30 a.m. Visual and olfactory observations were made at several locations within the excavated zone. In various locations, heavy soil staining was still apparent and olfactory observations indicated that the majority of the area was still heavily contaminated with C-56. Messrs. DeKraker and Mogg left the excavation at approximately 10:15 a.m. and returned to Mr. Bundy's office to call Mr. Truchan. Mr. Mogg informed Mr. Truchan that, in his opinion, the clean up was still not acceptable due to the nature of the contamination remaining.

Truchan requested that soil samples be collected to confirm the observations. At 11:00 a.m., Messrs. Mogg and DeKraker returned to the area and collected six (6) soil samples from various locations within the excavation.

The locations, descriptions and analytical results of these samples are as follows (see also Figure 4):

(a) Sample #1: North wall of C-56 excavation near the east exit ramp. Depth of sample was approximately 20 feet below ground surface. Surface staining was evident and a strong C-56 odor was noted. Concentrations (in ppm) of C-46 (hexachlorobutadiene), C-56 (hexachlorocyclopentadiene), C-58 (octachlorocyclopentene), and C-66 (hexachlorobenzene) were 4.5, 41, 7.5 and 0.22 respectively (total constituents = 53.22 ppm or 0.005% by weight).

(b) Sample #2: Southeast corner of "no-man's land" excavation at a depth of approximately 20 feet below ground surface. Coarse textured sand was present along with a strong C-56 odor. An oily sheen was also noted on the soil surface. Concentrations of C-46, C-56, and C-58 (in ppm) were 13, 8.3, 72 and 11 respectively (total constituents = 104.3 ppm or 0.01% by weight).

(c) Sample #3: East wall of excavation equal distance between C-56 area and Area IX. Depth below surface was approximately 20 feet. Soil staining was apparent. Concentrations of C-56, C-58 and C-66 (in ppm) were 15, 6.2 and 0.03 respectively. Interference was encountered in the C-46 analysis, thus total concentration could not be determined.

(d) Sample #4: Northeast corner of excavation adjacent to Area IX. Strong C-56 odor and slight oil stain noted on exposed sand. Depth below the base of Area IX was approximately ten feet. Concentrations of C-46, C-56, C-58 and C-66 (in ppm) were 25, 3100, 650 and 32 respectively (total constituents = 3807 ppm or 0.38% by weight).

(e) Sample #5: Northwest corner of excavation south of exit ramp. Soil was stained and had an oily sheen. Very strong C-56 odor. Depth was five feet below the ground surface. Concentrations of C-46, C-56, C-58 and C-66 (in ppm) were 570, 3900, 1300 and 240 respectively (total constituents = 6010 ppm or 0.6% by weight).

(f) Sample #6: Southwest corner of excavation approximately ten feet below surface grade. Slight oil stain and strong C-56 odor were noted. Concentrations of C-46, C-56, C-58 and C-66 (in ppm) were 310, 1100, 790 and 1,100 respectively (total constituents 3300 ppm or 0.3% by weight).

(13) On July 14, 1982, a meeting was held between MDNR and Hooker. Hooker indicated at that time that the volume of potentially contaminated soil remaining in the "no-man's land" area was somewhere between 50,000 and 100,000 cubic yards, but the figure most quoted by Hooker was 80,000 cubic yards. [Ref: Truchan Affidavit, Appendix 4, Document 1 (July 22, 1982, MDNR Letter to Hooker].

(14) In a letter to the MDNR dated August 12, 1982, Hooker again refused to remove and properly dispose the C-56 contaminated materials from the "no man's land" area and claimed it was not required to do so by the Consent Decree. [Ref: Truchan Affidavit, §12].

(15) Hooker thereafter completed the filling of the disposal vault at the site. To date, according to the MDNR, Hooker has continued to refuse to remove and properly dispose of the C-56 contaminated materials from "no-man's land". [Ref: Truchan Affidavit, ¶13].

(16) Purge Well System

(a) the State Judgement required Hooker to install a groundwater collection and treatment system and to operate the system for thirty (30) years to completely halt the movement of the contaminated groundwater into White Lake. [Ref: State Judgement, ¶XV-B]. Each purge well would be

sampled on a monthly basis for the constituents shown in Table A.

Table A

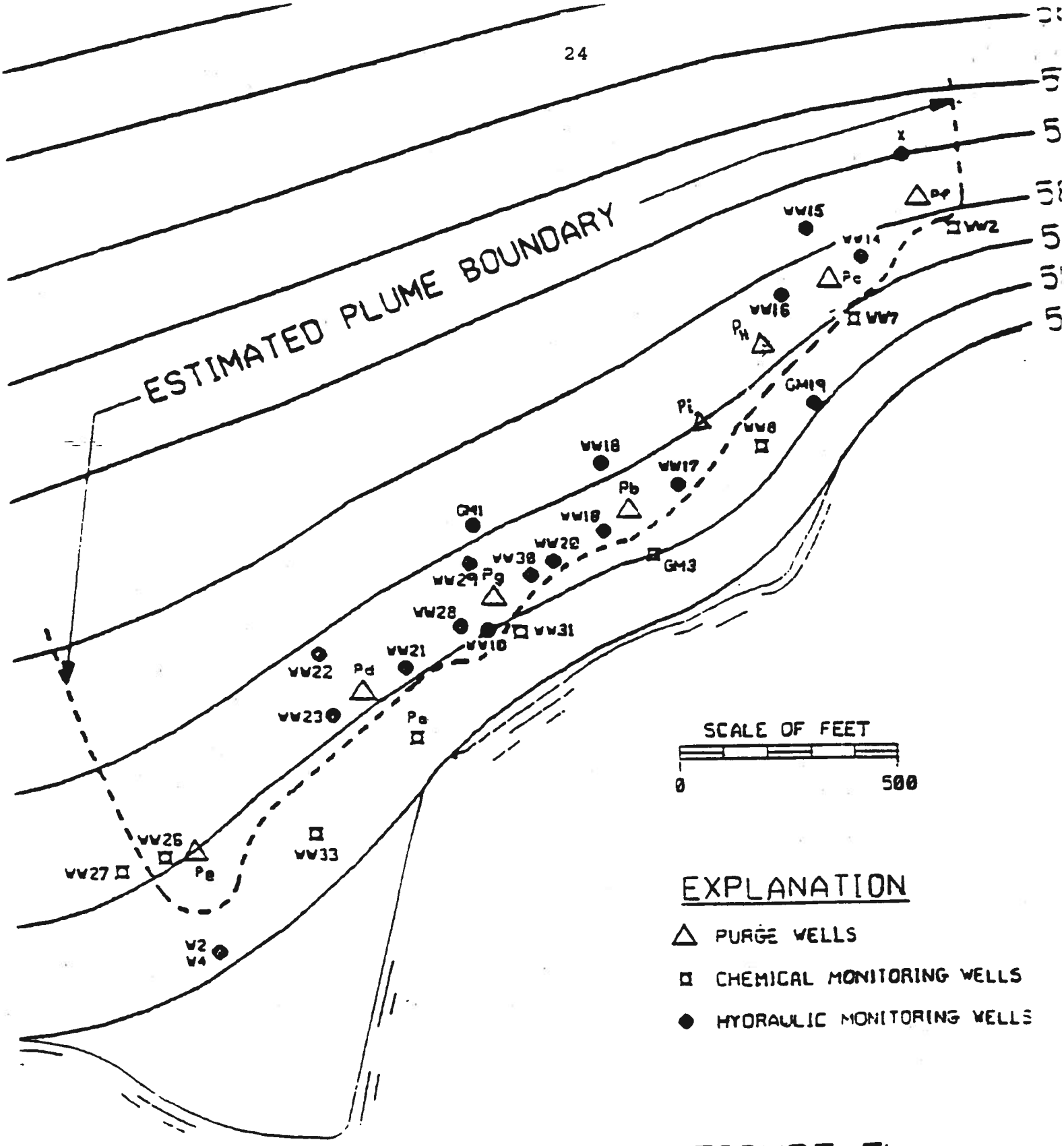
State of Michigan Consent Order Purge Well Sampling Parameters
Detectability Required (ppb = parts billion)

Compound	Level
Chloroform ($CHCl_3$)	1.0 ppb
Carbon tetrachloride (Ccl_4)	1.0 ppb
Trichloroethylene (C_2HCl_3)	1.0 ppb
Perchloroethylene (C_2Cl_4)	1.0 ppb
Hexachlorobutadiene (C-46)	0.05 ppb
Hexachlorocyclopentadiene (C-56)	1.0 ppb
Octachlorocyclopentene (C-58)	1.0 ppb
Hexachlorobenzene (C-66)	0.2 ppb
Mirex	1.0 ppb

The groundwater monitoring program at the Facility includes monitoring wells for groundwater evaluation and monitoring wells specifically for the purge well system (Figure 5).

(b) According to the affidavit of James R. Heinzman, MDNR Geologist, and related correspondence found in attachment I of the State Motion, Hooker and the MDNR were involved in negotiations regarding the groundwater pump and treat system during the period 1980-1984. On April 8, 1981, after several revisions, the MDNR conditionally approved Hooker's plan for a groundwater purge system. [Ref: Heinzman affidavit ¶7].

(c) On several occasions during the period 1982-1985, the MDNR found (and Hooker agreed) that the purge system was inadequate in preventing groundwater contaminant migration. [Ref: Heinzman Affidavit, ¶¶8-15]. According to the MDNR,



WHITE LAKE
Elevation 581.6 MSL

FIGURE 5
PURGE WELL SYSTEM
MONITORING WELLS
MONTAGUE, MICHIGAN

"substantial quantities" of contaminated groundwater were allowed to discharge to White Lake due to the inadequacy of the purge well system. [Ref: Heinzman Affidavit, ¶¶8 & 15].

(d) Selected analyses from groundwater monitoring are shown in Tables B and C.

(17) In May of 1985, the State of Michigan brought suit against the Respondent seeking to compel Hooker to fully address the contamination at the Hooker Facility. First, Michigan argued that paragraph VIII of the State Judgement was unambiguous and that it was clear in the State Judgement that the "C-56 production wastes and contaminated materials" referred to in paragraph VIII included the soils in "no man's land." The Court concluded that paragraph VIII was ambiguous and that the Court would be required to determine "what the parties meant at the time the document was entered." [Ref: Supplemental Brief in Support of State Motion to Enforce Consent Judgement, December 5, 1985]. To EPA's knowledge, the Court never made a determination on this issue. According to the Michigan Attorney General's Office, the State Action has been pending before the State Court to date regarding the ambiguity. Second, the State contended that the number of purge wells and their pumping rate were insufficient to halt the flow of contaminated groundwater to White Lake as required by the State Judgement. [Ref: December 5, 1985, Supplemental Brief]. The Court concurred with the State of Michigan. [Ref: Id.]. Respondent has upgraded the purge well system.

TABLE B

Selected Groundwater Monitoring Results from Purge Well System at Occidental Chemical at Montague, Michigan

December 12, 1985
(All Results in ug/l)

Well	Chloroform	Carbon Tetrachloride	Trichloroethylene	Perchloroethylene	C-46	C-56	C-58	C-66
PB	150	391	<1	3,542	2.5	<1	<1	<0.2
PC	16	19	4	63	0.11	<1	<1	<0.2
PD	881	9,833	244	18,290	3.7	<1	<1	<0.2
PE	374	4,900	<1	5,362	0.80	<1	<1	<0.2
PF	<1	<1	<1	9	2.5	<1	<1	<0.2
PG	160	10,230	183	21,300	16.0	0.3	<1	<0.2

November 1987
(All Results in ug/l)

Well	Chloroform	Carbon Tetrachloride	Trichloroethylene	Perchloroethylene	C-46	C-56	C-58	C-66
PB	110	200	ND50	2,200	ND	ND	ND	ND
PC	4.7	5.1	ND	17	ND	ND	ND	ND
PD	220	6,300	ND100	7,606	ND	ND	ND	ND
PE	130	1,400	ND50	1,700	ND	ND	ND	ND
PF	ND	ND	ND	3.2	ND	ND	ND	ND
PG	210	5,900	ND	10,000	ND	ND	ND	ND

June 13, 1989
(All Results in ug/l)

Well	Chloroform	Carbon Tetrachloride	Trichloroethylene	Perchloroethylene
PB	130	190	ND50	1,100
PC	4.9	2.3	ND	20
PD	340	3,600	120	6,200
PE	130	620	ND50	950
PF	ND	ND	ND	2.6
PG	240	5,200	ND200	9,600
PH	ND50	92	ND50	3,000
PI	58	70	ND50	1,800

TABLE C

Groundwater Monitoring Results
from Groundwater Wells at
Occidental Chemical Montague, Michigan
June 1991
(all results in ug/l)

Well	Chloroform	Carbon Tetrachloride	Trichloroethylene	Tetrachloroethylene	C-46	C-56	C-58	C-66
F				69				
M	9.0	36		4.0				
S	ND50	ND50	ND50	890		1.5		
T								
MW-2								
MW-6								
MW-7				10				
MW-8		140		2,700	0.1			
MW-12								
MW-13				2.0				
MW-24								
MW-26		2.0						
MW-27	2.0	3.0						
MW-31			250	1,300				
MW-33	33.0	860	17	1,800				
GM-3	620		130	45				

(18) (a) In January, 1988, EPA notified Respondent that an investigation of the Facility should be conducted pursuant to RCRA. [Ref: January 27, 1988, EPA letter to Occidental]. During the period 1988-1989, representatives from EPA, Michigan, and Respondent unsuccessfully attempted to negotiate a resolution to this matter. [Ref: Correspondence File].

(b) In March 1988, Respondent submitted additional information and data to EPA relating to the Facility. On July 7, 1989, EPA responded to the March 1988 submission, and made the following points:

> (i) Additional sampling of the disposal Vault is required pursuant to a EPA-approved Quality Assurance Plan and laboratory;
>
> (ii) Full Appendix IX scans would be required in initial soil boring sample rounds. Indicator parameters and contaminants of concern will be designated based on the results of the Appendix IX scans. This is due in part to the fact that site logs and even a previous study performed by Respondent (William & Works, 1978) revealed that a wide variety of wastes/compounds exist at the Facility which do not correspond to past claimed uses and production inputs and practices.
>
> (iii) Proposed groundwater monitoring was inadequate. The underlying clay layer appears to thin directly under the old production facility and a buried paleochannel underlies the Facility, presenting potential migration pathways which were unscreened under the plan.

(c) On June 25, 1992, EPA re-issued a draft Administrative Consent Order to Respondent and requested that Respondent engage in negotiations for performance of a

RFI for the Facility. Again, negotiations were unsuccessful. [Ref: Correspondence File].

(19) In March 1988, EPA's Environmental Photographic Interpretation Center in Warrenton, Virginia, analyzed historical aerial photographs of the Respondent's Facility. The analysis covered the period from 1955 to 1987. Based on this analysis, 28 Areas of Concern (AOC) were identified including the initial 12 SWMUs previously identified in the State Judgement. The AOCs may be or contain SWMUs. These AOCs include, but are not limited to (Figure 6):

AOC 1-12 Previously identified as SWMUs, pursuant to State Judgment (See Paragraph 4);

AOC 13 - contained several impoundments;

AOC 14 - several small waste piles;

AOC 15 - waste pile;

AOC 16 - contained several waste piles;

AOC 17 - several tanks;

AOC 18 - includes two ground stains;

AOC 19 - production building;

AOC 20 - coal pile and mounds of material;

AOC 21 - contaminated soils (no-man's land);

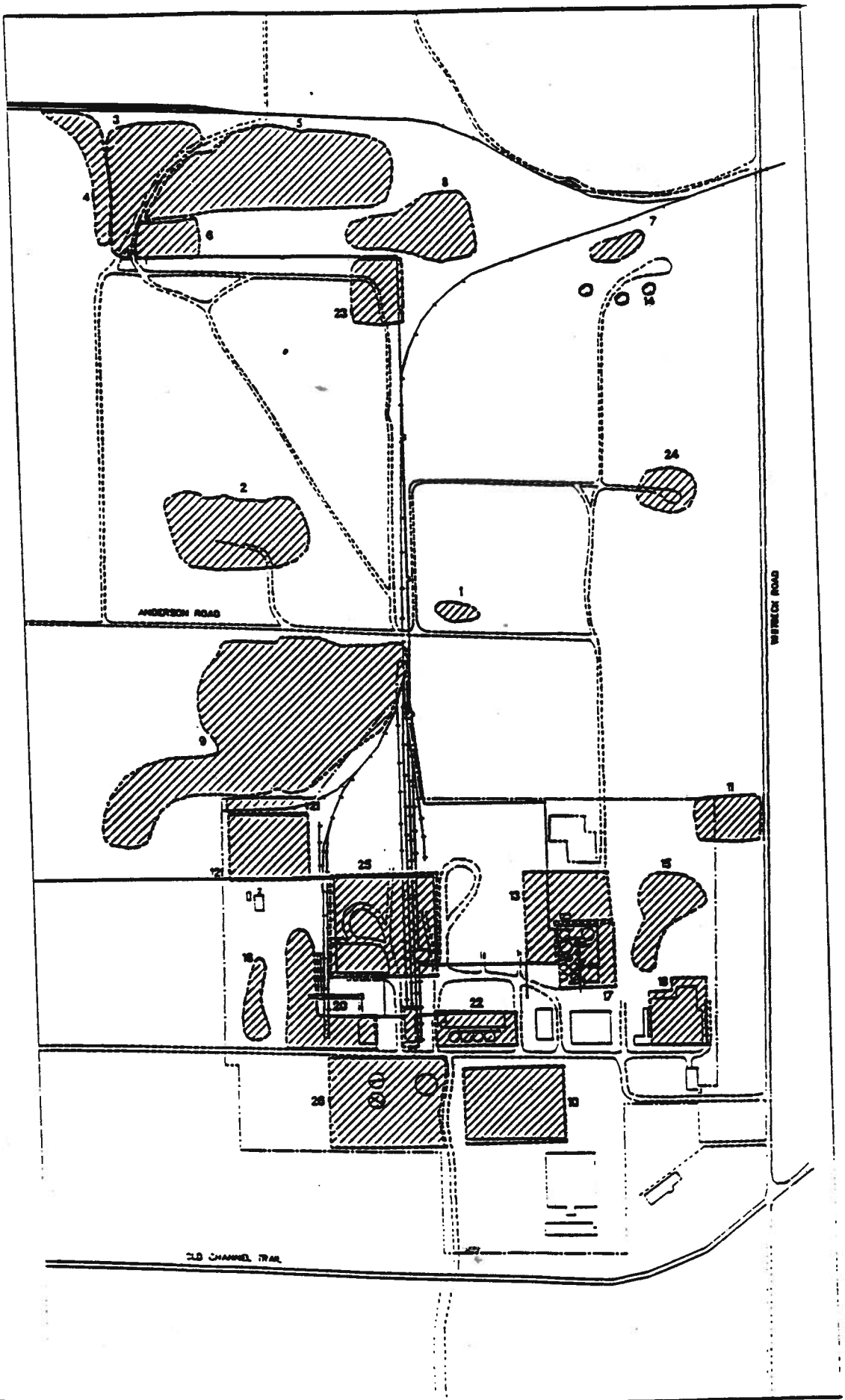
AOC 22 - Tank area;

AOC 23 - disturbed area and tank;

AOC 24 - disturbed area;

AOC 25 - various waste piles and possible container storage;

AOC 26 - waste water treatment plant - three impoundments and a tank;



SCALE
1" = 600'

UNIT / DISPOSAL AREA SITE MAP
OCCIDENTAL CHEMICAL CORPORATION

Figure No. 6

AOC 27 - two impoundments which contained a dark liquid surrounded by a light liquid.

AOC 28 - a small impoundment which contained a dark liquid.

(20) Additional SWMUs and AOCs were identified at the Facility based on information contained in EPA's administrative record for this Order, including the Facility's December 5, 1984, revised Part A permit application. These include but are not limited to (Figure 7):

SWMUs

Area 29 - Secure Landfill;

Area 30 - 378 Underground Injection Wells;

Area 38 - 392 Plugged Disposal Wells;

Area 40 - Hazardous Waste Container Storage Area;

Area 41 - Activated Carbon Adsorbers.

AOCs

Area 42 - White Lake;

Area 43 - On-site roads;

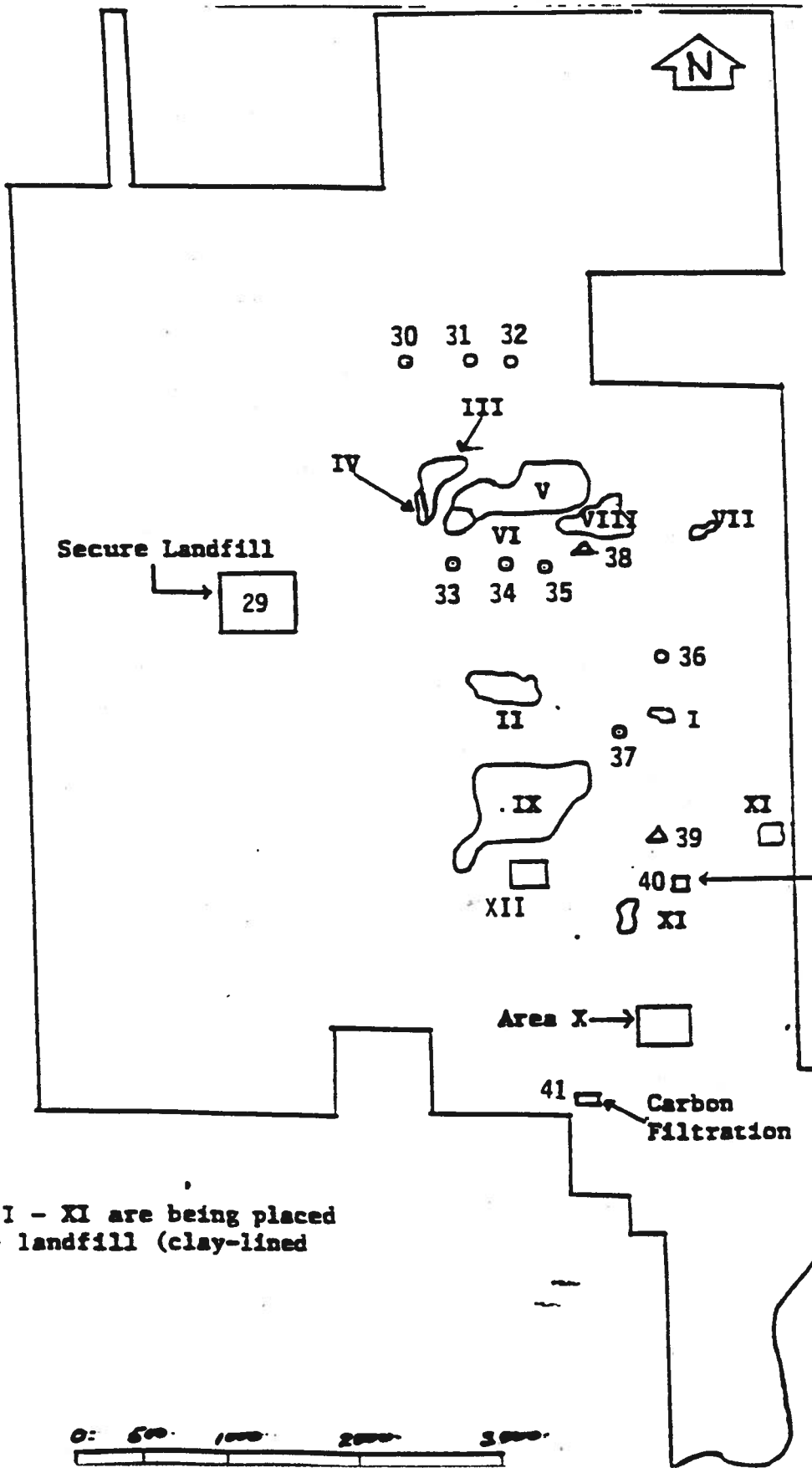
Area 44 - Public roads bordering the Facility - including Whitbeck and Channel Trail Roads;

Area 45 - Vault Leachate Spill - Occurred on May 1, 1982. According to Respondent, approximately 500 gallons of vault leachate were released from the carbon adsorber.

(21) White Lake

White Lake borders the southern portion of the Facility. (Figure 1). A series of shoreline wells have been installed as shown in Figure 5. Samples from a September 9, 1985, sampling by

FIGURE 7
Additional SWMUs and AOCs



Areas marked I - XI are being placed in the secure landfill (clay-lined vault).

MDNR revealed the following results as shown in Table D. White Lake water was used as cooling water at the Facility. MDNR sampled White Lake water on several occasions. Results from the February 18, 1982, February 6, 1985, February 25, 1986, and February 17, 1987, sampling events are shown in tables E, F, G and H. In general, the results show that White Lake has been impacted by contamination emanating from the Facility.

(G) Some of the hazardous wastes or hazardous constituents identified in soils and groundwater at the Facility and White Lake have been identified as systemic toxicants by the EPA, including hexachlorocyclopentadiene (C-56), hexachlorobenzene (C-66), hexachlorobutadiene (C-46), tetrachloroethylene, chloroform and carbon tetrachloride. Hexachlorocyclopentadiene can cause stomach lesions when ingested in small quantities. Lung damage and skin lesions are observed in inhalation and dermal exposures, respectively. However, both kidney and lung appear to be affected by hexachlorocyclopentadiene independent of route of exposure. Chronic effects of exposure to hexachlorobenzene, chloroform, and carbon tetrachloride may include liver damage. Hexachlorobutadiene effects the kidneys and tetrachloroethylene has been shown to cause hepatotoxicity in mice. In addition, carbon tetrachloride, hexachlorobenzene and chloroform are probable human carcinogens [Ref: Integrated Risk Information System (IRIS)]. The actual and potential releases of hazardous wastes and hazardous constituents documented in the

TABLE D

Occidental Chemical Company - Montague, Michigan
White Lake Shoreline Wells Sampled by MDNR
September 9, 1985

Shore Line Well		C	E	F	Detection Limit
Tetrachloroethylene	ug/l	11000 UC DR	11000 UC DR	340 UC	250 ug/l
2-Chloronapthalene	ug/l	INT K .5	INT K .5		0.10 ug/l
1,2-Dichlorobenzene	ug/l	9.90	5.10		0.10 ug/l
1,3-Dichlorobenzene	ug/l	0.34	0.24		0.10 ug/l
1,4-Dichlorobenzene	ug/l	1.30	0.80		0.10 ug/l
Hexachloroethane	ug/l	3.70	0.03		0.01 ug/l
1,2,4,-Trichlorobenzene	ug/l	INT K .5	INT K .1		0.01 ug/l
Alkalinity	mg/l	1300	2400	7,700	
ALK, CO.=	mg/l	750	1260	K 5.0	
Chloride	mg/l	5150	6470	4,200	
ALK, HCO_3	mg/l	K 5.0	K 5.0	K 5.0	
Sulfate	mg/l	420	5300	5,300	
Calcium	mg/l	1.3	1.3	K 1.0	
Potassium	mg/l	1.3	3.0	48	
Magnesium	mg/l	K 1.0	K 1.0	K 1.0	
Sodium	mg/l	4390	5960	6400	
pH		11.8	12.2	12.8	

K = Less than
UC = Unconfirmed
DR = High sample dilution was required to bring value into analytical working range
INT = Interference

Table E

Michigan Department of Natural Resources White Lake Sampling Results
Off-Shore of Occidental Chemical Co., Montague, Michigan
Collected on February 18, 1982

Location	Depth	CCl_4	$CHCl_3$	C_2HCl_3	C_2Cl_4
150' off shore of MW I	32'	17.0	2.0	1.0	41.0
80' off shore of MW-H	24'	5.0	<1.0	<1.0	11.0
70' off shore PA	20'	2.0	1.0	3.0	60.0
300' off shore of Intake building	31'	3.0	<1.0	<1.0	15.0
80' off shore of MW-A	8'	<1.0	<1.0	<1.0	<1.0
100' off shore of MW-B	8'	<1.0	<1.0	<1.0	<1.0
115' off shore of MW-C	10'	<1.0	<1.0	<1.0	<1.0
230' off shore of MW-C	29'	1.0	<1.0	<1.0	7.0
110' off shore of MW-D	26'	5.0	<1.0	<1.0	34.0
300' off shore of MW-D	30'	<1.0	<1.0	<1.0	15.0
200' off shore Pack ST.	28'	<1.0	<1.0	<1.0	<1.0
Near outlet channel	12'	<1.0	<1.0	<1.0	<1.0
Near public access	5'	<1.0	<1.0	<1.0	<1.0

All concentrations in micrograms per liter - (ug/l).
MW - Facilities lakeshore monitoring wells installed in 1978
High boiler (C-46, C-56, C-58, and C-66) analysis was done on samples 2, 8, 12 and 13 above and found to be less than detectable.

Table F

Michigan Department of Natural Resources White Lake Sampling Results
Off-Shore of Occidental Chemical Co., Montague, Michigan
Collected on February 6, 1985

Location	Depth	CCl_4	$CHCl_3$	C_2HCl_3	C_2Cl_4	1	2	3	4	5
148' off shore of SLW J	39'	2.40	K 1	K 1	9.70	K 1	K 1	0.07	K.01	K .13
93' off shore of SLW J	8'	K 1	K 1	K 1	K 1	K 1	K 1	K.01		K .13
243' off shore PE & WW33	32'	2.40	K 1	K 1	7.90	1.20	1.00	0.05	INT K.05	0.17
75' off shore PE & WW33	6'	K 1	K 1	K 1	K 1	K 1	K 1	K.01	K .01	K .13
363' off shore Pa	29'	K 1	K 1	K 1	K 1	K 1	K 1	K.01	K .01	K .13
213' off shore Pa	25'	2.70	K 1	K 1	7.60	K 1	K 1	0.06	K .01	K .13
63' off shore Pa	18'	13.00	1.60	2.90	35.00	K 1	K 1	0.05	K .01	K .13
113' off shore Pg	6'	K 1	K 1	K 1	1.10	K 1	K 1	K.01	K .01	K .13
228' off shore Pg	28'	1.10	K 1	K 1	5.10	K 1	K 1	0.03	K .01	K .13
233' off shore of SLW D	28'	K 1	K 1	K 1	13.00	K 1	K 1	0.11	INT K .07	K .13
135' off shore of SLW D	18'	4.60	K 1	K 1	18.00	K 1	K 1	0.44	INT K .12	K .13
358' off shore of SLW F	26'	K 1	K 1	K 1	1.60	K 1	K 1	0.02	K .01	K .13
Replicate		K 1	K 1	K 1	1.40	K 1	K 1	0.02	K .01	K .13
170' off shore of SLW F	9'	K 1	K 1	K 1	K 1	K 1	K 1	0.01	K .01	K .13

All samples were collected through the ice with a Kemmer water sampler approximately one (1) foot off the bottom.
All concentrations in micrograms per liter - (ug/l).
Parameter:
1= 1,1 Dichloroethane
2= 1,2 Dichloroethene
3= Hexachloroethane
4= 1,2,4 - Trichlorobenzene
5= Aroclor 1254

INT= Interference
SLW= Shoreline Well
K= Detection Limit

Table G

Michigan Department of Natural Resources
White Lake Surface Water Sampling Results
Off-Shore of Occidental Chemical Co.
Montague, Michigan
Collected on February 25, 1986

Sample/Location	Depth	Tetra-chloroethene	Hexa-chloroethane	Carbon Tetrachloride	Dichloro Methyl benzene
1. 120′ off SLW-J	15′	1.20	0.01	< 1	N.D.
2. 170′ off SLW-J	48′	52.00	0.18	11.00	P
3. 75′ off SLW-J	8′	< 1	< 0.1	< 1	N.D.
4. 275′ off PWE/WW33	42′	25.00	0.13	1.6	UNIP
5. 210′ off PWH	26′	11.00	0.11	< 1	UNIP
6. 310′ off PWA	30′	7.50	0.03	< 1	UNIP
7. 60′ off PWA	18′	3.00	0.03	< 1	N.D.
8. 110′ off PWG	9′	< 1	< .01	< 1	N.D.
9. 225′ off PWG	28′	1.90	0.04	< 1	UNIP
10. 130′ off SLW-D	17′	3.20	0.05	< 1	UNIP
11. 230′ off SLW-D	30′	1.40	0.02	< 1	UNIP
12. 170′ off SLW-F	9′	< 1	< .01	< 1	N.D.
13. 360′ off SLW-F	22′	< 1	< .01	< 1	N.D.

UNIP = unidentified peaks present in GC analysis.
P = compounds present but not quantified.
Compounds identified by GC/HS library search.
SLW = Shore line well
PW = Purge well

Table H

Michigan Department of Natural Resources
White Lake Sampling Results
Off-Shore of Occidental Chemical Co.
Montague, Michigan
Collected on February 17, 1987

Sample/Location	Depth	Tetra-chloroethene	Carbon Tetrachloride	UNID PEAK	1,1,1 Trichloro-ethane	Chloroform
1. 200' off PW-E	41'	2.20	1.40	N.D.	< 1.00	INT K2
2. 100' off PW-E	16'	2.10	< 1.00	P	< 1.00	< 1.00
3. 300' off PW-E	40'	1.90	< 1.00	P	< 1.00	< 1.00
4. 150' off PW-E	33'	1.40	< 1.00	N.D.	< 1.00	< 1.00
5. 60' off PW-D	20'	3.90	1.10 (UC)	P	< 1.00	< 1.00
6. 175' off PW-D	30'	4.10	1.20 (UC)	P	INT K2	< 1.00
7. 450' off PW-D	35'	1.10	< 1.00	N.D.	1.70 (UC)	< 1.00
8. 400' off PW-G	36'	1.00	< 1.00	N.D.	1.40 (UC)	< 1.00
9. 200' off PW-G	31'	1.40	< 1.00	N.D.	1.80 (UC)	< 1.00

INT K2 = Interference encountered during analysis; actual value, if present, is less than 2 ug/l.
PW = Purge well
UC = Identity not confirmed by second independent technique.
UNID Peak = The unidentified peak was tentatively identified by GC/MS library search. The peak was identified as bromocyclohexane and isomers with a match factor of 0.72. A match factor of 1.00 is considered a perfect match.

The samples from White Lake were analyzed for Scan 1 and 3 compounds. All compounds in those scans which are not listed were less than detectable.

soils and groundwater at the Facility pose a threat to human health and the environment.

(H) The populations of the nearest municipalities, the City of Montague, and the City of Whitehall are 2,332 and 2,856, respectively (total 5,188). The Facility is approximately 1 mile southwest of these municipalities. Within a two mile radius of the Facility, there are several residences; the areas to the south, east, and southwest along White Lake are all residential. To the north and northwest are wooded areas that are sparsely populated by humans. The Manistee National Forest lies one and a half miles north of the Facility.

White Lake is the nearest groundwater discharge area and is approximately one-half mile east/southeast of the Facility. White Lake is currently only used for recreation. Hazardous waste constituents emanating from the Facility have entered White Lake.

Nine private wells located to the south of the Facility were closed in 1976 due to contamination, groundwater flow direction, and proximity to the Facility. Not all of the wells closed were found to be contaminated. These wells were all completed in the watertable aquifer at a depth of approximately 60 feet below the surface. Approximately 40 residences in the City of Montague utilize private wells in the watertable aquifer. The nearest residential well is located approximately 650 feet east of the Facility.

The City of Montague obtains its water supply from three production wells, the nearest one of which is located approximately one and a quarter miles northeast of the Facility. Each of these wells taps an aquifer situated beneath an apparently impermeable confining layer of clay at approximately 170 feet. The city formerly had four production wells, but one, located approximately 3/4 of a mile east of the Facility, was abandoned at an unspecified date due to perchloroethylene and trichloroethylene contamination. The source(s) of these hydrocarbon pollutants has/have never been determined. The abandoned well drew from the shallower water table aquifer than the three current production wells.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set out above and on the administrative record, the Waste Management Division Director of the EPA, Region V, has made the following conclusions of law and determinations:

A. Respondent is a "person" within the meaning of Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15).

B. Respondent is the owner and operator of a facility that has operated or is operating under interim status subject to Section 3005(e) of RCRA, 42 U.S.C. Section 6925(e).

C. Certain wastes and waste constituents found at the Facility are hazardous wastes or hazardous constituents as defined by Section 1004(5) of RCRA, 42 U.S.C. Section 6903(5). These are also hazardous wastes or hazardous constituents within

the meaning of Section 3001 of RCRA, 42 U.S.C. Section 6921, and 40 CFR Part 261.

D. There is and has been a release and threat of release of hazardous wastes and hazardous constituents into the environment from the Respondent's Facility. Evidence of these releases includes but is not limited to:

1. Analytical results from the groundwater monitoring events indicate that a contamination plume from the Facility has impacted groundwater at and downgradient of the Facility. Additionally, the data indicate that the Facility continues to impact groundwater at and potentially downgradient of the Facility. The approximate location of the estimated plume of contaminated groundwater is shown in Figures 5 and 8;

2. As described in the Statement of Facts and the administrative record, soils and sediments at and around the Facility have been impacted by contamination released at and from the Facility.

E. Potential present and future receptors of releases from the Respondent's Facility are nearby residents, animals, flora and fauna, including those in White Lake, and, potentially, Lake Michigan.

F. The actions required by this Order are deemed necessary to protect the human health, welfare, and the environment.

HOOKER CHEMICALS AND PLASTICS CORPORATION
PLUME OF CONTAMINATED GROUNDWATER

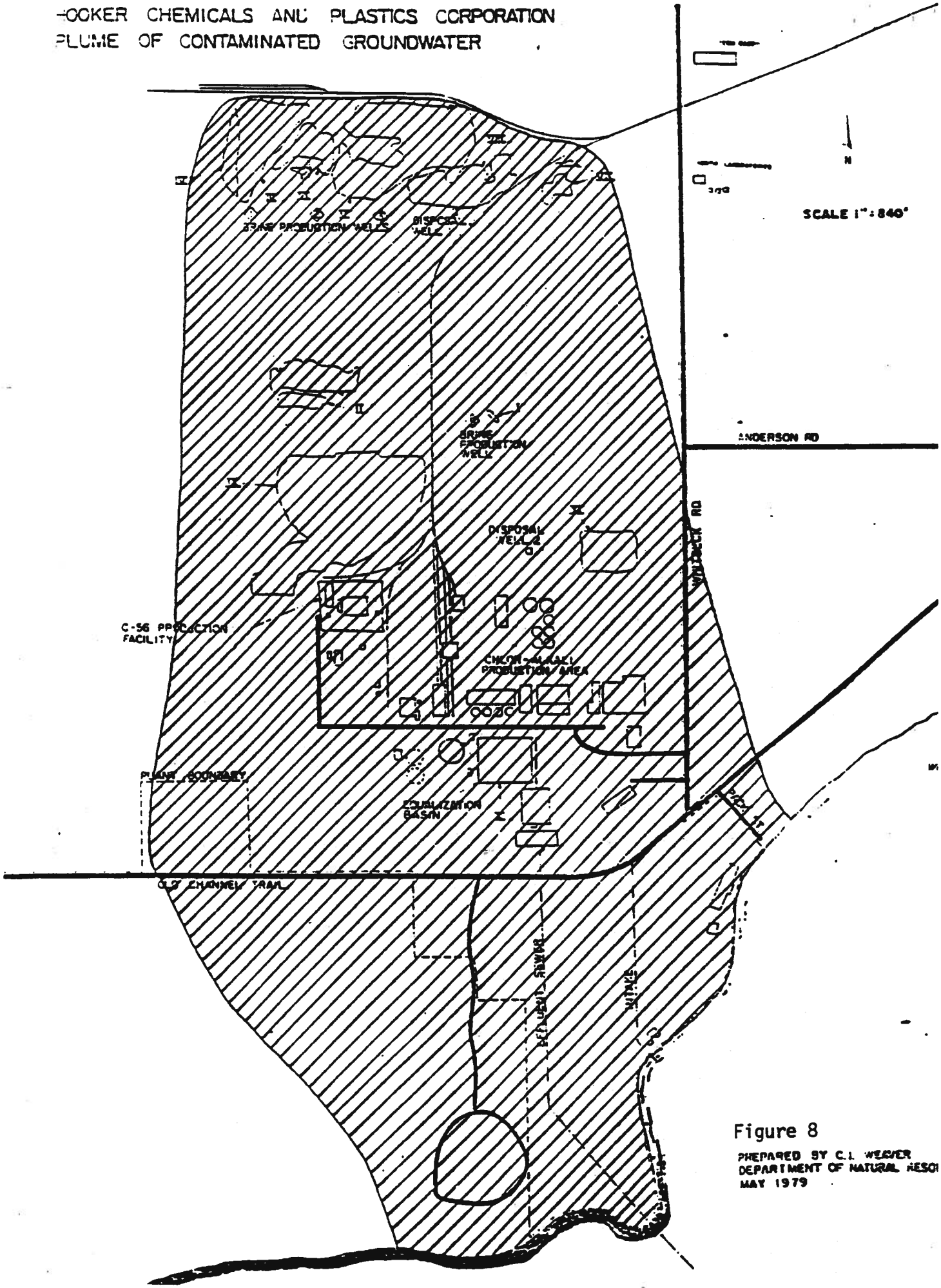


Figure 8

PREPARED BY C.L. WEAVER
DEPARTMENT OF NATURAL RESOURCES
MAY 1979

G. Administrative complaints which seek to enforce provisions of the Order shall be governed by 40 CFR Part 22.

VI. WORK TO BE PERFORMED

Pursuant to Section 3008(h) of RCRA, 42 U.S.C. Section 6928(h), Respondent is hereby ordered to perform the following acts in the manner and by the dates specified herein, in the relevant attachment and/or as otherwise established by EPA. All work undertaken pursuant to this Order shall be performed in a manner consistent with, at a minimum, the following: the attached Scopes of Work, including the EPA-approved RCRA Facility Investigation (RFI) Workplan and Report, Corrective Measures Study (CMS) Workplan and Report (if required), Corrective Measures Implementation Workplan and Report (CMI) (if required), and all other workplans; RCRA and its implementing regulations; Applicable Federal, and substantive state and local requirements; and relevant EPA guidance documents. Relevant guidance may include, but is not limited to: the "RCRA Facility Investigation Guidance" (EPA 530/SW89-031); "RCRA Groundwater Monitoring Technical Enforcement Guidance Document" (OSWER Directive 9950.1, September 1986); "Test Methods for Evaluating Solid Waste" (SW-846, November 1986); and "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities" (EPA 530/SW-85-031, July 1986).

A. INTERIM MEASURES EVALUATION AND WORKPLAN

1. Evaluation of Need for Interim Measures

a. The Respondent shall evaluate all available data (including that obtained from on-going monitoring activities at the Facility) as well as past and present response activities, and assess the need for Interim Measures (e.g. new technologies and/or modifications/upgrades to existing technologies). At a minimum, Respondent shall include an Interim Measures Assessment in the report on current conditions that is required in Attachment 2 (RFI Scope of Work-Task I), which is hereby incorporated into this Order.

b. Additionally, the Respondent shall gather data needed to evaluate and assess the need for Interim Measures during the early phase of the RCRA Facility Investigation (RFI), according to the schedule contained in the EPA-approved RFI Workplan, or as required by any other EPA-approved schedule. Interim measures (IM) may be used, as determined appropriate by EPA, to achieve the objectives of this Order.

c. Based upon the report on current conditions and available data, EPA will determine if any Interim Measures should be taken at the Facility, and shall notify the Respondent in writing if Interim Measures are deemed necessary. Within 30 days of receiving

EPA's written notification, Respondent shall submit an Interim Measures Workplan pursuant to Paragraph 3, below.

2. Contingency for Emergency Interim Measures

a. In the event the Respondent identifies a current or potential threat to human health or the environment, the Respondent shall immediately notify the EPA orally and in writing within fourteen (14) days, summarizing the immediacy and magnitude of the potential threat to human health or the environment. Unless otherwise required by EPA, within thirty (30) days of notifying the EPA, the Respondent shall submit to the EPA an Interim Measure (IM) Workplan, as described in para. 3 below, for approval that identifies Interim Measures which mitigate this threat and are consistent with and integrated into any long term solution at the Facility.

b. If EPA identifies a current or potential threat to human health and/or the environment, EPA will notify the Respondent in writing. Within 30 days of receiving EPA's written notification, the Respondent shall submit to EPA, for approval, an IM Workplan, as described in para. 3 below, that identifies Interim Measures which will mitigate the threat and are consistent with and integrated into any long term solution at the Facility.

3. Interim Measures Workplan.

a. In the event EPA determines Interim Measures are necessary pursuant to paragraph 1, above, or if required pursuant to paragraph 2, above, the Respondent shall submit to EPA, for approval, an IM Workplan that identifies and evaluates Interim Measures which will mitigate or prevent the potential and/or actual threat(s) presented by the Facility.

b. The IM Workplan shall ensure that the Interim Measures are designed to mitigate or prevent current or potential threat(s) to human health or the environment and shall, to the extent practicable, be consistent with the objectives of, and contribute to the performance of any remedy which may be required at the Facility pursuant to this Order. The IM Workplan shall document the procedures for implementation of Interim Measures and shall include, but not be limited to: statement of the objectives of the Interim Measures; design, construction, operation, monitoring and maintenance requirements; and detailed schedules.

c. The Respondent shall perform Interim Measures in a manner consistent with the IM Scope of Work in Attachment 1 of this Order, which is hereby incorporated into this Order. The IM Workplan may include any applicable innovative pilot or treatability studies with procedures for testing and

analysis. The IM Workplan shall be developed in accordance with RCRA, its implementing regulations, and relevant EPA guidance documents.

d. In accordance with Attachment 1, the IM Workplan shall include: Interim Measures Objectives; a Health and Safety Plan; a Community Relations Plan; a Data Collection Quality Assurance Plan; a Data Management Plan; Design Plans and Specifications; and Operation and Maintenance Plan; a Project Schedule; an Interim Measure Construction Assurance Plan; and Reporting Requirements.

B. RCRA FACILITY INVESTIGATION

1. Within sixty (60) days of the effective date of this Order, the Respondent shall submit to the EPA a draft RFI Workplan for a RCRA Facility Investigation. The RFI Workplan is subject to approval by the EPA and shall be performed in a manner consistent with the RFI Scope of Work contained in Attachment 2. The RFI Workplan shall be developed at a minimum in accordance with RCRA, its implementing regulations, and relevant EPA guidance documents.

2. The RFI Workplan shall detail the methodology and procedures for determining and defining the presence, nature, magnitude, extent, direction, and rate of movement of any hazardous wastes or hazardous constituents in all media within and in the vicinity

of the Facility. The RFI Workplan shall document the methodologies and procedures the Respondent shall use to conduct those investigations necessary: (a) to characterize the environmental setting of the Facility; (b) to identify potential and actual pathways of contaminant migration; (c) to characterize and identify the actual and potential sources of contamination, including additional SWMUs and/or AOCs; (d) to define the nature, degree and extent of contamination; (e) to identify actual or potential receptors; and (f) to support the development of alternatives from which a corrective measure may be selected by the EPA. A specific schedule for implementation of all activities shall be included in the RFI Workplan.

3. In accordance with the provisions of Attachment 2, Task III, the RFI Workplan shall include, at a minimum: (1) a Project Management Plan; (2) a Data Collection Quality Assurance Plan; (3) a Data Management Plan; (4) a Health and Safety Plan; and (5) a Community Relations Plan.

C. CMS/CMI PROVISIONS

1. Based upon the RFI Report, EPA will determine if the Respondent should conduct a CMS and shall notify the Respondent in writing if a CMS is required. If a CMS is determined necessary, Respondent shall the submit a

CMS Workplan within 30 days of receipt of EPA's notice. If required, the CMS shall be performed in accordance with the CMS Scope of Work in Attachment 3. Attachment 3 is hereby incorporated into this Order.

2. Based upon the CMS Report, EPA will propose corrective measures to be implemented for the Facility and shall publish a statement of basis for public comment. Based upon the CMS Report and public comments, EPA will select the corrective measures to be implemented by Respondent for the Facility.

   a. Within thirty days of Respondent's receipt of notification of EPA's selection of the corrective measure(s), Respondent shall submit to EPA a Corrective Measures Implementation Program Workplan ("CMI Program Workplan"). The CMI Program Workplan is subject to approval by EPA and shall be submitted and performed in a manner consistent with the CMI Scope of Work contained in Attachment 4. Attachment 4 is hereby incorporated into this order. The CMI Program Workplan shall be developed in accordance with, at a minimum, RCRA, its implementing regulations, and relevant EPA guidance documents.

   b. The CMI Program Workplan shall be designed to facilitate the design, construction, operation, maintenance and monitoring of corrective measures

at the Facility. In accordance with Attachment 4 herein, the CMI Program Workplan shall also include: (1) a Program Management Plan; (2) a Community Relations Plan; (3) Design Plans and Specifications; (4) an Operation and Maintenance Plan; (5) a Cost Estimate; (6) Project Schedule; (7) a Health and Safety Plan; and (8) a Construction Quality Assurance Plan.

D. COMMENCEMENT OF WORK, PROGRESS REPORTS, SUBMISSIONS/APPROVALS

1. Within thirty (30) days of EPA approval of any Workplan, Respondent shall commence work, and shall implement the tasks required by the Workplan in accordance with the standards, specifications, and schedule stated in the Workplan as approved or modified by EPA.

2. Beginning with the month following the effective date of this Order, Respondent shall provide EPA with progress reports for each month by the tenth day of the following month. The progress reports shall conform to requirements in relevant Scopes of Work contained in Attachments 1, 2, 3 and 4.

3. Respondent shall provide draft and final RFI, and, if required, CMS reports to EPA in accordance with the schedules contained in this Order and its Attachments, or in accordance with a EPA-approved schedule established pursuant to this Order.

4. A Responsible Official shall personally attest to the accuracy of information contained in each of Respondent's reports, certifications of compliance, and documents evidencing that compliance, pursuant to 18 U.S.C. §1001. The term "Responsible Official" means, for a corporation, a responsible corporate officer. A responsible corporate officer means:

(a) A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(b) the manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $35 million (in 1987 dollars when the Consumer Price Index was 345.3), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

The certification statement in Respondent's reports to the agency shall provide as follows:

> "I certify that the information contained in or accompanying this document is true, accurate, and complete. As to those identified portions of this document for which I cannot personally verify their truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification, that this information is true, accurate, and complete."

5. EPA will review all draft and final workplans and reports, and notify Respondent in writing of EPA's approval, approval with modifications or disapproval of the workplan, report or any part thereof. In the event of any disapproval, EPA will specify in writing

the deficiencies and reasons for such disapproval. Within thirty (30) days of receipt of EPA's disapproval of and/or comments on any workplan or report, Respondent shall amend, making the changes required by EPA, and submit a revised workplan or report. The EPA will approve, approve with modifications, or disapprove the workplan or report. If the revised workplan or report is approved or approved with modifications, it shall be deemed the approved workplan or report. Any subsequent disapproval shall, unless waived by EPA, be deemed a violation of this Order. The EPA approved workplan or report shall be deemed incorporated into and part of this Order.

6. Three (3) copies of all documents, including Workplans, draft and final reports, progress reports, and other correspondence to be submitted pursuant to this Order shall be hand delivered or sent by certified mail, return receipt requested, to the EPA Project Coordinator designated pursuant to Section XII of this Order.

7. All work performed pursuant to this Order shall be under the direction and supervision of a professional engineer or geologist with expertise in hazardous waste site cleanup. On or before the effective date of this Order, Respondent shall notify EPA in writing

of the name, title, and qualifications of the engineer or geologist, and of any contractors or subcontractors and their personnel to be used in carrying out the terms of this Order.

E. ADDITIONAL WORK

EPA may determine that certain tasks, including investigatory work or engineering evaluation, are necessary in addition to the tasks and deliverables included in the RFI, CMS and/or CMI Workplans when new findings indicate that such additional work is necessary. EPA will request in writing that Respondent perform the additional work and shall specify the basis and reasons for EPA's determination that the additional work is necessary. Within thirty (30) days after receipt of such request, Respondent shall have the opportunity to meet with EPA as requested. Thereafter, Respondent shall submit a workplan addendum to EPA within thirty (30) days of such meeting, or within thirty (30) days of receipt of notice, if no meeting is requested. Respondent shall perform the additional work EPA has requested according to an EPA-approved workplan. All additional work performed by Respondent under this paragraph shall be performed in manner consistent with this Order.

VII. QUALITY ASSURANCE

A. Throughout all sample collection and analysis activities, Respondent shall use EPA-approved quality assurance, quality

control, and chain-of-custody procedures as specified in the approved Workplans.

B. Respondent shall be held accountable by EPA for monitoring and ensuring the quality of data and analysis obtained by its contract laboratory. Respondent shall ensure that laboratories used by Respondent for analyses shall perform such analyses according to EPA methods included in "Test Methods for Evaluating Solid Waste" (SW-846, November 1986) or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, Respondent shall submit all protocols to be used for analyses to EPA for approval within thirty (30) days prior to the commencement of analyses. EPA reserves the right to reject any data not generated in accordance with protocols approved by EPA pursuant to this Order.

C. Respondent shall ensure that laboratories used by Respondent for analyses participate in a quality assurance/ quality control program equivalent to that which is followed by EPA. As part of such a program, and upon request by EPA, such laboratories shall perform analyses of samples provided by EPA to demonstrate the quality of the analytical data. EPA reserves the right to conduct a performance and QA/QC audit of any of the laboratories chosen before or during sample analysis, and to require resampling and reanalysis if determined appropriate by EPA based on such audit or other information indicating inadequacies in the laboratories performance or QA/QC.

VIII. PUBLIC COMMENT AND PARTICIPATION

A. Upon approval by EPA of a Corrective Measures Study Final Report, EPA will provide the public with an opportunity to review and comment on EPA's selection of proposed corrective measures for the Facility.

B. Following the public review and comment period, EPA will notify Respondent of the corrective measures selected by EPA. If the corrective measures recommended in the Corrective Measure Study Final Report are not the corrective measures selected by EPA after consideration of public comments, EPA will inform Respondents in writing of the reasons for such decision, and the Respondent shall modify the RFI/CMS if directed to do so by EPA.

IX. ON-SITE AND OFF-SITE ACCESS

A. EPA, its contractors, subcontractors, employees and representatives, are authorized to enter and freely move about all property at the Facility for the purposes of this Order, including but not limited to: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts related to the Facility; reviewing the progress of the Respondent in carrying out the terms of this Order; conducting such tests, sampling, or monitoring as EPA or its Project Coordinator deem necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to EPA by the Respondent. The Respondent shall permit such persons to inspect and copy all records, files, photographs, documents, and other writings, including all

sampling and monitoring data, that pertain to work undertaken pursuant to this Order.

B. To the extent that work required by this Order, or by any approved Workplans prepared pursuant hereto, must be done on property not owned or controlled by Respondent, Respondent will use its best efforts to obtain site access agreements form the present owner(s) of such property within thirty (30) days of approval of any Workplan for which site access is required. Best efforts as used in this paragraph shall include, at a minimum, a certified letter from Respondent to the present owners of the property requesting access agreements to permit Respondent and EPA and its authorized representatives to access the property. Each access agreement shall be incorporated by reference into this Order. In the event that agreements for access are not obtained within thirty (30) days of approval of any Workplan, Respondent shall notify EPA in writing within thirty (30) days thereafter regarding both the efforts undertaken to obtain access and its failure to obtain the agreements.

C. Nothing in this Section limits or otherwise affects EPA's right of access and entry pursuant to applicable law including RCRA and CERCLA.

X. SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. The Respondent shall submit to EPA the results of all sampling and/or tests or other data generated by its employees, divisions, agents, contractors or consultants with respect to implementation of this Order.

B. Respondent shall notify EPA in writing at least twenty-twenty one (21) days before engaging in any field activities pursuant to this Order, including but not limited to well drilling, installation of equipment, or sampling. Additionally, Respondent shall notify EPA in writing at least twenty-one (21) days in advance of engaging, undertaking or ceasing any activities at or related to the Facility which may interfere with the requirements of this Order. In the event Respondent believes an emergency exists and it must commence field activities or commence or cease other activities which may interfere with the requirements of this Order without delay, Respondent must obtain express telephone approval from the EPA project coordinator, or, if the Project Coordinator is not present, from the Project Coordinator's supervisor, to commence or cease such activities. Respondent shall provide or allow EPA or its authorized representative the opportunity to take split samples of all samples collected by Respondent pursuant to this Order.

C. Respondent may assert a business confidentiality claim covering all or part of any information submitted to EPA pursuant to this Order. Any assertion of confidentiality shall be adequately substantiated by Respondent when the assertion is made. Information determined to be confidentiality shall be adequately substantiated by Respondent when the assertion is made. Information determined to be confidential by EPA will be disclosed only to the extent permitted by 40 CFR Part 2. If no such confidentiality claim accompanies this information when it

is submitted to EPA, it may be available to the public by EPA without further notice to the Respondent. Physical or analytical data shall not be deemed confidential.

XI. RECORD PRESERVATION

Respondent shall preserve during the pendency of this Order and for a minimum of six (6) years after its termination, all data, records, and documents in its possession or in the possession of its divisions, officers, employees, agents, contractors, successors, and assigns which relate in any way to this Order or to hazardous waste management and/or disposal at the Facility. During and after the six (6) year period, Respondent shall make any such records available to EPA for inspection or shall, upon request, provide copies of any such records to EPA. Respondent shall notify EPA, sixty (60) days prior to the destruction of any such records, and shall provide EPA with the reasonable opportunity to take possession of any such records prior to destruction.

XII. PROJECT COORDINATOR

A. Within ten (10) days of the effective date of this Order, Respondent shall designate a Project Coordinator and shall notify EPA in writing of the Project Coordinator it has selected. EPA has designated Mr. Michael Ribordy as Project Coordinator for this Order. Respondent's Project Coordinator shall be responsible for overseeing the implementation of this Order and for designating a person to act in his or her absence. The EPA

Project Coordinator will be EPA's designated representative for the Facility. All communications between the Respondent and the EPA, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the Project Coordinators.

B. Respondent shall provide at least ten (10) days written notice prior to changing Project Coordinators.

C. If the EPA determines that activities in compliance or noncompliance with this Order, have caused or may cause a release of hazardous waste, hazardous constituent, or a pollutant or contaminant, or a threat to the public health or to the environment, EPA may order Respondent to stop further implementation of this Order for such a period of time as may be needed to abate any such release or threat and/or undertake any action which EPA determines is necessary to abate such release or threat.

D. The absence of the EPA Project Coordinator from the Facility shall not be cause for the stoppage of work.

XIII. NOTIFICATION

Unless otherwise specified, reports, correspondence, approval, notices, or other submissions relating to or required under this Order shall be in writing and shall be distributed as follows. Three copies of all documents to be submitted to the EPA shall be sent to:

Mr. Michael Ribordy
Project Coordinator
U.S. Environmental Protection Agency
Region V, RCRA Enforcement Branch
77 West Jackson Blvd. (HRE-8J)
Chicago, IL 60604

XIV. PENALTIES FOR NONCOMPLIANCE

If Respondent fails to comply with the terms and provisions of this Order, EPA may commence a subsequent action to require compliance and/or assess a civil penalty not to exceed TWENTY-FIVE THOUSAND ($25,000) DOLLARS per violation for each day of non-compliance, or issue another Order.

XV. RESERVATION OF RIGHTS

A. The EPA expressly reserves all rights and defenses that it may have, including the right both to disapprove of work performed by Respondent pursuant to this Order and to request that Respondent perform tasks in addition to those stated in the Scopes of Work or workplans.

B. EPA hereby reserves all of its statutory and regulatory powers, authorities, rights, remedies, both legal and equitable, which may pertain to Respondent's failure to comply with any of the requirements of this Order, including without limitation the assessment of penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. §6928(h)(2). This Order shall not be construed as a covenant not to sue, release, waiver, or limitation of any rights, remedies, powers and/or authorities, civil, or criminal, which EPA has under RCRA, CERCLA, or any other statutory, regulatory, or common law authority of the United States.

C. Compliance by Respondent with the terms of this Order shall not relieve Respondent of its obligations to comply with RCRA or any other applicable local, State, or Federal laws and regulations.

D. This Order shall not limit or otherwise preclude the Agency from taking additional enforcement action pursuant to Section 3008(h) of RCRA or other available authorities should the Agency determine that such actions are warranted.

E. This Order is not intended to be nor shall it be construed to be a permit. This Order does not relieve Respondent of any obligation to obtain and comply with any local, State, or Federal permits.

F. EPA reserves the right to perform any portion of the work required herein or any additional site characterization, study, and response/corrective actions as it deems necessary to protect human health and the environment. EPA may exercise its authority under CERCLA to undertake removal actions or remedial actions at any time. EPA reserves its right to seek reimbursement from Respondent for costs incurred by the United States related to the Facility. Notwithstanding compliance with the terms of this Order, Respondent is not released from liability, if any, for the costs of any response actions taken or authorized by EPA.

XVI. OTHER CLAIMS AND PARTIES

Nothing in this Order shall constitute or be construed as a release from any claim, cause of action, or demand in law or

equity against any person, firm, partnership, or corporation for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituents, hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, taken from, migrating from or related to the Facility.

XVII. OTHER APPLICABLE LAWS

All action required to be taken by the Respondent pursuant to this Order shall be undertaken in accordance with the requirements of all applicable local, State, and Federal laws and regulations. Respondents shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

XIX. FINANCIAL RESPONSIBILITY

A. Within thirty (30) days of the effective date of this Order, the Respondent shall provide 5 MILLION DOLLARS ($5,000,000) in financial assurance using one or more of the mechanisms allowable under 40 CFR 265.143 for the term and/or conditions of this Order.

B. If the Respondent fails to perform any of the terms or conditions of this Order, then the financial assurance will be available to EPA to perform such terms or conditions.

XX. MODIFICATION

A. This Order may be amended by EPA to ensure protection of human health and the environment. Such amendments shall be in writing, shall have as their effective date the date on which they are signed by EPA, and shall be deemed incorporated into this Order upon signing by EPA.

B. Any reports, plans, specifications, schedules, and attachments required by this Order are deemed, upon written approval by EPA, incorporated into this Order. Any noncompliance with such EPA-approved reports, plans, specifications, schedules, and attachments shall be considered a violation of this Order and shall subject Respondent to the stipulated penalty provisions included in Section XIV of this Order.

C. Any requests for a compliance date modification and/or revision of an approved workplan requirement must be made in writing and be received by EPA at least twenty-one (21) days prior to the applicable deadline. Such requests must provide justification for any proposed compliance date modification or workplan revision. EPA has no obligation to approve such requests. Any approved compliance date modification shall be incorporated by reference into the Order.

D. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules or any other writing submitted by the Respondent will be construed as relieving Respondent of its obligations to obtain written approval, if and when required by this Order.

XXI. SEVERABILITY

If any provision or authority of this Order or the application of this Order to any party or circumstances is held by any federal judicial or administrative authority to be invalid, the application of such provisions to other parties or circumstances and the remainder of the Order shall remain in force and shall not be affected thereby.

XXII. NOTICE OF OPPORTUNITY TO REQUEST A HEARING

In accordance with Section 3008(b) of RCRA, 42 U.S.C. §6928(b), 40 C.F.R. §24.05, the Order shall become final unless Respondent files a response and requests a public hearing in writing no later than (30) days after service of the Order and Notice of Opportunity for Hearing. The response and request for hearing must be filed with:

Ms. Michelle Winston
Regional Hearing Clerk
United States Environmental Protection Agency
77 West Jackson Boulevard (MFA-10J)
Chicago, Illinois 60604

A copy of the response and request for hearing and copies of all subsequent documents filed in this action must be sent to Mr. Felipe N. Gomez, Office of Regional Counsel, at the same address. The response must specify each factual or legal determination or relief provision in the Order that the Respondent disputes and shall specify the basis upon which the Respondent disputes such determination or provision. The response shall also include any proposals for modification of the

Order. Any hearings on the Order will be conducted in accordance with the attached hearing procedures (Attachment 5).

If Respondent fails to file a response and request for hearing within thirty (30) days after service of the Order, Respondent will be deemed to have waived its right to a hearing, and the Order will become final.

XXIII. SETTLEMENT CONFERENCE

Whether or not Respondent requests a hearing, an informal conference may be requested at any time in order to discuss the facts of this case and to discuss potential settlement. To request an informal conference contact:

Mr. Felipe N. Gomez
Assistant Regional Counsel
United States Environmental Protection Agency
77 West Jackson Boulevard (CS-3T)
Chicago, Illinois 60604
(312) 886-6833

A request for an informal conference does not extend the thirty (30) day period during which a written response and request for a hearing must be submitted. The informal conference procedure may be pursued simultaneously with the public hearing procedure.

XXIV. TERMINATION AND SATISFACTION

The provisions of this Order shall be deemed satisfied upon Respondent's execution and EPA's receipt of written notice from EPA that Respondent an "Acknowledgement of Termination and Agreement to Record Preservation and Reservation of Rights" ("Acknowledgement"). EPA will prepare the Acknowledgement for Respondent's signature. The Respondent's Acknowledgement will

specify that Respondent has demonstrated to the satisfaction of EPA that the terms of this Order, including any additional tasks determined by EPA to be required pursuant to this Order have been satisfactorily completed. In addition, the Acknowledgement will ensure that all records will be preserved in accordance with the Record Preservation (Section XI) and Reservation of Rights (Section XV) provisions of this Order after the Order is terminated. The acknowledgement required by this section shall be as follows:

ACKNOWLEDGEMENT OF TERMINATION and
AGREEMENT TO RECORD PRESERVATION AND RESERVATION OF RIGHTS

1. The United States Environmental Protection Agency ("EPA") agrees and acknowledges that the terms of Unilateral Order RCRA-___-___-___ issued by EPA on _____ ___, 19__ ("the Order"), including any additional tasks determined by EPA to have been required pursuant to the satisfactorily completed.

2. Respondent agrees and acknowledges that the terms of Section XI (Record Preservation) of the Order remain in effect.

3. Respondent agrees and acknowledges that Respondent's completion of the terms of the Order does not limit or otherwise preclude EPA from taking additional enforcement action pursuant to Section 3008(h) of the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended by the hazardous and Solid Waste Amendments of 1984, 42 U.S.C. §6928(h), or other available legal authorities should EPA determine that such actions are warranted.

4. Respondent agrees and acknowledges that Respondent's completion of the terms of the Order does not relieve Respondent of its obligations to comply with RCRA or any other applicable local, State or Federal laws and regulations.

IT IS SO AGREED AND ACKNOWLEDGED:

Date:_____ By:_____

Respondent

Date:_____ By:_____

REGIONAL ADMINISTRATOR

XXV. SURVIVABILITY/PERMIT INTEGRATION

Except as otherwise expressly provided in this Section, this Order shall survive the issuance or denial of a RCRA permit for the Facility, and this Order shall continue in full force and effect after either the issuance or denial of such permit. Accordingly, Respondent shall continue to be liable for the performance of such obligations notwithstanding the issuance or denial of such permit. Notwithstanding the foregoing, if the Facility is issued a RCRA permit and that permit expressly incorporates by reference all or a part of the requirements of this Order, or expressly states that its requirements replace some or all of the requirements of this Order, then Respondent shall be relieved of liability under this Order for those specific obligations. Respondent shall comply with all State and Federal closure and post-closure requirements in any permit. If a permit that prescribes closure or post-closure activities is

issued for the Facility, the corrective action(s) undertaken by the Respondent pursuant to this Order will be coordinated with the corrective action requirements to be taken pursuant to such permit, in a manner to be determined by EPA.

XXVI. EFFECTIVE DATE

This Order shall become final thirty (30) days after it is served unless Respondent requests a public hearing pursuant to RCRA Section 3008(b), 42 U.S.C. §6928(b).

IT IS SO ORDERED:

Wm. E. Muno

William E. Muno, Acting Director
Waste Management Division
U.S. Environmental Protection Agency
Region V

3/24/93
Date

IN THE MATTER OF:

Occidental Chemical Company
Montague, Michigan
ADMINISTRATIVE ORDER

EPA I.D. No.: MID 006 014 906

CERTIFICATE OF SERVICE

I hereby certify that I have caused a copy of the foregoing ADMINISTRATIVE ORDER to be served upon the person designated below, on the date below, by causing said copies to be deposited in the U.S. Mail, First Class and certified-return receipt requested, postage prepaid, at Chicago, Illinois, in an envelope addressed to:

The Corporation Company
Registered Agent For
Occidental Chemical Company
615 Griswold
Detroit, Michigan 48226.

I have further caused the original ADMINISTRATIVE ORDER and this CERTIFICATE OF SERVICE to be served in the Office of the Regional Hearing Clerk located in the Planning and Management Division, EPA, Region V, 77 West Jackson Blvd., Chicago, Illinois 60604, on the date below.

This is said persons' last known address to the subscriber.

Dated this_____day of_____, 1993.

_____

Secretary, Office of RCRA
EPA, Region V