TS-AMD-86710-34
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AERIAL PHOTOGRAPHIC ANALYSIS OF TWO HAZARDOUS WASTE DISPOSAL AREAS

Saukville and Stoughton, Wisconsin

by

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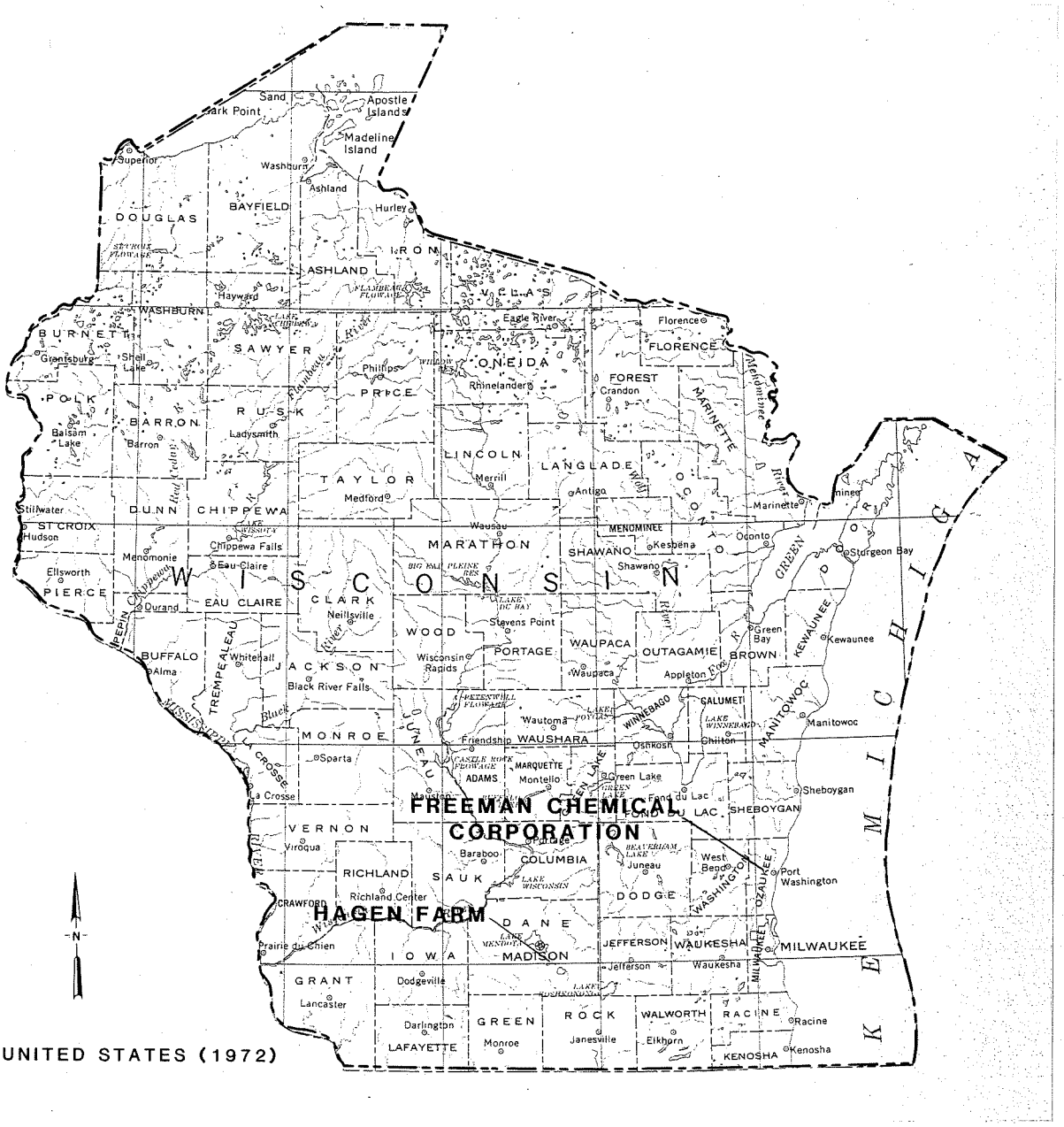

Figure 1. Study areas regional location, Wisconsin. Scale 1:2,500,000.

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ABSTRACT

This report presents the results of analysis on current aerial photography acquired on April 23, 1986, of the Freeman Chemical Corporation in Saukville, Wisconsin, and the Hagen Farm site in Stoughton, Wisconsin. These sites are under study by the U.S. Environmental Protection Agency's Region 5 Office. The report updates an earlier analysis by the Las Vegas Laboratory prepared in 1982.

No significant changes since 1982 or environmental hazards are observed at these sites on the 1986 photography

The U.S. Environmental Protection Agency's Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, prepared this report for the Agency's Environmental Services Division in Region 5 and Office of Emergency and Remedial Response in Washington, D.C.

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INTRODUCTION

This report presents an analysis of current photography, acquired on April 23, 1986, of two hazardous waste disposal areas in Wisconsin; Freeman Chemical Corporation in Saukville and Hagen Farm in Stoughton (Figures 1, 2, 5). The report updates an earlier U.S. Environmental Protection Agency (EPA) Las Vegas laboratory report: "Aerial Photographic Analysis of Hazardous Waste Disposal Areas, Wisconsin" TS-AMD-82005F (November 1982) that discussed both of these sites. These sites are under study by the Agency's Region 5 Office. This report will assist in field investigation and potential enforcement actions.

Topics addressed in this report include surface water contamination, indications of leachate, drainage patterns, disposal and/or burial of solid, liquid, and sludge waste, and visible vegetation stress associated with facility operations. The results of analysis are shown on annotated overlays.

This report is one of five that examine six sites in Wisconsin under this project (Table 1). This project includes a total of 35 sites in 6 states.

The U.S. Environmental Protection Agency's Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, prepared this report for the Agency's Environmental Services Division in Region 5 and Office of Emergency and Remedial Response in Washington, D.C.

TABLE 1. REGION 5 SITES COVERED UNDER TS-AMD-86710†

Report serial number†	Site name	Location	Analysis type
1	Tri County Landfill	South Elgin, IL	Intensive
2	HOD Landfill	Antioch, IL	Intensive
3	Parsons Casket Hardware	Belvidere, IL	Intensive
4	Himco Dump	Elkhart, IN	Intensive
5	Douglas Road Landfill	Mishawaka, IN	Intensive
6	Old City Landfill #1	Columbus, IN	Intensive
7	Firestone Landfill	Noblesville, IN	Intensive
8	Pestolite Battery Division	Vincennes, IN	Intensive
.9	Tri State Plating	Columbus, IN	Intensive
10	Waste Inc., Landfill	Michigan City, IN	Intensive
11	South side Sanitary Landfill	Indianapolis, IN	Intensive
12	Rockwell International	Allegan, MI	Intensive
13	Folkerisma Refuse	Grand Rapids, MI	Intensive
14	American Anodeo Inc.	Ionia, MI	Intensive
15	Kent City Mobile Home Park	Kent City, MI	Intensive
16	Honker Chemical	Montaque, MI	Intensive
17	Kysor of Cadillac	Cadillac, MI	Intensive
18	H. Brown Co.	Grand Rapids, MI	Intensive
19	Avon Township Landfill	Rochester, MI	Intensive
20	Metal Working Shop	Lake Ann, MI	Intensive
21	St. Augusta Sanitary Landfill	St. Augusta, MN	Intensive
22	East Bethel Demo. Landfill	E. Bethel Township, MN	Intensive
23	Freeway Sanitary Landfill	Burnsville, MN	Intensive
24	Waite Park Ground Water	Waite Park, MN	Intensive
25	La Grande Sanitary Landfill	Alexandria, MN	Intensive
26	TRW Inc.	Minerva, OH	Intensive
27	Ormet Corp.	Hannibal, OH	Intensive
28	Xerxes Corp.	Avon, OH	Intensive
29	Koppers Co.	Youngstown, OH	Intensive
30	Algoma Landfill	Algoma, WI	Intensive
31	Wausau Water Supply	Wausau, WI	Intensive
32	Hunts Disposal Landfill	Racine, WI	Intensive
33	Tomah Sanitary Landfill	Tomah, WI	Intensive
34	*Hagen Farm	Stoughton, WI	Single-Date
34	*Freeman Chemical	Saukville, WI	Single-Date

*Site covered in this report.

METHODOLOGY

Stereoscopic pairs of historical and current aerial photographs are used to perform the analysis. Stereo viewing enhances the interpretation because it allows the analyst to observe the vertical as well as horizontal spatial relationships of natural and cultural features. Stereoscopy is also an aid in distinguishing between various shapes, tones, textures, and colors that can be found within the study area.

Evidence of waste burial is a prime consideration when conducting a hazardous waste analysis. Leachate or seepage resulting from burial and dumping of hazardous materials might threaten existing surface or ground-water sources. Pools of unexplained liquid are routinely noted because they can indicate seepage from buried wastes and may enter drainage channels that allow contaminants to move off the site. An excellent indicator of how well hazardous materials are being handled at a site is the presence or absence of spills, spill stains, and vegetation damage. Trees and other forms of vegetation that exhibit a marked color difference from surrounding members of the same species are labeled "dead," "stressed," or "damaged" based upon the degree of noticeable variation. Vegetation is so labeled only after consideration of the season in which the photographs were acquired.

The U.S. Environmental Protection Agency's Statement of Procedures on Floodplain Management and Wetlands Protection (Executive Orders 11988 and 11990, respectively) requires EPA to determine if removal or remedial actions at hazardous wastes sites will affect wetlands or floodplains and to avoid or minimize adverse impacts on those areas. To aid in compliance with these orders, significant wetland areas located within and adjacent to the sites are identified and delineated. However, the sites have not been visited to verify the accuracy of wetland identification.

Drainage analysis determines the direction a spill or surface runoff would follow. Direction of drainage is determined from analysis of the photographs and from U.S. Geological Survey topographic maps. Whenever they are available,

ANALYSIS SUMMARY

The Freeman Chemical Corporation covers approximately 55 acres near the center of Saukville, Wisconsin. The April 23, 1986 photograph shows the facility is operational and has numerous drum storage and handling areas that lack secondary containment. Surface runoff at the site migrates to an apparently unlined terrain depression on the east side of the site.

The Freeman Chemical Corporation is situated approximately 20 feet above the water level of the nearby Milwaukee River. The facility does not appear to be threatened by a 100-year flood event.

The Hagen Farm site is located approximately 1.5 miles east of Stoughton, Wisconsin, and covers approximately 10 acres. The April 23, 1986 photograph shows a fenced enclosure on the west side of the study area is currently overgrown with vegetation. There are no visible signs of active waste disposal activity; although, piles of metal debris and rubbish are visible in a soil borrow pit north of the fenced enclosure. Surface runoff at the site flows south into the natural drainage system and most is collected in a large pond south of a sand and gravel operation.

The Hagen Farm is situated approximately 50 feet above the water level of the Yahara River which is approximately 1.5 miles to the west. The site does not appear to be threatened by a 100-year flood event.

PHOTO ANALYSIS

APRIL 23, 1986

The Freeman Chemical Company covers approximately 10 acres near the center of Saukville, Wisconsin. The general drainage from the area flows into the nearby Milwaukee River. The study area is approximately 1,000 feet west of this river.

The 1986 photographs (Figures 3 and 4) shows the freeman Chemical Company is operational. It has 16 vertical and 3 horizontal storage tanks within a containment dike at the center of the facility. There are three large uncontained storage tanks next to the railroad on the west side of the site and one large vertical tank, probably for water storage, at the south end of the site that also lacks secondary containment. Parking for tank trailers is in the northeastern portion of the facility, although there are 30 of these trailers parked throughout the site. Numerous 55-gallon drums are in use at several loading and handling areas, although none of these open areas has secondary containment.

Waste disposal activities are in the northern portion of the site where there is a large incinerator (annotation A) and two dumpsters. No evidence of liquid waste lagoons is noted and there are no visible signs of spillage or leakage problems.

Surface runoff within the facility migrates to a terrain depression (annotation B) on the east side of the site. An earthen berm runs along the east parameter of the depression and prevents runoff from escaping into an adjacent residential area of Saukville. This low area does not appear to be lined so contaminated surface runoff or spillage could pose a threat to the ground water.

7.5-minute quadrangle maps (scale 1:24,000) are used to show site location and to provide geographic and topographic information.

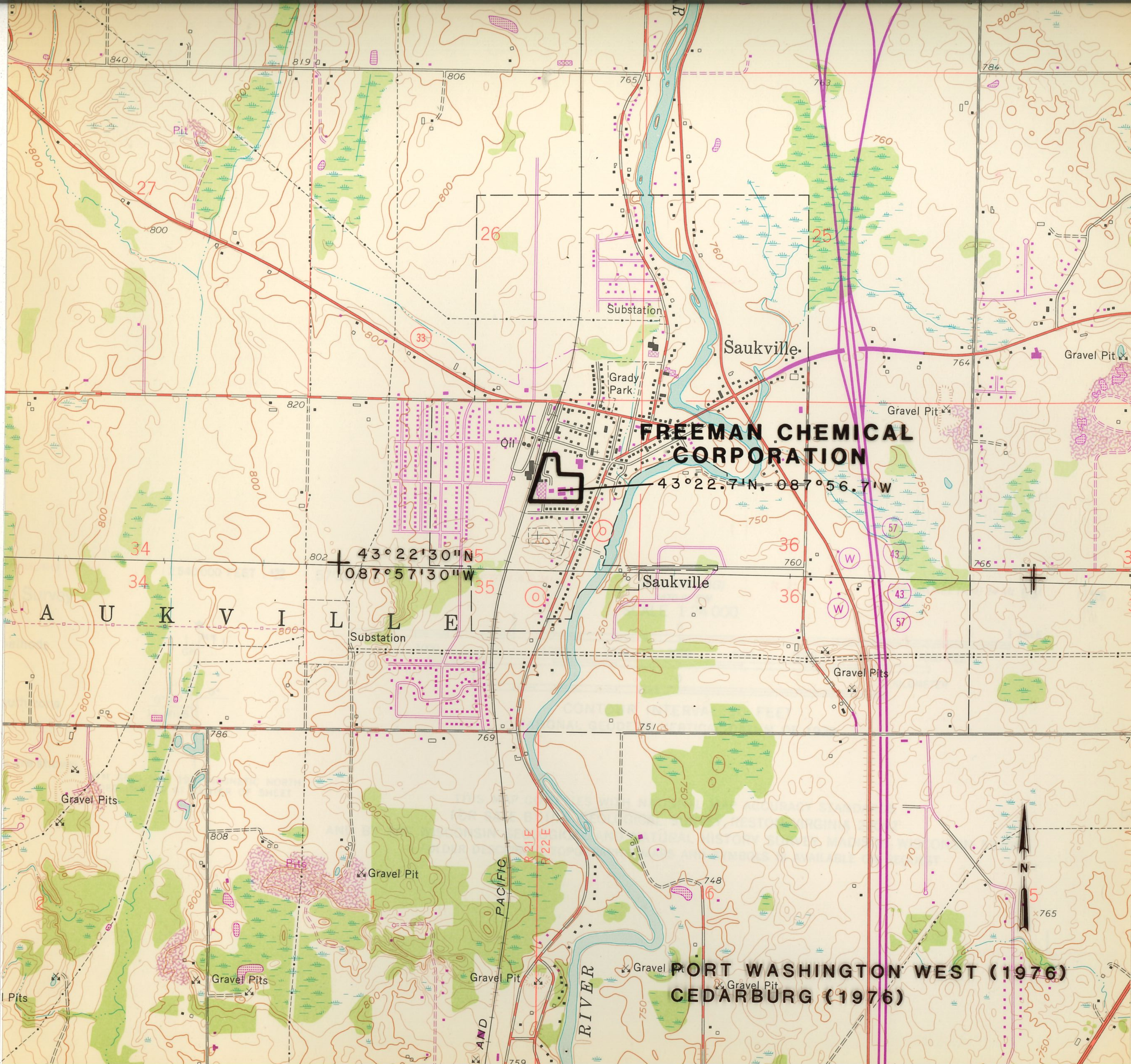
Results of the analysis are shown on annotated overlays attached to the photos. The prints in this report have been enlarged when appropriate to show maximum detail. The following table provides specifications of the photographs used in this report.

TABLE 2. AERIAL PHOTOGRAPHY SPECIFICATIONS

Site name, location, and geographic coordinates	Figure	Date of acquisition	Original scale	Film type†	Photo source‡
Hagen Farm					
Stoughton, Wisconsin	3	April 23, 1986	1:6,000	Color	EMSL-LV
(42°54.5'N 89°11.1'W)	4	April 23, 1986	Oblique	Color	EMSL-LV
Freeman Chemical Company					
Saukville, Wisconsin	6	April 23, 1986	1:6,000	Color	EMSL-LV
(43°22.7'N 87°56.7'W)	7	April 23, 1986	Oblique	Color	EMSL-LV

†Film type identification:
B&W: Black-and-white
CC: Conventional color

‡Photo source identification:
ASCS: U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service, Salt Lake City, Utah.
EMSL: U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.


FREEMAN CHEMICAL
CORPORATION
43°22.7'N, 087°56.7'W
43°22'30"N
087°57'30"W
Saukville
Saukville
Substation
Substation
Grady
Park
Oil
WT
Gravel Pit
Gravel Pit
Gravel Pits
Gravel Pits
Gravel Pits
Gravel Pit
Gravel Pit
Pits
Pit
S A U K V I L L E
PACIFIC
AND
RIVER
R 21 E
R 22 E
N
PORT WASHINGTON WEST (1976)
CEDARBURG (1976)

BOUNDARIES AND LIMITS

- FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITY

- VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, PIT (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH

INTERPRETATION CODE

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