

VOGEL PAINT AND WAX COMPANY

(Orange City, Iowa)

GENERAL DESCRIPTION

The five-acre site is located in the W 1/2 of the NW 1/4 of Section 29, T94N, R45W, Sioux County, Iowa about two miles south and one mile west of Maurice, Iowa. The Vogel Paint and Wax Company is the owner of record. The site was placed on the Registry in 1984. The EPA placed the site on the National Priorities List (NPL) in June 1986. Disposal trenches (8-12 feet deep) were first operated in the area south of an abandoned gravel quarry in 1972.

SITE CLASSIFICATION

The site is classified as "d" in accordance with 455B.427.3. Active remedial measures have been completed and continued groundwater monitoring will be conducted to ensure that off-site migration of contaminants do not pose a significant threat to the environment.

TYPE AND QUANTITY OF HAZARDOUS WASTE

The Vogel plant in Orange City, Iowa used the site for disposal of paint sludge, resins, solvents and other solid wastes. These wastes contained zinc, lead, chromium, mercury, toluene, xylenes, naphtha, methyl ethyl ketone, and methyl isobutyl ketone. It is estimated 143,000 cubic feet of solid waste were disposed at the site, with 123,000 gallons being liquid waste. These wastes have leached from the disposal pits into the groundwater and have migrated from the disposal area. Waste liquids were poured into trenches from 55-gallon drums. Miscellaneous plant debris was used to top off the trenches. When the level of the waste approached the original ground surface, the trench was covered with one to two feet of cover.

SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS

- **The primary public health concern was the potential exposure to contaminated groundwater**

The site is adjacent to an unnamed tributary to the West Branch of the Floyd River. About two river miles downstream from the site is the well field for a rural water system. In November 1980 the Department of Public Health initiated a review of cancer incidents in the area. No statistically significant elevation of cancer incidence was found. In 1988 the Department of Public Health performed a Health Assessment of the site. They concluded there does not appear to be an immediate public health threat, but the site was a concern because of the possibility of off-site migration of contaminants in the groundwater.

SUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

The state is the lead agency for the site.

Remedial Investigation, Feasibility Study, (RI/FS) and Endangerment Assessment (EA) were completed in August 1989. The state and the EPA signed a Record of Decision (ROD) in September 1989 requiring remedial action including;

- On-site, aboveground bio-remediation of the contaminated soils from the original disposal area,
- Treatment of the contaminated groundwater by pumping, air stripping, and surface discharge, and

Remedial design activities began in November 1989 and construction began in September 1990. The soil remediation was begun in October 1991. Debris (mainly paint containers) was manually sorted from excavated material prior to placing the excavated soils in the soil treatment cells. Sorted containers were emptied prior to off-site disposal. About 65,000 cubic yards of contaminated soils were excavated, treated, and placed back into the

excavation. Soils containing elevated levels of metals were isolated, placed a minimum of five feet above the water table, stabilized with lime, and covered with a minimum of four feet of soil. The area of placement of soils with elevated levels of metals is not to be disturbed. Soil remediation was completed in 1998.

The groundwater remedial facilities were put into operation in early 1991 and operation was ceased in 2002. About 15,000 gallons of free product were removed in conjunction with the groundwater remediation.

In 2000 additional excavation was conducted of soils containing free product that had migrated off the original disposal area. The excavated soil was repositioned above the groundwater with venting pipe installed to facilitate soil vapor extraction and/or bioventing (i.e., enhanced natural bioremediation by increasing the subsurface air supply).

In 2002 studies were completed that evaluated methods for enhancing cleanup of the repositioned soils. It was concluded that natural processes were nearly as effective as processes involving introduction of forced air. Some manual free product recovery may continue.

In 2003, the IDNR entered into a Consent Order (CO) with Vogel, which called for discontinuation of active remediation and continued ground water monitoring. The CO called for reactivation of the remedial system if evidence of off site contamination was discovered. New monitoring wells required under the CO revealed off-site contaminant migration to the south. Therefore, the ground water remedial system was re-activated in August of 2003.

In 2004 a Superfund 5-year review was completed. The 5-year review concluded that the remedy at Vogel site was protective of human health and the environment because there was no exposure to site-related contaminants. However, a need for determining the potential for off-site migration of contamination, and controlling if necessary, was identified to ensure long-term protectiveness.

Operation of the ground water remedial system was again discontinued in 2005. Subsequent groundwater sampling has been conducted and will continue. In 2007 additional remedial measures were initiated in an attempt to reduce off-site migration of contamination in groundwater. Measures included pumping from 2 wells with the resulting water used for irrigation of poplar trees in the area of the 2000 excavation. In the summer of 2008 the irrigation area was expanded and pumping from an additional well was included.

In 2009 a third Superfund 5-year review was completed. The 5-year review concluded that the remedy at Vogel site was protective of human health and the environment in the short term because there was no exposure to site-related contaminants. Continued monitoring actions were recommended to confirm long-term protectiveness. No pumping has been conducted since the fall of 2010. Semi-Annual groundwater monitoring was begun in 2012.

In 2013 some southerly migration of the groundwater plume was observed. Additional sampling has been instituted to monitor this condition. No receptors are threatened. The fourth Superfund five-year review was initiated in December 2013 and is scheduled for completion in September 2014.

2014 The fourth Superfund five-year review was initiated in December 2013 and completed in September 2014. Comments included restarting remediation (discontinued in 2004). Discussion between IDNR and EPA ongoing.

The DNR continues to be the lead oversight agency for the Vogel site with the EPA in the support agency role.

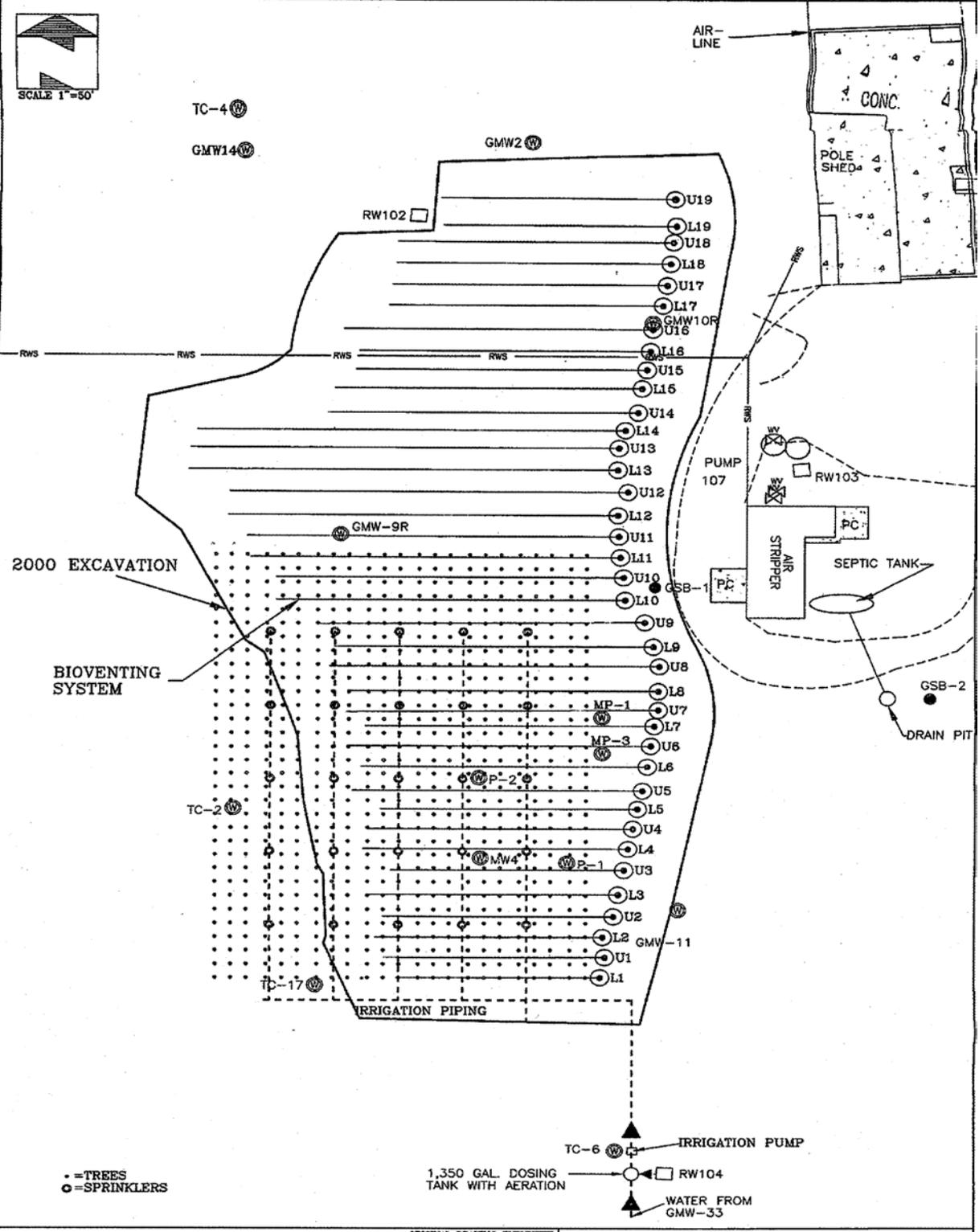


FIGURE 2
 BIOVENTING PIPING LAYOUT
 VOGEL PAINT WASTE SITE
 MAURICE, IOWA

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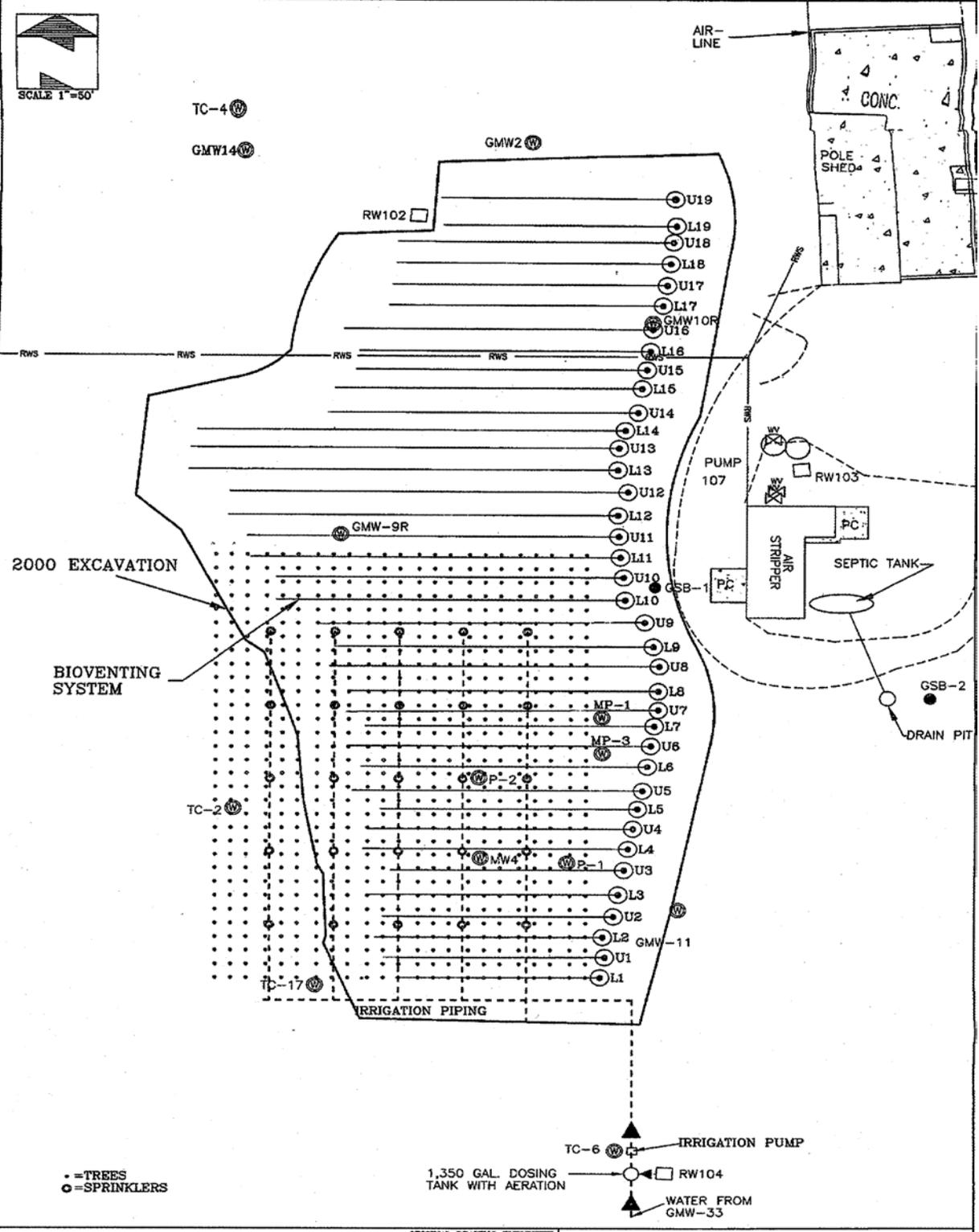


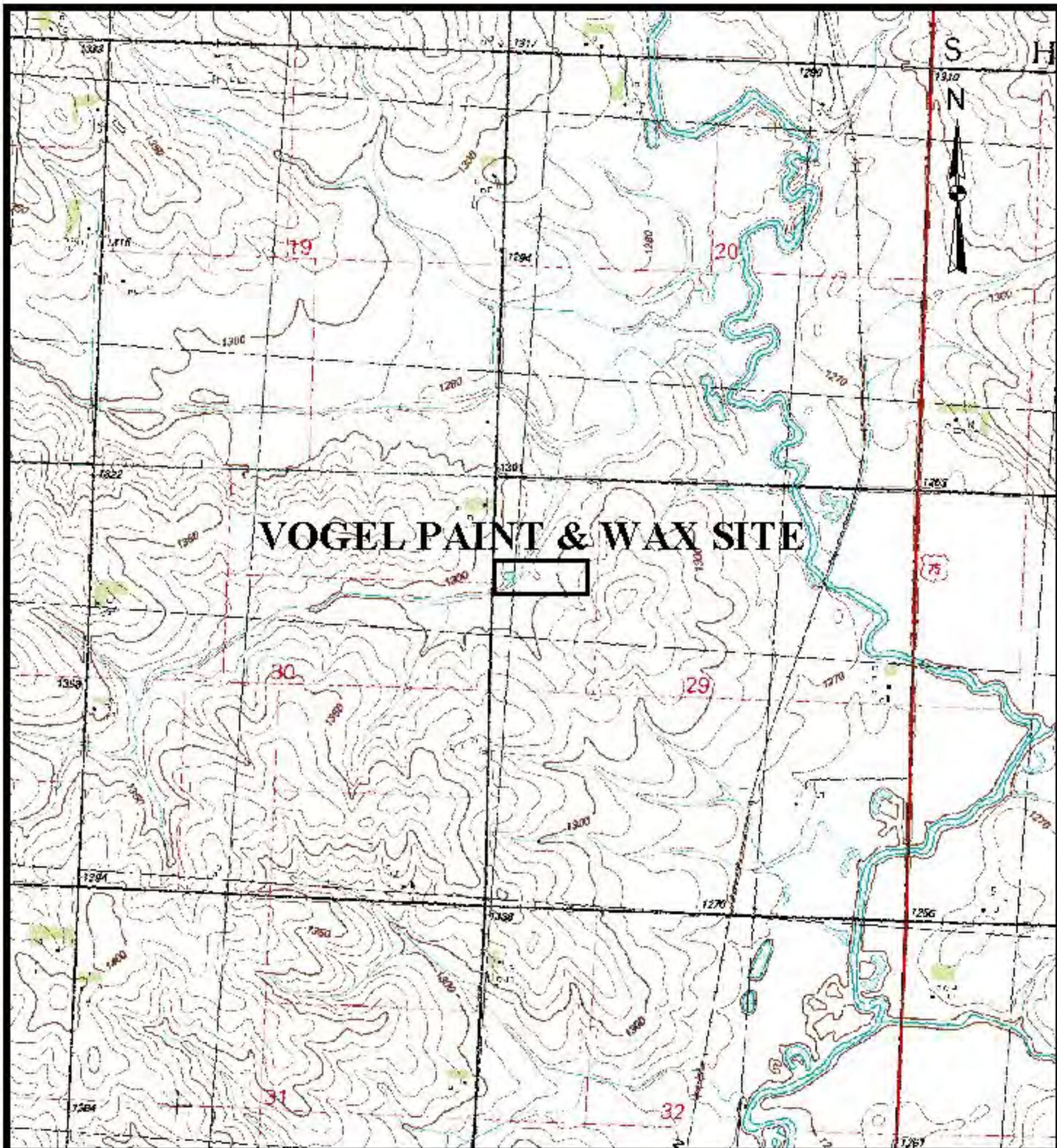
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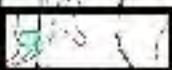
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IOWA

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1000 0 1000 2000 3000 4000 5000 6000 Feet

