WELLMAN/FANSTEEL CORPORATION
(Creston, Iowa)

GENERAL DESCRIPTION

The Wellman Dynamics (Fansteel) Corporation is a 15.3 acre site located in the SE 1/4 of the NE 1/4 of Section 7, T72N R 20W on the southeast side of the city of Creston in Union County, Iowa. The site was entered on the Registry of Hazardous Waste Sites in May 1992.

SITE CLASSIFICATION

In accordance with 455B.427.3 the site is classified "c" Not a significant threat to the Environment, Action May Be Deferred.

TYPE AND QUANTITY OF HAZARDOUS WASTE

Wellman Dynamics Corporation manufactures light metal castings for the aerospace industry using a non-ferrous foundry. A predecessor to Wellman Dynamics Corporation owned and operated the facility from 1965 until 1991. During these years of operation, waste acids consisting of a mixture of hydrofluoric, nitric, sulfuric and chromic acids were disposed of in a waste dump pit on-site. When disposal in the pit stopped in 1971, the pit was filled with sand and capped with concrete. It is not known if the pit was lined.

Wellman Dynamics also has an on-site landfill, which has been in operation since 1965. The landfill is located directly east of the plant. The landfill was permitted (88-SDP-04-86P) in 1986 for the disposal of foundry castings and sand wastes, machine cuttings and baghouse/dust collector waste generated at the facility.

SUMMARY OF HEALTH AND ENVIRONMENTAL CONCERNS

Radiological Waste:

According to the Radiological Bureau of the Iowa Department of Public Health (DPH) to Wellman Dynamics, the site leachate does not pose a significant radiological threat to the public health or environment. Authorization was given to discharge leachate to the city of Creston sewer system, subject to batch discharge monitoring for radiological level compliance. The IDPH required the submittal of a Site De-commissioning plan. The Plan was completed and accepted by IDPH in 2008

SUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

In 1986, Oak Ridge Associated Universities, under contract with the NRC, conducted a detailed evaluation of thorium waste disposal conditions at the Wellman site. Also, intensified management of off-site NRC waste disposal by Wellman Dynamics was mandated. Site soil and water quality testing showed the presence of low gamma and gross beta contamination, but not enough to require remediation.

After completing the 1986 investigation the NRC referred the site to the State of Iowa authority for regulatory control. Since then, the Iowa Department of Public Health (IDPH) has been the lead agency for the radioactive waste and the Solid Waste Section of IDNR is the lead agency for the landfill.

In August 1998, the IDPH required Wellman to conduct a comprehensive groundwater quality site sampling and testing program to determine if thorium is migrating beyond the landfill. The report (October 28, 1998) concluded concentrations of U-238 and TH-230 were present in perimeter monitoring wells but below regulatory limits and immediate further remedial action was not required. The DPH accepted the report conclusion, but further off-site investigation is pending.

Landfill Leachate Treatment:

1993: RCRA Facility Assessment completed by Metcalf and Eddy, Inc. on behalf of EPA.

In 1998, the IDNR required leachate within the landfill be removed and disposed in the municipal wastewater treatment works. The city of Creston requires leachate evaluation for radionuclides before discharge to the wastewater treatment facility under a treatment agreement. The leachate evaluation tests in February 1999 indicated the radionuclide levels were within allowable limits if the leachate is filtered on-site to remove solids before discharge to the sewer. A treatment agreement was signed in March 1999, which included limits on metals, BOD, sulfides, sulfate, fluoride and suspended solids levels.

In January 1999, the DPH advised Wellman that state regulations under IAC Chapter 641-40 require "decommissioning" of the NRC disposal site after July 1, 1999 to allow release of the site for an "unrestricted use" designation. A decommissioning plan was required for approval by DPH by July 1, 1999, which includes an evaluation of radionuclide levels off-site via water and soil pathways.

The IDNR required Wellman to complete a groundwater assessment in 1999 to determine the sources and extent of fluoride and sulfate contamination above MCLs at perimeter monitoring wells and the extent of off-site migration. The USEPA has assumed the lead for the groundwater (fluoride and sulfate) assessment. The scope of remediation will be determined when off-site ground water contamination is defined.

2006: EPA approval of the RCRA Facility Investigation Work Plan and an annual water quality report for the landfill was submitted to IDNR Solid Waste Section for approval.

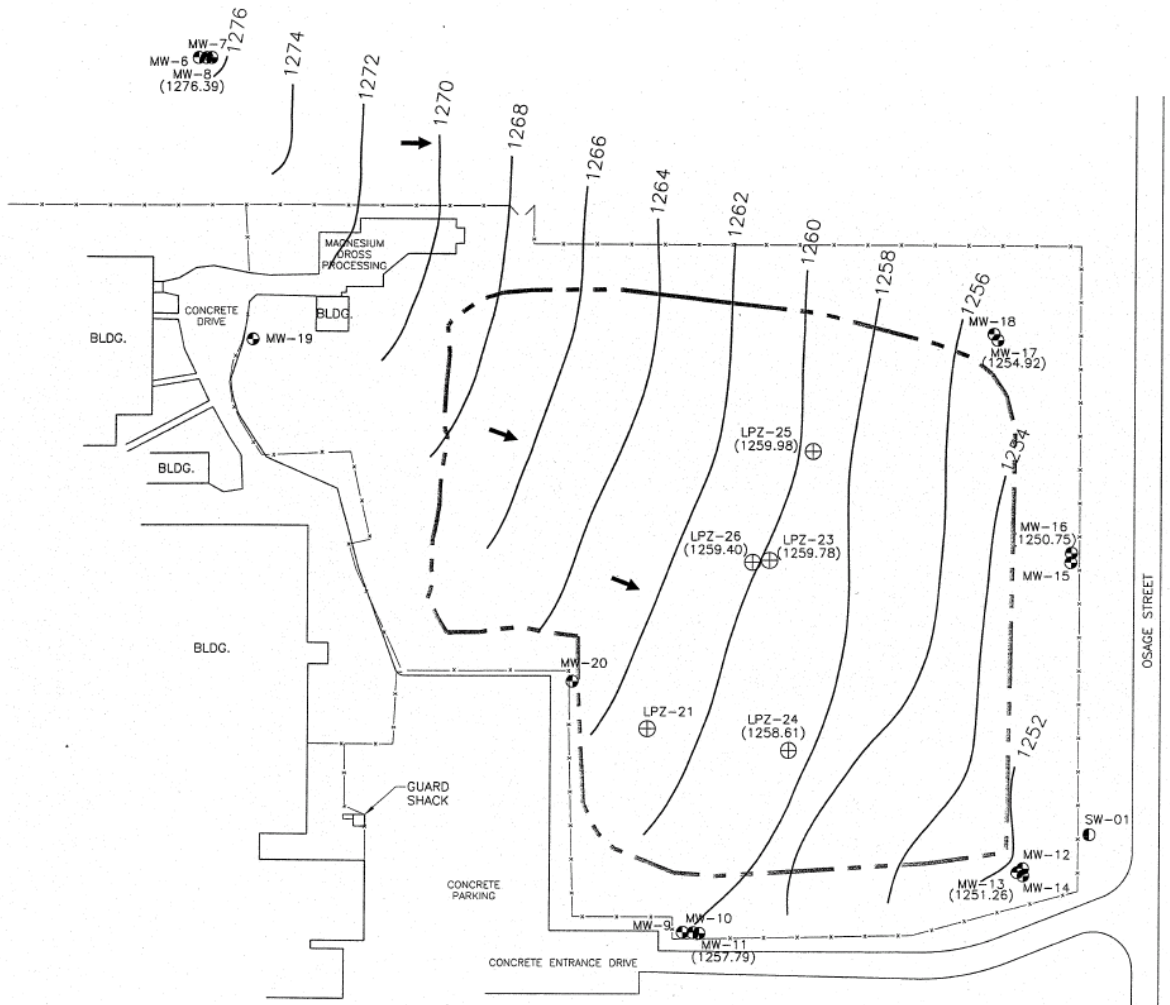
- 2003: EPA acknowledges closure certification for the former WWT sludge container hazardous waste storage unit.
- 2004: RCRA Corrective Action Administrative Order on Consent issued by EPA became effective.
- 2006: EPA approval of the RCRA Facility Investigation Work Plan and an annual water quality report for the landfill was submitted to IDNR Solid Waste Section for approval.

- 2008: RCRA Facility Inspection conducted May 2008
- 2009: RCRA Facility Investigation Phase II Addendum submitted to EPA for review and approval.
- 2010: Semi-annual engineering and water quality reports submitted for landfill.

- 2011: The facility has been placed under a Corrective Action Order by EPA.
- 2011: EPA conducted RCRA compliance evaluation on site.
- 2012: (landfill permit #88-sdp-043-86p) renewed for three years (2015); included a provision to construct a lined waste disposal unit with leachate collection by July 1, 2014.

2014: Wellman ceased disposal at their permitted industrial waste landfill. All newly-generated nonhazardous industrial wastes are now transported to a permitted sanitary landfill (South Central Iowa Sanitary Landfill, Winterset, Iowa). They are exhuming approximately 11,000 tons of non-hazardous waste per year for transport to the sanitary landfill. It is expected that all non-hazardous wastes will be removed from the permitted industrial landfill by 2024. They are required to submit remaining landfill life estimates biennially, with the next one due in 2016.

2015: Fansteel is continuing to transport newly-generated foundry wastes, and approximately 11,000 tons per year of previously-landfilled wastes in the permitted landfill, to the South Central Iowa Sanitary Landfill, as described in the 2014 Registry. In 2015, Wellman Dynamics, USEPA, and DNR tentatively agreed to the scope of the offsite investigation described in the Addendum to the RCRA Facility Investigation Phase II Work Plan. The investigation is scheduled to commence in 2016.



LEGEND

SW-01	SURFACE WATER MONITORING POINT (APPROXIMATE LOCATION)
MW-16	MONITORING WELL
LPZ-21	LEACHATE PIEZOMETER
	APPROXIMATE LANDFILL BOUNDARY
	CHAIN LINK FENCE
(1277.23)	SHALLOW GROUNDWATER/LEACHATE ELEVATION, FEET ABOVE MEAN SEA LEVEL
—1276—	GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
→	GROUNDWATER FLOW DIRECTION

SCALE - FEET
0 100

NOTE

GROUNDWATER LEVELS WERE OBTAINED ON SEPTEMBER 20, 2006.

REFERENCE

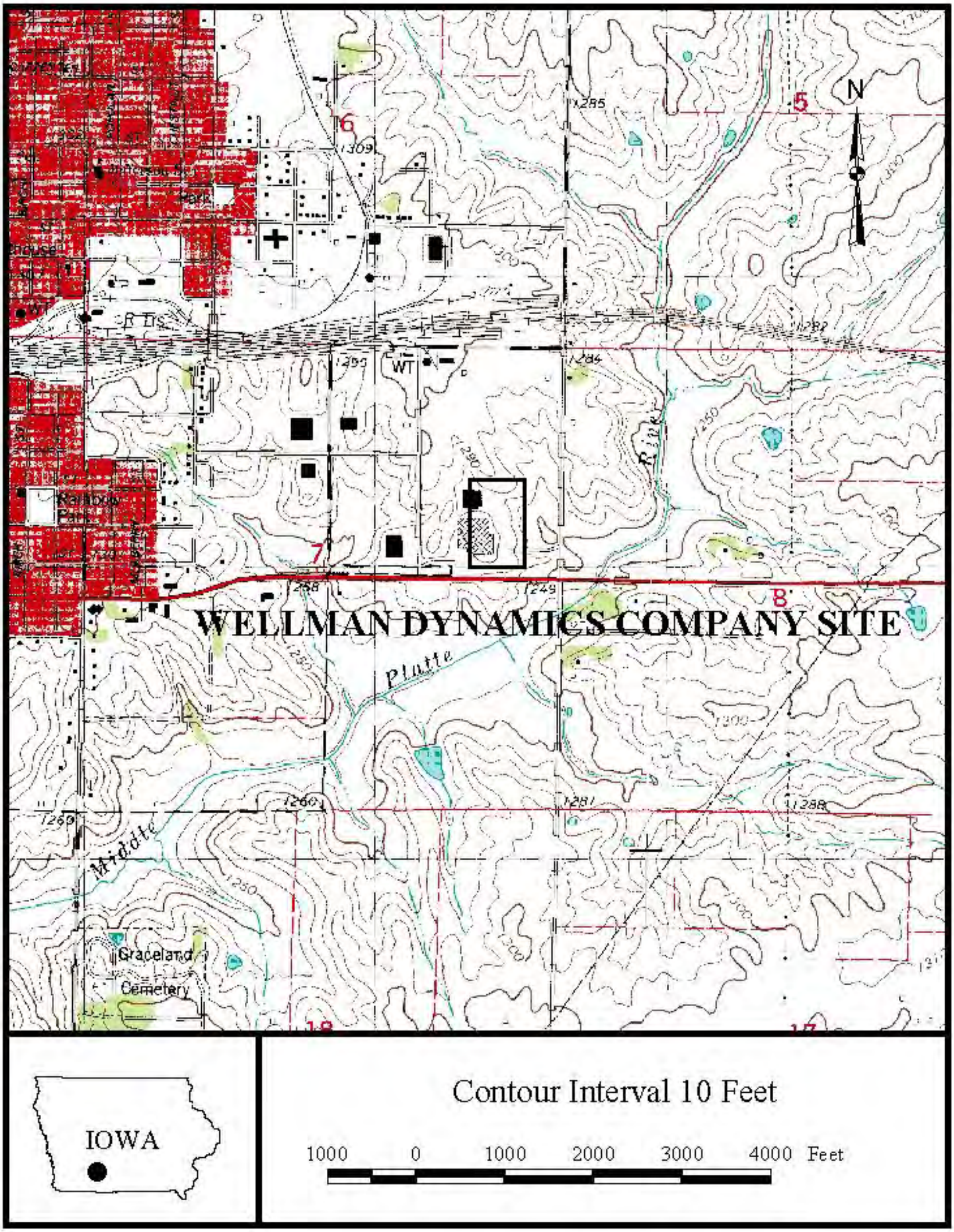
TAKEN FROM GREEN ENVIRONMENTAL SERVICES, INC. "HYDROGEOLOGIC INVESTIGATION REPORT" JANUARY 25, 1993.

FIGURE 4
SHALLOW GROUNDWATER CONTOUR MAP
SEPTEMBER 2006
WELLMAN DYNAMICS CORPORATION
CRESTON, IOWA

PREPARED FOR
WELLMAN DYNAMICS CORPORATION
CRESTON, IOWA

APPROVED	RFV 11/14/06
CHECKED	CMJ 11/14/06
DRAWN	DEB 11/14/06

DRAWING NUMBER
PA4275202

Penn E&R
Environmental & Remediation, Inc.

(Wellman Dynamics Company)