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REPORT ON AN INVESTIGATION OF VOLATILE ORGANIC CHEMICAL SOURCES NEAR THE EAU CLAIRE WELL FIELD

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Sam Spanel Area Engineer Wisconsin Department of Natural Resources

PURPOSE

The purpose of this investigation was to determine the source or sources of Volatile Organic Chemicals that are contaminating the Eau Claire Well Field and surrounding private wells.

METHOD

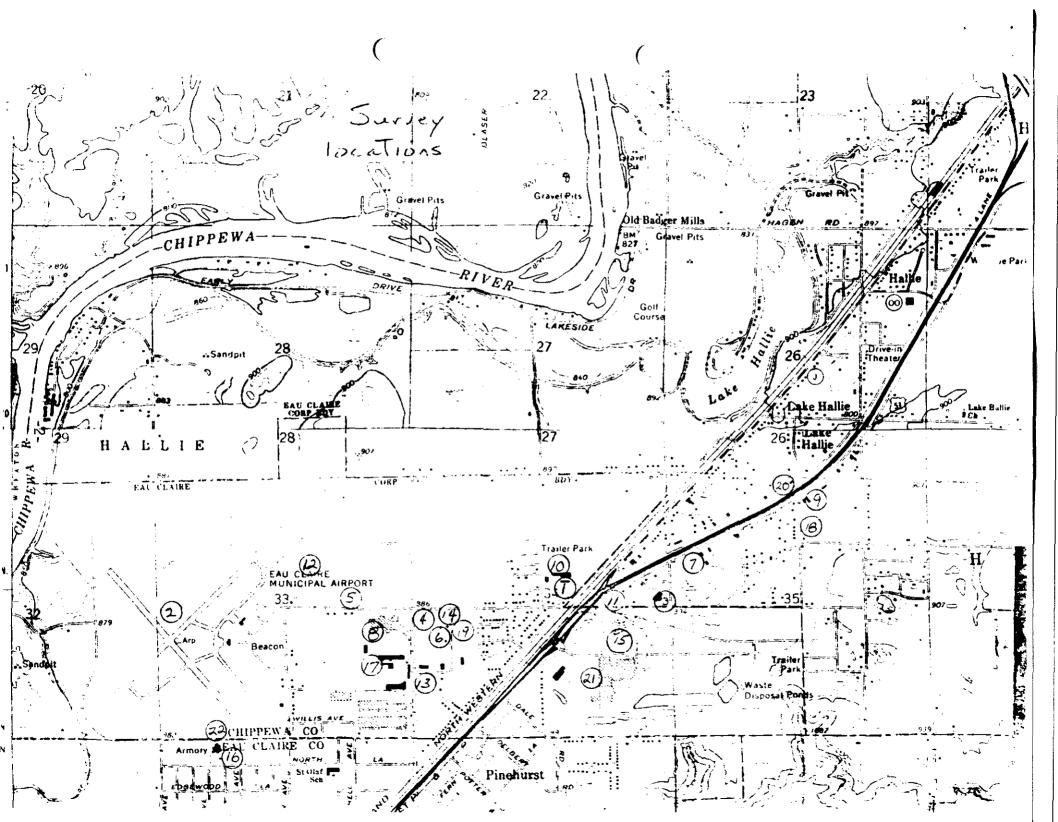
Twenty-two commercial establishments were identified that could be sources of VOC contamination. The establishments were identified by file records, complaints, interviews, and by becoming familiar with the area. These 22 sites were inspected and the owners interviewed to discuss VOC handling.

Twelve samples were taken from private wells in the area to be tested for VOC's. Two samples were also tested for heavy metals. Sample sites were selected based upon suspected VOC source locations and past sampling.

SURVEY LOCATIONS

- 1. Minto's Greenhouse
- 2. Eau Claire County Airport
- 3. Hovland Sheet Metal
- 4. Video Monitors and Automation Display
- 5. Woodchuck Manufacturing
- 6. Treeline Corporation
- 7. Northwest Equipment Company
- 8. Phoenix Steel
- 9. Jim's Body Shop
- 10. Marigold Foods
- 11. B&EWelding
- 12. Eau Claire Equipment Company
- 13. Energy Tech
- 14. Watson Industries
- 15. Ed Phillips
- 16. Armory
- 17. Max Phillips
- 18. Jerry's Body Shop
- 19. Northern States Asphalt Company
- 20. Kindness Animal Hospital
- 21. National Presto
- 22. Eau Claire County Highway Department

See Map On Following Page



POTENTIAL VOC SOURCES

Five of the 22 locations surveyed currently have disposal practices which are potential significant VOC sources. These facilities are National Presto, Jerry's Body Shop, Eau Claire Equipment Co., Kindness Animal Hospital and Max Phillips Salvage Yard.

National Presto has several million gallons of VOC contaminated sludge in their wastewater disposal ponds. There is also an abandoned 6 acre disposal site on there property that was used for disposal of forging compound and possibly other material in the past. The plant is not currently operating.

Jerry's Body Shop has disposed of thinners and enamel reducers on the ground behind their shop.

Eau Claire Equipment Company has several barrels of unlabeled used petroleum products and several areas where spills of petroleum products are evident on their property.

Kindness Animal Hospital uses dips and disinfectants that contain VOC's. These chemicals are disposed of in their septic system.

Max Phillips Salvage Yard is listed as a potential source due to the nature of their business. They accept 300 used barrels per week from Waste Research and Reclamation that are not accepted unless they are empty. There may be solvent residues in the barrels which are stored on the ground.

Facilities with past practices thay may have contaminated the ground water are Ed Phillips, Phoenix Steel, the airport and Minto's Greenhouse.

Ed Phillips poured the used drain oil from their fleet maintenance onto their gravel parking lot from about 1966 through 1978.

Phoenix Steel had no special handling of their paint thinners from about 1965 - 1981. Currently 200 gallons of thinners are recycled per year. A similar amount may have been spilled or dumped on the ground in the past.

A known source at the Eau Claire Airport is a test burn pit used by the Eau Claire Fire Department in the Fall of 1982. At that time, 800 to 900 gallons of solvents were dumped in the pit and burned to test fire department equipment. Although no significant spills or leaking tanks were identified at the airport during this survey, it is possible that spills or tank problems have occurred in the past.

Minto's Greenhouse is a neat and orderly operation that currently uses pesticides and foggers, etc., sparingly. Pesticides often contain VOC's. Misuse of pesticides in the past could have been a VOC source.

SAMPLING LOCATIONS See Map on Following Page

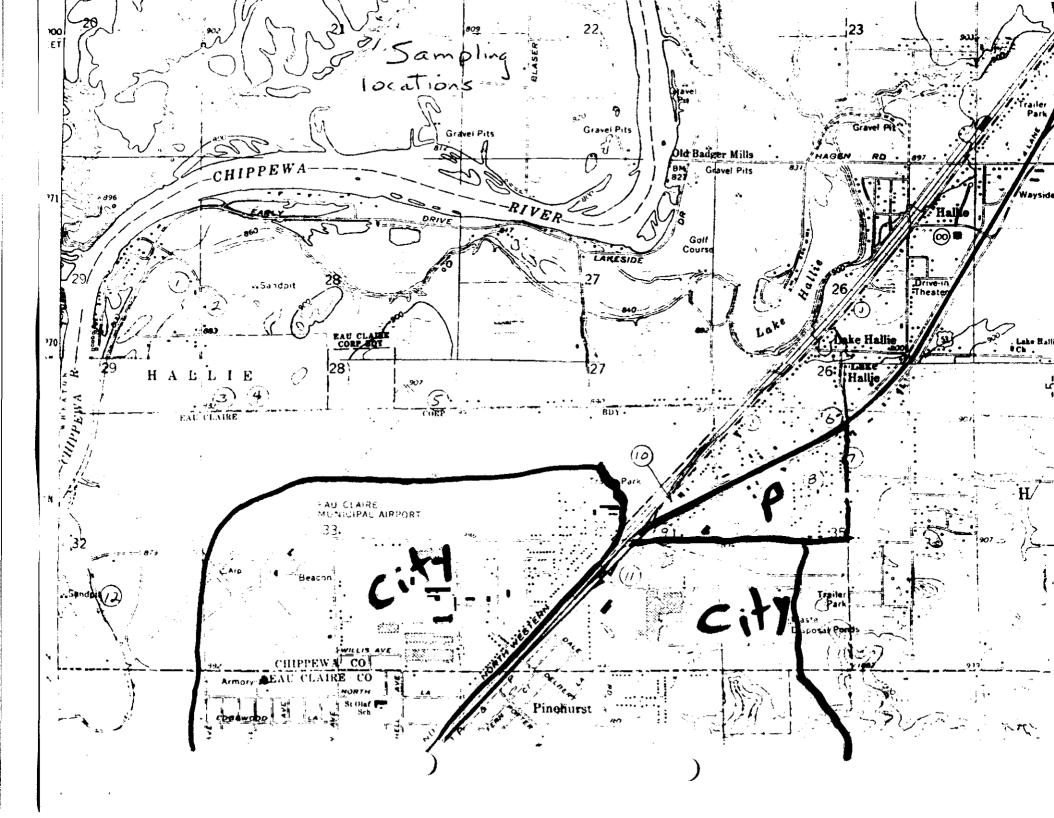
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F 1.	Dale Kernan, 5504 Iona Beach Rd., Eau Claire, WI 54701
j 2.	Elmer Steinmetz (owner), Gordon's (renters), 5369 Iona Beach Rd., Eau Claire, WI 54701
63.	David Mickelson, 1490 Airport Rd., Eau Claire, WI 54701
74.	Joe Fedie, 1690 Airport Road, Eau Claire, WI 54701
g 5.	Carl Nicolai, 2920 Sundet Road, Eau Claire, WI 54701
<u> </u>	Kindness Animal Hospital, Route 7, Chippewa Falls, WI 54729
D 7.	Jerry's Body Shop, Fairfax Street, Eau Claire, WI 54701
22 1 8.	Tom Schwartz, Loretta Street, Box 68, Chippewa Falls, WI 54729
ر بر ع/ ۹.	Lester Connor, 3646 Melby, Eau Claire, WI 54701
2°\ 10.	First Wisconsin Bank, Hwy 53, Eau Claire, WI 54701
E 11.	National Presto, 3925 N. Hastings Way, Eau Claire, WI 54701
J 12.	Donald Hillman, 3714 Airport Rd., Eau Claire, WI 54701

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SAMPLE RESULTS

For this survey 12 samples were taken for VOC's and 2 for heavy metals. Results are attached. Samples 1 through 4 were taken near the former Hallie Landfill. Work done by the City of Eau Claire indicates a channel in the bedrock coming from the landfill site toward the Eau Claire well field. No VOC's were detected in these samples. Sampling in this area by the Eau Claire City-County Health lab in the past has not indicated VOC's present.

Sample number 5 is in the vicinity of another smaller bedrock channel. VOC's were not detected in this sample nor were they detected in past sampling by the City-County Health lab.

Sample 6 is at the Kindness Animal Hospital and 7 is at Jerry's Body Shop. Both of these facilities are potential sources of VOC's. However, both samples did not have VOC's present.

Sample 8 is generally between Jerry's Body Shop, Kindness Animal Hospital and National Presto, all of which are potential VOC sources. Sample 8 was positive for trichloroethylene and is the only sample with 1,2 dichloroethylene present. 1,2 dichloroethylene is a low temperature solvent and is also used in pharmaceutical manufacture among other uses.

Sample sites 9, 10 and 11 are located 500 to 1500 feet from Presto's disposal sites and 3000 to 4000 feet from Kindness Animal Hospital and Jerry's Body Shop. VOC's were detected at these sample sites. Four of the VOC's detected at First Wisconsin Bank are the four that are showing up most often in Eau Claire's well field (trichloroethylene, 1,1 dichloroethane, and 1,1,1 trichloroethane).

Sample 12 is the Hillman residence which also contains the 4 VOC's showing up in Eau Claire's well field.

Hillman's and First Wisconsin Bank have 1,1 dichloroethylene above the recommended health level of 2.3 micrograms per liter.

Sites 9 and 11 (Connors and Presto) were also tested for heavy metals due to past plating operations that were done at Presto. The metals tested were undetectable at Presto's well and were at either undetectable or trace amounts in the Connors well.

V.O.C. SAMPLING

	Connors	lst Wis.	Hillmans	Schwartz	Presto Well 7
Site No.	9	10	12	8	11
Trichloroethylene 1,2 Dichloroethylene		Less than 1.0	2.0	5.6 2.6	1.2
1,1 Dichloroethane 1,1 Dichloroethylene Tetrachloroethylene		4.7 3.3 2.1	5.7 5.8		1.7
l,l,l Trichloroethane Chloroform	22.0	52.0	8.6		2.5

Units - micrograms per liter

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No VOC's detected in the remaining 7 sites. (No.'s 1 through 7)

Sites 1 through 6 sampled July 2, 1984 and sites 7 through 12 sampled July 9, 1984 by Sam Spanel.

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HEAVY METAL SAMPLING

	Connors	Presto Well 7
Site No.	9	11
Cadmium	L2	L2
Chromium	L-3.0	L-3.0
Copper	60	L-50.0
Lead	L-3.0	L-3.0
Zinc	50	L-20.0
Cyanide	L-10.0	L-10.0
Nickel	L-20.0	L-20.0

Units are micrograms per liter.

L- means less than.

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Samples taken July 9, 1984 by Sam Spanel

SURVEY RESULTS

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Name: Minto's Greenhouse
 Contact: Don Anderson, Mgr. Phone: 835-4313
 Address: 3416 Nelby Road
 Years at this location: 20-30?
 Water Supply: City (unused well on property)
 Waste Disposal: City
 Date of Inspection: May 23, 1984 by Sam Spanel

<u>Minto's Greenhouse</u> has been in operation for over 13 years and probably 20 to 30 years. Currently there are several pesticides and fumigants used that contain petroleum distillates. The greenhouse has a dirt floor so that contaminates spilled or washed onto the ground could enter the soil and groundwater. The pesticides and fumigants are sprayed on the plants so that the volatile portions probably evaporate. The current operation is neat and clean and uses pesticides and fumigants sparingly.

2. Name: Eau Claire County Airport Contact: Burt Wright, Mgr. Phone: 839-4900 Address: 3800 Starr Avenue., Eau Claire Years at this location: 38 years. Water Supply: City Waste Disposal: City Date of inspection: June 12, 1984 By: Sam Spanel

Eau Claire County Airport has been in operation since the mid 1940's. Possible sources of VOC's discussed during the inspection were spills of aviation fuel, leaking tanks, and solvents used in repair work.

One spill of fuel occurred in the spring of 1984 involving 300-400 gallons of aviation fuel. This spill occurred on concrete and was contained. No other spills were mentioned.

There are twelve buried tanks at the airport main terminal and Gibson aviation. The tanks are sticked regularly and there are no indications of losses. Gibson Aviation has 5 aviation fuel tanks that are also checked for water content every 2 months. Gibson's tanks are 15-20 years old and the main terminal tanks are 5 years old.

The only repair work is at Gibson Aviation where a small amount of stoddard solvent is used for cleaning parts.

A VOC source at the airport is a burn pit used by the Eau Claire Fire Department. The pit is located at the north end of the runway and is about 50 feet in diameter with 6 to 12 inch side walls. The pit is lined with shale. 800-900 gallons of used solvents from area body shops were burned in the pits in the fall of 1982. This was the only time the pit was used. 3. Name: Hovland Sheet Metal Contact: Gordon Strihlau Phone: 832-1691 Address: P. O. Box 226, Eau Claire, Melby Road. Years at this location: 16 Water Supply: Well. Waste Disposal: Septic System. Date of Inspection: June 27, 1984 By: Mike Degen

<u>Hovland Sheet Metal</u> is a sheet metal and mechanical contractor. They use small amounts of thinners that are taken to the county landfill for disposal. There was no evidence of improper disposal at the site.

4. Name: Video Monitors and Automation Displays Contact: Bob Conlin Phone: 834-7785 Address: 3833 N. White Avenue. Years at this location: 10 Water Supply: City Waste Disposal: City Date of Inspection: May 21, 1984 By: Sam Spanel

Video Monitors and Automation Displays are sister corporations in adjoining buildings. They produce CRT's and custom displays. They use 1,1,1 Trichloroethane which is recycled by Waste Research and Reclamation. There was no evidence of improper disposal on their property.

5. Name: Woodchuck Manufacturing. Contact: Don Venzke Phone: 832-3336 Address: 2730 Melby Road Years at this location: 3 (formerly Hutchins Oil Filters) Water Supply: City Waste Disposal: City Date of Inspection: May 21, 1984 By: Sam Spanel

<u>Woodchuck Manufacturing makes furnaces and woodstoves.</u> They use some thinners that are used up in their painting operation. There were no disposal sites on their property. 6.
Name: Treeline Corporation
Contact: Paul Schultz Phone: 834-2361
Address: 3810 McIntyre Road
Years at this location: 7
Water Supply: City
Waste Disposal: City
Date of Inspection: May 31, 1984 By: Sam Spanel

<u>Treeline Corporation</u> is a metal fabrication company that makes small farm equipment. They use small quantities of Toluol, Xylol and thinners that are used up in their painting operation. There was no evidence of improper disposal on the property.

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Name: Northwest Equipment Company Contact: Rolland Biegel Phone: 834-2924 Address: Hwy 53 Years at this location: 16 Water Supply: Well Waste Disposal; 2 - septic systems Date of inspection: May 31, 1984 By: Sam Spanel

Northwest Equipment Company repairs construction equipment such as buildozers. For cleaning they use either naptha or steam cleaning. The used naptha is burned by an employee. Steam cleaning is done outside the building. Washwater from the cleaning flows in a channel north of the garage. There may be hydrocarbons in the grease cleaned off in the steam cleaning process. No other disposal areas were noted. 8. Name: Phoenix Steel Contact: Phil Hoilien Phone: 835-6143 Address: 2800 Melby Road Years at this location: 19 Water Supply: City Waste Disposal: City Date of Inspection: June 12, 1984 By: Sam Spanel

<u>Phoenix Steel</u> is a structural steel fabricator. Two practices could be contamination sources here. Painting of steel structures is done in one building on the grounds. Empty paint containers are turned upside down on a rack and allowed to drip dry on the ground.

Another problem area is the handling of thinners. Currently thinners are recycled at a rate of about 200 gallons per year. This has been the practice for the last 3 years. Prior to that there were no special handling procedures for used thinners. Naptha is the most common thinner used.

9. Name: Jim's Body Shop Contact: Jim Powers Phone: 832-2353 Address: Route 7, Chippewa Falls Years at this location: 6 Water Supply: Well Waste Disposal: Septic system Date of Inspection: June 13, 1984 By: Sam Spanel

<u>Jim's Body Shop</u> uses 10 to 15 gallons of thinners, enamel reducers, and lacquer reducers per month. Most of this is used up in painting. The shop has a septic tank and drainfield for disposal. There were no other disposal areas noted such as areas of dead grass or grease pits.

10. Name: Marigold Foods Contact: Jim Schmidt Phone: 835-6101 Address: 4115 Robin Rd. Years at this location: 24 Water Supply: City Waste Disposal: City Date of Inspection: June 12, 1984 By: Sam Spanel

<u>Marigold Foods</u> is a milk distributing plant. About 100 gallons of stoddard solvent is used per year in vehicle maintenance. Small amounts of used solvent is disposed of in the city sewer.

11. Name: B & E Welding Contact: Dan Kurtz Phone: 835-6965 Address: 3416 Melby Road Years at this location: 19 Water Supply: Well Waste Disposal: Septic system Date of Inspection: June 15, 1984 By: Sam Spanel

<u>B & E Welding</u> handles welding equipment and compressed gas. They paint some cylinders. All repair work is shipped out. There were no contamination sources noted.

12. Name: Eau Claire Equipment Company Contact: Ken Miller Phone: 832-2987 Address: 2620 Davey Years at this location: 7 Water Supply: City Waste Disposal: City Date of Inspection: June 15, 1984 By: Sam Spanel

Eau Claire Equipment Company repairs petroleum equipment such as gasoline pumps and tank trucks. They also make oil storage tanks. Behind the shop is an area of used equipment. In this area were at least 6 barrels of used oil from unknown sources. There were also 5 or 6 areas of dead grass caused by spilled petroleum products.

Within the shop there were no operations noted that could cause contamination. There is a small amount of stoddard solvent and carburetor cleaner used. 13. Name: Energy Tech Contact: Rick Amundson Phone: 836-7941 Address: 3605 White Years at this location: 4 (formerly Zieglers) Water Supply: City Waste Disposal: City Date of Inspection: June 27, 1984 By: Mike Degen

<u>Energy Tech</u> manufactures wood stoves and furnaces. There were no contamination sources here. About 50 gallons of toluol and xylol are used per year but it all goes into their product.

14. Name: Watson Industries Contact: Jim Ahneman Phone: 839-0628 Address: 3041 Melby Road Years at this location: 3 Water Supply: City Waste Disposal: City Date of Inspection: June 27, 1984 By: Mike Degen

<u>Watson Industries</u> produces high technology electronic devices on a small scale. No contamination sources were present.

15. Name: Ed Phillips Contact: Gordon Peterson Phone: 834-2011 Address: 3505 Melby Road Years at this location: 18 Water Supply: City Waste Disposal: Septic system Date of Inspection: June 27, 1984 By: Mike Degen

Ed Phillips is a liquor distributor. Possible contamination sources here are associated with vehicle maintenance. Stoddard solvent is used for cleaning parts. Stoddard solvent and used drain oil are barrelled and shipped for recycling. The facility has a septic tank and drainfield for disposal. The facility has been in operation since 1966 and up until 6 years ago their used drain oil was dumped on a gravel parking lot.

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16. Name: National Guard Armory Contact: Mr. Sands Phone: 836-2287 Address: 1705 Hallie Lane Years at this location: 25 Water Supply: City Waste Disposal: City Date of Inspection: June 27, 1984 By: Nike Degen

<u>National Guard Armory</u> has some vehicle maintenance but no contamination sources.

17.

Name: Max Phillips and Sons Contact: Louis Phillips Phone: 832-3431 Address: White Avenue Years at this location: 20 Water Supply: City Waste Disposal: City Date of Inspection: July 3, 1984 By: Mike Degen

<u>Max</u>: Phillips and Sons is a salvage yard. The operation was neat and orderly during the inspection but there are possible ground water contamination problems inherent to the business. Noteworthy problems are the 300 empty barrels accepted from Waste Research and Reclamation once per week. The barrels are not accepted unless they are empty but there may be solvent residues in the barrels. There is also an area of old engine blocks where oil and grease spots are visible on the ground.

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18. Name: Jerry's Body Shop Contact: Jerry Ottinger Phone: Address: Fairfax Street Years at this location: 6 months (previous owners also) Water Supply: Well Waste Disposal: Septic System Date of Inspection: July 9, 1984 By: Sam Spanel

Jerry's Body Shop uses thinners and reducers in their painting operation. Used thinners and reducers have been poured on the ground behind the shop. It was thought that they evaporated. Used solvents will be stored in barrels in the future. A sample from the shops water supply did not detect any VOC's. Trichloroethylene and 1,2 dichloroethylene were detected at the Schwartz residence 2 blocks south of the body shop.

19. Name: Northern States Asphalt Company Contact: Rudol Holevatz Phone: 835-4030 Address: 3827 McIntyre Road Years at this location: 5 Water Supply: City Waste Disposal: City Date of Inspection: July 12, 1984 By: Mike Degen

Northern States Asphalt Company produces and applies asphalt. There is a small amount of asphalt that drips from truck valves and there is also about 25 gallons of Zep tar and asphalt remover used per year to clean up equipment. The company was asked to clean their equipment at the job sites in the future. 20. Name: Kindness Animal Hospital Contact: Dr. Douglas Erbeck Phone: 834-9201 Address: Route 7, Box 210, Chippewa Falls, WI 54729 Years at this location: 12 Water Supply: Well Waste Disposal: Septic System Date of Inspection: June 28, 1984 By: Mike Degen

<u>Kindness Animal Hospital</u> has been in operation for 12 years. The facility has a septic tank and drainfield for wastewater disposal and a private well. There are VOC's in the various dips and disinfectants they use. The chemicals are used in small quantities. For example, Paramite which is a dip is used at a rate of 1 ounce per week, 7 months per year. Paramite contains mercaptomethyl and aromatic petroleum solvents. At least eight surgical scrubs and dips were listed during the inspection all of which contain organic chemicals and all of which are discharged to the septic system. A sample from the hospital well was taken. There were no VOC's detected.

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21. Name: National Presto Phone: 839-2121 Address: 3925 N. Hastings Way Years at this location: 38 Water Supply: 4 Wells, elevated reservoir Waste Disposal: Seepage cells, landfill, city sewer (sanitary waste) Date of Inspection: By: Sam Spanel

National Presto has a discharge permit and is subject to periodic inspections and sampling requirements. Information on VOC's at Presto was taken from past inspection reports and file records.

Presto has been in operation since the mid 1940's and has progressed through several different manufacturing processes including outboard motors, household appliances, aviation parts, and artillary projectiles. Wastewater disposal for the plant consisted of seven seepage pits until the mid 1950's when a seepage lagoon was built. By 1967, the first lagoon became sealed with sludge and lagoon 2 was built. In 1969, seepage lagoons 3 and 4 were built. Lagoons 1 through 4 are 1.9, 14, 3.1, and 3.4 acres in size respectively.

A second disposal area is a 6 acre landfill located on the north edge of Presto's property along Melby Road. This site was used mostly for disposal of forging compound from 1957 through 1967. Some material in barrels was also buried at the site although the number of barrels buried is not clear.

Pond 1 has an accumulation of several million gallons of sludge in it. Sampling of the sludge in the fall of 1983 revealed 13 different VOC's in addition to heavy metals.

In an application for reissuance of a discharge permit in September, 1982, 12 different VOC's were listed as present in the plants wastewater discharge.

As part of this survey one of the plant's supply wells was sampled. 1,1 dichloroethane, trichloroethylene, and chloroform were present in well no. 7. Supply well no. 6 was sampled twice in 1982 with 1,1 dichloroethane and trichloroethylene, 1,1,1 trichloroethane and tetrachloroethylene present.

Monitoring well sites are located on Presto's property. These wells draw from the top 15 feet of the water table or less. Two samples of the monitoring wells in 1982 and one in 1983 show 1,1 dichloroethane, 1,1 dichloroethylene, 1,1,1 trichloroethane, trichloroethylene, and tetrachloroethylene present. None of the sample results of the monitoring wells is greater than 7.2 micrograms per liter and some of the VOC's only showed up in one sample.

Private well sampling during this survey showed 1,1,1 trichloroethane present at the Connors residence located several hundred feet northwest of the Helby Road site. At First Wisconsin Bank several thousand feet northwest of Presto, trichloroethylene, 1,1 dichloroethylene, 1,1 dichloroethane and 1,1,1 trichloroethylene are present. TES SCORE CARD

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FINAL TASK SCORE

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Task Nur	nber:
Type of	Work:
	Site:
Name of	Rater:
	Date:
Score:	(Circle one)
1	Unsatisfactory
2	Minimally Satisfactory
3	Satisfactory (Performed scope of work within schedule)
4	Exceeds Expectations
5	Outstanding
Com	ments:
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22. Name: Eau Claire County Highway Department Contact: John Brown Phone: 835-3163 Address: 2000 Spooner Avenue, Altoona, WI 54720 Years at this location: 3 years (Asphalt Mixing near Airport) Water Supply: N/A Waste Disposal: N/A Date of Inspection: July 18, 1984 By: Sam Spanel

Eau Claire County Highway Department had an asphalt mixing operation located south of the airport. Asphalt was mixed in the summer of 1982 and 1983 and in the spring of 1984. All mixing was done on an asphalt pad about 700 feet by 100 feet in size. All the mixing was done on the pad and there is no evidence of run-off or spillage on the ground near the site. Asphalt was made by windrowing gravel and mixing asphalt oils into the gravel.