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DIVISION OF EMERGENCY & REMEDIAL RESPONSE (DERR)

INTEGRATED ASSESSMENT APPROVAL FORM

Sam Winer Motors

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7/9/00  
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Upon review and approval of this IA, please sign and fax this sheet to:  
(614) 836-8795, Attention: Bill Batin

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*INTEGRATED ASSESSMENT (IA)*

**Sam Winer Motors**

**Summit County  
U.S. EPA ID: OHD987054376**

**Prepared by:**

**OHIO ENVIRONMENTAL PROTECTION AGENCY  
Division of Emergency & Remedial Response**

**7/3/00**

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## **1.0 EXECUTIVE SUMMARY**

Ohio Environmental Protection Agency (Ohio EPA) personnel conducted an Integrated Assessment (IA) at the Sam Winer Motors site, Summit county, Ohio on July 6, 1999. This Integrated Assessment was performed under the United States Environmental Protection Agency (U.S. EPA) site investigation protocol. The purpose of this IA was to determine if historical activities at the Sam Winer Motors site released contaminants into the environment, specifically to the groundwater.

## **2.0 INTRODUCTION**

The Ohio Environmental Protection Agency (Ohio EPA) Division of Emergency and Remedial Response (DERR) through a Cooperative Agreement with the U.S. EPA Region V, conducted an IA of the Sam Winer Motors site, U.S. EPA ID# OHD987054376. This report was prepared to address potential effects releases from the site may have to the surrounding areas.

## **3.0 SITE BACKGROUND**

### **3.1 Site Description and History**

The Sam Winer Motors site consists of various parcels of land in close proximity to each other totaling approximately 45 acres (figure 6). The main building of Sam Winer Motors and one of the parcels, is located at 3417 E. Waterloo Road in Summit County southeast of Akron, Ohio. The site is bordered to the north by U.S. 224, to the east by Portage Line Road (State Route 532) and to the south by Sanitarium Road. Waterloo Road runs east-west and divides the site approximately in half.

Aerial photographs confirm that the site has been operated as a salvage yard for retired military equipment, vehicles and parts as far back as 1952. The owners have expanded the site since then by acquiring adjacent land parcels. A few buildings are present on site and are used for storage of vehicle parts. One former building operated as a gas station and the UST's are believed to have been removed from this area. Former UST's that existed behind the annex building have been removed. This area is currently under regulatory control by the State Fire Marshall's Office. Soil samples were collected from both of these UST areas (figure 8).

A recent site visit documented that most of the areas have been covered with gravel, crushed brick and stone, with no observable staining typical of a vehicle salvage yard. Vegetation is sparse on most of the property; however, high grass covers a large portion of the unused areas.

### **3.2 Previous Site Work**

The site was brought to the attention of the Ohio EPA by a citizen's complaint in 1993. The complainant alleged illegal storage of waste solvents in tankers located in one of the vehicle storage facilities. The investigation showed no evidence of solvent storage in any of the military tankers at the site. The Ohio EPA determined the complaint to be unfounded with no further action to be taken.

A ground water investigation was jointly conducted in a surrounding area to the east of the Sam Winer site on Bey and Ellen Roads in 1993 by Ohio EPA, Ohio Department of Health (ODH), and Summit County Health Department. This investigation was in response to a citizen's complaint. Analytical results of the water indicated no federal Drinking Water Standards were exceeded.

The U.S.EPA became involved in the Sam Winer site in 1995 in response to a citizen's complaint. The Ecology & Environment, Inc. (E & E) Technical Assistance team (TAT), a U.S.EPA subcontractor, investigated the site. According to a memo by E & E dated December 31, 1995, the following is stated: "The Ecology & Environment, Inc. (E & E) Technical Assistance Team (TAT) was tasked to complete site assessment activities at the above mentioned site. Under this Technical Direction Document (TDD), the TAT researched county records and obtained aerial photography of the property for a 30-year period. After completing this record review, U.S. EPA never scheduled any further activities. Therefore, this TDD is being closed. This memorandum will serve as a final deliverable for all work completed under this TDD."

In March of 1996 an Aerial Photograph Interpretation Report was produced for the site by USEPA's Characterization Research Division in Las Vegas, Nevada. Using aerial photographs from 1952 to 1990, this report speculated on various land features of the Sam Winer site. During the 1999 Integrated Assessment investigation, Ohio EPA was unable to field verify many of the conclusions drawn from the Interpretation Report.

### **3.3 Site Geology & Hydrology**

#### **A. Regional Geology**

Summit County lies within the glaciated Allegheny Plateau and is characterized by a series of glacial till covered plateaus and intervening outwash-filled valleys. Plateau elevations range between 1,100 and 1,200 feet above mean sea level (amsl), while valley outwash lies at elevations between 950 and 1,000 feet amsl (United States Department of Agriculture, 1974).

The area is composed of the Wisconsinan-aged Hiram, Mogadore, and Kent Tills. The Hiram and Kent Tills occur mainly in the northern and southeastern portions of the county, respectively, while the Mogadore Till can be found throughout the entire area (White, 1982). According to Stout, Ver Steeg, and Lamb (1943), the average thickness of glacial drift throughout Summit County is variable, but on the average not more than 25 feet. Associated with these tills are

extensive areas of valley trains and kames composed mainly of sand and gravel. Mineral resources associated with these glacial deposits are made up chiefly of the large volumes of sand and gravel in the kames-moraines and valley trains of southern Summit County (United States Department of Agriculture, 1974).

A study of the bedrock topography in Summit County indicates that horizontal beds slightly dip to the east and south. The rocks exposed at the bedrock surface throughout the county range in age from the Pennsylvanian (Pottsville Formation), Mississippian (Cuyahoga Group) through the Devonian (Ohio and Chagrin shales, and Berea sandstone). The Pottsville Formation in the southeastern portion of Summit County is composed of alternating shale, clay, sandstone, limestone, and clay layers (Smith and White, 1953). The Sharon Conglomerate, the lowermost member of the Pottsville Formation, rests unconformably on the Mississippian-aged shale of the Cuyahoga Group. Figure 2 illustrates the depth to bedrock for the site and surrounding property (Smith, 1953).

## **B. Regional Hydrogeology**

Summit County was named for the position that it occupies at the summit of a major water divide (United States Department of Agriculture, 1974). The portion of the county north of Akron is drained by the Cuyahoga River into the Great Lakes Basin. South of Akron, the county is drained by the Tuscarawas River as part of the Muskingum and Ohio River systems. While Summit County has ample ground water supplies in both the glacial drift and bedrock, ground water supplies are unevenly distributed throughout the area (Smith and White, 1953).

Springfield Township is located in the southeastern portion of Summit County. Water wells in this township obtain water from sand and gravel outwash and kame moraine material or from the Pennsylvanian-age Pottsville Formation bedrock shales and sandstone (Smith and White, 1953). Water wells located in Springfield Township, are generally less than 100 feet deep, with averages of about 70 feet (Smith and White, 1953). Well casing depth is generally less than total well depth especially for wells completed in bedrock. Ground water yields range up to 125 gallons a minute from the sands and gravels and up to 50 gallons a minute from the bedrock (Smith and White, 1953).

## **C. Site Geology**

The site and associated property are located within an area known as the Kent Moraine. As discussed by White (1982), the Kent Moraine is characterized as a wide irregular belt of very hummocky topography with many kames. The Kent Moraine ranges in width from about 5 to almost 15 miles and Kent, Lavery, and Hiram Tills are present throughout the moraine itself. Till thicknesses in this area are estimated to range from 5 to 16 feet. Additionally, the Pennsylvanian age Pottsville Formation, composed of sandstone and shale deposits, underlies the site and associated property.

The topography of the site and surrounding property reflects the hummocky nature of the Kent Moraine. Elevations at the site and the associated Sam Winer Property range from about 1130 feet amsl along the western edge of the Sam Winer Property to a topographic high of 1279 feet amsl along the eastern edge of the property (Figure 1).

Stratigraphy for the site and surrounding property was compiled from Ohio Department of Natural Resources (ODNR) water well logs and is presented below. The stratigraphy within the site and surrounding Sam Winer Property is summarized below:

<b>Subsurface</b>	<b>North</b>	<b>South</b>	<b>East</b>	<b>West</b>
Clay-Sand-Gravel	0 to 20' bgs	0 to 31' bgs	0 to 86' bgs	0 to 20' bgs
Shale (top of bedrock)	33 to 235' bgs	31 to 85' bgs	81 to 103' bgs	20 to 212' bgs
Sandstone	> 235' bgs	Unknown	103 to 105' bgs	> 21' bgs
All depths were measured below ground surface (bgs).				

The site and surrounding property soils are largely composed of five distinct soil series: Chili, Canfield, Sebring, Jimtown, and Wheeling. The soils within the site and surrounding property are summarized below:

<b>Soil Series</b>	<b>Description</b>	<b>Forms In</b>	<b>Site Location</b>
Chili Series	Nearly level to steep, well-drained soils on outwash terraces and kames	Sandy and gravelly glacial outwash; loamy outwash material overlying sand and gravel of Wisconsin age	Throughout the central portion of the Sam Winer property
Canfield Series	Deep, moderately well-drained, nearly level to sloping soils, that have a fragipan <sup>1</sup> , on uplands	Loam and silt loam glacial till of Wisconsin age	North-central portion of the Sam Winer property and the Sam Winer's Motors site
Sebring Series	Nearly level, poorly drained soils on stream terraces	Sediment high in silt content.	Along two intermittent streams located in the eastern and

			northwestern portions of the Sam Winer property
Jimtown Series	Deep, somewhat poorly drained, nearly level to gently sloping soils on outwash terraces	Loamy outwash overlying sand and gravel outwash of Wisconsin age	North-central portion of the Sam Winer property
Wheeling Series	Nearly level to gently sloping, well-defined soils on outwash terraces; upper 30 to 48 inches of this soil is a silt loam	Loamy material over outwash gravel and sand	Southwestern to south-central portion of the Sam Winer property
<p>Soil information obtained from the Soil Survey of Summit County (United States Department of Agriculture, 1974).</p> <p>1 = A fragipan is a loamy, brittle, subsurface horizon that is very low in organic-matter content and clay, but is rich in silt or very fine sand. The layer is seemingly cemented, generally occurs below the B horizon, and ranges from a few inches to several feet thick (United States Department of Agriculture, 1974).</p>			

Other soil series present within the Sam Winer property are Conotton, Fitchville, Ravenna, Holly, Orrville, and Loudonville. Figure 3 illustrates the location of all soil series in this area.

#### D. Site Hydrogeology

The Sam Winer Property is situated 4,200 feet east of Springfield Lake, 6000 feet northwest of Wingfoot Lake, and 8600 feet south of the Little Cuyahoga River. The property is located in a ground water area which yields good water supplies for various uses (Smith and White, 1953). The Pottsville Formation may yield ground water at a rate of 3 to 10 gallons per minute (gpm), which is sufficient for domestic and farm uses (Schmidt, 1979). In addition, the Sharon Conglomerate, the lowermost member of the Pottsville Formation, can yield up to 50 gpm (Schmidt, 1979). Figure 4 illustrates the ground water resources located in and around Springfield Township (Schmidt, 1979).

In 1995, Raab and Haiker of the Ohio Department of Natural Resources (ODNR) - Division of Water conducted a hydrological investigation in the Bey Road area adjacent to the Sam Winer property. Their findings were published in a technical report entitled, "Potentiometric Surface Map of the Bedrock Aquifer in the Vicinity of Bey Road, Springfield Township, Summit County" (Raab and Haiker, 1995). During this investigation, static water levels were measured in a 3.5 square mile area centered around Bey Road. A total of twenty-one wells in both Summit and Portage Counties were measured. According to Raab and Haiker (1995), most of the wells were completed in Pennsylvanian-age sandstone and shale aquifers between depths of 50 and 120 feet below ground surface (bgs). Raab and Haiker (1995) also noted several ground water divides in the area. One divide is located at the topographic high between Bey and Portage Line

Roads. According to Raab and Haiker (1995), the ground water in the study area flows from east to west beneath Bey Road and from west to east beneath Portage Line Road. A second ground water divide coincides with the topographic high located at Waterloo and Neal Roads, with ground water flowing from this high toward an unnamed stream valley located to the east and south (Raab and Haiker, 1995). Additionally, Raab and Haiker (1995) indicated that ground water appears to discharge to an unnamed stream from the location of both topographic highs during the wet times of the year. Figure 5 illustrates the potentiometric surface map of the Bey Road, Springfield Township, Summit County taken from Raab and Haiker (1995). There are no ground water monitoring wells at any of the parcels of land at the Sam Winer site.

#### **4.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS**

Groundwater and soil samples, were collected during the IA investigation performed on July 7, 1999. Samples were analyzed by U.S. EPA Contract Laboratory Program laboratories. Analyses included the following parameters: Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, PCBs, and TAL metals.

Complete analytical results of this investigation are contained in Appendix B . Elevated findings based on these data are summarized in Table 3. Data were reviewed by U.S. EPA Region V personnel for compliance with the Contract Laboratory Program, and validated by Region V Central Regional Laboratory staff.

A photographic log of sampling locations can be found in Appendix A. Standard quality assurance and quality control (QA/QC) procedures for Site Investigation (SI) field activities were followed during the investigation. These procedures, including sample collection, packaging and shipping, and equipment decontamination, are documented in the "Quality Assurance Project Plan" (QAPP) for Region V Superfund site inspection activities for Ohio EPA and "Ohio EPA Field Standard Operating Procedures."

##### **4.1 Soil**

Four soil samples were collected from the site from three locations using Geoprobe™ direct push coring technology (figure 8). Each soil sample was sent to a U.S.EPA Contract Lab for full analysis.

Sample SW-GSO-01 was collected at the pad area of the former gas station pad just east of the former restaurant, and south of East Waterloo Road (figure 8). A residential area utilizing local groundwater for drinking is less than 200 feet away. The soil in the 0-4 foot core consisted of a backfill mixture of sand and gravel. The soil in the 4-8 foot core consisted of sands, gravels and silts mixed in with a tan, wet clay. Sample SW-GSO-01 was collected from a composite of the interval from 4-8 feet. The 4-8 foot interval had a very strong solvent odor associated with it. The organic vapor detector detected vapors at 1350 ppm. Refusal was encountered at 8 feet.

Lab results indicated high levels of volatiles and semi-volatiles present in soil sample SW-GSO-01. 1,1,1, trichloroethane was detected in the sample at 71,000 parts per billion (ppb), toluene at 160,000 ppb, ethylbenzene at 24,000 ppb, and xylene at 110,000 ppb. Elevated semi-volatiles detected include 1,2 dichlorobenzene at 170,000 ppb, n-nitrosodiphenylamine at 200,000 ppb, pyrene at 6200 ppb, and bis-(2-ethylhexyl)phthalate at 300,000 ppb.

Soil sample SW-GSO-02 & SW-GSO-03 (duplicate) were both collected approximately 45 feet north of soil sample SW-GSO-01. A soil core was collected at the northern portion of the gas station platform approximately 30 feet south of E. Waterloo Road. Dark gray-to-brown clay mixed with fill material was present in the top five feet and had a very strong petroleum odor. Photoionization detection instruments detected organic vapors at 493 parts per million (ppm) from this section of soil. Samples SW-GSO-02 and SW-GSO-03 (duplicate) were collected from the 3-6 foot interval. Brown and grey mottled clay was present from 5-8 feet.

Analytical results for soil samples SW-GSO-02 and 03 indicate relatively low levels of volatiles and semivolatiles. Ethylbenzene was found at 3 ppb, xylene at 10 ppb, chlorobenzene at 8 ppb, and trichloroethene at 1 ppb. Various semivolatiles were found at levels up to 960 ppb in the soil samples.

Soil sample SW-GSO-04 was collected at the northwest corner of the annex building, at the former underground storage tank area (figure 8). Soil cores were collected from this location at a maximum depth of 11 feet. The cores consisted of dark gray clay saturated with hydrocarbons interspersed with thin, wet gravel layers. Organic vapor detectors indicated volatile compounds in the sample volume. Sample SW-GSO-04 was collected from these cores and sent to labs for full analysis.

Lab results indicate volatiles present in the sample such as ethylbenzene at 3300 ppb, and xylene at 1900 ppb. Semi-volatiles were also detected, including 2-methylnapthalene at 6500 ppb, phenanthrene at 2300 ppb, and napthalene at 2200 ppb.

## **4.2 Groundwater**

As part of the IA investigation, twelve residential wells in the area were sampled in 1999 (figure 1). All twelve were scanned for volatile organic compound analysis and five wells were sent to labs for full analysis.

The analytical results are included in Appendix B, and copies of notifications sent to residential well owners can be found in Appendix C.

No constituents analyzed in the residential wells were above the method detection limits (MDLs) Two Geoprobe™ ground water samples (SW-GPW-01 and 02) were also collected at the former gas station location (Figure 8). The samples were collected from the same locations that soil samples SW-GSO-01, 02, and 03 were collected.

Groundwater sample SW-GPW-01 was collected at the pad area just east of the former restaurant, and south of East Waterloo Road. Soil sample SW-GSO-01 was also collected at this location. Organic vapors measured from the top of the groundwater sampling rod at ground surface were detected at 2500 ppm. Ground water was collected from 7-8 feet below ground surface.

Due to available water volume, ground water sample SW-GPW-01 was scanned for volatile organic compounds only. Extremely high levels of volatiles were detected in this sample. Among the highest concentrations were vinyl chloride at 1200 ppb, methylene chloride at 120,000 ppb, 1,1,1 trichloroethane at 400,000 ppb, trichloroethene at 210,000 ppb, toluene at 580,000 ppb, xylene at 300,000 ppb, ethylbenzene at 65,000 ppb, and benzene at 2400 ppb.

Ground water sample SW-GPW-02 was collected from the northern portion of the gas station, 25 feet south of East Waterloo Road, and within 5 feet of soil samples SW-GSO-02 and 03. Ground water for sample SW-GPW-02 was collected at approximately 7-8 feet below ground surface and due to water volume was sampled only for volatile organic compounds. Lab results indicate no volatiles present in this sample.

### **4.3 Sediment and Surface Water**

Sediment and surface water samples were not collected on or off-site because there was no evidence of a release into a surface water body. Intermittent ditches drain the runoff from the Sam Winer property during a rain event. There was no evidence of contaminated soil at the surface that would contribute to contaminated overland surface water flow.

## **5.0 MIGRATION PATHWAYS**

### **5.1 Soil Exposure Pathway**

Three soil samples were collected from the Sam Winer property at depths ranging from 3-to-11 feet. Lab results indicate that organic soil contamination does exist in two areas between this 3-to-11 foot interval, most likely due to former UST's. No contamination was found in the top two feet of soil on the property.

Since the minimum depth of observed contamination on the site is three feet, there is not an immediate threat for direct contact to contaminated soil by users of the property, but the potential does exist. The main source area where soil samples SW-GSO-01, SW-GSO-02, and SW-GSO-03 were collected, used to be a former gas station and is now an open lot which is completely accessible. This is the only area of the property not surrounded by a maintained fence.

There are no daycare facilities or schools within 200 feet of an area of observed contamination however, there are residences located within 200 feet of a these source areas. There are no endangered species identified within the target distance limit. The only users of the Sam Winer property are the regular employees and intermittent visitors that purchase the vehicles.

No other resources have been identified except groundwater.

## **5.2 Groundwater Pathway**

Results from drinking water samples collected from residents and public water supplies in the vicinity of the site were all below method detection limits. However, organic compounds were detected in Geoprobe™ ground water samples collected from the former gas station area. These sample locations are less than 100 feet from residences that utilize the local ground water.

An observed release of organic contamination to ground water was documented in the gas station area with ground water sample SW-GPW-01 (Figure 8). This sample was collected with the Geoprobe™. Similar contamination was not found at the Geoprobe™ borehole 50 feet to the north (toward the residential wells) of sample SW-GPW-01. The potential for contamination of the local drinking water wells still does exist. The nearest public drinking water supply is a trailer park 2400 feet to the west. No contaminants were detected at this location.

Within 1 mile of the former gas station area, 2,572 people utilize the local groundwater. There are 5,966 people that utilize the groundwater within 1-2 miles, 1,920 people within 2-3 miles and 8,240 people within 3-4 miles (see attached gis maps, Appendix E). A wellhead protection program is not known to exist in the immediate area.

## **5.3 Surface Water Exposure Pathway**

The surface water pathway was evaluated, and a point of probable entry (PPE) for contaminants migrating from the site could not be established for surface water. Contaminated soil found on site was below three feet and would not contribute to contaminated runoff. Intermittent ditches and sewers drain the property during a rain event. Nonetheless, the 15-mile target distance limit (TDL) was evaluated for the closest surface water body to the site which was the outlet to Springfield Lake and the Little Cuyahoga River. No endangered species or drinking water targets were identified within this TDL.

## **5.4 Air Pathway**

The air pathway was not evaluated, and no samples were collected for analysis. Much of the site is either well-vegetated or covered with packed gravel. Dust hazards are present but surface soil contamination has not been documented. Although Ohio EPA personnel did not initiate a formal air sampling program at the Sam Weiner site, portable air monitoring was conducted.

There are no sensitive environments, or other resources within four miles of the site that may be adversely affected by the air pathway.

## **6.0 REFERENCES:**

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