WARZYN

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Remedial Investigation
Wausau Water Supply NPL Site
a.k.a. Wausau Groundwater Contamination NPL Site
Wausau, Wisconsin

Prepared for:
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WARZYN

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APPENDIX B

INDUSTRIAL SURVEY REPORT

INDUSTRIAL SURVEY
WAUSAU NPL SITE

1.0 GENERAL INFORMATION

An Industrial Survey (Survey) of Potentially Responsible Parties (PRPs) and other businesses and industries located in the vicinity of the Wausau municipal well field was initiated in August, 1987.

The purpose of the Survey was to acquire information on the operations and activities of industries and facilities in the vicinity of the Wausau well field. Emphasis was placed on identifying past and present storage and disposal practices of products or wastes which may have resulted in the release of chemicals, petroleum products and/or solvents to soil or groundwater. Industries and businesses were chosen for the Survey based on type of operation or product produced, location of the facility with respect to probable groundwater flow direction, and documented points of groundwater contamination. Information obtained during the Survey was evaluated and used to complete planning for the Phase I field investigation.

The Survey consisted of a brief interview with entity representatives and a tour of the facility operations and grounds. Photographs were taken in order to determine the status of facilities and operations at the time of the Survey. The Survey also permitted an opportunity to provide information to, and obtain input from, the various entities relating to the Phase I field investigation at their facilities and to determine what measures would be necessary to obtain access to their properties.

A total of eight facilities were included in the August 6 and 7, 1987 Survey. Industries and facilities interviewed and toured during the August 6 and 7 Survey included the following:

Wausau Energy Co. - (Formerly Rush Distributing - Amoco Oil)
Steel Flite Scaffolding
Marathon Press (Marathon Pilot Graphics)
Wergin Construction

C.M. St. P. & P. Railroad (Soo Railroad)
Wausau Chemical Co.
Marathon Electric Inc.
Marathon Box Co.

Several additional area facilities, both closed and active, were added to the Survey during the course of the Phase I field investigation.

These facilities were included due to their strategic locations and recent information (provided by others) which justified reason for inclusion.

Refer to Drawing 13076-B10 for location of surveyed industries and businesses.

2.0 AUGUST 6 and 7, 1987 SURVEY

The survey team consisted of the following persons:

Margaret Guerriero - U.S. EPA Project Officer
Michelle Debrock - Owens - WDNR Project Hydrogeologist
Dennis Iverson - Warzyn Project Manager
Craig Rawlinson - Warzyn Project Hydrogeologist

Of the eight facilities surveyed, four reported they currently use chlorinated organic solvents and have reportedly submitted material safety data sheets to the WDNR and/or the U.S. EPA during previous industrial surveys. Facilities in the immediate vicinity of the municipal well field currently using or storing halogenated solvents include:

Wausau Chemical Co.
Marathon Press Co.
Marathon Electric Inc.
Wergin Construction Co.

A summary of information gained from the Survey is presented in the following sections.

2.1 WAUSAU ENERGY - 2102 2ND STREET

This facility has historically operated as a bulk oil facility and has undergone several changes of ownership during the past 15 years. According to Mr. Daniel K. LaCerte, General Manager, Wausau Energy acquired the bulk oil

facility from Rush Distributing in 1983. Rush Distributing purchased the facility from Amoco Oil in 1975 and operated it as a bulk oil distribution plant. Prior to 1975, Amoco Oil operated the bulk distribution facility for approximately 30 years. Mr. LaCerte indicated Wausau Energy acquired the facility as part of a buyout of Rush Distributing that was designed to expand their customer base. The facility has reportedly not been used as an industrial facility by Wausau Energy, but is currently leased to Marathon Press for warehouse purposes. However, during the course of field work, several Wausau Energy tank trucks were observed at the facility.

The property includes a one story brick framed office and storage building and attached three bay garage located on the north side of the structure (Photo 1). The southernmost bay had an earthern floor which exhibited some soil staining. A former bulk tank farm was located directly south of the building (Photo 2). A railroad spur and loading docks are located on the west side of the building (Photo 3).

Mr. LaCerte indicated the above ground tanks were removed in 1983, shortly after Wausau Energy acquired the property. He was not aware of buried tanks being located at the site. According to Mr. Areland Rush (Rush Distributing), Amoco operated the facility as a bulk oil facility which received oil and petroleum products by rail. Review of the Soo Railroad manifests confirm several bulk petroleum product shipments to Amoco Oil during this time. The products were unloaded at the spur area on the west side of the building and were either stored or repackaged for distribution in the Wausau area. This process continued until 1969 when rail service deliveries were discontinued. Subsequent to 1969 deliveries were made by truck. Based on inventory of records, the following products were reportedly handled by Rush Distributing and Amoco: No. 1 fuel oil, No. 2 fuel oil, lead free gasoline, premium gasoline, regular gasoline, kerosene, diesel fuel, hydraulic fluids, and motor oils (Foth and Van Dyke, June, 1986).

Mr. Rush indicated in addition to petroleum products, Amasol, a degreasing compound, was also stored and sold. The composition of this compound is not presently known. Mr. Rush also indicated a fuel oil leak occurred during the early 1970's, while he was an employee of Amoco. The leak reportedly occurred along the east side of the building and drained into the storm sewer on Second

Street. During a 1984 hydrogeologic investigation of the East Wausau Well Field, the WDNR detected PCE and Toluene contamination in soil samples collected from near the southwest loading dock. Neither Mr. Rush or Mr. LaCerte was aware of any spills or leaks in this area.

At the request of the WDNR, Wausau Energy contracted a consultant (Foth and Van Dyke) to perform a hydrogeologic investigation of the facility. Soil samples from eight test borings were collected and analyzed for VOCs. Analyses of these soil samples indicated detectable concentrations of several hydrocarbon related compounds including: benzene, ethylbenzene, toluene and xylenes (BETX). Based on the borings, soil impact appears to be greatest in the vicinity of borings 2, 3 and 4 located southwest of the Wausau Energy building. Generally, the greatest soil impact was detected at a depth of 15 feet (just above the water table). In addition to BETX impact on soils southwest of the Wausau Energy building, PCE was detected in soil samples obtained from Borings TB-7, TB-104 and TB-105 located northeast of the Wausau Energy building (Foth and Van Dyke, June, 1986 and December, 1986). PCE detected in soil samples along the North side of Wausau Energy may be related to past storage of waste products in this area (see Foth and Van Dyke, December 1986). Groundwater monitoring conducted by Foth and Van Dyke indicate total elevated BETX concentrations in Monitoring Wells TB-5 and TB-2, located south of the main building. These wells also indicate elevated concentrations of PCE and TCE. However, upgradient Monitoring Well WC5A also indicates substantial concentrations of PCE and TCE. Therefore, the observed PCE and TCE concentrations in the groundwater may be the result of on upgradient source.

Mr. Rush indicated that during the bulk facility operation period (1960's to 1983), solid waste disposal was contracted to a solid waste hauler for disposal at the city landfill. Liquid wastes were commonly discharged to the City sanitary sewer system. Mr. LaCerte indicated since the facility is presently leased to Marathon Press for storage purposes, very little waste is currently generated at this facility. The waste that is generated at the site consists of light commercial type refuse including: boxes, crates, paper goods, etc.

3.2 STEEL FLITE SCAFFOLDING - 2308 N. THIRD STREET

The survey initiated with an interview with Irving R. Jacobson (owner). Mr. Jacobson indicated the Company manufactures and leases tubular steel scaffolding. The property was purchased in 1959, and operations were moved from Schofield in 1962. The business operated from a building on the north portion of the site until 1970, after which operations were moved to their present location on the south side of the site. According to Mr. Jacobson, the site was formerly used for lumber storage during the Works Progress Administration (WPA) days of the 1930's. The site was also previously used for sand and gravel excavation and was reportedly filled with miscellaneous debris including construction debris and cuttings from area granite polishing operations.

Mr. Jacobson indicated only minor quantities of solvents are used in his company's operations and material safety data sheets had been provided to the WDNR and/or U.S. EPA during previous industrial surveys. According to Mr. Jacobson, a phosphate detergent (Oakite 31, Cryscoat 187) is used to clean the tubular steel prior to welding. Waste cleaning solution is discharged to the City sanitary sewer through a floor drain. Mr. Jacobson indicated a solvent type paint thinner is added to the paint tank to control paint viscosity. In addition to these materials, approximately 1 gal/month of solvent (brand name Aquasol) is used as a grease cutter and cleaner.

With the exception of the paint dip tank and detergent dip tank, Mr. Jacobson was not aware of any above or below ground tanks on his property. The north building at the site is used to store electrical supplies and no manufacturing operations occur in this building. Manufacturing, painting and management activities are also located in the south building (Photos 4 and 5). Liquid wastes from the south building are disposed to the sanitary sewer and solid waste disposal is handled by a private contractor. Mr. Jacobson was aware of only one spill during the time he has operated the facility. He indicated that a City employee observed one of his employees relatively recently dumped 1 quart of gasoline on soil west of the main building. A sample of the soil was collected by the city for GC-MS analysis. Soil analysis conducted by Zimpro confirmed that gasoline had been disposed on the surface soils. Other

than BETX, no additional compounds were detected. The City notified the WDNR of the incident. The WDNR issued enforcement correspondence to Steel Flite and notified the U.S. EPA.

2.3 MARATHON PRESS COMPANY, INC. PARK AVENUE AT SECOND

An interview was conducted with Mr. Ronald A. Westgate, Jr. (President of marathon Press Company). Mr. Westgate indicated Marathon Press has operated at the current address for approximately 30 years. Prior to operations as Marathon Press, the property was owned by the Alexander family (local developers). Marathon Press provides printing and graphics services for commercial and industrial clients.

Marathon Press facilities consists of two buildings separated by a loading dock and transport staging area (Photo 6). The southern building is located on the corner of Park and 2nd Street. This building houses the printing and graphics operations (Photo 7). A tour of the facility indicated the following processes and materials usage:

Process	Material Usage
Type Setting	Developer and activator
Plate Making	Plate developer and fixer
Developing Room	Photo developing agents and fixer
Letter Press	Rubber based ink, Hanculite (C-247 solvent) is used to clean machinery
Offset Printing	Various inks, alcohol and mineral spirits

Mr. Westgate indicated small quantities of alcohol and solvents (primarily acetone) were used to clean equipment. These materials are delivered to the loading dock on the north side of the main building.

Solvents and other bulk liquids are stored in a fenced concrete pad and curbing area located at the northeast corner of the main building. Mr. Westgate has reportedly supplied the WDNR and U.S. EPA with material safety data sheets. According to Mr. Westgate, the solvents are received in bulk quantity (55 gallon drums) and are transferred to smaller containers (1 gallon) which are stored near the printing presses. Photo 6 shows the loading dock and drum storage area. The solvents are applied to rags used to

clean and degrease equipment and machinery. Mr. Westgate estimated Marathon Press uses approximately one 55 gallon drum of solvent per year.

Mr. Westgate indicated solid wastes including solvent applying rags are collected by a private contractor for disposal at the City landfill. Some liquid wastes are disposed through floor drains into the city sanitary sewer system. Other liquid wastes, including developing chemicals, are stored near the loading dock and are collected by a private recycling firm. Mr. Westgate was aware of only one underground tank located at the facility. This tank is located near the south side of the main building and is used to store fuel oil. Mr. Westgate indicated that Marathon Press stores dry goods (paper and printing supplies) in the buildings north of the main facility and at the property owned by Wausau Energy. Mr. Westgate was not aware of any spills during the course of Marathon Press operations at the Wausau Energy facility.

2.4 C.M. ST. P&P RAILROAD

The Survey of the railroad consisted of an interview with Mr. Herbert Hentze at the local railroad yard. Mr. Hentze indicated he has been a railroad employee for approximately 40 years and currently holds the position of Roadmaster. Mr. Hentze discussed railroad operations and reviewed manifests dating back to 1979. According to Mr. Hentze, the railroad made bulk deliveries of oil and petroleum products to the former Amoco Oil facility and to Riiser Oil (a former bulk oil facility located north of Wausau Chemical). The rail deliveries of oil discontinued approximately 20 years ago. Bulk deliveries of chlorine and stabilizing compounds including soda ash and potash were made to Wausau Chemical. The rail deliveries were discontinued in 1982. Presently, all shipments to Wausau Chemical are by truck. Mr. Hentze was not aware of any bulk shipments of solvents made to or from any businesses in the Wausau well field vicinity. Mr. Hentze was also not aware of any railcar leaks or spills during his employment by the railroad.

Mr. Hentze indicated a former city landfill was located near the east bank (south side) of the Wisconsin River near Bridge Street. This landfill reportedly closed approximately 45 years ago. Mr. Hentze also pointed out several railroad spurs were used for product transfer areas. One such spur formerly extended along the north side of Marathon Electric.

2.5 WERGIN CONSTRUCTION - 200 E. WAUSAU AVENUE

A brief interview and tour of Wergin construction facility was conducted with Mr. Phil Wergin (owner) and Mr. Joe Malak (Maintenance Foreman). Mr. Wergin indicated the City garage previously occupied the location where Wergin Construction is presently situated. The site was purchased from the City in 1959. Prior to service as a city garage, the east portion of the site was used to store lumber during the 1930's. The site is presently used as base of operations for the construction company and consists of a maintenance building, offices, and equipment and supply storage (Photos 8 and 9). In addition to these structures, much of the site is covered by miscellaneous construction debris, equipment and trailers (Photo 10). Mr. Wergin indicated the Company provides construction services for industrial, commercial and institutional clients.

Mr. Malak indicated limited quantities of solvents are used in cleaning and degreasing operations. He estimated approximately 55 to 75 gallons of solvents are used per year. Phosphate detergents (Johnson Forward and Midwest Fleet Clean) are the primary cleaning compounds used on site. Mr. Wergin indicated Material Safety Data sheets had been supplied to the U.S. EPA. Cleaning solutions and solvents are primarily used in the maintenance building. Mr. Wergin was not aware of any spills or leaks of solvent type material. However, Mr. Malak indicated that a small hydraulic fluid release occurred a couple of years ago. Mr. Wergin indicated the majority of the construction waste generated was disposed by Lloyd Bros. Inc. Surplus materials and salvage materials from construction operations are occasionally stockpiled at the site. Solid wastes generated at the site are either incinerated or disposed by a contracted waste hauler.

Mr. Wergin indicated three underground tanks are present at the site. The tanks are located just west of main building (Refer to Photo 11) and are used to store regular gasoline, unleaded gasoline and diesel fuel for company vehicles. Mr. Malak also indicated an elevated above ground storage tank is used to store waste oil and solvents until they are picked up by a recycling firm. This storage tank is located approximately 150 feet southwest of City Well 3.

2.6 WAUSAU CHEMICAL - 2001 N. RIVER DRIVE

The Survey of Wausau Chemical Corporation (Wausau Chemical) consisted of an interview with Mr. James Cherwinka (president) and a tour of facility operations. Mr. Cherwinka indicated the company was established in the 1960's. The southern portion of the property was acquired from the City of Wausau. An additional parcel located just south of E. Wausau Avenue was acquired from Riiser Oil during the early 1970's. This facility formerly operated as a bulk oil distribution plant (Photo 12). Wausau Chemical property extends from E. Wausau Avenue to the north, to the City of Wausau Water Treatment Plant to the south. The facility is bounded on the east by the C.M. ST P&P Railroad and on the west by North River Drive.

Mr. Cherwinka emphasized that Wausau Chemical is not a manufacturing facility. The primary functions of the company are two fold. They act as a transfer station for the collection and shipment of waste chemicals and solvents from area businesses to Waste Research and Reclamation (WRR) in Eau Claire, Wisconsin. Secondly, Wausau Chemical is a distributor for various chemicals and solvents. Mr. Cherwinka indicated Wausau Chemical operates several tractor trailer rigs and one tank truck that is federally and state licensed to transport hazardous waste. According to Mr. Cherwinka, RCRA permits allow Wausau Chemical to store hazardous waste materials for up to 10 days. The permit does not limit the storage of chemicals (i.e., PCE, TCE, DCE) that are not classified as hazardous wastes. Mr. Cherwinka, indicated the WDNR approves the waste stream which can be handled by the Wausau Chemical.

The site consists of a large metal framed building on a concrete slab foundation. Four loading docks are located on the west side of the building. Two additional loading areas are located on the east side of the building. Empty drum storage areas are located on the east and south sides of the building (Photo 13). Several empty storage tanks are located near the southeast corner of the site (Photo 14). Company offices are located in the southwest portion of the building. The remaining building space located in the west central portion of the building is leased to STS Consulting Ltd.

Wausau Chemical collects spent solvents and chemicals from local businesses and transfers the materials to the WRR recycling facility in Eau Claire, Wisconsin or to an out-of-state Rollins incineration facility. The material is collected in DOT approved 55 gallon drums. These materials are generally shipped directly to the recycling facility or incinerator without unloading or repackaging at the Wausau Chemical facility. However, Mr. Cherwinka indicated that occasionally materials are collected which fail to meet the reclamation facility specifications. These materials must be blended with other chemicals at Wausau Chemical to meet specifications.

According to Mr. Cherwinka, prior to 1984, Wausau Chemical operated a solvent bulk farm in which PCE was stored in several above ground tanks along the south side of the main building. The solvents were transferred from tank cars to the storage tanks and then to 55 gallon drums which were sold and distributed to area businesses. In 1983, the facility experienced two PCE releases and subsequently discontinued the use of the storage tanks. Tanker car deliveries of solvents are now reportedly transferred directly to 55 gallon drums which are warehoused on pallets adjacent to the north loading dock.

Mr. Cherwinka indicated he was not aware of any underground storage tanks on the property. Two of the former above ground oil storage tanks acquired from Riiser Oil are presently used for storage of calcium chloride. The remaining above ground tanks observed on the southeast side of the facility are reportedly empty (Photo 15).

Mr. Cherwinka indicated he was aware of only three spills or leakages of chemical or solvents at the Wausau Chemical facility. He stated that the WDNR was notified in each case. The first spill reportedly occurred in February 1983, near the northwest loading dock (Photo 16). Approximately 100 to 250 gallons of PCE was lost when a small tank was damaged by a fork lift. A portion of the product reportedly pooled on North River Drive and was removed using snow plows. Remaining product was flushed into storm sewers and the River during thaw events. The largest release reportedly occurred in

December, 1983 when a storage tank located south of the main building experienced a valve malfunction which resulted in the leakage of approximately 900 gallons of virgin PCE. A portion of the product reportedly pooled on the frozen ground was removed. Affected soils and storage tanks were removed during the spring of 1984. A third small spill of approximately 2 to 3 gallons of PCE occurred in late 1986. This spill occurred on the bituminous pavement area near the southwest loading dock.

Mr. Cherwinka was not aware of any additional spills. However, file information indicates soil excavations conducted for the water treatment plant expansion in 1975 encountered soils and groundwater contaminated by PCE, TCE, toluene, and xylenes along the south side of Wausau Chemical property. WDNR requested Wausau Chemical to remove contaminated soil, however, no action was reportedly taken to address the requests.

STS Consulting Ltd. of Green Bay, Wisconsin was contracted by Wausau Chemical to perform a hydrogeologic investigation of the groundwater impact from the 1983 PCE releases. Results of this investigation are presented in reports dated July 25, 1984; April 3, 1985 and in subsequent correspondence. STS was retained by Wausau Chemical to design and implement a groundwater extraction and treatment system. A groundwater extraction system consisting of 15 wells was installed during the summer and fall of 1985. An air stripper was installed during the week of October 11, 1985 for treatment of contaminated groundwater (Refer to Photo 15). The system was operated intermittently from October 31, 1985 to December 5, 1985, after which the system remained inoperative until June 24, 1986. With the exception of periodic maintenance and winterization, the system has reportedly been operated continuously since June 1986.

Groundwater extraction has been accomplished by pumping well clusters generally consisting of six extraction wells arranged in a rectangular array. Since installation in October 1985, the system has been operating an equivalent of approximately 250, 24-hour pumping days. Discharge rates have fluctuated substantially, but generally have averaged approximately 100 GPM.

2.7 MARATHON ELECTRIC - 100 EAST RANDOLPH STREET

The Survey of the Marathon Electric facility consisted of an interview with Mr. David Eisenreich (Vice President of Administration) and Mr. Mark Thimke (Foley and Lardner, Attorneys at Law). Following the interview a plant tour was provided by Mr. Walter Matson (Plant Manager). Mr. Eisenreich indicated Marathon Electric has been operating at the present site for approximately 45 years. The company manufactures electric motors ranging from 1/2 H.P. to 500 H.P. and generators ranging from 50 K.W. to 1000 K.W. According to Mr. Eisenreich, Marathon Electric used to manufacture washing machines. The company currently employs approximately 1000 persons. Marathon Electric's manufacturing processes can be separated into fabricating processes and assembly processes. Fabrication operations include: foundry, punch press, aluminum diecast and machining of aluminum and iron. Assembly operations include: shaft machining, frame fabrication, winding, subassembly and painting. Specific processes and materials utilized in plant operations are shown on Table 1. Refer to Drawing 13076-A16 for location of plant operations.

The Marathon Electric site occupies approximately 30 acres bounded by Randolph Street on the north, Cherry Street on the west, the Wisconsin River on the east and Employers Insurance Company and the James River Corporation on the south (Drawing 13076-B10). The site consists of two main buildings, the foundry/fabrication building located on the southern portion of the site (Photo 17), and the assembly building located in the northern part of the site. The assembly building includes corporate offices and shipping and receiving areas (Photos 18 and 19). A large parking lot separates the two buildings. Numerous small storage buildings are located south of the plant foundry. These warehouses are reportedly owned by Employers Insurance Company of Wausau and Marathon Electric. Refer to Drawing 13076-A16 for locations of plant operations.

Mr. Eisenreich indicated the present foundry facilities were constructed in 1969, over a portion of the former City of Wausau landfill. Prior to 1969, the foundry was located southwest of the main office. During a previous plant survey (WDNR 1982), Mr. Matson indicated that 55 gallon drums of waste were encountered during excavation for the foundry building foundation.

Mr. Eisenreich was not familiar with Marathon Electric chemical useage, waste generation or disposal practices. However, Mr. Matson indicated that Marathon Electric operations required the useage of a wide variety of paint, varnish, stripping compounds, solvents, caustics, acids, etc. Material and chemical usage for 1974 is presented in Table 2. Based on the types of quantities of waste generated, Marathon Electric is classified as a hazardous waste generator and is RCRA permitted to store and transport hazardous materials. The company currently stores hazardous wastes in warehouse #5, located south of the foundry (See Photo 20). Prior to 1982, hazardous wastes were stored on an asphalt pad located southeast of the foundry. Marathon Electric currently stores drums of varnish adjacent to the receiving area on the southeast side of the assembly building (Refer to Drawing 13076-A16).

Mr. Matson indicated any spills occurring at the plant would be documented in company files. These files were not available during the plant survey. However, WDNR records indicate two documented releases. In October, 1980 an anonymous call was received indicating a paint spill had occurred along the southeast corner of the foundry building. Further investigation indicated a drum containing paint wastes had been ruptured during moving activities. WDNR collected soil samples for heavy metal analyses. Affected soils were subsequently disposed at the Holtz Krouse landfill. In addition, a ruptured barrel containing varnish wastes was noted during a WDNR plant survey in 1982. The company was advised to clean up contaminated soils and to have drums more thoroughly inspected prior to useage.

Mr. Matson indicated that approximately 163,200 gallons of sanitary and contact process water is discharged daily to the city sanitary sewer. Discharge is monitored at three outfalls locations. The company also discharges approximately 73,000 gallons of non-contaminated process water to a sewer which discharges to Bos Creek south of Randolph Street.

According to Mr. Matson there are presently three underground storage tanks located at the Marathon Electric facility. A 20,000 gallon diesel fuel tank is reportedly located near the southwest corner of the foundry. An

8,000 gallon fuel oil tank is located directly east of the receiving dock area. A 20,000 gallon xylene tank is located directly west of the company cafeteria (See Photo 21). Mr. Matson indicated additional tanks were located along the north side of the assembly building, beneath the present cafeteria (Photo 22). These tanks were reportedly removed in 1982 when the cafeteria was built. Mr. Matson was unsure of the contents of these tanks but felt they may have been used to store varnish and or solvents. In addition to the underground storage tanks, an above ground, horizontal, liquid nitrogen tank is located directly west of the cafeteria.

2.8 MARATHON BOX - 207 N. 1ST STREET

An interview and site survey was conducted with Mr. Scott Teneyck, Vice President, Marathon Box. Mr. Teneyck indicated that Marathon Box is a family run business that was established at the N. Second Street site in 1928. The company manufactures pallets and crates. According to Mr. Teneyck, Marathon Box moved its manufacturing operations from the site in 1982. A portion of the factory was subsequently removed (see Photos 23 and 24). The site presently consists of three framed buildings and an adjacent lumber storage yard (Refer to Photos 25, 26 and 27). The buildings are reportedly used to warehouse lumber and equipment. However, the survey was not conducted inside any of the structures since Mr. Teneyck did not have the keys for door locks.

Mr. Teneyck indicated no solvents had been used at the site during present or past operations. However, wood preservatives had been used. Mr. Teneyck also indicated that years ago, a private contractor had been hired to spread dust inhibiting agents at the site. The composition of the dust inhibitors is reportedly not known. According to Mr. Teneyck, no surface or below ground tanks are present at the site.

During the site survey, oil stained sawdust was observed inside a pit located in the floor of the former factory (Photo 28). A can of discarded cutting oil was also noted near Monitoring Well MW10 (EPA10). Several unlabeled discarded drums were noted along the north side of the gray frame building. Stained soils have been reported during previous investigations (Johnson, 1985).

3.0 FACILITIES SUBSEQUENTLY INCLUDED IN THE SURVEY

The following are other facilities which information was gathered as part of the survey.

3.1 DON FITZGERALD CLEANERS AND TAILORS - 1006 SIXTH STREET

Based on previous industrial surveys, Don Fitzgerald Cleaners and Tailors has been identified as a user of halogenated solvents. This facility is located approximately 1500 feet southeast of Municipal Well CW4. Previous interviews with Mr. Don Fitzgerald (owner) indicate the dry cleaning operations use approximately 50 gallons per month of PCE. Prior to 1984, liquid waste from the facility was disposed to the sanitary sewer system via drains and toilets. Waste solvents generated during dry cleaning operations are currently transported to Wausau Camelot Cleaners for recycling (sparging).

3.2 SENIC SIGN COMPANY - 1502 FIRST AVENUE

The Senic Sign Company (see Drawing 13076-B10) has also been identified as a local user of paint thinners, and solvents. WDNR records indicate this facility is classified as a very small quantity generator of hazardous wastes. The wastes are considered hazardous due to the igniteable characteristics of lacquer thinners and mineral spirits used and stored on site. The company also uses a wide variety of paints, paint thinners, solvents and screenprinting chemicals. Inventory forms supplied to WDNR indicate delivery of bulk solvents (LAC-SOLV 300) from Wausau Chemical to Senic Sign. Liquid wastes are generally collected in 55 gallon drums that are disposed by either Rock Refining or Lloyd Brothers trucking.

3.3 CORNERSTONE FURNITURE - 1310 CHERRY STREET

Cornerstone Furniture located at 1310 Cherry Street (see Drawing 13076-B10) was not included in the August 6 and 7, 1987 Survey but was subsequently contacted regarding facility operations. The owner of this facility indicated

operations consisted of furniture design, construction and antique restoration. He was not aware of the use of PCE or TCE at his facility but indicated Dimethylene Chloride was frequently used as a paint and varnish remover.

3.4 CAMELOT CLEANERS - 1902 NORTH SIXTH

Camelot Cleaners located at 1902 N. 6th Street (corner of Lincoln and 6th) is a potential user of chlorinated solvents. This company performs a variety of dry cleaning operations on site. The company is located approximately 1500 feet upgradient (east) of Municipal Wells CW4 and CW3.

3.5 FORMER CITY LANDFILL

During the course of Phase I field activities, the abandoned City of Wausau landfill was identified as a potential source of VOC contamination. Two former city employees who were familiar with landfilling practices were interviewed on December 9, 1987. The interview included the following persons:

Margaret Guerriero - U.S. EPA Project Officer
Craig Rawlinson - Warzyn Project Hydrogeologist
David Cook - Wausau City Engineer
James Lonsdorf - Special Council for the City of Wausau
Ervin Sigmund - Former Landfill Employee
Heimrich Oswald - Former Landfill Employee

According to Mr. Sigmund and Mr. Oswald;

- The City landfill occupied a former sand and gravel pit located on the west bank of the Wisconsin River. The landfill covered approximately two acres, underlying the southeastern portion of Marathon Electric property (Refer to Drawing 13076-B10). The former landfill extended from the present Marathon Electric Main entrance road, to the electric substation. The landfill was bounded on the east by the Wisconsin River, and to the west by the former gravel pit excavation face which extended south from the present Marathon Electric shipping area. The information was obtained from review of aerial photographs at the City of Wausau, Department of Engineering.

- The landfill operated from approximately 1948 to 1955 and was the only landfill within the City of Wausau at the time. During its period of operation almost all commercial, industrial and residential wastes generated within the city was disposed at the site. Both Mr. Sigmund and Mr. Oswald indicated that no effort was made to control the type of waste accepted at the landfill. Mr. Oswald recalled several instances when bulk liquid wastes contained in 55 gallon drums were emptied directly into the fill. He could not recall the specific generator(s) of the wastes, but indicated the practice was fairly common.

- The landfilling began in the northwest portion of the sand and gravel pit and progressed south and east. A rock crusher was located near the northeast portion of the gravel pit. Crushed rock and construction debris was generally filled into the northeast portion of the sand and gravel pit. Mr. Oswald and Mr. Sigmund indicated waste was often burned in order to conserve space. Ash and cinders were disposed throughout the landfill. Mr. Sigmund recalled burning several loads of dry cleaning rags and lint soaked with a flammable liquid.

- In many cases incineration could not keep pace with the amount of waste received in a day. In such instances, waste materials were landfilled directly. Such materials were generally filled into the western portion of the former sand and gravel pit. Mr. Oswald stated drums of unknown industrial wastes were also filled into the western portion of the landfill.

- The landfill was not generally fenced or secured, allowing waste disposal to occur during nonworking hours and weekends. Mr. Oswald also indicated landfill users were charged one bulk disposal rate regardless of the size of the load or the contents. Therefore, it is difficult to characterize waste types or volumes disposed at the landfill.

- The landfill base grades were controlled by pre-existing sand and gravel operations. Generally, the deepest filled areas were located in the eastern portion of the landfill, where sand and gravel operations had excavated to within a few feet of river level. Mr. Oswald indicated that approximately 40 feet of waste materials were disposed near the west bank of the Wisconsin River. The base of the landfill sloped upward toward the west in a slightly concave manner.

- Low lying areas west of the sand and gravel pit were filled by Marathon Electric and the American Toothpick Company. Wastes reportedly disposed in this area included moldings and foundry wastes. Most of the landfilled areas were sold by the City of Wausau to Marathon Electric in 1965. The land was used for plant expansion and additional parking. Excavations conducted during the construction of the Marathon Electric Foundry reportedly encountered drummed wastes beneath the eastern portion of the foundry (Walter Matson, personal communication).

- According to Mr. Oswald and Mr. Sigmund, the former City landfill extended as far south as the present Marathon Electric substation (Refer to Drawing 13076-B10). Fill materials observed along the river bank south of Marathon Electric may have been filled by an unknown party subsequent to the closure of the City portion of the landfill in 1955.

4.0 SUMMARY AND RECOMMENDATIONS

A total of eight businesses were field surveyed August 6 and 7, 1987. Subsequent to that time 5 other facilities/entities were added to the Survey for consideration. Based on information obtained from the Survey, the following facilities were investigated in varying degree during the Phase I field investigation:

- Senic Sign Company
- Camelot Cleaners
- Former City Landfill

Based on the results of the Phase I field work, it is recommended that further investigations continue at the former City landfill site.

CSR/mml/DLI
[wpmisc-104-58]

TABLE 1

MARATHON ELECTRIC
OPERATIONAL PROCESSES*

SERVICE DEPARTMENT - Trichloroethylene wire stripping to remove varnish from stator wires to facilitate easy removal

STOCK ROOM - Plating Room - zinc - cadmium plating of small parts.

ROTOR DEPARTMENT - Etch Tanks - Etching of aluminum rotors with a caustic bath and then an acid rinse.

Selas Burner - Gas fired heater with water quench for rotors.

PUNCH PRESS - Annealing Ovens - Heat treating of lamination steel.

DIE CAST - Aluminum melting - coreplating using coreplate material.

SMALL WINDING - Stator Varnishing - Varnishing and baking of stators.

BODY DEPARTMENT - Wash Tanks - Washes motor parts prior to painting. Paint Over - Dips and bakes motor parts in enamel paint and bakes in oven. Welding Booths - Welding of small motor frames using arc, inert gas welding.

SHAFT DEPARTMENT - Turning and grinding of small shafts using various coolants.

L.G. SHAFT & ROTOR - Turning and grinding of large shafts using coolants. Insulation Cutting - Cutting of fiberglass boards with saws and a grinder. Welding - Welding and braising of rotors.

FOUNDRY - Induction Furnace - Used to melt gray iron. Muller - Used to mix sand for molding. Pangborn - Dust collector.

BRACKET - Machining of cast iron motor parts.

ASSEMBLY - Assembly of small motors. Paint Booth - Spray painting of motors.

SWITCH DEPARTMENT - Assembly of switch panels, rotor exciters, cutting of insulation for motors.

LG MOTOR & GENERATOR ASSEMBLY - Paint Booths - Painting motors and generators.

MEDIUM INTEGRAL WINDING - Bake Oven - Baking varnish on stators.

LG WINDING - Bake Ovens - Baking varnish on stators.

MEDIUM INTEGRAL ASSEMBLY - Paint Booth - Spray painting of motors.

* Source WDNR 1982 Plant Survey

[wpmisc-104-57]

TABLE 2

MARATHON ELECTRIC CHEMICAL AND RAW MATERIAL USAGE IN 1974*

Desmutter acid deoxidizer	4,450#
Kenbrite Salts B1	8,800#
Kenvert #12 chromate	1,600#
BZ100A Cleaner	5,200#
Vortesal XE-3500 Cleaner	2,400#
Kenbrite Enveloper	185 gal
Kenbrite Regulator	200 gal
Compound Metalline F-5500	110 gal
Muriatic Acid 130#	465 gal
Trichloroethylene	770 gal
Napthrol Spirits	220 gal
Paint Stripper	110 gal
Blacking Salts (5-1/4 oz K, 3# NaOH, 5-1/2 oz NaNO2)	100#
Boric Acid Powder	300#
Ammonia	575 gal
Nitric Acid	54 gal
Phosphoric Acid	20 gal
Aluminum Etch Compound	7,900#
Mineral Spirits	110 gal
Ethyl Alcohol	2 gal
Butyl Cellosolve	410#
Methyl Cellosolve Isopropawal Toluene	15 gal
Xylol	21,500 gal
Cimplus 48A	715 gal
CX 305 Cimcool	110 gal
Die Slick	25 gal
Filstone M-28 Lube	25 gal
Kleno Bowel	14 gal
West Power	24 gal
West Solv #30 Solvent	110 gal
West Foam Concentrate	4 gal
#43 West Lake Solvent	110 gal

* Data based on WDNR Industrial Survey (December 3, 1975).

Marathon Electric Chemical and Raw Material Usage in 1974

OILS

Mobil Met 33	770 gal
Del Vac	330 gal
DTE 24	4,620 gal
Velocite #10	20 gal
Vactra #3	340 gal
DTE 103	280 gal
Vactra #1	210 gal
DTE #26	1,850 gal
Mobil Met #305	10,000 gal
Compound BB	2,035 gal
Pyrogard #53	385 gal
Mobil Fluid 220	550 gal
Delvac 1230	220 gal
Mobil 1220	275 gal
Nyvac FR200	220 gal
DTE Extra Heavy	220 gal
Solvac 500	55 gal
Vacmul UB-78	5,000 gal

PAINTS

BK-259 Black Paint	440 gal
A95 Red Enamel	50 gal
A54 White Enamel	75 gal
A98 Blue Enamel	50 gal
A101 Red Lacquer	35 gal
Grey Lacquer	75 gal
#655 Epoxy Reducer	12 gal
Gray Epoxy Paint	12 gal
Gray Spray Enamel	3,500 gal
Gray Aquazen Primer	5,500 gal
Stabilizer	100 gal
Gray Dip & Bake Enamel	3,960 gal

Marathon Electric Chemical and Raw Material Usage in 1974

VARNISHES

Isonel Varnish	4,400 gal
#31 Isonel Varnish	22,000 gal
Red Varnish	160 gal

RAW MATERIALS

Aluminum	1,574,844#
Steel	19,961,176#
Cast Iron	12,551,800#
Copper Wire	16,256,488#

FOUNDRY SUPPLIES

Molding Sand	538 tons
Core Sand	1,680 tons
Part rite Liquid	1,045 gal
Core Oil CWC-G	825 gal
Sand Conditioning Oil	1,705 gal
Liquid Pyrokote 2 Core Wash	580 gal
Fast Lite Solvent	605 gal
Core Binder	4,455 gal
Graphite Core Wash	65 gal
Carbon Riser	27,000#
Additrol ME-W-2 Blend	340 tons
SMZ 12M X 32M	7 tons
Carbo Carbo Sil 50	280 tons
Sodium Silicate	28 gal
Asbestos Sheets 42" X 46" X 5/32"	108 sheets
Isomica Sheets 36" X 36" X .0153	20 sheets

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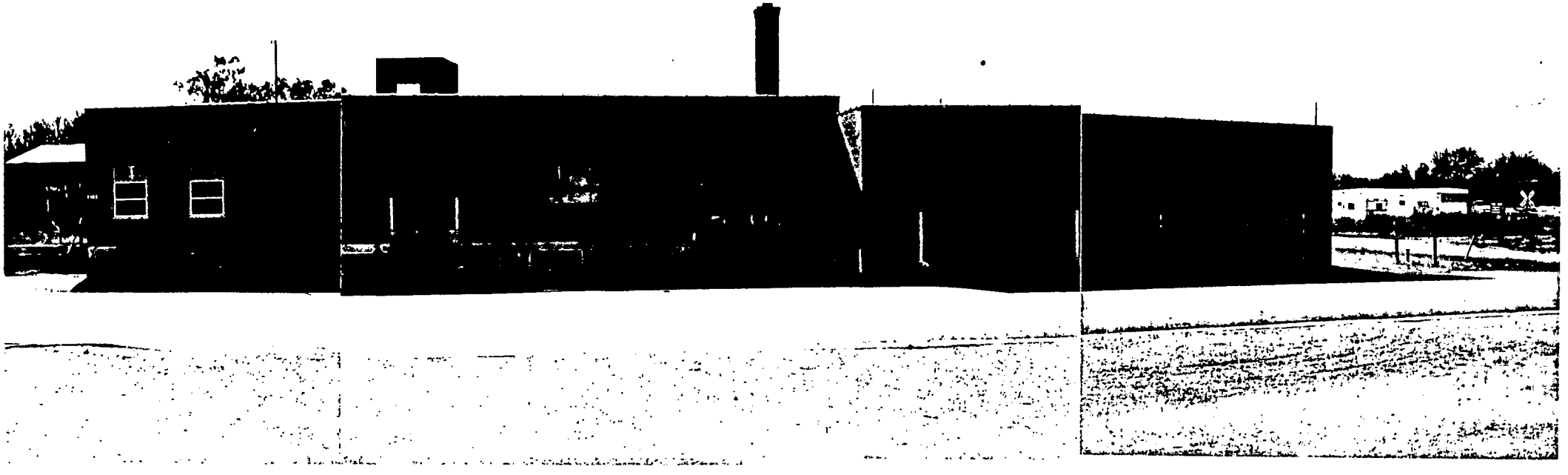


Photo 1

View of east side of Wausau Energy Building. Building is currently leased by Marathon Press and is used for storage of printing materials.

Wausau Energy
2112 2nd Street

WARZYN

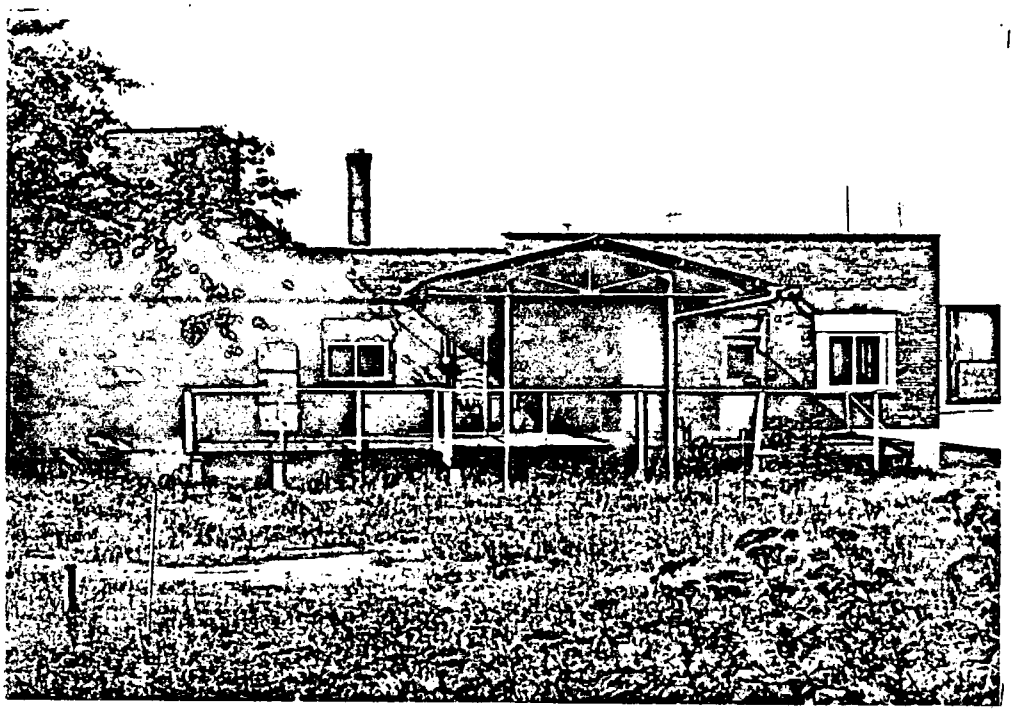


Photo 2

South side of Wausau Energy where former Rush Distributing/Amoco Bulk Storage tanks were located. Foth and Van Dyke monitoring wells TB-2 and TB-5 visible in foreground.

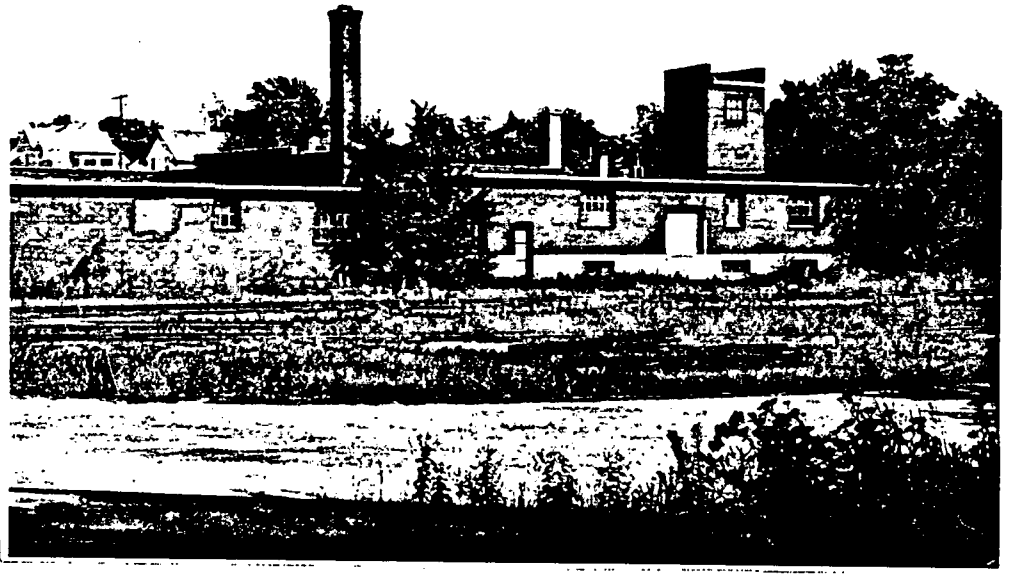


Photo 3

West side of Wausau Energy. Railroad spur located in foreground.

Wausau Energy
2102 2nd Street

WARZYN

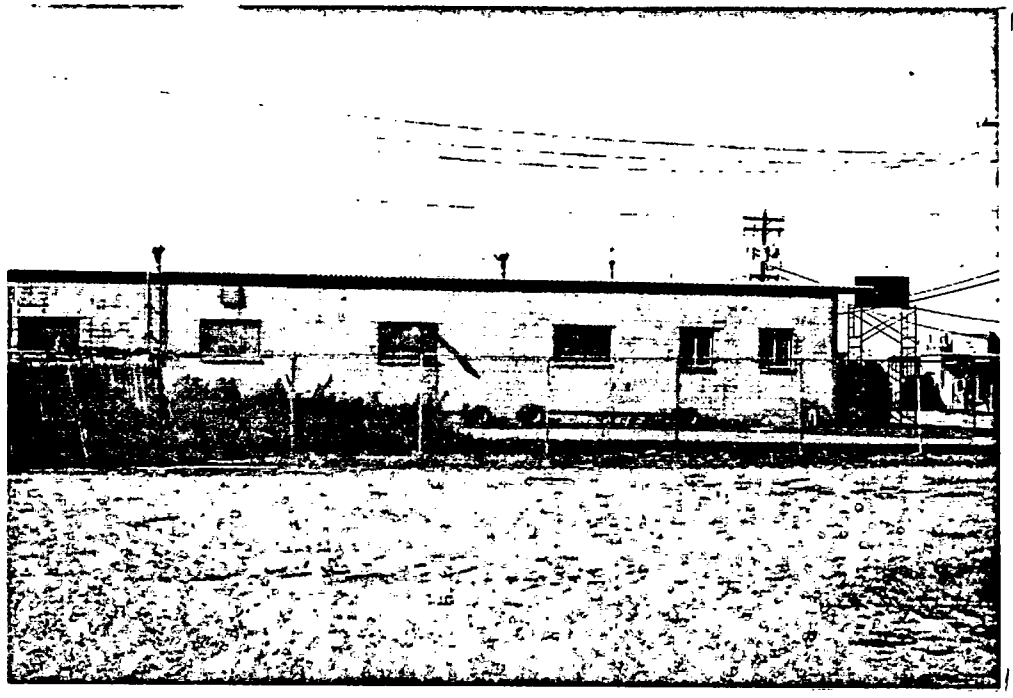


Photo 4

View of south side of Steel Flite Scaffolding



Photo 5

South side of Steel Flite Scaffolding and additional storage building in background.

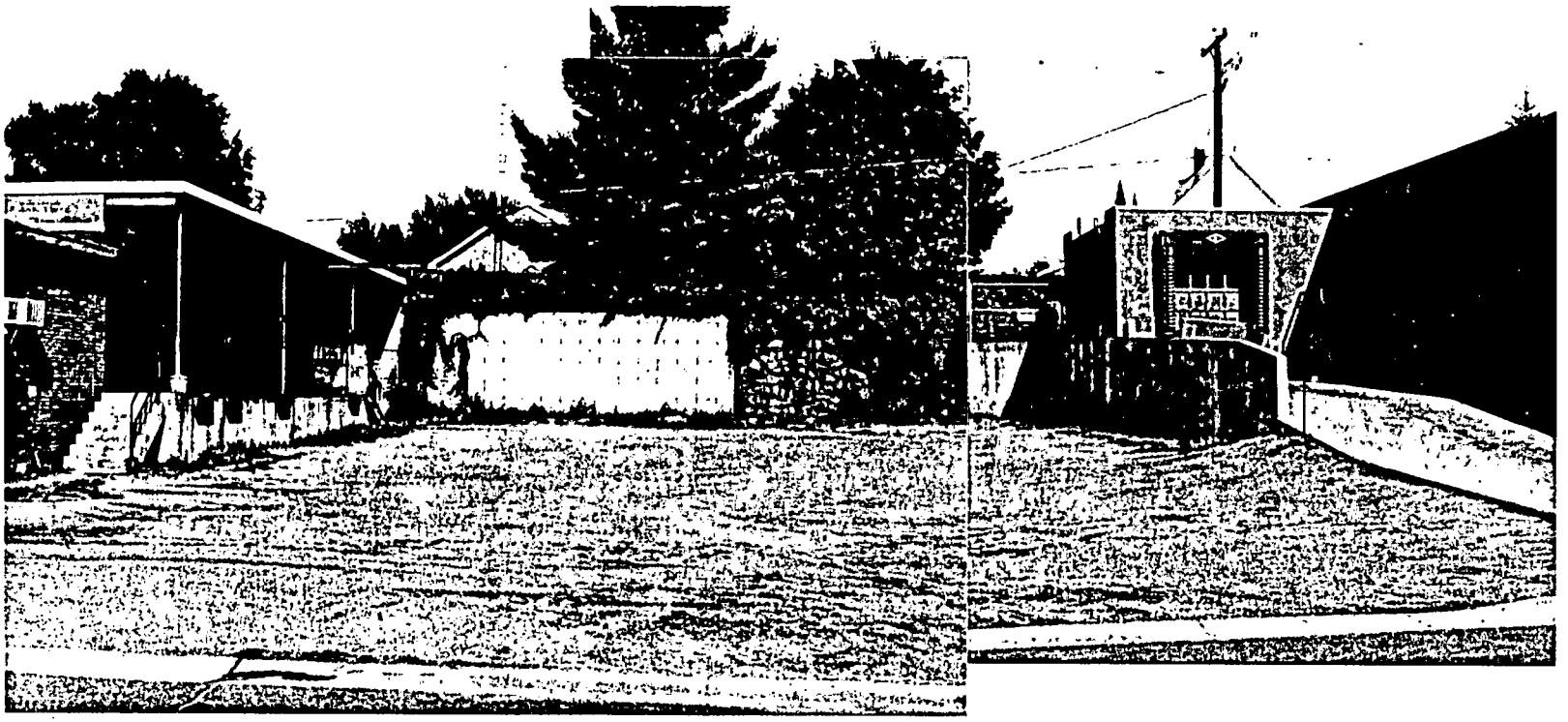


Photo 6

Loading docks and transport staging area. View looking east.
Drum storage area located on concrete pad at right of photo.

Marathon Press
Park Avenue and Second

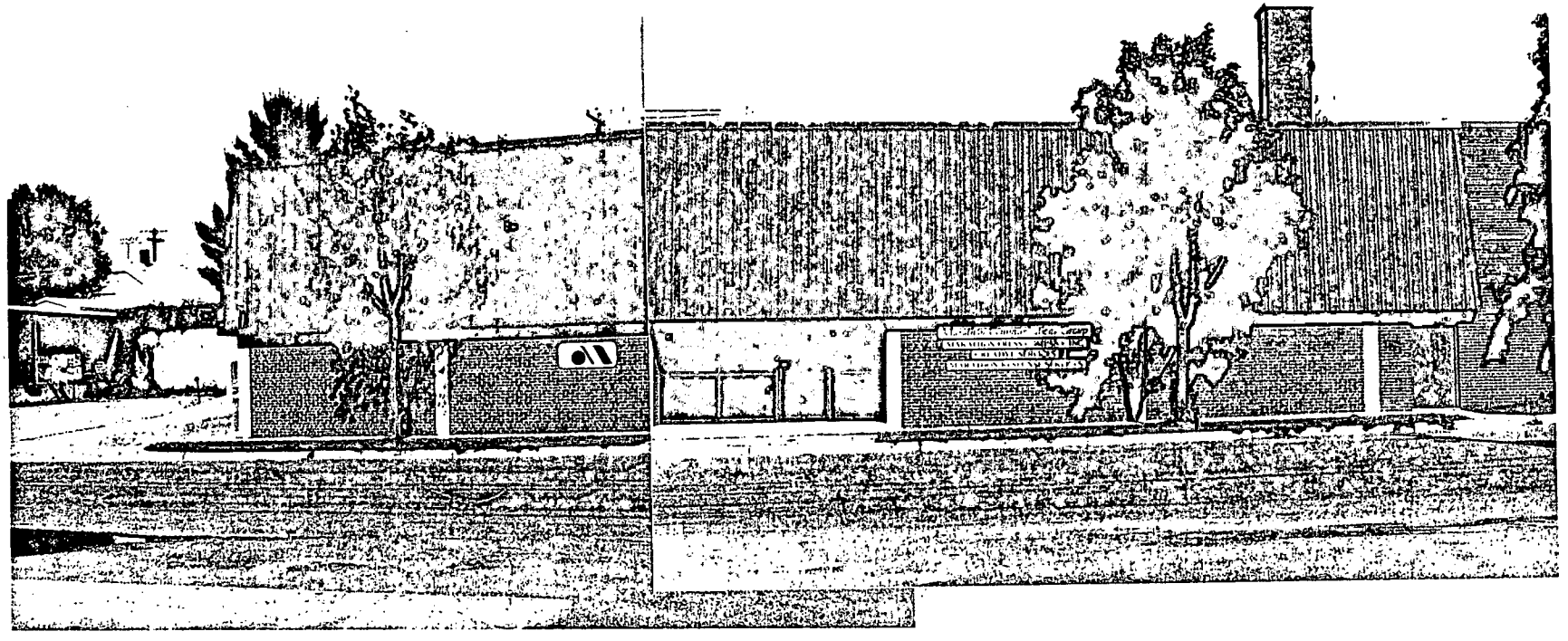


Photo 7

Northwest portion of Marathon Press printing, graphics and office building. View looking east across Second Street.

Marathon Press
Park Avenue and Second

WARZYN

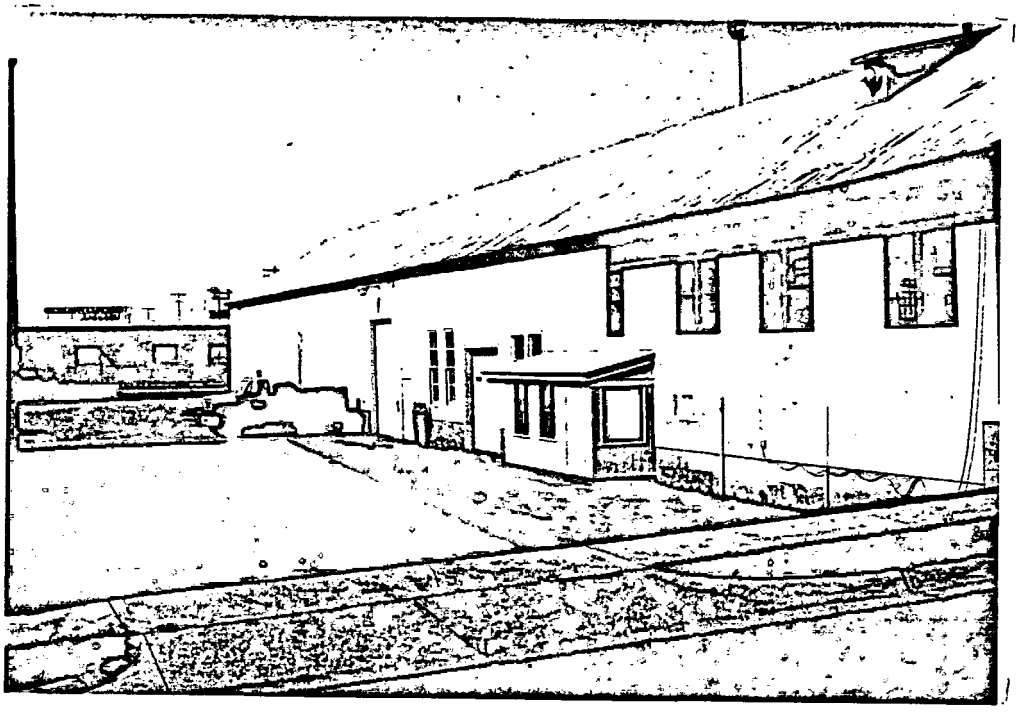


Photo 8

Wergin Construction office and storage building. View looking northeast.

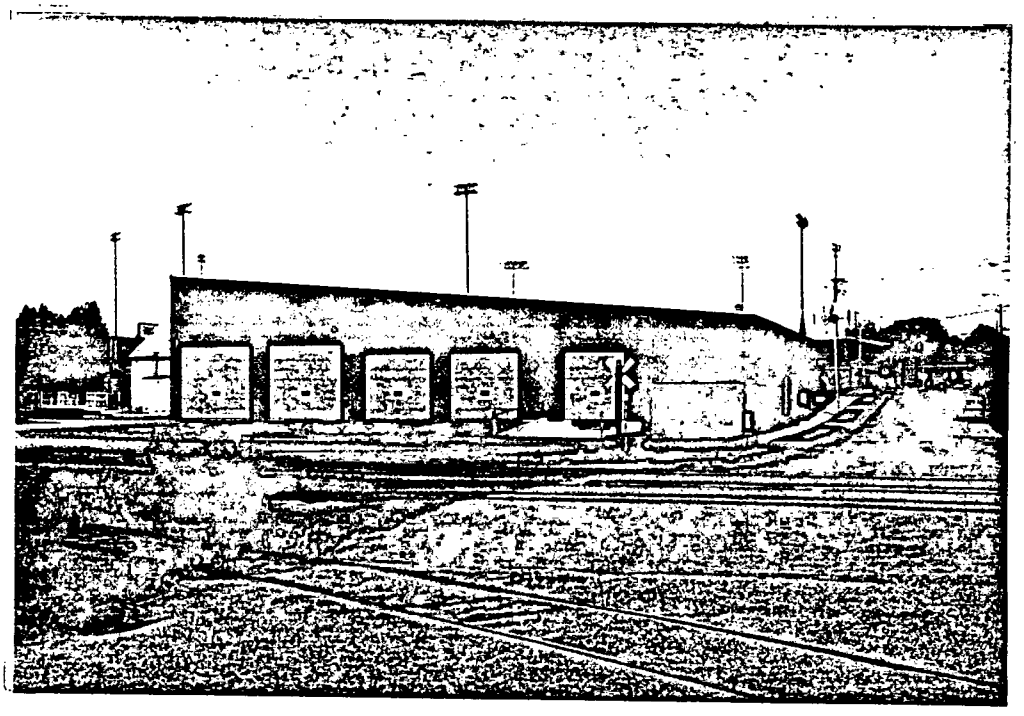


Photo 9

Wergin Construction maintenance garage. View looking northeast.

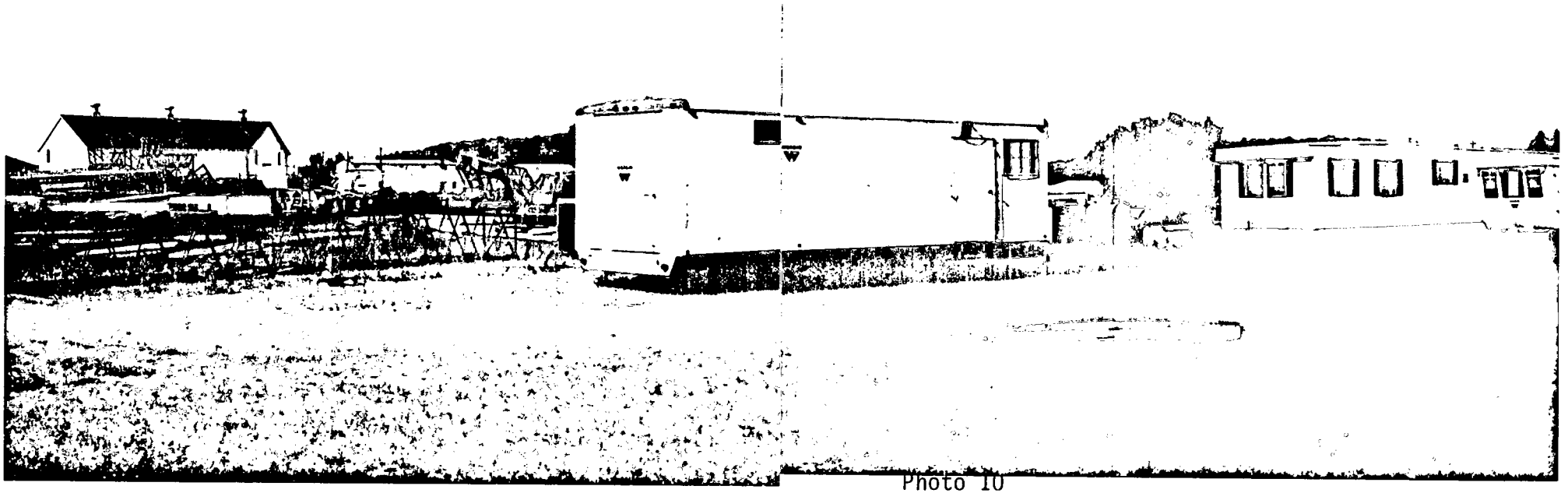


Photo 10

Wergin Construction storage area located west of C.M. ST P&P Railroad, north of E. Wausau Avenue.

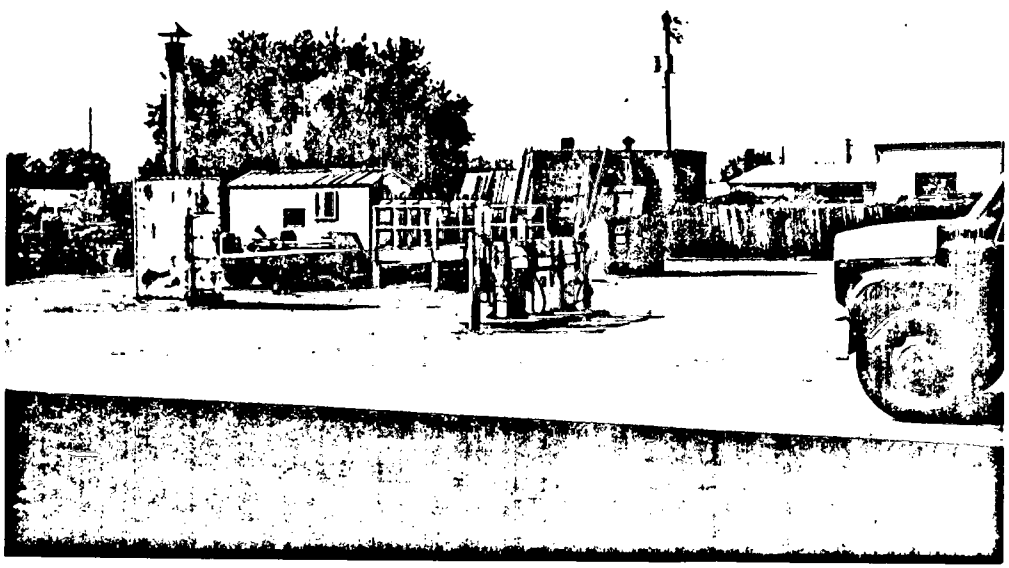


Photo 11

Wergin Construction pump island. Underground storage tanks containing regular, unleaded and diesel are located immediately east (right) of the pump island. Municipal well CW-3 is visible (metal frame building just left of small brick building) in background.

Wergin Construction
200 East Wausau Avenue

WARZYN

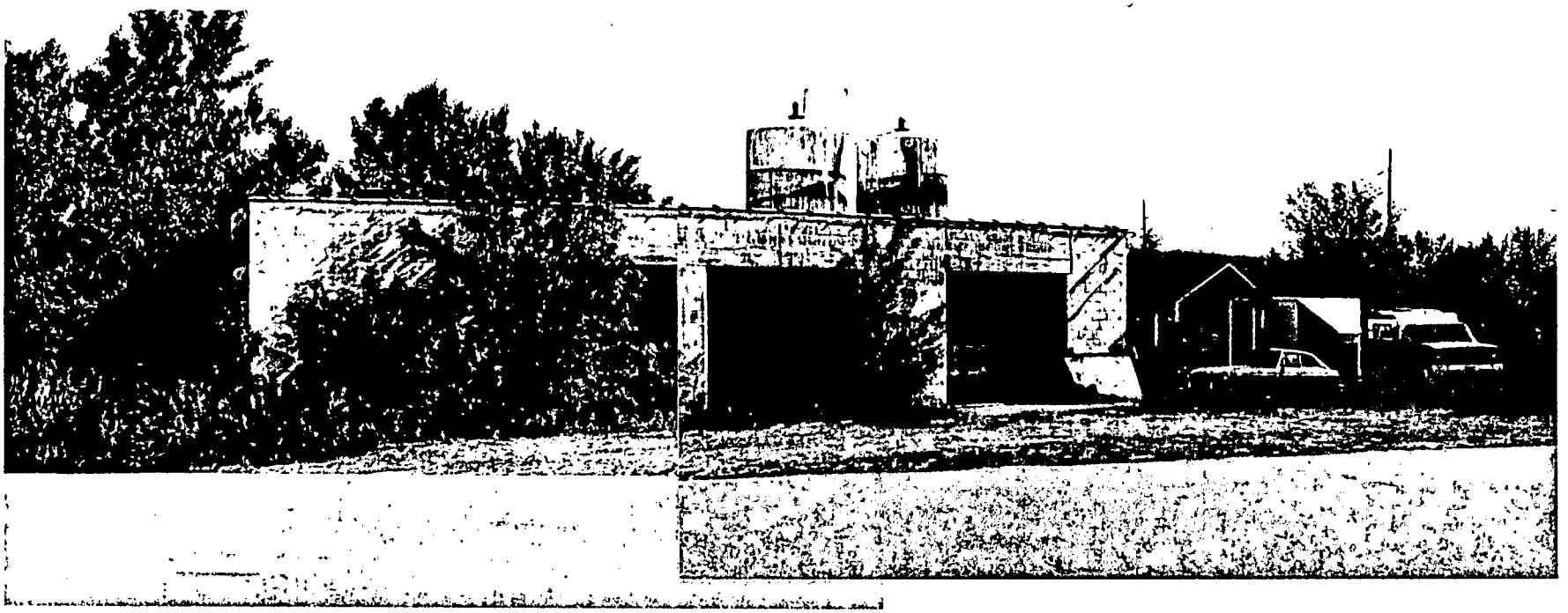


Photo 12

Former Pure Oil Bulk facility. Property currently owned by Wausau Chemical. Vertical tanks used for calcium chloride storage located in background. Photo looking south across E. Wausau Avenue.

Wausau Chemical
2001 N. River Drive

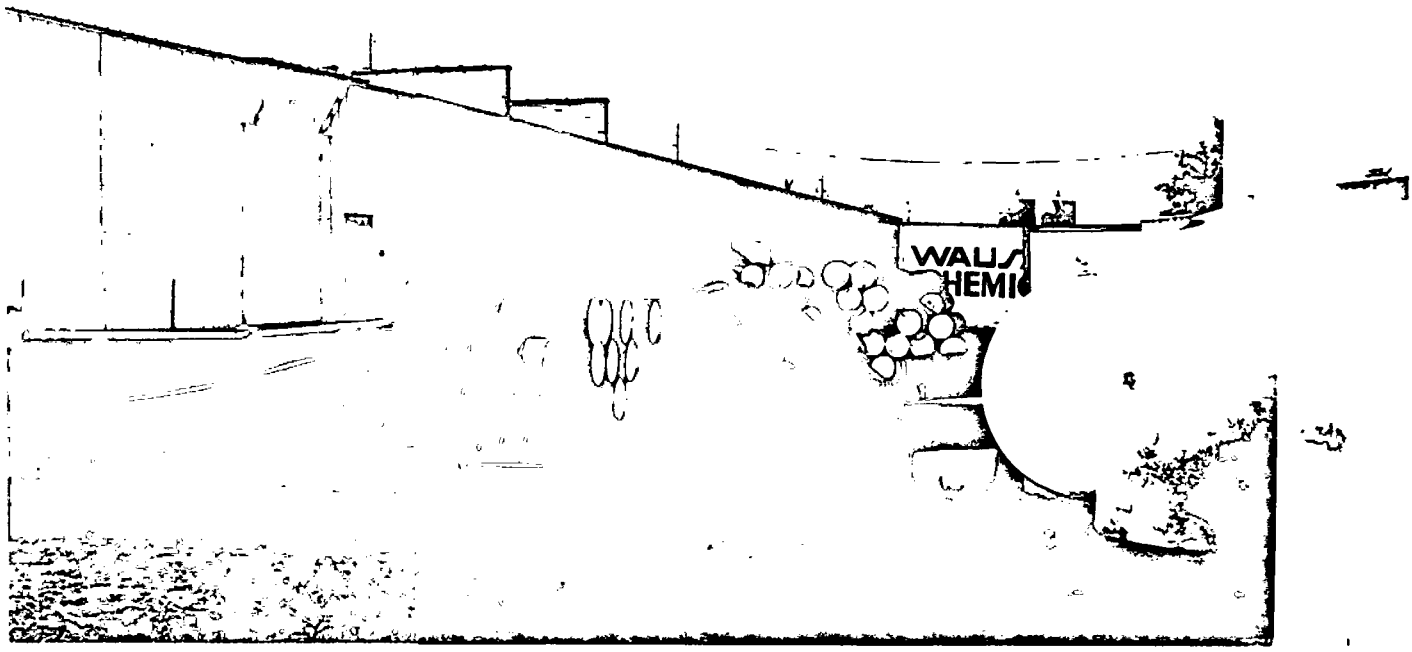


Photo 13

Empty drum storage area located east of Wausau Chemical building. View looking north from former bulk storage tank retainment area. Empty bulk storage tanks visible at right of photo.

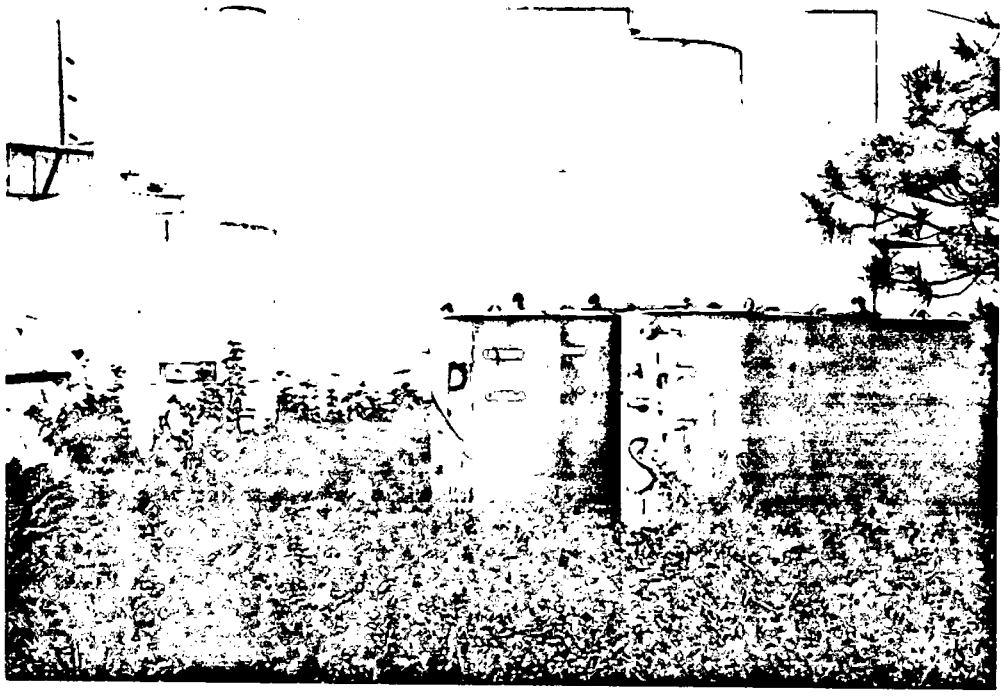


Photo 14

Vertical tanks formerly used for PCE storage. Large tanks in background were removed from south side of building after the December 19, 1983 spill. Tanks located in foreground are similar to the tank that ruptured during the February 1983 spill.

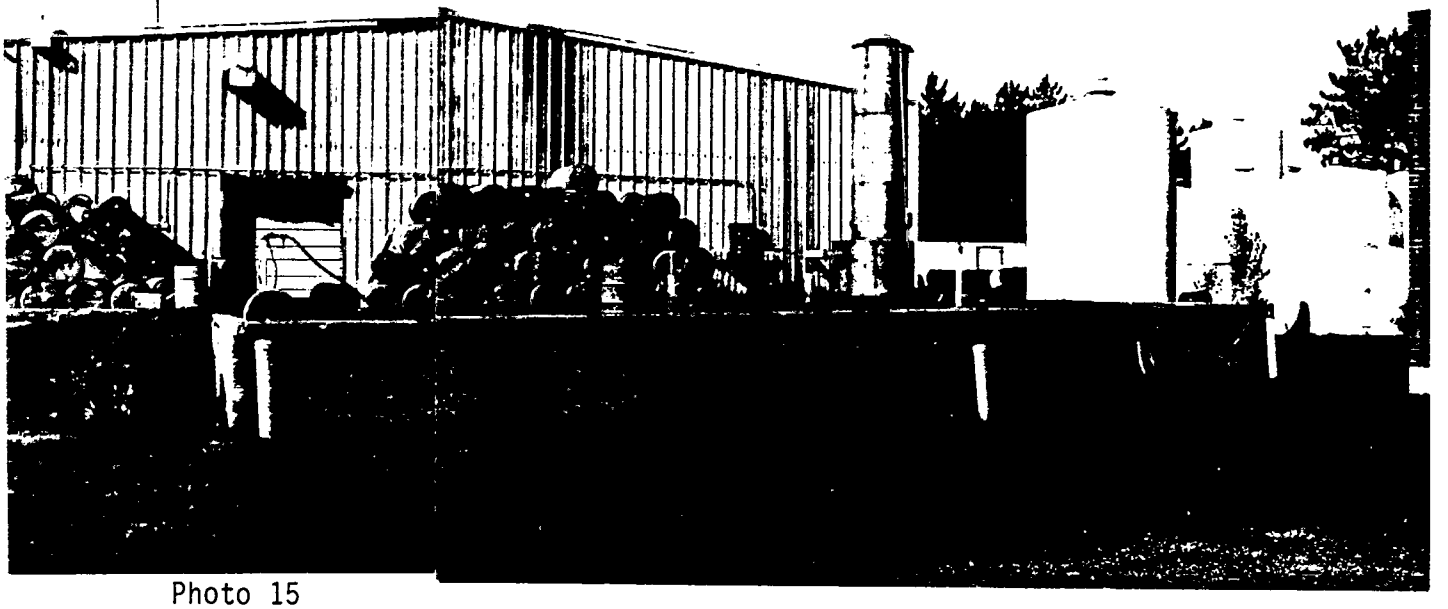


Photo 15

Wausau Chemical PCE extraction system. PVC extraction wells located in foreground, air stripper located at right center of photo. View looking northeast from filtration plant.

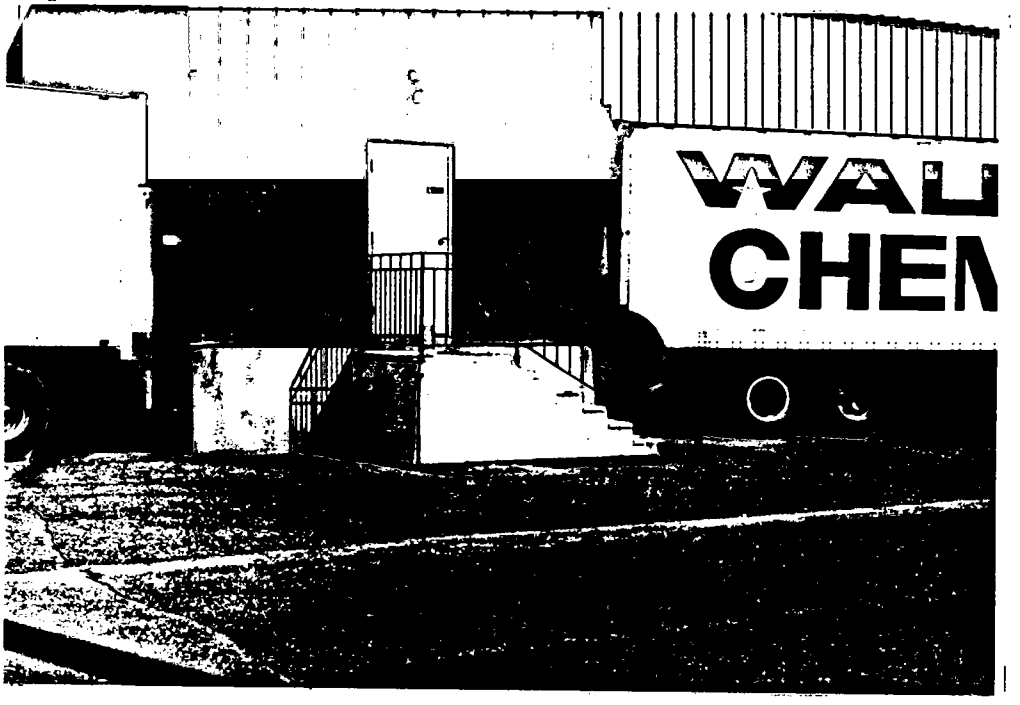


Photo 16

Wausau Chemical northwest loading dock, in vicinity of the February 1983 PCE release. Photo view looking east from N. River Drive.

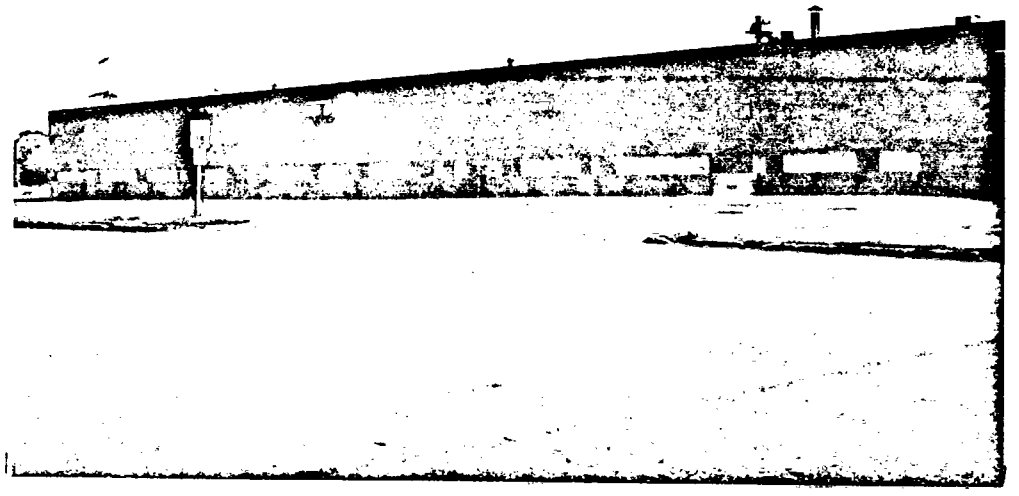


Photo 17

Marathon Electric foundry/fabrication building. View looking southeast from main entrance.

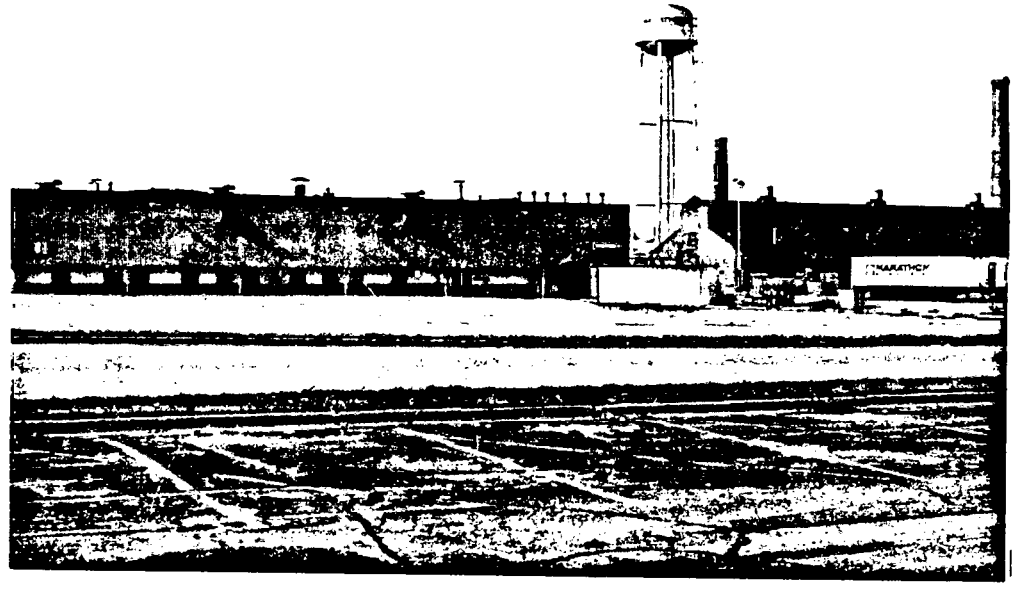


Photo 18

Marathon Electric assembly building and former foundry building (at far right). View looking northeast from main entrance.

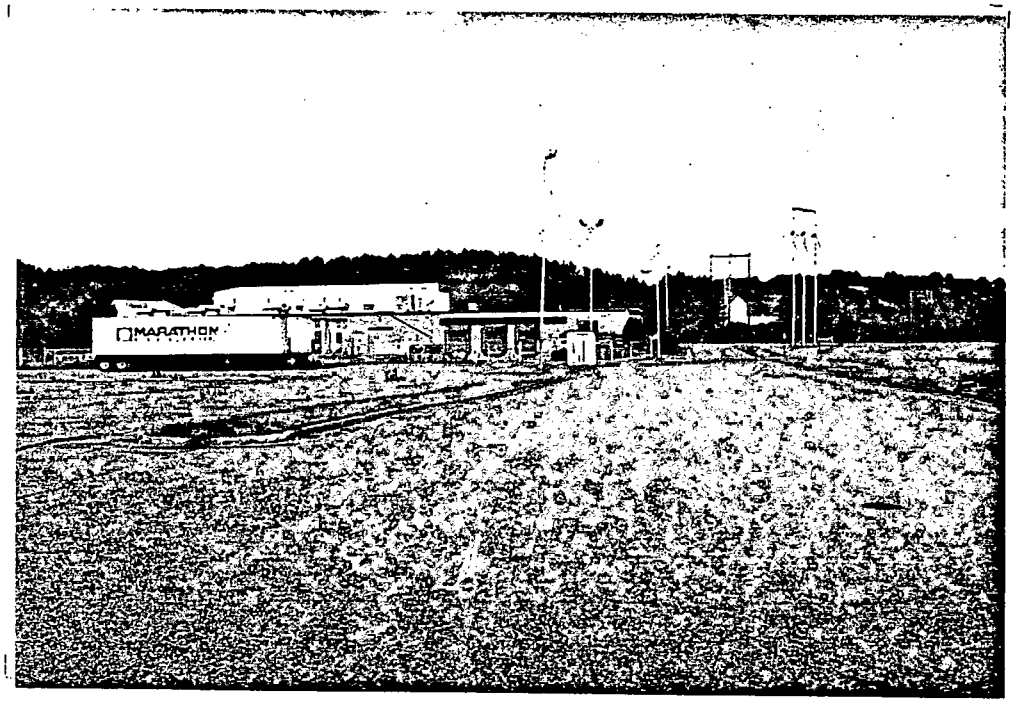


Photo 19

Marathon Electric painting and final assembly areas. Shipping located at right of building. View looking east from main entrance.

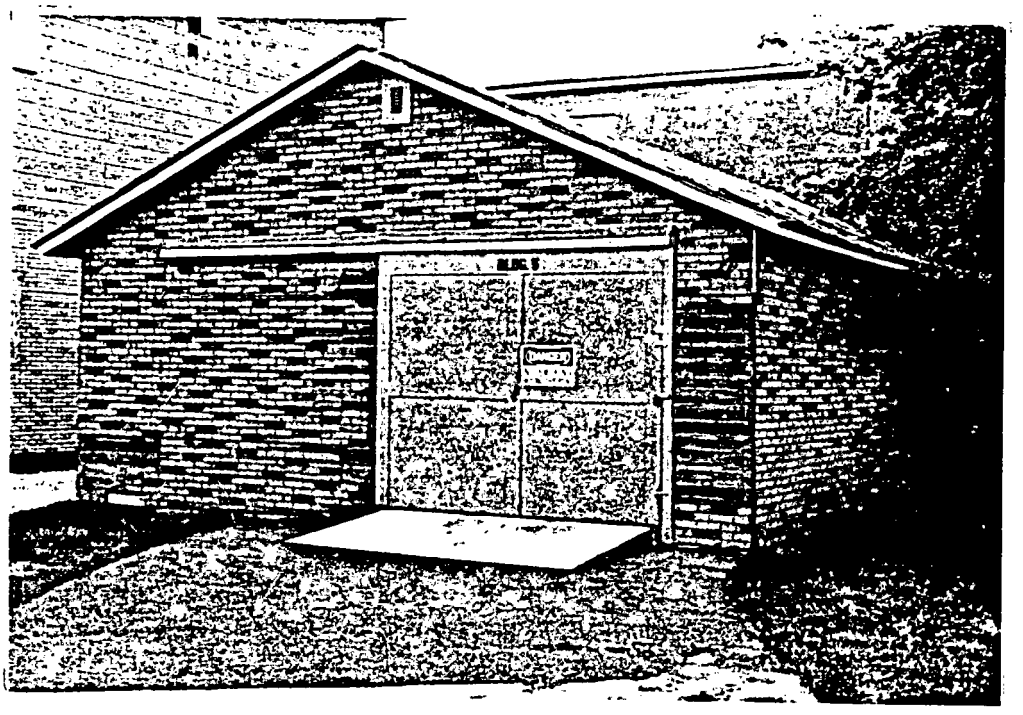


Photo 20

Marathon Electric hazardous waste storage building, located south of foundary. View looking toward southwest.

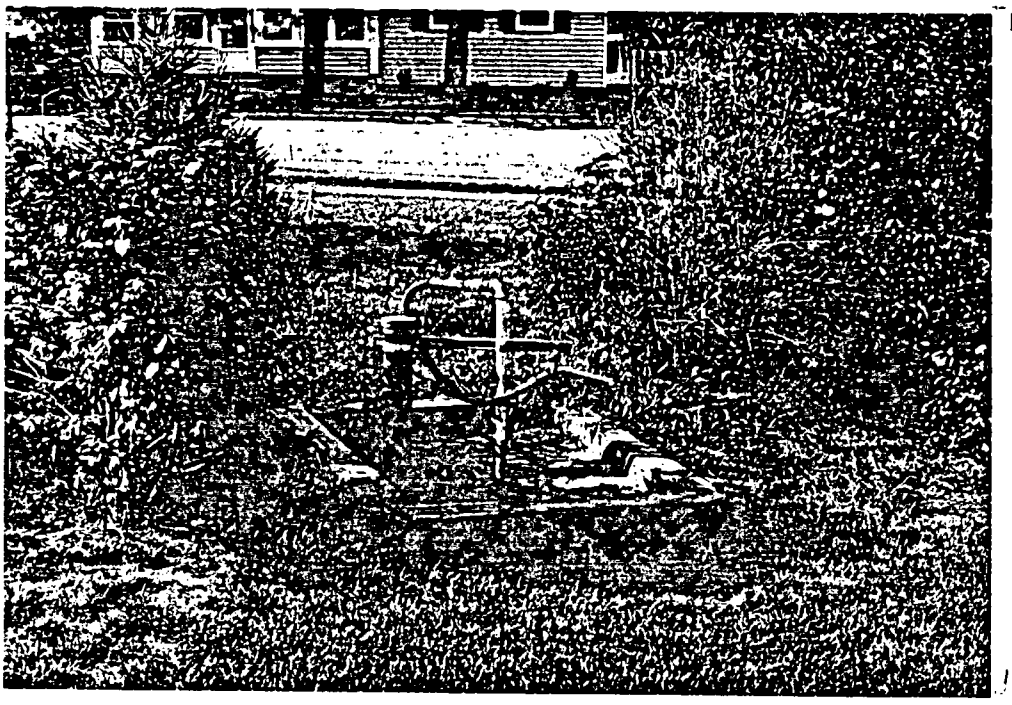


Photo 21

20,000 gallon xylene tank riser pipe. The tank is located on the north side of the Marathon Electric assembly building. Photo view looking north, Randolph Street in background.



Photo 22

Marathon Electric cafeteria, located on north side of assembly building. Several underground storage tanks were removed during the construction of the cafeteria in 1982.



Photo 23

Former Marathon Box Plant location. View looking southeast. Plant was razed and relocated in 1982.



Photo 24

Existing portion of Marathon Box Plant. View looking north.

Marathon Box
207 N. First

WARZYN



Photo 25

Marathon Box storage building. View looking northeast from main entrance.



Photo 26

Marathon Box storage building. Miscellaneous debris including pallets, drums and scrap metal in foreground.



Photo 27

Marathon Box storage yard. View looking north from main entrance.



Photo 28

Pit containing oil stained sawdust.

APPENDIX C

BORING AND TEST PIT LOGS

IMPORTANT INFORMATION
ABOUT YOUR
GEOTECHNICAL ENGINEERING REPORT

More construction problems are caused by site subsurface conditions than any other factor. As troublesome as subsurface problems can be, their frequency and extent have been lessened considerably in recent years, thanks to the Association of Soil and Foundation Engineers (ASFE).

When ASFE was founded in 1969, subsurface problems were frequently being resolved through lawsuits. In fact, the situation had grown to such alarming proportions that consulting geotechnical engineers had the worst professional liability record of all design professionals. By 1980, ASFE-*member consulting soil and foundation engineers had the best professional liability record.* This dramatic turn-about can be attributed directly to client acceptance of problem-solving programs and materials developed by ASFE for its members' application. *This acceptance was gained because clients perceived the* ASFE *approach to be in their own best interests.* Disputes benefit only those who earn their living from others' disagreements.

The following suggestions and observations are offered to help you reduce the geotechnical-related delays, cost-overruns and other costly headaches that can occur during a construction project.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

A geotechnical engineering report is based on a subsurface exploration plan designed to incorporate a unique set of project-specific factors. These typically include: the general nature of the structure involved, its size and configuration; the location of the structure on the site and its orientation; physical concomitants such as access roads, parking lots, and underground utilities, and the level of additional risk which the client assumed by virtue of limitations imposed upon the exploratory program. To help avoid costly problems, consult the geotechnical engineer to determine how any factors which change subsequent to the date of his report may affect his recommendations.

Unless your consulting geotechnical engineer indicates otherwise, *your geotechnical engineering report should not be used*:

- When the nature of the proposed structure is changed, for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one;
- when the size or configuration of the proposed structure is altered;
- when the location or orientation of the proposed structure is modified;
- when there is a change of ownership, or
- for application to an adjacent site.

A geotechnical engineer cannot accept responsibility for problems which may develop if he is not consulted after factors considered in his report's development have changed.

MOST GEOTECHNICAL "FINDINGS" ARE PROFESSIONAL ESTIMATES

Site exploration identifies actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing are extrapolated by the geotechnical engineer who then renders an opinion about overall subsurface conditions, their likely reaction to proposed construction activity, and appropriate foundation design. Even under optimal circumstances actual conditions may differ from those opined to exist, because no geotechnical engineer, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. For example, the actual interface between materials may be far more gradual or abrupt than the report indicates, and actual conditions in areas not sampled may differ from predictions. *Nothing can be done to prevent the unanticipated, but steps can be taken to help minimize their impact.* For this reason, *most experienced owners retain their geotechnical consultant through the construction stage,* to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

SUBSURFACE CONDITIONS CAN CHANGE

Subsurface conditions may be modified by constantly-changing natural forces. Because a geotechnical engineering report is based on conditions which existed at the time of subsurface exploration, *construction decisions should not be based on a geotechnical engineering report whose adequacy may have been affected by time.* Speak with the geotechnical consultant to learn if additional tests are advisable before construction starts.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical report. The geotechnical engineer should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a geotechnical engineering report. To help avoid these problems, the geotechnical engineer should be retained to work with other appropriate design professionals to explain relevant geotechnical findings and to review the adequacy

of their plans and specifications relative to geotechnical issues.

BORING LOGS SHOULD NOT BE SEPARATED FROM THE ENGINEERING REPORT

Final boring logs are developed by the geotechnical engineer based upon his interpretation of field logs (assembled by site personnel) and laboratory evaluation of field samples. Only final boring logs customarily are included in geotechnical engineering reports. *These logs should not under any circumstances be redrawn* for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process. Although photographic reproduction eliminates this problem, it does nothing to minimize the possibility of contractors misinterpretating the logs during bid preparation. When this occurs, delays, disputes and unanticipated costs are the all-too-frequent result.

To minimize the likelihood of boring log misinterpretation, *give contractors ready access to the complete geotechnical engineering report*. Those who do not provide such access may proceed under the *mistaken* impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes which aggravate them to disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY

Because geotechnical engineering is based extensively on judgement and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against geotechnical consultants. To help prevent this problem, geotechnical engineers have developed model clauses for use in written transmittals. These are *not* exculpatory clauses designed to foist the geotechnical engineer's liabilities onto someone else. Rather, they are definitive clauses which identify where the geotechnical engineer's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your geotechnical engineering report, and you are encouraged to read them closely. Your geotechnical engineer will be pleased to give full and frank answers to your questions.

OTHER STEPS YOU CAN TAKE TO REDUCE RISK

Your consulting geotechnical engineer will be pleased to discuss other techniques which can be employed to mitigate risk. In addition, the Association of Soil and Foundation Engineers has developed a variety of materials which may be beneficial. Contact ASFE for a complimentary copy of its publications directory.

Published by

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(608) 273-0440
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FIELD METHODS
for
EXPLORATION AND SAMPLING SOILS

A. Boring Procedures Between Samples

The bore hole is extended downward, between samples, by a continuous flight auger, driven and washed-out casing, or rotary boring with drilling mud or water.

B. Standard Penetration Test and Split-Barrel Sampling of Soils (ASTM* Designation: D 1586)

This method consists of driving a 2" outside diameter split barrel sampler using a 140 pound weight falling freely through a distance of 30 inches. The sampler is first seated 6" into the material to be sampled and then driven 12". The number of blows required to drive the sampler the final 12" is recorded on the log of borings and known as the Standard Penetration Resistance. Recovered samples are first classified as to texture by the driller. Later, in the laboratory the driller's classification is reviewed by a soils engineer who examines each sample.

C. Thin-walled Tube Sampling of Soils (ASTM* Designation: D 1587)

This method consists of forcing a 2" or 3" outside diameter thin wall tube by hydraulic or other means into soils, usually cohesive types. Relatively undisturbed samples are recovered.

D. Soil Investigation and Sampling by Auger Borings (ASTM* Designation: D 1452)

This method consists of augering a hole and removing representative soil samples from the auger flight or bucket at 5'0" intervals or with each change in the substrata. Relatively disturbed samples are obtained and its use is therefore limited to situations where it is satisfactory to determine approximate subsurface profile.

E. Diamond Core Drilling for Site Investigation (ASTM* Designation: D 2113)

This method consists of advancing a hole in hard strata by rotating downward a single tube or double tube core barrel equipped with a cutting bit. Diamond, tungsten carbide, or other cutting agents may be used for the bit. Wash water is used to remove the cuttings. Normally a 2" O.D. by 1 3/8" I.D. coring bit is used unless otherwise noted. The rock or hard material recovered within the core barrel is examined in the field and laboratory. Cores are stored in partitioned boxes and the length of recovered material is expressed as a percentage of the actual distance penetrated.

*American Society for Testing and Materials, Philadelphia, Pennsylvania

LOG OF TEST BORING

General Notes

Descriptive Soil Classification

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	¾" to 3"	¾" to 3"
Fine	4.76 mm to ¾"	#4 to ¾"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

GENERAL TERMINOLOGY

Physical Characteristics
Color, moisture, grain shape, fineness, etc.

Major Constituents
Clay, silt, sand, gravel

Structure
Laminated, varved, fibrous, stratified, cemented, fissured, etc.

Geologic Origin
Glacial, alluvial, eolian, residual, etc.

RELATIVE DENSITY

Term	"N" Value
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

RELATIVE PROPORTIONS OF COHESIONLESS SOILS

Proportional Term	Defining Range By Percentage of Weight
Trace	0%- 5%
Little	5%-12%
Some	12%-35%
And	35%-50%

CONSISTENCY

Term	q_u-tons/sq. ft.
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4-12%
Sedimentary Peat	12-50%
Fibrous and Woody Peat	More than 50%

PLASTICITY

Term	Plastic Index
None to Slight	0-4
Slight	5-7
Medium	8-22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" pentrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

Symbols

DRILLING AND SAMPLING

CS—Continuous Sampling
RC—Rock Coring: Size AW, BW, NW, 2" W
RQD—Rock Quality Designator
RB—Rock Bit
FT—Fish Tail
DC—Drove Casing
C—Casing: Size 2½", NW, 4", HW
CW—Clear Water
DM—Drilling Mud
HSA—Hollow Stem Auger
FA—Flight Auger
HA—Hand Auger
COA—Clean-Out Auger
SS—2" Diameter Split-Barrel Sample
2ST—2" Diameter Thin-Walled Tube Sample
3ST—3" Diameter Thin-Walled Tube Sample
PT—3" Diameter Piston Tube Sample
AS—Auger Sample
WS—Wash Sample
PTS—Peat Sample
PS—Pitcher Sample
NR—No Recovery
S—Sounding
PMT—Borehole Pressuremeter Test
VS—Vane Shear Test
WPT—Water Pressure Test

LABORATORY TESTS

q_p—Penetrometer Reading, tons/sq. ft.
q_u—Unconfined Strength, tons/sq. ft.
W—Moisture Content, %
LL—Liquid Limit, %
PL—Plastic Limit, %
SL—Shrinkage Limit, %
LI—Loss on Ignition, %
D—Dry Unit Weight, lbs./cu. ft.
pH—Measure of Soil Alkalinity or Acidity
FS—Free Swell, %

WATER LEVEL MEASUREMENT

▽—Water Level at time shown
NW—No Water Encountered
WD—While Drilling
BCR—Before Casing Removal
ACR—After Casing Removal
CW—Caved and Wet
CM—Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

UNIFIED SOIL CLASSIFICATION SYSTEM

COARSE-GRAINED SOILS

(More than half of material is larger than No. 200 seive size.)

GRAVELS More than half of coarse fraction larger than No. 4 sieve size	**Clean Gravels** (Little or no fines)	
	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
	Gravels with Fines (Appreciable amount of fines)	
	GM_u^d	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
SANDS More than half of coarse fraction smaller than No. 4 sieve size	**Clean Sands** (Little or no fines)	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with Fines (Appreciable amount of fines)	
	SM_u^d	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures

FINE-GRAINED SOILS

(More than half of material is smaller than No. 200 sieve.)

SILTS AND CLAYS Liquid limit less than 50%	**ML**	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit greater than 50%	**MH**	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	**PT**	Peat and other highly organic soils

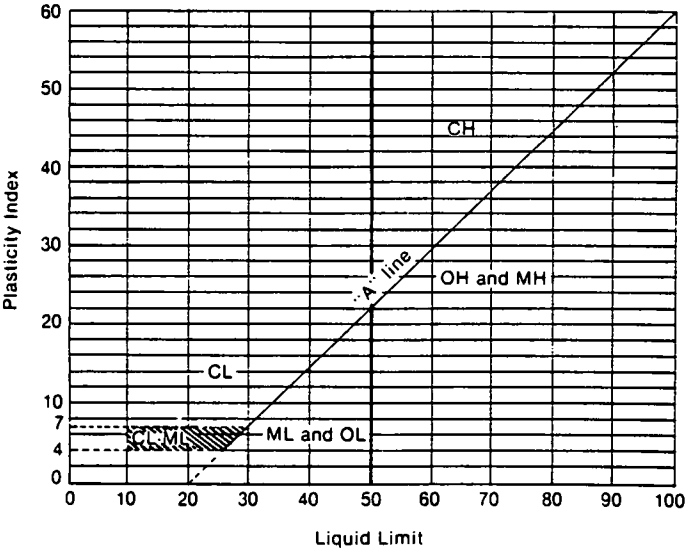
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 per cent ..... GW, GP, SW, SP
More than 12 per cent ..... GM, GC, SM, SC
5 to 12 per cent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



For classification of fine-grained soils and fine fraction of coarse-grained soils.

Atterberg Limits plotting in hatched area are borderline classifications requiring use of dual symbols.

Equation of A-line: PI = 0.73 (LL - 20)

APPENDIX C.1

PHASE I INVESTIGATION
BORING LOGS

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-20
Surface Elevation 1197.2
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Medium Dense to Very Dense Brown Fine to Coarse SAND, Little to Some Fine Gravel and Silt (SP)					
1			M	34	5				0.0		
2		12	M	113	10				0.0		
3		12	W	54	15				0.0		
4		6	W	26	20				0.0		51.9
5		6	W	13	25				0.0		
6		6	W	24	35				0.0		11.3
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 13.0
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/23/87 End 10/27/87
Crew Chief JW Rig D-50
Drilling Method 3 1/4" HSA
0-4.5', 5 7/8" RB/DM
4.5-79.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-20
Surface Elevation 1197.2
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
					45	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel and Silt (SP)					
7		6	W	60	50				0.0		ND
					55						
					60						
8		3	W	42	65	Grades Fine to Medium SAND, Little Silt, Trace Fine Gravel near 64' (SP)			0.0		ND
					70						
					75						
9			W	54	80				0.0		ND
					85	End Boring at 80.5'					

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-21
Surface Elevation 1195.2
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Earth Drilled to 29'					
						FILL: Granite Cuttings					
					5						
					10						
						▽					
					15	Dense Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP) Visual Description based on Cuttings and Drilling Action					
					20						
					25						
1A		6	W	78					0.0		
1B		18	W	76	30				0.0		
						Contract Lab Soil Sample WE-SE21-31-01					
					35	Earth Drilled to 89'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 14.0
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/11/87 End 11/14/87
Crew Chief MK Rig
Drilling Method RB/DM 0-132'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-21
Surface Elevation 1195.2
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Fine to Coarse SAND with Trace to Little Gravel Based on Drilling Action and Cuttings Earth Drilled to 89'					
					50						
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-21
Surface Elevation 1195.2
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=%	Moisture	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Earth Drilled to 89'					
2		12	W	16	90	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)			0.0		1.05
					95						
					100						
3		18	W	113	105				0.0		BMDL
					110						
					115						
4		12	W	110	120				0.0		ND
					125	Probable GRAVEL, Based on Drilling Action and Cuttings					
					130	Contract Lab Water Sample and Duplicate WE-GE21-133-01, WE-GE21-133-91					

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-21
Surface Elevation 1195.2
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Probable GRAVEL, Basd on Drilling Action and Cuttings					1.98
					135	Weathered BEDROCK at 132' Based on Drilling Action and Drilling Mud Color Change					
						End Boring at 133'					
					140						
					145						
					150						
					155						
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-21A
Surface Elevation 1195.5
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					5	Earth Drilled to 22.0'. Visual description based on cuttings. Reddish Brown SAND & GRAVEL with Chips of Granite (FILL)					
					10						
					15	Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP) Visual Description based on Cuttings and Drilling Action					
					20						
					25	End Boring at 22'					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/13/87 End 11/13/87
Crew Chief MK Rig CME 750
Drilling Method HSA 0-22'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-22A
Surface Elevation 1196.4
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 22.0'
Refer to Boring Log E-22 for Soil Classification from 0-22.0'

End Boring at 22'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/13/87 End 11/13/87
Crew Chief MK Rig CME 750
Drilling Method HSA 0-22'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-22
Surface Elevation 1196.1
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
						FILL: Foundry Sand					
1		18	M	25	5	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)			0.0		
2		18	M	30	10				0.0		
3		18	W	68	15				0.0		
4		12	W	22	20				0.0		12.2
5		12	M	23	25				0.0		
6		12	W	16	35				0.0		ND
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/12/87 End 10/13/87
Crew Chief JW Rig D-50
Drilling Method FA 0-5';
RB/DM 5-95'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-22
Surface Elevation 1196.1
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)					
7		14	W	36	50				0.0		ND
					55						
					60						
8		12	W	70	65				0.0		ND
					70						
					75						
9		1	W	100 /3"	80				0.0		ND
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-22
Surface Elevation 1196.1
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					90	Medium Dense to Very Dense Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)					
10		12	W	79	95				0.0		ND
						End Boring at 96.5'					
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-23A
Surface Elevation 1198.2
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Loose, Black Organic SILT (OL)					
1		18	M	16	5	Stiff Reddish Brown Fine Sandy CLAY (CL)	(1.25)		0.2		
						Very Dense, Brown Medium to Coarse SAND, Little Fine Gravel, Trace Silt (SP)					
2		18	M	73	10				0.2		
3		8	M/W	36	15				0.2		
4		10	W	22	20				0.2		
											41.1
					25	End Boring at 21.4'					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 14.7
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/30/87 End 10/30/87
Crew Chief LE Rig CME 750
Drilling Method 4 1/4" HSA
0-21.4'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-24A
Surface Elevation 1209.0
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=%	Moisture	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						FILL: Sand and Gravel			0.4		
1		12	M	30	5				0.4		
2		0		100		Medium to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)					
3		4	M	91	10				0.3		
4		0	M	47	15				0.3		
5		10	M	26	20						
6		8	W	23 ▽	25				0.4		
					30						400.1
7		16	W	12	35				0.5		
					40	End Boring at 35'					

WATER LEVEL OBSERVATIONS

While Drilling ▽ 24.1
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/13/87 End 10/13/87
Crew Chief LE Rig CME 45
Drilling Method 4 1/4" HSA
0-35'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-24
Surface Elevation 1208.5
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					5	Earth Drilled to 24.0' Refer to Boring Log E-24A for Soil Description and Classification from 0-35.0'					
					10						
					15						
					20						
					25						
					30						
					35	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)					
1			W	32	40				0.0		1.43

WATER LEVEL OBSERVATIONS

While Drilling ▽ 24.0
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/14/87 End 10/19/87
Crew Chief JW Rig D-50
Drilling Method 5 7/8" RB/DM 0-70'; 3 7/8" RB/DM 70-85.7'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-24
Surface Elevation 1208.5
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Contract Lab Water Sample WE-GE24-40-01					
					45	Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel, Trace Silt (SP)					
2		12	W	78	50				0.0		
					55						1.25
3		12	W	46	60						
					65						
4		9	W	69	70						BMDL
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-24
Surface Elevation 1208.5
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
					90	End Boring at 85.7' *Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					
					95						
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-25
Surface Elevation 1211.7
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little Fine Gravel (SP)					
1		18	M	72	5				0.2		
2		18	M	156	10				0.2		
3		12	M	144	15				0.6		
4		8	M	80	20	Grades to Trace Fine Gravel near 19'			0.3		
5		10	W	85	25 ▽	Grades to Little Fine Gravel near 25'			0.6		
6		0		71	30	No Sample Recovery					BMDL
7		6	W	36	35				0.4		
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 25.0
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/12/87 End 10/20/87
Crew Chief LL Rig CME 750
Drilling Method RB/DM 0-154'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-25
Surface Elevation 1211.7
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
8		3	W	19	45	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little Fine Gravel (SP)			0.8		BMDL
9		6	W	31	55				0.3		ND
10		6	W	44	65				0.6		
11		5	W	47	75				0.4		ND
12		13	W	87	85	1" Layer of Fine Gravel near 84.5'			0.4		

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-25
Surface Elevation 1211.7
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					90	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little Fine Gravel (SP)					ND
13		10	W	94	95				0.8		
					100						
14		8	W	86	105				0.6		ND
					110						
15		0		128	115	No Sample Recovery					
					120	Contract Lab Water Sample and Duplicate taken at 120', WE-GE25-120-01, WE-GE-120-91					
16		0		48	125	No Sample Recovery					
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-25
Surface Elevation 1211.7
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Probable 12" Gravel Layer near 130' Based on Drilling Action and Cuttings					
17	■	0		70	135	No Sample Recovery					BMDL
					140						
18	■	1	W	130	145	Very Dense, Reddish Brown Clayey GRAVEL (GC) (Possible Cobbles based on Drilling Action)					
					150	Contract Lab Water Sample at 154' WE-GE25-01					
19	■	1	M	192	155	End Boring at 154'			0.2		BMDL
					160	Probable Bedrock at 154', based on split spoon refusal, drilling action, and drilling mud color change.					
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-25A
Surface Elevation 1211.7
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%

No.	T	Moisture	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 37.5'
Refer to Boring Log E-25 for Description and Classification from 0-37.5'

End Boring at 37.5'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽ 27.9
Upon Completion of Drilling ▽
Time After Drilling 1/4 hr
Depth to Water 27.35'
Depth to Cave in

GENERAL NOTES

Start 10/22/87 End 10/22/87
Crew Chief LL Rig CME 750
Drilling Method 4 1/4" HSA
0-37.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-26
Surface Elevation 1196.7
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Earth Drilled to 33.5', Refer to Boring Log E-26A for Soil Description and Classification from 0-33.5'					
1			W	22	35	Medium Dense, Brown Fine GRAVEL, Little Medium Sand (GP)					ND

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/9/87 End 11/9/87
Crew Chief MK Rig CME 750
Drilling Method 3 7/8" RB/DM 0-96'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-26
Surface Elevation 1196.7
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Medium Dense, Brown Fine GRAVEL, Little Medium Sand (GP)					
2			W	52	50	Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)					ND
					55						
					60						
3			W	61	65						ND
					70						
					75						
4			W	104	80						ND
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-26
Surface Elevation 1196.7
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					90	Very Dense Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)					
5			W	54	95						
						End Boring at 96'					
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-26A
Surface Elevation 1196.6
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
						Medium Dense to Very Dense, Brown Fine to Coarse SAND, Little to Some Gravel (SP)					
1			M	34	5						
2			M	53	10	Collected Contract Lab Soil Sample from 11.5 to 14' WE-SE26A-14-01					
3			W	24	15						
4			W	8	20	Loose Brown Fine GRAVEL, Little Medium Sand (GP)					
					25	End Boring at 23'					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/6/87 End 11/6/87
Crew Chief PD Rig CME 750
Drilling Method 4 1/4" HSA
0-23'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-27
Surface Elevation 1196.3
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 89'
Approximately 15' of Granitic Fill Based on Drilling Action and Cuttings (FILL)

Fine to Coarse SAND with Some Gravel (Based on Drilling Action and Cuttings) (SP)

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽ 12.0
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/30/87 End 11/30/87
Crew Chief JW Rig D-50
Drilling Method RB/DM
0-139.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-27
Surface Elevation 1196.3
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Earth Drilled to 89' Fine to Coarse SAND with Some Gravel (Based on Drilling Action and Cuttings)					
					50						
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-27
Surface Elevation 1196.3
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
1	■	7	W	67	90	Medium Dense to Very Dense, Brown Fine to Medium SAND, Little Fine Gravel (SP)			0.0		ND
					95						
					100						
2	■	12	W	86	105				0.0		
					110						
					115						BMDL
					120						
3	■	8	W	146	125				0.0		BMDL
4	■	2	W	156	130				0.0		

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-27
Surface Elevation 1196.3
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Very Dense, Reddish Brown Fine to Coarse GRAVEL (GP) Drove Stone					
					135	Drilling Mud Color Change to Dark Reddish Brown at 135' Probable Weathered Bedrock					532.0
					140	End Boring at 139.5'					
					145						
					150						
					155						
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-28A
Surface Elevation 1212.1
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						8" TOPSOIL			0.3		
1		14	M	48		Medium Dense to Dense Brown Fine to Coarse SAND, Little to Some Fine Gravel, Little Silt (SP)			0.4		
					5						
2		12	M	24					0.3		
					10						
3		0		47					0.3		
					15	No Sample Recovery					
4		5	M	34					0.3		
					20						
5		5	M	45					0.3		
					25						
					30						
6		3	W	17					0.3		
					35						
						End Boring at 37'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 27.8
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/13/87 End 10/13/87
Crew Chief LE Rig CME 45C
Drilling Method 4 1/4" HSA
0-37'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-29A
Surface Elevation 1200.8
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
						Loose, Brown Organic SILT (OL) (Topsoil)					
						FILL: Sand, Fine Gravel and Clay					
1		6	M	7							
					5						
						Very Dense to Medium Dense, Brown Medium to Coarse SAND, Little to Some Fine to Coarse Gravel (SP)					
2		6	M	61							
					10						
3		2	M/W	100 /6"							
					15	Split Spoon Refusal due to Probable 12" Coarse Gravel Layer near 15.0'					
4		4	W	47 ▽							
					20						
5			W	21							
					25						
					30	End Boring at 29'					
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 19.1
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/23/87 End 10/23/87
Crew Chief LE Rig CME 750
Drilling Method 4 1/4" HSA
0-29'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-30
Surface Elevation 1202.1
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
						Sand, Gravel and Fragments of Granite (FILL)					
1		18	M	40					0.0		
					5	Dense to Very Dense Fine to Coarse SAND with GRAVEL (SP-GP)					
2		4	M	100/6"					0.0		
					10						
3		12	M	99					0.0		
					15						
4		0	M	32					0.0		
					20	Medium to Very Dense, Brown Fine to Medium SAND, Trace to Little Fine Gravel, Trace Silt (SP)					
5		12	M/W	53					0.0		BMDL
					25						
					30						
					35						
6		12	W	12					0.0		ND
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 20.0
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/28/87 End 10/30/87
Crew Chief JW Rig D-50
Drilling Method FA 0-4'
5 7/8" RB/DM 4-134'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-30
Surface Elevation 1202.1
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=%	Moisture	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
					45	Medium to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)					
					50	Medium Dense to Very Dense Brown Fine to Medium SAND, Trace Fine Gravel, Trace Silt (SP)					
7		8	W	57	55				0.0		ND
					60						
					65						
8		6	W	79	70				0.0		ND
					75						
9		8	W	75	80				0.0		ND
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-30
Surface Elevation 1202.1
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
10		8	W	64	90	Medium to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)			0.0		BMDL
					95						
11		8	W	69	100				0.0		ND
						Obtained Contract Lab Water Sample WE-GE30-100-01 at 100'					
					105						
12		6	W	114	110				0.0		BMDL
					115	Very Dense, Brown Fine to Coarse SAND with Some Coarse Gravel (SP)					
13		12	W	92	120				1.5		ND
					125						
14		6	W	100	130				1.0		

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-30
Surface Elevation 1202.1
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
				/18"		Very Dense, SAND & GRAVEL (SP-GP)					
15		0	W	150					1.0		6.62
				/12"							
					135	End Boring at 134.0'					
					140						
					145						
					150						
					155						
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-31
Surface Elevation 1201.6
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
						FILL: Sand and Gravel					
1			M	71	5						
2			M	78	10						
3			M	100/6"	15						
4			M	60	20						
5			W	86	25	Contract Lab Soil Sample obtained at 25', WE-SE31-25					ND
					30	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					
6			W	21	35						ND
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/2/87 End 11/5/87
Crew Chief LE Rig CME 750
Drilling Method 3 7/8" RB/DM
0-136'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-31
Surface Elevation 1201.6
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					
					50						
7			W	53	55						ND
					60						
					65						
8			W	40	70						ND
					75						
9			W	76	80						ND
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-31
Surface Elevation 1201.6
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
10			W	145	90	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					ND
					95						
11			W	80	100						ND
					105	Medium Dense to Very Dense, Brown Fine to Medium SAND, Trace Gravel (SP)					
12			W	92	110						ND
					115						
13			W	86	120						ND
					125						
14			W	97	130	Very Dense GRAVEL with Sand (GP)					ND

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-31
Surface Elevation 1201.6
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
15			W	100/2"	135	Probable Bedrock at 135' (Based on Drilling Action and Split Spoon Refusal)					4.3
						End Boring at 136'					
					140						
					145						
					150						
					155						
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-32
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 14', Visual Description based on Cuttings

FILL: Reddish Brown Sand and Gravel

Contract Lab Soil Sample obtained from 10-14'; WE-SE32-14-01

Contract Lab Groundwater Sample obtained at 14' WE-GE32-14-01

End Boring at 14'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
				963.0

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-14'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-33
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

No.	T	Recovery " R=%	Moisture	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 14'. Visual Description based on Cuttings

FILL: Reddish Brown Sand and Gravel

Contract Lab Soil Sample obtained at 10' to 14' WE-SE33-14-01

Groundwater Sample obtained at 14' WE-GE33-14-01

End Boring at 14'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
				380.0

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-14'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-34
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

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SAMPLE

Recovery " R=%	Moisture			
No.	T	↓	↓	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 14'. Visual Description based on Cuttings

FILL: Reddish Brown Sand and Gravel

Contract Lab Soil Sample obtained from 10-14', WE-SE33-14-01
Groundwater Sample obtained at 14'
WE-GE34-14-01

End Boring at 14'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
				73.5

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-14'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-35
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

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SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Earth Drilled to 20'. Visual Description based on Cuttings					
						Brown Sand, Gravel and Cobbles (FILL)					
					5						
					10						
						Contract Lab Soil Sample taken from 13.0 to 16.0', WE-SE35-16-01					
					15						
											8200.0
						Contract Lab Groundwater Sample obtained at 18', WE-GE35-18-01					
					20						
						End Boring at 20'					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-20'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-36
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 17.5'. Visual Description based on Cuttings.
Brown Sand and Gravel

Contract Lab Soil Sample obtained from 10-13', WE-SE36-13-01

Contract Lab Groundwater Sample obtained at 16', WE-GE36-16-01

End Boring at 17.5'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
				20.9

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-17.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. E-37
Surface Elevation 1198.3
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

No.	T	Recovery " R=% ↓	Moisture ↓	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 26.0'. Visual Description based on Cuttings
Brown SAND and GRAVEL

Contract Lab Soil Sample obtained from 14-16', WE-SE37-16-01

End Boring at 26'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-26'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. E-38
Surface Elevation
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 18.0'. Visual Description Based on Cuttings
Brown SAND and GRAVEL

Contract Lab Soil Sample obtained from 14-16', WE-SE38-16-01

Contract Lab Groundwater Sample obtained at 18', WE-GE38-18-01

End Boring at 18'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
				BMDL

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/13/87 End 11/13/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA
0-18'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-50
Surface Elevation 1213.3
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						TOPSOIL					
						FILL: Sand, Gravel and Clay					
1		12	M	75	5	Medium Dense to Very Dense, Brown Medium to Coarse SAND, Little to Some Fine Gravel (SP)					
2		8	M	31	10				1.2		
3		8	M	50	15	Grades to Coarse Sand near 15'			0.0		
4		4	M	53	20				0.0		
5		4	M/W	67	25 ▽				0.0		
					30	Medium Dense, Brown, Fine to Coarse SAND, Trace Silt (SP)					
6		5	W	22	35	Grades More Coarse and More Dense					50.8
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 25.0
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/26/87 End 10/27/87
Crew Chief LE Rig CME 750
Drilling Method RB/DM 0-85'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-50
Surface Elevation 1213.3
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
7	■	8	W	52	45	Medium to Very Dense, Brown Medium to Coarse SAND, Little to Some Fine Gravel (SP)					38.6
8	■	8	W	40	55						29.3
9	■	6	W	30	65						BMDL
10	■	8	W	45	75						BMDL
11	■	10	W	23	85	Grades to Fine to Medium Sand, Trace Fine Gravel, Trace Silt					ND

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-50
Surface Elevation 1213.3
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					90	End Boring at 85'					
					95						
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-51A
Surface Elevation 1222.2
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
						Dark Brown Organic SILT (Topsoil) (OL)					
						Loose to Medium Dense, Brown Fine to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					
1	■	14	M	22	5				0.3		
2	■	9	M	9	10				0.0		
3	■	8	M	7	15						
4	■	12	M	17	20						
5	■	9	M	25	25				0.1		
6	■	10	W	15 ▽	30 35				0.0		
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 34.2
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/15/87 End 10/15/87
Crew Chief LE Rig CME 45C
Drilling Method 4 1/4" HSA
0-45'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-51A
Surface Elevation 1222.2
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Loose to Medium Dense, Brown Fine to Coarse SAND, Little to Some Gravel, Trace Silt (SP)					
7		20	W	26	45				0.0		
						End Boring at 45'					
					50						
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-52
Surface Elevation 1216.5
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Gray to Brown Sandy SILT (Topsoil)					
1		12	M	21		Medium to Very Dense, Brown Medium to Coarse SAND, Trace Gravel (SP)			0.0		
					5						
2		12	M	39					0.0		
					10						
3		12	M	39					0.0		
					15						
4		4	M	83		Very Dense, Brown Fine to Coarse SAND and GRAVEL (SP-GP)			0.0		
					20						
5		6	M	72		Dense to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)			0.0		
					25						
6A		6	M	23					0.0		
					30						
6B		12				Contract Lab Soil Sample obtained at 32.0', WE-SW52-32-01			0.0		
6C		8							0.0		
					35						
7		8	M	31					0.0		
					40						ND

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/2/87 End 11/10/87
Crew Chief MP Rig Canterra
Drilling Method 4 1/4" HSA
0-5', 5 7/8" RB/DM
5-152'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-52
Surface Elevation 1216.5
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Medium to Very Dense, Brown Fine to Coarse SAND, Little to Some Fine Gravel (SP)					
8		8	W	44	50				0.0		
					55						ND
9		8	W	21	60				0.0		ND
					65						
10		8	W	42	70				0.0		BMDL
					75						
11		12	W	81	80				0.0		BMDL
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-52
Surface Elevation 1216.5
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T			N	Depth						
12		6	W	79		Medium to Very Dense, Brown Fine to Coarse SAND, Little Silt (SP)			0.0		BMDL
					90						
					95						
13		6	W	103				30.0	0.2		30.0
					100	Water sample taken for Contract Lab at 100', WE-GW52-100					
					105						
14		6	W	165		Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP)		71.8	0.0		71.8
					110						
					115						
15		12	W	150					0.2		653.0
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. W-52
Surface Elevation 1216.5
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					135	Earth drilled from 131.0' to 152.0', Fine to Coarse Sand, Based on Cuttings and Drilling Action		30.4			
					140						
					145	Probable GRAVEL Layer from 143' to 150' Based on Drilling Action					
					150	Probable SAND Layer Based on Drilling Action					
					155	End Boring at 152.0'					
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-52A
Surface Elevation 1216.8
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%	Moisture		
No.	T	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 36.0', Refer to Boring Log W-52 for Description and Classification from 0 to 36'

End Boring at 36'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/12/87 End 11/12/87
Crew Chief MK Rig CME 750
Drilling Method 4 1/4" HSA 0-36'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-53A
Surface Elevation 1217.6
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						6" Bituminous Asphalt					
1	■	6	M	7		FILL: Concrete, Bricks, Miscellaneous Rubble					
					5						
2	■	1	M	110							
					10						
3	■	3	M	57							
					15	Dense to Very Dense, Brown Medium to Coarse SAND, Little Fine Gravel, Trace Silt (SP)					
4	■	12	M	32							
					20	Contract Lab Soil Sample obtained at 20', WE-SW53A-20-01					
5	■	18	M/W	50							
					25						
					30	▽					
6	■	18	W	96							
					35						
						Contract Lab Soil Sample obtained at 40', WE-SW53A-40-01					49.0
7	■	24	W	205	40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.9
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/2/87 End 11/2/87
Crew Chief JW Rig D-50
Drilling Method 4 1/4" HSA
0-41.3'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-53A
Surface Elevation 1217.6
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	End Boring at 41.3'					
					50						
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. W-53
Surface Elevation 1217.5
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Earth Drilled to 43.5' Refer to Boring Lot W-53A for Soil Description and Classification from 0-43.5'.					
					5						
					10						
					15						
					20						
					25						
					30 ▽						
					35						33.4
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.0
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/2/87 End 11/2/87
Crew Chief JW Rig D-50
Drilling Method 5 7/8" RB/DM
0-171.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-53
Surface Elevation 1217.5
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
1	■	6	W	31	45	Medium to Very Dense, Brown Fine to Coarse Sand, Trace to Little Fine Gravel, Trace of Silt (SP)					
2	■	6	W	29	55						142.0
3	■	4	W	50	65						790.0
4	■	8	W	125	75	Contract Lab Groundwater Sample obtained at 75', WE-GW53-75-01					1532.0
5	■	6	W	100	85	Very Dense Brown Fine to Medium SAND, Little Silt (SP)					1320.0

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-53
Surface Elevation 1217.5
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=% ↓	Moisture ↓	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
					90	Very Dense Brown Fine to Medium SAND, Little Silt (SP)					
6	■	8	W	239	95						2116.0
					100	Very Dense, Fine Brown SAND, Trace to Little Silt (SP)					
7	■	8	W	130	105						
					110						
8	■	6	W	92	115						2280.0
					120						
9	■	10	W	124	125						2038.0
					130	Contract Lab Groundwater Sample obtained at 125', WE-GW53-125-01					

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-53
Surface Elevation 1217.5
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
10	■	6	W	130/6"	135	Very Dense, Brown Fine to Medium SAND, Little Silt (SP)					60.9
					140	Probable GRAVEL Layer from 137 to 142', Based on Drilling Action and Cuttings					
11	■	13	W	102	145	Very Dense Brown Fine to Medium SAND, Little Silt (SP)					393.0
					150						
12	■	6	W	162	155						112.0
					160	Lost approximately 150 gal of drilling mud near 162'					
13	■	3	W	100/3"	165	Silty GRAVEL (GM) Possible fraction rock zone near 162' (Based on Drilling Action, Split Spoon Sample and Lost Circulation Difficult Drilling Encountered from 162 to 171.5'					
					170						
					175	End Boring at 171.5'					

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. W-54X
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth		qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						6" Bituminous Asphalt					
						Red to Black Fine to Coarse SAND, Some Crushed Rock (Fill)					
1			M	34	5	Medium Dense, Reddish Brown, Fine to Medium SAND, Trace Silt (SP)		0.4			
						End Boring at 5'					
					10						
					15						
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 11/11/87 End 11/11/87
Driller _____ Chief JW Rig D 51
Logger CSR Editor _____
Drill Method _____

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-54
Surface Elevation 1216.9
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						6" Bituminous Asphalt					
1		14	M	47		FILL: Foundry Sand, Slag, Concrete, Bricks and Miscellaneous Rubble			0.4		
2		1	M	20	5				0.4		
3		12	M	16		Sample and Duplicate WE-SW54-5-01, We-SW54-5-91			0.4		
					10	Loose, Brown Silty Fine to Medium SAND, Little Fine Gravel (SM)					
4		3	M	6							
					15						
5		12	M	61		Dense to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)			0.2		
6		12	M	66	20	Contract Lab Soil Sample WE-SW54-20-01			0.2		
						Lost approximately 150 gal of drilling mud from 17 to 34'					
7		8	M	42	25				0.2		
8		6	W	77		Contract Lab soil sample WE-SW54-30-01					
9		12	W	82	30						
					35						396.0
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.0
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 11/11/87 End 11/12/87
Crew Chief JW Rig D-50
Drilling Method HSA 0-5'
5 7/8" RB/DM 5-87.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-54
Surface Elevation 1216.9
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
10		16	W	72	45	Dense Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP)			0.3		313.0
11		10	W	37	55				0.6		48.9
12		8	W	42	65				0.4		228.3
13		7	W	76	75				0.2		132.3
14		7	W	40	85				0.6		67.6

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-54
Surface Elevation 1216.9
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					90	Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Trace Silt (SP) Contract Lab Groundwater Sample obtained from 85', WE-GE54-85-01					
					95	End Boring at 87.5'					
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-55A
Surface Elevation 1218.0
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Dark Brown Silty TOPSOIL					
						Loose to Medium Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Little Silt (SP)					
1		12	M	29							
					5						
2		4	M	26							
					10						
3		0		54							
					15	No Sample Recovery					
4		12	M	19							
					20						
5		14	M	22							
					25						
6		14	M	11							
					30						
7		12	W	8							
					35	Contract Lab Soil Samples obtained from 35', WE-SW55A-35-01					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 32.8
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/15/87 End 10/15/87
Crew Chief LB Rig CME 45
Drilling Method 4 1/4" HSA
0-41.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. W-55A
Surface Elevation 1218.0
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT • P.O. BOX 5385, MADISON, WIS. 53705 • TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
8		18	W	34		Loose to Medium Dense Brown Fine to Coarse SAND, Trace to Little Fine Gravel, Little Silt (SP)					30.0
					45	End Boring at 43'					
					50						
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-55
Surface Elevation 1217.9
Job No. 13076.25
Sheet 1 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE

Recovery " R=%

No.	T	Moisture	N	Depth

VISUAL CLASSIFICATION and Remarks

Earth Drilled to 48.5', Refer to Boring Log W-55A for Description and Classification from 0 to 48.5'

SOIL PROPERTIES

qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/19/87 End 10/29/87
Crew Chief DZ Rig CME 55
Drilling Method 4 1/4" HSA
0-11'; RB/DM 11-128.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-55
Surface Elevation 1217.9
Job No. 13076.25
Sheet 2 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
					45						
9			W	46	50	Dense to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel and Silt (SP)			0.2		35.9
					55						
10			W	64	60				0.0		1.86
						Contract Lab Groundwater Sample obtained at 60', WE-GW55-60-01					
					65						
					70						
11			W	67		Contract Lab Groundwater Sample obtained at 70', WE-GW55-70-01			0.0		ND
					75						
12			W	165 /9"	80				0.0		ND
						Contract Lab Groundwater Sample obtained at 80', WE-GW55-80-01					
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-55
Surface Elevation 1217.9
Job No. 13076.25
Sheet 3 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
13			W	128	90	Dense to Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel and Silt (SP)			0.0		BMDL
					95						
14			W	140	100				0.0		75.0
					105						
15			W	98	110				4.0		3989.0
					115						
16		0		147	120	6" Layer of Silty Fine Sand near 119.5'			1.0		620.0
					125						
17			W	76	130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. W-55
Surface Elevation 1217.9
Job No. 13076.25
Sheet 4 of 4

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
						End Boring at 130.0'					
					135						
					140						
					145						
					150						
					155						
					160						
					165						
					170						
					175						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-56A
Surface Elevation 1198.8
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Dark Brown Organic SILT (Topsoil) (OL)					
						Loose, Dark Brown Fine to Medium SAND, Little Silt, Trace to Little Fine Gravel (SP-SM)					
1		8	M	5	5				0.1		
						Medium Dense to Dense, Dark Brown Fine to Coarse SAND and GRAVEL (SP)					
2		5	W	30	10				0.1		
						Grades Little to Some Fine Gravel near 13.5'					
3		6	W	27	15				0.1		
4		4	W	13	20				0.1		
						End Boring at 20'					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 9.5
Upon Completion of Drilling ▽
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/15/87 End 10/15/87
Crew Chief LE Rig CME 45C
Drilling Method 4 1/4" HSA
0-20'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. W-56
Surface Elevation 1198.9
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Earth Drilled to 23.0', Refer to Boring Log W-56A for Soil Description and Classification from 0 to 20'					
					5						
					10						
					15						
					20	Dense to Very Dense, Brown Fine to Coarse SAND, Trace Fine Gravel (SP)					
1	■	13	W	39	25				0.0		
2	■	6	W	51	30				0.0		5.4
					35						
3	■	15	W	100	40				0.0		

WATER LEVEL OBSERVATIONS

While Drilling ▽ 9.0
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/19/87 End 10/20/87
Crew Chief JW Rig D-50
Drilling Method 5 7/8" RB/DM 0-65.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-56
Surface Elevation 1198.9
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
					45	Dense to Very Dense, Brown Fine to Coarse SAND, Trace Fine Gravel (SP)					
4		12	W	73					0.0		BMDL
					50	Contract Lab Groundwater Sample taken at 50', WE-GW56-50-01					
					55						
5		12	W	51							ND
					60						
					65						
6A		6				Probable Bedrock at 65.5' Based on Drilling Action and Split Spoon Sample					
6B		6									
						End Boring at 66.5'					
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-57
Surface Elevation 1202.1
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Very Dense, Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP)					
1		12	M	62	5				0.0		
						Contract Lab Soil Sample WE-SW57-10-01					
2		6	M	111	10				1.0		
3		4	M	131					2.0		
4		12	M	109					3.5		
					15	Loose, Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP)					
5		6	W	10	20				1.5		ND
						Contract Lab Groundwater Sample taken at 21', WE-GW57-21-01					
6		6	W	11	25				1.8		
7		2	W	2	30				1.8		ND
					35						
8		4	W	2	40				1.1		BMDL

WATER LEVEL OBSERVATIONS

While Drilling ▽ 18.5
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 10/21/87 End 10/21/87
Crew Chief JW Rig D-50
Drilling Method RB/DM
0-77.5'

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. W-57
Surface Elevation 1202.1
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
					45	Loose, Brown Fine to Coarse SAND, Trace to Little Fine Gravel (SP)					
9	■	9	W	9	50				0.8		BMDL
						Very Dense, Brown Fine SAND, Little Silt (SP-SM)					
					55						
10	■	0	W	146	60				1.5		ND
					65						
11	■	12	W	84	70				0.0		ND
					75				0.0		
12	■	2	W	100 /7"		Probable Syenite Bedrock near 75.0', Based on Drilling Action and Split Spoon Sample					
					80	End Boring at 77.5'					
					85						

APPENDIX C.2

DEPARTMENT OF TRANSPORTATION BORING LOGS

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 1
Surface Elevation 1188.1
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=% ↓	Moisture ↓	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Air					
						WATER					
1		4	W	0	5	Very Loose Gray Organic SILT, (OL) Layer of Wood					
2		10	W	4	10	Loose Gray Silty SAND (SM) with Trace Gravel and Layer of Peat (PT)					
						Dense, Gray Silty SAND, Little Gravel (SM)					
3		12	W	30	15						
4		0	-	30	20						
						Firm, Brown Fine to Coarse SAND, Trace of Gravel (SP)					
5		6	W	22	25						
6		8	W	15	30						
7		6	W	34	35	Grading to Fine to Medium Sand (SM) at 35'					
						Dense, Brown/Gray Weathered Granite					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/4/84 End 9/5/84
Crew Chief K Rig 6
Drilling Method

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 1
Surface Elevation 1188.1
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=%	Moisture	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
8		18	W	35		Dense, Brown/Gray Weathered Granite					
						Very Dense, Brown Weathered Granite NQ Core 46.0 to 49.5' RQD 66%					
9		6	W	95/6.5"	45						
					50	End Boring at 49.5'					
						Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					55						
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 1M
Surface Elevation 1191.8
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=%	Moisture	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Brown TOPSOIL					
						Very Loose, Dark Brown SILT (ML)					
1		10	M	10	5						
						Firm, Brown SAND & GRAVEL, Trace SILT (SP)					
2		24	W	11	10						
						Firm, Gray Fine to Medium SAND, Trace Gravel (SP)					
3		12	W	10	15						
						Loose, Brown Fine to Coarse SAND, Trace Gravel (SP)					
4		14	W	7	20						
						Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
5		12	W	15	25						
					30						
6		12	W	11							
					35						
7		12	W	11							
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/4/84 End 9/4/84
Crew Chief Rig
Drilling Method

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 1M
Surface Elevation 1191.8
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
8		12	W	15		Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
					45						
9		16	W	11							
					50						
10		18	W	19							
					55	Firm, Brown Fine SAND, Trace Silt (SP)					
11		18	W	21							
					60	Firm, Brown Fine to Coarse SAND (SP)					
12		18	W	21							
					65						
13		14	W	47		Dense, Brown Fine to Medium SAND, Trace Gravel, Little Silt (SP-SM)					
					70						
14		18	W	15							
					75						
15		18	W	30		Dense, Brown Medium SAND (SP)					
					80						
16		18	W	33		Dense, Brown Fine to Medium Sand (SP)					
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 1M
Surface Elevation 1191.8
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
					90	Dense, Brown Fine to Medium SAND (SP)					
17		10	W	19							
					95						
					100						
18		18	W	24							
					105	End Boring at 102.5'					
						Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 2
Surface Elevation 1187.8
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Air					
						Water					
					5						
					10						
1	■	8	W	8		Loose Gray/Brown Fine to Coarse SAND Some Gravel, Trace of Wood (SP)					
					15						
					20						
2	■	4	W	14							
					25						
3	■	8	W	8							
						Firm, Gray Medium to Coarse SAND, Trace of Gravel, Trace of Silt (SP)					
4	■	18	W	12	30						
					35						
5	■	16	W	19							
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/6/84 End 9/6/84
Crew Chief K Rig 6
Drilling Method

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 2
Surface Elevation 1187.8
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
6		12	W	11		Firm, Gray Mediumto Coarse SAND, Trace of Gravel, Trace of Silt (SP)					
7		3	W	12	45						
8		18	W	31	50	Dense, Brown Fine to Coarse SAND, Trace Silt, Little Gravel (SP)					
9		18	W	31	55	Dense, Brown Medium to Coarse SAND, Trace of Gravel and Silt (SP)					
10		13	W	80 /7"	60	Very Dense, Brown SAND & GRAVEL, Much Silt (GM)					
11		0	-	80 /2"	65	Dense, Brown/Gray Weathered Granite					
						End Boring at 65'					
					70	Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 2M
Surface Elevation 1196.8
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
					5	Firm Brown SAND, Some Gravel (SP)					
					10						
1	■	14	W	22	15	Firm Gray Fine to Coarse SAND, Trace Gravel (SP)					
2	■	16	W	12	20						
3	■	12	W	8	25	Loose, Brown Fine to Coarse SAND (SP)					
4	■	14	W	15	30	Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
5	■	12	W	12	35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/6/84 End 9/6/84
Crew Chief M Rig VII
Drilling Method

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 2M
Surface Elevation 1196.8
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
6		16	W	16							
						Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
7		18	W	20	45						
8		16	W	17	50						
9		18	W	16	55						
10		18	W	18	60						
						Dense, Brown Fine SAND (SP)					
11		12	W	33	65						
12		14	W	36	70						
						Dense, Brown Fine to Coarse SAND (SP)					
13		12	W	33	75						
14		14	W	32	80						
						End Boring at 82'					
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. DOT 2M
Surface Elevation 1196.8
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					90						
					95						
					100						
					105						
					110						
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 3M
Surface Elevation 1207.9
Job No. 13076.25
Sheet 1 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T		↓	N	Depth						
						GRAVEL (Fill)					
						Loose, Brown Medium SAND, Trace Silt (SP)					
1		12	M	6	5						
						Very Dense to Dense, Brown SAND & GRAVEL (SP-GP)					
2		12	M	60	10						
3		12	M	35	15						
4		12	M	34	20						
						Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
5		6	M	22	25						
6		12	W	20	30						
7		12	W	14	35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/11/84 End 9/11/84
Crew Chief M Rig VII
Drilling Method

.WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 3M
Surface Elevation 1207.9
Job No. 13076.25
Sheet 2 of 2

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%		Moisture					qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
8		14	W	18							
						Firm, Brown Fine to Coarse SAND, Trace Gravel (SP)					
					45						
9		12	W	26							
					50						
10		12	W	32							
						End Boring at 52'					
					55	Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					60						
					65						
					70						
					75						
					80						
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 4M
Surface Elevation 1187.8
Job No. 13076.25
Sheet 1 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	T	Recovery " R=% ↓	Moisture ↓	N	Depth		qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						WATER					
					5						
					10						
						Loose, Dark Gray Fine SAND, Trace of Wood & Silt (SP)					
1	■	6	W	9	15						
2	■	0	W	11	20						
						Firm, Gray Medium Coarse SAND, Little Gravel (SP)					
3	■	12	W	11	25						
4	■	16	W	7	30	Loose, Gray Medium SAND, Trace of Gravel and Silt (SP)					
5	■	18	W	44	35	Dense, Gray Medium SAND, Trace of Silt (SP)					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/17/84 End 9/17/84
Crew Chief M Rig I
Drilling Method

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 4M
Surface Elevation 1187.8
Job No. 13076.25
Sheet 2 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
6		18	W	31		Dense, Gray Medium SAND, Trace of Silt (SP)					
7		18	W	17	45	Firm, Brown Fine to Coarse SAND, Trace of Gravel & Silt (SP)					
8		18	W	17	50						
9		20	W	23	55						
10		22	W	17	60						
11		24	W	26	65	Firm to Very Dense, Brown Fine to Coarse SAND, Little Gravel, Trace Silt (SP)					
12		24	W	58	70						
13		24	W	22	75						
14		24	W	25	80	Dense, Brown Fine to Medium SAND (SP)					
					85						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project: Wausau, WI NPL Site RI/FS

Location: Wausau, Wisconsin

Boring No. DOT 4M
Surface Elevation 1187.8
Job No. 13076.25
Sheet 3 of 3

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	T	Recovery " R=%	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks	qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
						Dense, Brown Fine to Medium SAND (SP)					
15	■	24	W	31	90						
					95						
16	■	24	W	65	100						
					105	End Boring at 102'					
					110	Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					115						
					120						
					125						
					130						

WARZYN ENGINEERING INC.

LOG OF TEST BORING

Project Wausau, WI NPL Site RI/FS

Location Wausau, Wisconsin

Boring No. DOT 5M
Surface Elevation 1187.8
Job No. 13076.25
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
Recovery " R=%			Moisture				qu ( )P.P. TSF	Field VOC Soil	HNu	Mono-tox	Field VOC Water
No.	T	↓	↓	N	Depth						
						WATER					
1		24	W	1	5	Brownish Gray Organic SILT (OL)					
2		24	W	2		Gray and Black Alternating Layers of Fine Silty SAND and PEAT, Trace Wood (SM-PT)					
3		24	W	8	10						
4		18	W	20		Firm, Gray SAND & GRAVEL, Trace Silt, Some Organics (SP)					
					15	End Boring at 13'					
						Note: Soil samples were obtained by Wisconsin Dept. of Transportation in September, 1984. Soil descriptions were checked against samples by Warzyn Engineering November, 1987					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽
Upon Completion of Drilling ▼
Time After Drilling
Depth to Water
Depth to Cave in

GENERAL NOTES

Start 9/18/84 End 9/18/84
Crew Chief M Rig VII
Drilling Method

APPENDIX C.3

WARZYN PHASE 2 BORING LOGS

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-1
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
1		0	D	2		Loose, Gray Very Fine Sand and Silt (Fill)		0.6			
2		14	M	11	5			4.0		8	
3		18	M	57		Medium Dense, Rust Brown Medium SAND, Some Silt, Trace Clay (Fill)		5.0			
4		18	M	76	10	Very Dense, Rust Brown Medium to Coarse SAND, Some Fine to Coarse Gravel (SP) Collected Soil Sample SSB01-7.5'		4.0			
5		14	M	39	15						
						End Boring at 15'					
						*Background					
						**Below minimum detectable limit					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/27/88 End 6/27/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-2
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas (Soil Gas)	Monoto
						Blacktop				
1	■	12		26		Red-Brown Fine to Coarse SAND, Some Fine Gravel (Fill)		0.0		
2	■	18		12	5			0.0		
3	■	18		6		Gray, Medium Dense, Fine to Coarse SAND, Cinders, Ash, Some Metallic Debris, Some Concrete Rubble (Fill)		0.0		
4	■	18		13	10	Dark Gray, Loose to Medium Dense SILT with Some Medium Sand Layers, Little Ash, Cinders and Metallic Debris (Fill)		0.0		
5	■	18		22	15			0.0		
6	■	6		27		Brown Fine to Coarse SAND, Some Fine Gravel, moist (SP)				
					20			0.0		
						End Boring at 19.5'				
						**Below maximum detectable limit				
					25	***Not detected				
					30					
					35					
					40					

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/27/88 End 6/27/88
Driller ETI Chief Mike Rig CME
Logger _____ Editor CSR 45
Drill Method FA 0-19.5'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-3
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						6" Asphalt		0.4			
1		18	M	25	5	Loose, Brown Medium to Coarse Sand FILL				57	
2		18	M	8		Medium Dense, Black Silty Sand FILL, Some Fine to Coarse Gravel with Cinders, Ash and Glass		1.0			
3		10	M	13	10	Color Variations from Black to Rust Brown to Gray		1.0		90	
4		10	M	19	15	*Background		0.8			
5		18	M	12	20			0.8		83	
6		18	M	35	25	Stiff, Gray SILT, Some Clay (ML)		0.6			
7		18	M	25	30	Medium Dense, Rust Brown Fine to Medium SAND, Trace Fine Gravel (SP)		0.6			
8		14	W	49	35			0.5			
						End Boring at 35' Collected screened auger water sample GD-B3-35' Install Gas Probe Nest with Bottoms at 16.5' & 24'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 31.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/28/88 End 6/28/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method HSA 0-35'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-4
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth		qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
1	■	12	M	57		6" Blacktop		0.0			
						Dense, Black, Fine to Coarse SAND, Some Fine to Coarse Gravel Some Ash and Cinders (Fill)					
2	■	12	M	18	5	Collected Soil Sample SSB4-2.5'		0.0		***	
						Medium Dense, Brown Fine to Coarse SAND, Little Gravel (SP)					
					10	End Boring at 6.5'					
						***Not detected					
					15						
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief Mark Rig D 50
Logger _____ Editor CSR
Drill Method FA 0-6.5'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-5
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
								0.6			
1		18	M	36		Dense, Rust Brown to Black Fine to Coarse SAND, Some Fine to Coarse Gravel, Trace to Little Silt Some Refuse and Metal, Wood, Glass, Etc. (Fill)		0.6			
2		8	M	13	5			6.0		2	
3		4	M	10		Soil Sample ASB5-7.5 Fill becomes Silter with Some Clay at depth		5.0			
4		18	M	55	10	**Below minimum detectable limit		5.0		**	
5		6	M	47	15			3.0			
6		8	M	22	20	Medium Dense, Fine SAND, Some Wood and Glass Refuse, Little to Some Silt (Fill)		5.0		**	
7			M	5	25	Soft, Gray SILT, Some Clay, Some Fine to Coarse Sand, Viscous Oily Tar at Surface of Silt (ML-CL)		4.0			
8			W	60/5"	30			6.0			
						Very Dense, Gray Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)					
9			W	45	35			0.6			
						End Boring at 35' Collected Screened Auger Water Sample GD-B5-35'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief LL Rig CME 750
Logger Editor CSR
Drill Method HSA 0-35'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-6
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Loose, Brown Fine to Coarse SAND, Some Fine Gravel (Fill)					
1	■	12	M	20				0.0			
						Loose, Black Fine to Coarse SAND, Some Fine to Coarse Gravel, Little Silt, Trace Glass and Metal (Fill)					
2	■	12	M	9	5			0.5		5	
3	■	12	M	5	10			4.0			
						Collected Soil Sample SSB6-11'					
4	■	6	M	9	15	Loose, Red Brown to Black Fine to Coarse SAND and Fine to Coarse GRAVEL (Fill)		2.0		22	
5	■	0		2	20	Soft, Light Brown to Gray SILT, Little to Some Clay (ML-CL)					
6	■	18	W	2	25			0.0			
7	■	18	W	35	30	Medium Dense, Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)		0.0			
					35	End Boring at 31.5'					
					40						

WATER LEVEL OBSERVATIONS

	While Drilling ▽	Upon Completion of Drilling		
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/27/88 End 6/27/88
Driller ETI Chief Mike Rig D 45
Logger Editor CSR
Drill Method FA 0-31.5'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-7
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	SOIL PROPERTIES HNu	Explosive Gas	Soil Gas	Monoto
								0.6			
1		12	M	8		Loose, Dark Brown Silty SAND, Much Glass (Fill)		0.6			
2		14	M	32	5	Dense, Rust Brown to Black SAND & GRAVEL Fill, Some Silt, Cinders and Glass (Fill)		0.8			
3		14	M	51				1.0		45	
4		8	M	60/4"	10	Refusal at 9.5', Pull Ahead Blind Drill to 10' .		2.0		39	
5		0	M	7	15	Very Soft Gray Brown SILT, Some Clay, Trace Fine Sand (ML-CL)		0.6			
6		18	W	1	20			0.6			
7		18	M	38	25	Dense, Rust Brown Fine to Coarse SAND, Some Fine Gravel (SP)		0.6			
8		18	W	25	30			0.6			
					35	End Boring at 33'					
						Collected Screened Auger Water Sample GD-B7-33'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 28.5 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/27/88 End 6/27/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method HSA 0-33'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-8
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						4" Asphalt					
1	■	18	M	9		Dark Brown Silty SAND and GRAVEL (Fill)		1.5			
2	■	18	M	70	5	Loose, Gray Very Fine SAND, Some Silt (SP)		1.5		**	
3	■	18	M	18		Very Dense, Rust Brown Fine to Coarse SAND, Little Silt (SM-SP) Trace Fine Gravel		1.5			
4	■		M	26	10	Collected Soil Sample SSB8-5.0'		1.5			
					15	Medium Dense, Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)					
						End Boring at 10'					
					20	Install Gas Probe at 10'					
						**Below minimum detectable limit					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method HSA 0-10'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-9
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		6		26				0.0			
						Medium Dense, Dark Brown Fine to Coarse SAND, Some Fine Gravel with Ash and Cinders (Fill)					
2		1		16	5			0.0		2	
						Medium Dense, Brown Fine to Coarse SAND, Little to Some Silt and Clay (Fill)					
3		6		24				0.0			
						Medium Dense, Light Brown SAND and Fine to Coarse Crushed Rock Fragments (Fill)					
4		8		16	10			0.0			
						Brown Fine to Medium SAND (SP)					
					15	End Boring at 11.5'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief Mark Rig D 45
Logger Editor CSR
Drill Method FA 0-11'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-10
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1	■	12		10		Loose, Black Fine to Coarse Silty SAND and GRAVEL Some Ash, Cinders, Glass, Wood and Metallic Debris (Fill)		0.0			
2	■	6		2	5			1.0		21	
3	■	6		69				0.5			
4	■	1		44	10			0.0		22	
5	■	1		10	15			0.0			
6	■	0		13	20					28	
						Medium Dense, Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)					
7	■	3		15	25			0.0			
						End Boring at 25'					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/28/88 End 6/28/88
Driller ETI Chief Mark Rig D 45
Logger Editor CSR
Drill Method FA 0-25'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-11
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		12		21				1.0			
						Medium Dense to Very Dense, Black Fine to Coarse SAND, Some Fine to Coarse Gravel with Ash and Cinders (Fill)					
2		12		29	5			5.0		16	
3		12		50				2.0			
4		6		21							
					10	Medium Dense, Brown Fine to Coarse SAND, Little Fine to Coarse Gravel, Trace Silt (SP)		2.0		67	
						Collected Soil Sample SSB11-8.5'					
5		12		13		Medium Dense, Rust-Brown Fine to Medium SAND, Trace to Little Silt (SP)		2.0			
					15						
6		12		22				1.0		89	
					20	End Boring at 20.5'					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief Mark Rig D 45
Logger _____ Editor CSR
Drill Method FA 0-20.5'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-12
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						6" Asphalt		0.4			
1	■	18	M	58				3.0			
						Very Dense, Black Silty Fine to Coarse Sand Fill with Glass, Cinders, Brick (Fill)		4.0			
2	■	18	M	15	5					13	
						Soil Sample SSB12-2.5'		2.0			
3	■	6	M	4							
4	■		M	10	10			2.0		122	
5	■	1	M	6	15			3.0			
6	■	18	M	35	20	Dense, Rust Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)		0.4			
						End Boring at 20'					
					25	Install Gas Probe at 15'					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽		Upon Completion of Drilling		
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method HSA 0-20'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-13
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		12		12				0.0			
						Medium Dense, Gray to Black Fine to Coarse SAND, Some Clay, Little Fine to Coarse Gravel (Fill)					
2		12		17	5			0.0		**	
						Medium Dense, Reddish Brown Fine to Medium SAND, Little to Trace Silt (SP)					
3		12		27				0.0			
4		12		12	10	Medium Dense, Brown Fine to Coarse SAND, Little Fine to Coarse Gravel (SP)		0.0		45	
5		12		18	15			0.0			
6		12		16	20			0.0			
						Medium Dense, Light Brown Fine to Medium SAND (SP)					
7		12		26	25			0.0			
8		0		25	30			0.0			
						Collected Screened Auger Groundwater Samples GDB13-34, GDB13-34D					
					35	End Boring at 34.0'					
						**Below minimum detectable limit					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.8 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/29/88 End 6/29/88
Driller ETI Chief Mark Rig D 45
Logger _____ Editor CSR
Drill Method FA 0-34.0'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-14
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		6		13				0.0			
						Hard, Brown SILT, Little Clay, Some Fine Sand (Fill)					
2		12		8	5			0.0			
						Loose, Light Brown Fine to Medium SAND (SP)					
						Medium Dense, Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)					
3		12	M	15	10			0.0		104	
4		12	M	13	15						
5		12	M	20	20					11	
6		12	M	20	25						
7		12	W	13	30						
						Collected Screened Auger Groundwater Sample GD-B14-31'					
					35						
						End Boring at 34'					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 30.1 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/6/88 End 7/6/88
Driller ETI Chief Mike Rig D 45
Logger _____ Editor CSR
Drill Method HSA 0-34'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-15
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		8	M	17		Medium Dense, Brown Fine to Coarse SAND, Trace to Little Silt (Fill)					
2		4	M	75	5						
3		6	M	9	10						
4		6	M	10	15						
						Medium Dense, Brown Fine to Coarse SAND, Little to Some Fine to Coarse Gravel (SP)					
5		12	M	38	20					***	
6		12	M	27	25						
7		12	W	18	30						
						Collected Screened Auger Groundwater Sample GDB14-34'					
					35	End Boring at 34'					
						***Not detected					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 31.1 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/7/88 End 7/7/88
Driller ETI Chief Mike Rig D 45
Logger Editor CSR
Drill Method HSA 0-34'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-16
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						4" Asphalt		0.6			
1	■	18	M	10		Crushed Granite (Fill)		4.0			
2	■	18	M	26	5	Loose, Rust Brown Fine to Medium SAND, Some Silt, Trace Fine Gravel (SM-SP)		2.0			
3	■	18	M	56		Soil Sample SSB16-2.5 + Duplicate		2.0			
4	■	18	M	36	10	Dense to Very Dense, Brown Fine to Coarse SAND, Trace Fine to Coarse Gravel (SP)		2.0		3	
5	■	18	VM	93	15			2.0			
6	■	6	VM	71	20			2.0		11	
7	■	1	VM	132	25			2.0			
8	■	11	W	50+	30			2.0			
9	■	0	W	50+	35			3.0			
					40	End Boring at 35' Collect Screened Auger Water Sample GDB16-35'					

WATER LEVEL OBSERVATIONS

While Drilling ▽ 31.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief LL Rig CME
Logger _____ Editor CSR 750
Drill Method HSA 0-35'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-17
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1		12		24		Medium Dense, Silty Fine SAND (Fill)		6.0			
2		12		11	5	Medium Dense, Fine SAND, Trace Silt (Fill)		1.0		141	
3		12		17		Collected Soil Sample SSB17-5.0'		1.0			
4		12		25	10	Medium Dense, Light Brown Fine to Coarse SAND, Trace Fine to Coarse Gravel (SP)		0.5			
5		12		21	15	Collected Screened Auger Groundwater Sample GDB17-14'		0.0			
						End Boring at 15.5'					
					20	***Not detected					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief LL Rig D 45
Logger Editor CSR
Drill Method FA 0-15.5'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-18
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						3" Asphalt					
1		18	M	22				7.0			
						Medium Dense, Dark Brown Fine to Coarse SAND, Some Fine to Coarse Gravel, Little Silt (Fill) Collected Soil Sample SSB18-2.5'					
2			M	62	5			6.0		159	
3		10	M	82				5.0			
						Dense to Very Dense, Brown Fine to Coarse SAND, Some Silt, and Fine to Coarse Gravel, Trace Cobbles and Crushed Rock (Fill)					
4		16	M	65	10			4.0		162	
						Very Dense, Brown Fine to Coarse SAND, Little Fine to Coarse Gravel (SP)					
5		18	W	61	15			5.0			
						End Boring at 15'					
						Collected Screened Auger Water Sample GDB18-15'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 12.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief LL Rig CME
Logger _____ Editor CSR 750
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-19
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
								2.0			
1	■	18	M	12		Brown Fine to Medium SAND with Crushed Gravel, Some Silt (Fill)		0.5			
2	■	18	W	44	5	Dense to Very Dense, Reddish Brown to Black SILT with Some Gravel (Fill)		0.0		158	
3	■	18	M	72		Brown Very Dense Medium to Coarse SAND with Trace Medium to Coarse gravel (SP)					
4	■	8	M	111	10			2.0		105	
5	■		M	56		Collected Soil Sample and Duplicate SSB19-12.5'					
6	■	10	W	69	15	Obtained Groundwater Sample at 15' GD-B19-15'		0.5		3	
						End Boring at 16'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief LL Rig CME
Logger _____ Editor CSR 750
Drill Method HSA 0-16'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-20
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Brown, Medium Dense Silty Fine SAND, Some Gravel (Fill)					
1	■	8	D	12				0.2			
2	■	12	M	25	5	Brown Medium to Very Dense, Medium to Coarse SAND, Little Gravel (SP)		0.5		8	
3	■	10	M	76							
4	■	12	M	52	10			0.2		67	
5	■	0	W	37	15	End Boring at 15'					
						Collected Screened Auger Groundwater Sample GDB20-15'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 13.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/6/88 End 7/6/88
Driller ETI Chief MM Rig CME
Logger Editor CSR 45
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-21
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
1		12		17		Medium Dense, Dark Brown Silty Fine SAND and Gravel (Fill)		2.0			
2		6		24	5			2.0		52	
3		12		51		Medium Dense to Very Dense, Brown Fine to Coarse SAND & Fine to Coarse GRAVEL (SP)		2.0			
4		6		61	10			2.0			
5		6		25	15			3.0			
						End Boring at 15'					
						Collected Screened Auger Groundwater Sample GDB21-15.0'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 12.5 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/6/88 End 7/6/88
Driller ETI Chief Mark Rig D 45
Logger Editor CSR
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-22
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Dark Brown, Dense to Very Dense, Silty SAND, Some Fine to Coarse Gravel, Little Organic Matter (Fill)					
1		16	M	36				1.5			
						Brown Dense to Very Dense, Medium SAND, Some Fine to Coarse Gravel (Fill)					
2		14	M	47	5			2.0		402	
						Dark Brown Medium Dense, Silty SAND, Little Coarse Gravel (Fill)					
3		2	M	40				1.0			
						Brown Dense to Very Dense, Medium to coarse SAND and GRAVEL (SP-GP) Collected Soil Sample SSB22-12'					
4		1	M	52	10						
5		8	M	82				0.0		127	
					15	End Boring at 14.5'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 14.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/6/88 End 7/6/88
Driller ETI Chief LL Rig CME
Logger Editor CSR 750
Drill Method FA 0-14.5'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-23
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						3" Black Silt TOPSOIL					
1		18	M	19		Medium Dense, Brown SILT, Some Fine Sand, little Fine Gravel (Fill)		0.4			
2		14	M	9	5			0.4		81	
3		8	M	4				0.4			
4		18	M	54	10	Dense, Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP) Collected Soil Sample SSB23-10'		1.0		255	
5		0	W	60	15			0.8			
6		18	W	25	20			0.6			
						End Boring at 20'					
					25	Collected Screened Auger Water Sample GD-B23-20					
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 14.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/1/88 End 7/1/88
Driller ETI Chief MM Rig CME
Logger Editor CSR 45
Drill Method HSA 0-20'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-24
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas Monoto
						Medium Dense, Silty Crushed Granite (FILL)		300.0		
1	■	18	M	12						
2	■	0	M	6	5			70.0		
						Soft, Black SILT, Trace to Little Clay (Buried Topsoil)				
3	■	12	M	17						
						Medium Dense, Rust Brown Fine to Coarse SAND, Some Fine to Coarse Gravel (SP)		50.0		
4	■	18		49	10	Collected Soil Sample SSB24-11.5'		60.0		
								10.0		
5	■	12		125 ▽		Very Dense, Brown Fine to Medium SAND, Some Fine to Coarse Gravel (SP) Collected Soil Sample SSB24-11.5'				
					15					
						End Boring at 13'				
					20					
					25					
					30					
					35					
					40					

WATER LEVEL OBSERVATIONS

While Drilling ▽ 12.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief Chuck Rig CME
Logger Editor CSR 45
Drill Method HSA 0-13'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-25
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Medium Dense, Gray Fine SAND, Some Silt (Fill)					
1		12	M	21				71.0			
2		12	M	18	5			15.0			
3		14	M	28	10			20.0			
						Brown Very Dense, Fine SAND and Fine to Coarse Gravel (SP)		5.0			
4		6	M	75	15			5.0			
5		6	M	88				10.0			
						Collected Soil Sample SSB25-19'					
					20						
						End Boring at 19'					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 17.5 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief Chuck Rig CME
Logger Editor CSR 750
Drill Method HSA 0-19'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-26
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Blacktop					
1	■	12		29				0.0			
2	■	12		7	5	Medium Dense, Brown Fine to Coarse SAND and Fine to Coarse GRAVEL with Black Ash and Cinders (Fill) Collected Soil Sample SSB26-7.5'		3.0		73	
3	■	12		62							
4	■	12		14	10	Collected Soil Sample SSB26-11.0'		3.0		81	
								7.0			
5	■	12		9	15	Medium Dense, Brown Fine to Coarse SAND, Some Fine Gravel (SP)		7.0			
6	■	12		37	20			1.0			
						End Boring at 20'					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▽
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/30/88 End 6/30/88
Driller ETI Chief Mike Rig D 50
Logger _____ Editor CSR
Drill Method FA 0-20'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-27
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Crushed Granite (Fill)					
1		14	M	12				0.6			
						Medium Dense, Rust Brown Fine to Coarse SAND, Some Fine to Coarse Gravel, Little to Some Silt (SP) Soil Sample SSB27-5.0'					
2		18	M	28	5			0.6		159	
3		18	M	54				0.8			
4		18	M	43	10			0.6		124	
5		4	W	38	15			0.4			
						End Boring at 15'					
						Collected Screened Auger Water Sample GD-B27-15					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 12.8 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/1/88 End 7/1/88
Driller ETI Chief MM Rig CME
Logger Editor CSR 45
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-28
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Brown Loose Silty Sand Topsoil, Some Organic Material and Gravel (Fill)					
1		6	D	12				0.1			
2		8	M	28	5	Brown Medium Dense Fine to Coarse SAND, Some Fine to Coarse Gravel, Trace Cinders (Fill)		0.1			
3		10	M	23		Brown Medium to Coarse SAND, Trace Fine to Coarse Gravel (SP)		0.1			
4		12	M-W	76	10	▽		0.1		21	
5		12	W	46	15			0.1			
						End Boring at 15'					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 13.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/5/88 End 7/5/88
Driller ETI Chief MM Rig CME 45
Logger Editor CSR
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-29
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Bituminous Pavement					
1		12	D	30				5.0			
						Dense to Very Dense, Brown Medium to Fine Silty SAND, Trace Fine Gravel (Fill)					
2		14	M-W	9	5			5.0			
						Very Loose, Brown, Medium to Fine Sand, Trace Fine Gravel, Granite Rubble, Oil Stained, Metallic Debris (Fill)					
3		14	M-W	53				5.0			
4		14	M	56	10			*			
						Very Dense, Brown Medium to Coarse SAND, Fine to Coarse Gravel with Rock Fragments (Fill)					
5		16	M	106						3	
6		16	W	30	15	Medium Dense, Brown Fine to Coarse SAND, Little Fine to Coarse Gravel (SP) Contract Lab Screened Auger Sample GD-B29-15'		*			
						End Boring at 16'					
					20	*Background					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 13.5 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 7/5/88 End 7/5/88
Driller ETI Chief MM Rig CME
Logger Editor CSR 45
Drill Method HSA 0-16'

WARZYN

LOG OF TEST BORING

Project: Wausau RI/FS Phase II - Soil Gas

Location: Wausau, Wisconsin

Boring No. B-30
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas Monoto
1	■	8	D	4		Brown Loose SILT, Trace Organic Material, Little (Fill) Fine to Coarse Gravel		5.0		
2	■	4	M	25	5	Brown Medium Dense Silty SAND with Rock Fragments (Fill)		6.0		
3	■		M	37		Brown Medium to Coarse SAND & GRAVEL (Fill)				
4	■	4	M-W	66	10	Very Dense, Brown Medium to Coarse SAND, Some Fine to Coarse Gravel (SP) Strong Hydrocarbon Odor		180.0		1
5	■		W					150.0		
6	■	0	W	60	15	End Boring at 15'				
					20					
					25					
					30					
					35					
					40					

WATER LEVEL OBSERVATIONS

While Drilling ▽ 13.0 Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start _____ End _____
Driller ETI Chief LL Rig CME
Logger _____ Editor CSR 750
Drill Method HSA 0-15'

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-31
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT · P.O. BOX 5385, MADISON, WIS. 53705 · TEL.(608) 273-0440

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth		qu (qa) (tsf)	HNu	Explosive Gas	Soil Gas	Monoto
						Brown Dry Silty SAND, Some Gravel (SM) Collected Soil Sample SSB31-03'		13.0			
					5	End Boring at 4.0'					
					10						
					15						
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/28/88 End 6/28/88
Driller ETI Chief _____ Rig _____
Logger _____ Editor CSR _____
Drill Method 4" Hand Auger

WARZYN

LOG OF TEST BORING

Project Wausau RI/FS Phase II - Soil Gas

Location Wausau, Wisconsin

Boring No. B-32
Surface Elevation
Job No. 13076.31
Sheet 1 of 1

ONE SCIENCE COURT • P.O. BOX 5385, MADISON, WIS. 53705 • TEL.(608) 273-0440

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES			
No.	TYPE	Rec (in.)	Moist	N	Depth		qu (qa) (tsf)	HNu	Explosive Gas / Soil Gas	Monoto
					Brown Moist, Fine to Medium SAND, Some Gravel, Trace Silt (SP) Collected Soil Sample SSB32-03'			60.0		
					End Boring at 3'					

WATER LEVEL OBSERVATIONS

While Drilling ▽ _____ Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ _____
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 6/28/88 End 6/28/88
Driller _____ Chief _____ Rig _____
Logger _____ Editor CSR _____
Drill Method 4" Hand Auger

APPENDIX C.4

TEST PIT LOGS

LOG OF SOIL TEST PIT

WARZYN

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-1

Surface Elevation:

Job No.: 13076

Date: 7/7/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
		D		3" Bituminous Pavement
	2			Brownish Red Crushed Grainte Subbase, Some Silty Sand (FILL)
		M		
	8.0		2.5	Dark Gray to Black, Ash and Cinders, Glass, Some Foundry Sand, Little Crushed Rock, Trace Metallic Debris (FILL) Collected Soil Sample ZW-TP1-3.5'
1	5.0			
		M		
2	3.0			
3	3.0		5	Demolition Rubble Consisting of Blocks of Concrete and Some Granitic Boulders up to 2.0 ft in Diameter with a Fine to Medium Brown Sand Matrix, Little Scrap Iron, 1 Pop Bottle (Fill)
		M		
			7.5	End Test Pit at 6.0' Deep, 12.0' Long
			10	
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

LOG OF SOIL TEST PIT

WARZYN

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-2

Surface Elevation:

Job No.: 13076

Date: 7/6/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
	0.1	M		4" Bituminous Pavement
	5.0	M		Reddish Brown Crush Granitic Rock, Some Foundry Sand, Ash and Clinkers (Fill)
1	13.0	M	2.5	Obtain CLP Soil Sample ZW-TP2-3.0'
2	8.0	M		Dark Gray to Black Ash, Cinders, Slag, Foundry Sand and Clinkers Ranging in Size from 2" to 18" in Diameter Industrial Furnace Wastes Obtained CLP Soil Sample ZW-TP2-4.5'
3	10.0		5	
	45			
	19			
	15	M	7.5	
	10			End Test Pit at 8.2' Deep, 11' Long
			10	
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

WARZYN

LOG OF SOIL TEST PIT

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-3
Surface Elevation:
Job No.: 13076
Date: 7/7/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

Sample No.	HNu (ppm)	Moisture	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
	0.1			Brown Silty SAND, Some Gravel, Some Organic Matter (SM)
	0.5	M	2.5	Light Gray Ash and Cinders, Some Foundry Sand, Little Clay (In isolated Pockets), Old Burnt Newspapers (Feb. 1950) Little Broken Glass, Trace Metallic Debris, Trace Wood Timbers (Burned) (Fill)
	2.0			
	4.0	M	5	Brown Silty SAND with Organic Debris (Logs, Roots, Branches, etc.) Newspapers (No Date) Cans, Glass, Bottles, Materials not Burned (Fill)
	6.0			Obtained CLP Residue Sample and Duplicate WZ-TP3-9.0' and WZ-TP3-9.0' Duplicate
	4.0		7.5	
	8.0	M		
			10	End Test Pit at 9.25' Deep, 13.0' Long
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

WARZYN

LOG OF SOIL TEST PIT

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-4

Surface Elevation:

Job No.: 13076

Date: 7/6/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5485 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
	0.1			Bituminous Pavement
	0.1			Dark Reddish Brown Silty Fine SAND with Crushed Rock (Fill)
	0.1	M		Construction Rubble, Bricks, Rocks, Some Ash, Brown Silty Sand Matrix Material (Fill). Thin 2-4" Seam of Black Viscous Tar (HNu = 0.1 Background) at 3.2'. Seam Thickened toward the South
	0.1		2.5	
	0.5			Brown Silty Foundry SAND with Thin (±4") Interlayered Beds of Light Gray Ash, Some Bands of Scrap Metal Debris, Old Pop and Pharmaceutical Bottles, Large Wooden Timbers approximately 4-7' Long (Fill)
1	3.5	M	5	
	1.0			
	0.5			
	0.1			
	0.1			
2	0.1	M	7.5	Collected CLP Residual Sample ZW-TP4-7.0'
	0.1			
	0.1			
	0.1			
	0.1			
			10	End Test Pit at 9.8' Deep, 12.5' Long
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

WARZYN

LOG OF SOIL TEST PIT

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-5
Surface Elevation:
Job No.: 13076
Date: 7/6/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5485 • MADISON, WISCONSIN 53705

Sample No.	HNu (ppm)	Moisture	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
	0.1	M		3" Brown Silt TOPSOIL, Little Organic Material
	0.1			Light Brown Silty Fine SAND, Some Rock Debris, Trace Ash, Glass, Metallic Debris, Much Broken Glass at South Side of Test Pits, Several Small Metal Cans at 3.0' (Fill)
	0.1			
	0.1			
	0.1		2.5	
	0.1			Light Brownish Gray Silty SAND and ASH, No Glass or Metal Visible (Fill)
	0.1			
	0.1			
1	0.1	M		
	0.1		5	
	0.1			*
	0.1			
	0.1			End Test Pit at 6.0' Deep, 11.0' Long
	0.1			
	0.1		7.5	*Reddish Brown Fine to Medium SAND, Little Silt, Trace Fine to Coarse Gravel (SP)
			10	
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

WARZYN

LOG OF SOIL TEST PIT

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-6
Surface Elevation:
Job No.: 13076
Date: 7/6/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
	0.1			4" Brown Silty Sand TOPSOIL (SM)
	0.1			*
	0.1			Light Gray Ash and Foundry Sand Mixture, Some Brick and Construction Rubble (Fill)
	0.1			
	0.1			
	0.1		2.5	Gray Silty Fine SAND with 3-8" Seams of Light Gray Fly Ash. Some Black Cinder Seams up to 6" Thick, Some Wood Fragments (Fill)
	0.1			
1	0.1	M		
	0.1			
	0.1			
	0.1		5	
	0.1			Dark Black SAND, Some Ash, Wood, Timbers, Metallic Debris, Chains, Broken Glass
	0.1			
	0.1			
	0.1			
2	0.1	M	7.5	Collected Contract Lab Soil Sample ZW-TP6-7.5'
	0.1			
				End Test Pit at 8.0' Deep, 13' Long
				*Brownish Gray Silty Fine SAND, Some Bricks and Construction Rubble, Plastic and Metallic Debris (Fill)
			10	
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

LOG OF SOIL TEST PIT

WARZYN

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-7

Surface Elevation:

Job No.: 13076

Date: 7/7/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth
	7		
	2-3		
			2.5
1	4	M	
	3		5
	7		
			7.5
2	3	M	
			10
			12.5
			15
			17.5
			20

VISUAL CLASSIFICATION AND REMARKS

HNu Background = 0.1 ppm

4" Bituminous Pavement

3" Coarse Brown Sand & Rock Debris (Fill)

Light Gray Fly Ash at West Side of Pit Thins to East. Mixed Ash, Cinders, Glass, Metallic Debris, Batteries, Pop Bottles, Industrial Furnace Clinkers, Carbide Rods Inside of Batteries, Burnt Newspaper (Date, 1955) (Fill)

Collected Contract Lab Residual Sample ZW-TP7-8.0'

End Test Pit at 8.5' Deep, 12.5' Long

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

WARZYN

LOG OF SOIL TEST PIT

Project: Wausau RI/FS

Location: Marathon Electric

Pit No.: TP-8

Surface Elevation:

Job No.: 13076

Date: 7/7/88

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5485 • MADISON, WISCONSIN 53705

Ground Water Level ▽ Sample No.	HNu (ppm)	Moisture ↓	Depth	VISUAL CLASSIFICATION AND REMARKS
				HNu Background = 0.1 ppm
				3" Bituminous Pavement
				Reddish Brown Silty SAND Crush Rock (Fill)
	0.1	M		
	0.1			Miscellaneous Refuse, Tries, Glass, Bed Springs, Tin Cans, Bottles, Wood Timbers (Not Burned), Little or No Ash, Hardened Cement, Rusted Paint Cans (Fill)
			2.5	
				Brown Fine to Medium SAND, Trace Fine Gravel (SP)
	0.1	M		
			5	
				End Test Pit at 5.5' Deep, 10.0' Long
				No CLP soil sample
			7.5	
			10	
			12.5	
			15	
			17.5	
			20	

WATER LEVEL OBSERVATIONS

While Excavating: None

Upon Completion of Excavating:

Time After Excavating:

Depth to Water:

Depth to Cave In:

GENERAL NOTES

Equipment Used: John Deere 310

Geologist:

APPENDIX C.5

GERAGHTY AND MILLER INC.
BORING LOGS FOR WELLS INSTALLED ON
ISLAND AND WEST BANK OF THE WISCONSIN RIVER

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well ZWD Project/No. Wausau Page 1 of 1

Site Location Isl AND Drilling Started 7:45 AM 7-27-88 Drilling Completed 1:15 PM 7-27-88

Total Depth Drilled 140 feet Hole Diameter ____ inches Type of Sample/ Coring Device ____

Length and Diameter of Coring Device ____ Sampling Interval ____ feet

Land-Surface Elev. ____ feet ☐ Surveyed ☐ Estimated Datum ____

Drilling Fluid Used Water & Air Drilling Method Dual Tube w/ air

Drilling Contractor Layne - Northwest Driller Jeff Helper ____

Prepared By LJ'DE Hammer Weight ____ Hammer Drop ____ inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2			TOPSOIL & SAND
2	10			SAND & CLAY, small gravel.
10	12			SAND (coarse) and gravel.
12	15			Med Sand
15	25			SAND & GRAVEL
25	35			MED SAND - SOME SILT
35	55			Coarse sand - some gravel
55	75			coarse sand
75	95			MED SAND
95	100			MED SAND
100	120			GRAVEL (FINE) some sand
120	124			GRAVEL
124	129			GRAVEL - DARK RED SILT IN WATER
129	139			GRAVEL
	139			Bedrock - Dark fine grained igneous

Soundprint 87-1718

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well IWM Project/No. Wausau Page 1 of 1

Site Location Island Drilling Started 7-28-88 8:41 Am Drilling Completed 9:40 Am

Total Depth Drilled 75 feet Hole Diameter ____ inches Type of Sample/ Coring Device ____

Length and Diameter of Coring Device ____ Sampling Interval ____ feet

Land-Surface Elev. ____ feet ☐ Surveyed ☐ Estimated Datum ____

Drilling Fluid Used Water & Air Drilling Method Dual tube @ Air

Drilling Contractor Layne - Northwest Driller Jeff Helper ____

Prepared By DB & RB Hammer Weight ____ Hammer Drop ____ inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	3			Top Soil and Sand
3	7			Coarse sand and small gravel
7	11			gravel
11	13			Gravel
13	15			Coarse sand and clay (grey in color)
15	20			Coarse sand & pebbles
20	30			Coarse sand
30	35			coarse sand
35	40			Coarse sand some pebbles
40	45			fine to Coarse sands
45	50			Coarse sand
50	55			Coarse sand @ red & green pebbles /quartz
55	60			fine to coarse sands
60	65			Med sands
65	75			sand fine grained

7-28-88

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well IWS Project/No. Wausau Page 1 of 1

Site Location Island Drilling Started 1:15 PM Drilling Completed 1:30

Total Depth Drilled 12 feet Hole Diameter ____ inches Type of Sample/ Coring Device ____

Length and Diameter of Coring Device ____ Sampling Interval ____ feet

Land-Surface Elev. ____ feet ☐ Surveyed ☐ Estimated Datum 3' above River

Drilling Fluid Used Water & Air Drilling Method Dual tube (in) Air

Drilling Contractor Layne - Northwest Driller Jeff Helper Ross

Prepared By R.B & D.B Hammer Weight — Hammer Drop — inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2			Topsoil & Sand
2	5			Coarse sand & gravel
5	8			Gravel
8	12			Coarse sand & pebbles

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well ~~W~~SW S Project/No. Wausau Page 1 of 1

Site Location west side well Shallow Drilling Started ≅ 1:50 Drilling Completed 2:15 pm

Total Depth Drilled 13 feet Hole Diameter 6 inches Type of Sample/Coring Device Dual Tube

Length and Diameter of Coring Device 4 1/2 Sampling Interval ____ feet

Land-Surface Elev. ____ feet ☐ Surveyed ☒ ~~Estimated~~ Datum 3' above River

Drilling Fluid Used Air & water Drilling Method Air rotary

Drilling Contractor Layne - NW. Driller Jeff Helper ____

Prepared By D Baner R. Boness Hammer Weight — Hammer Drop — inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	5			Brown sand & Gravel
5	13			Gray sandy Loam

8-1-88

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well WSWD Project/No. Wausau Page 1 of 1

Site Location West side well Deep Drilling Started 2:05 Drilling Completed 5:45

Total Depth Drilled 155 feet Hole Diameter 6" inches Type of Sample/ Coring Device Dual Tube

Length and Diameter of Coring Device _____ Sampling Interval 20 feet

Land-Surface Elev. ~~Est~~ feet ☐ Surveyed ☒ Estimated Datum 3' above River

Drilling Fluid Used Air & water Drilling Method Dual Tube/Air rotary

Drilling Contractor Layne - Northwest Driller Jeff Helper _____

Prepared By R. Baness & David Bauer Hammer Weight — Hammer Drop — inches

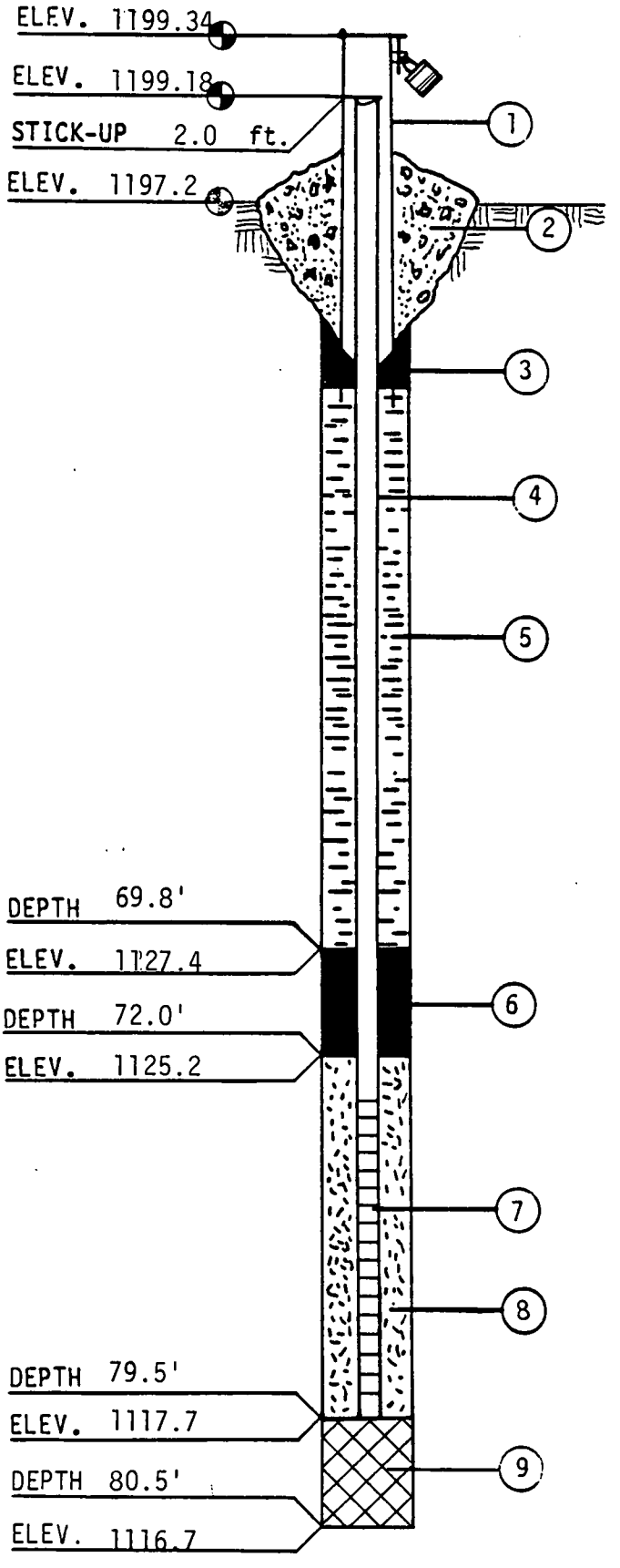
Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	5			Brown sand & Gravel
5	15			Gray Sandy Loam
15	23			" "
23	25			Sand & Gravel
25	35			Fine Sand
35	55			Fine Sand (w) Some gravel
55	65			Fine - Med sand
65	75			Fine Sand
75	95			" " trace gravel
95	105			" "
105	110			Silty fine Sand
110	115			Fine gravel
115	118			Fine Sand & gravel
118	129			Gravel (w) color change to red
129	135			Fine sand gravel
135	151			Sand & gravel
151	155			Black Micro-crystalline igneous Rx

APPENDIX D

MONITORING WELL CONSTRUCTION DETAILS

APPENDIX D.1

MONITORING WELL CONSTRUCTION DETAILS
PHASE I DRILLING



*Note: 10' of Stainless Steel Riser above screen

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-20

DATE 10/27/87

CHIEF/UNIT JW/D-50

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE 10' Stainless Riser ~~Galvanized & Stainless Steel~~*

   SOLID PIPE LENGTH 66.5 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Grout

   HOW INSTALLED (TREMIE FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL Natural

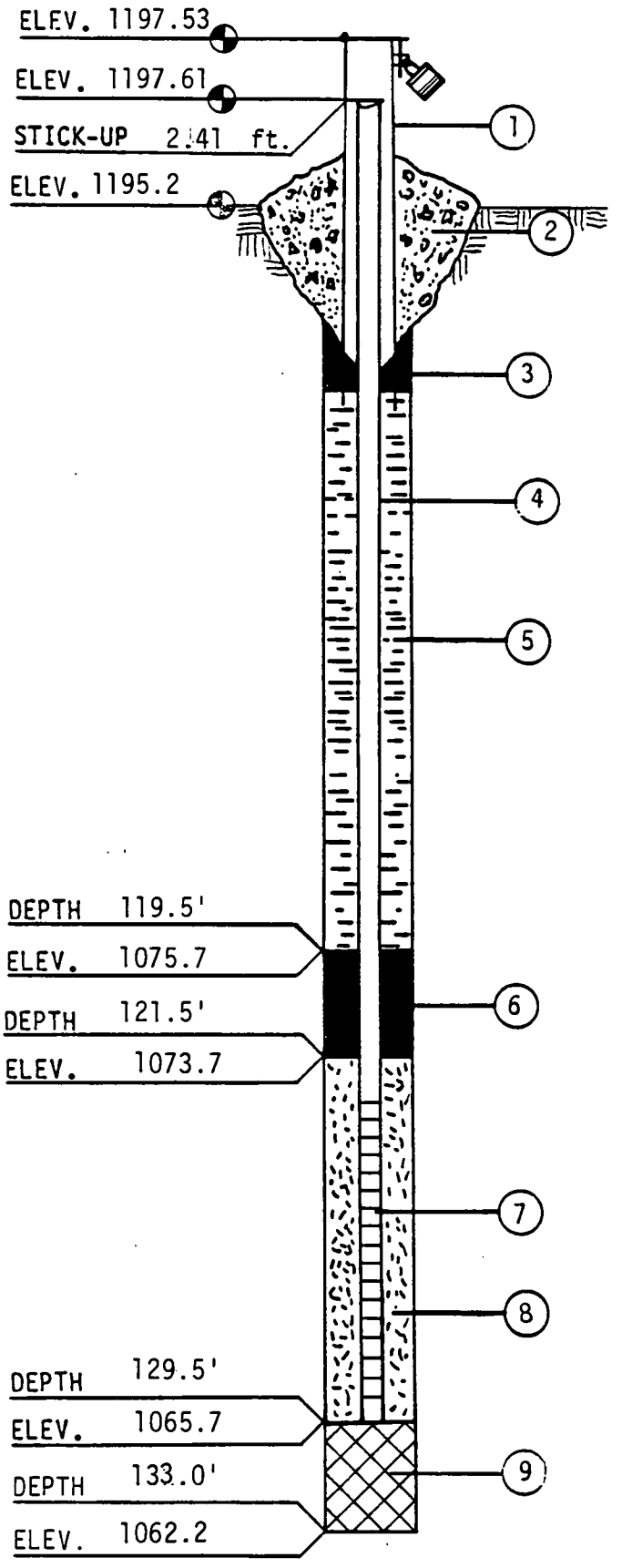
10. DRILLING METHOD RB/DM

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-21

DATE 11/14/87

CHIEF/UNIT MP/Canterra

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)

   Granular Bentonite

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 126.4 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE) FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)

   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.5'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN

   No. 30 Flint Sand

9. TYPE OF BACKFILL No. 30 Flint

10. DRILLING METHOD RB/DM

11. ADDITIVES USED (IF ANY)

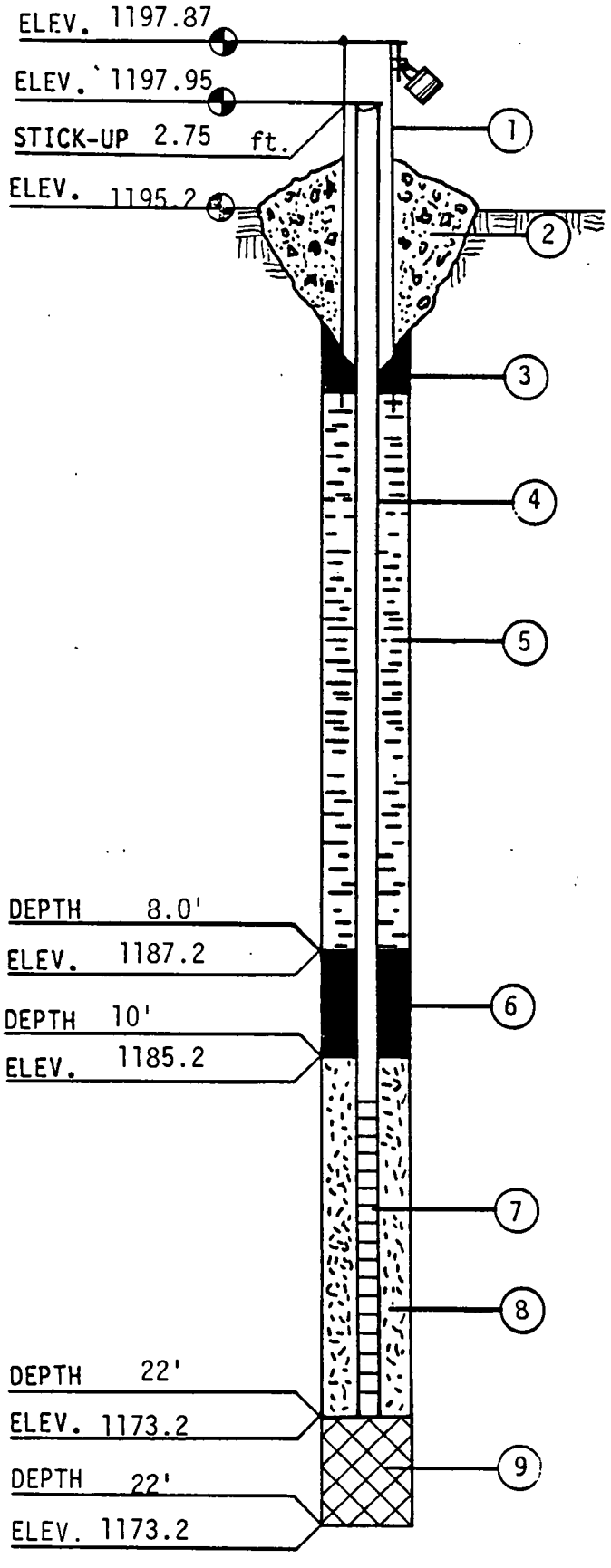
    None

Note: 20' of 4" steel casing was lost during removal & may be partially obstructing the well screen.

WARZYN ENGINEERING INC

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-21A

DATE 11/13/87

CHIEF/UNIT MK/CME 750

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)

   - Granular Bentonite

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 12 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite

   HOW INSTALLED - ~~TREMIE~~ (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)

   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 10'

   SLOT-SIZE 0.010" LENGTH 10 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN

   No. 30 Flint Sand

9. TYPE OF BACKFILL None

10. DRILLING METHOD HSA

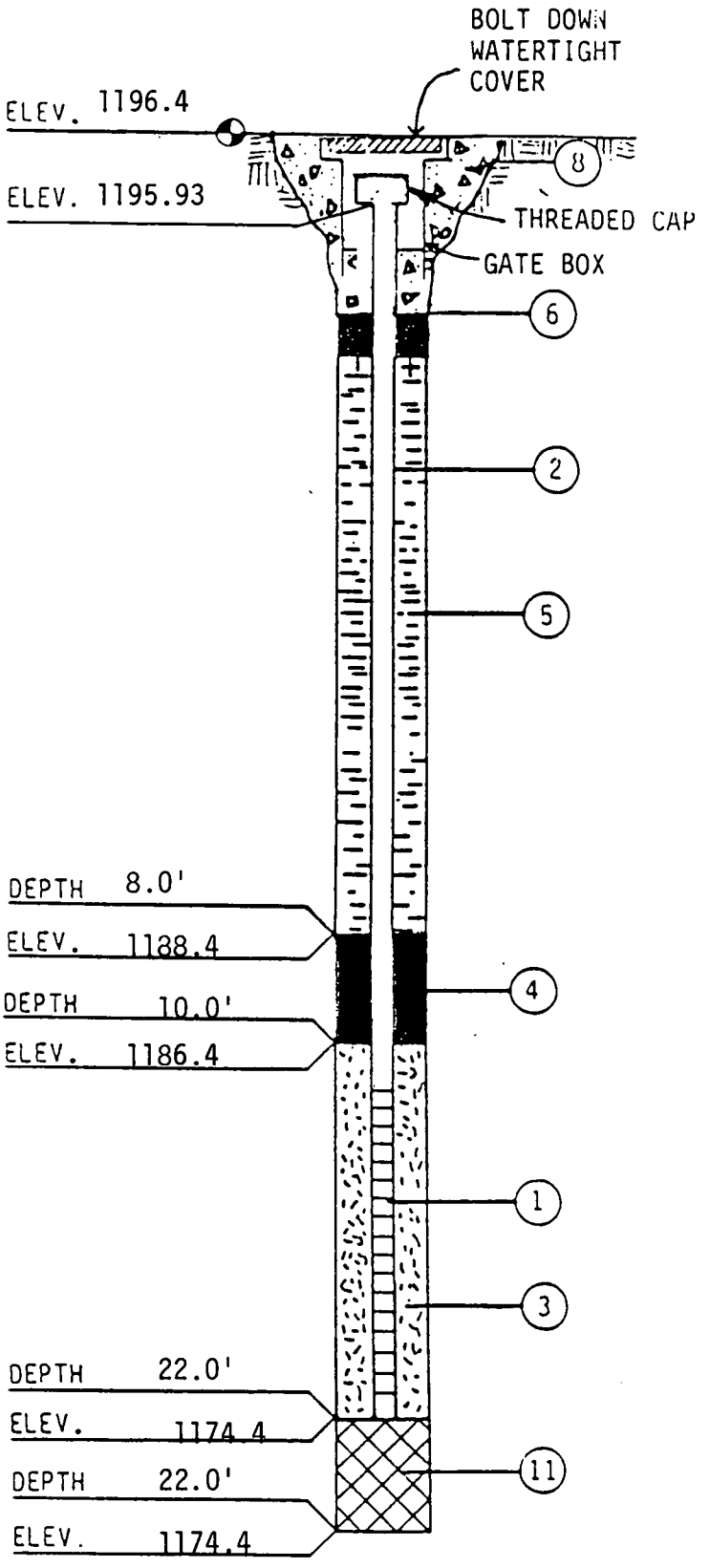
11. ADDITIVES USED (IF ANY)

    None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-22A

DATE 11/13/87

CHIEF/UNIT MK/CME 750

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 10' ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 12 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL YES (NO)

9. DRILLING METHOD HSA

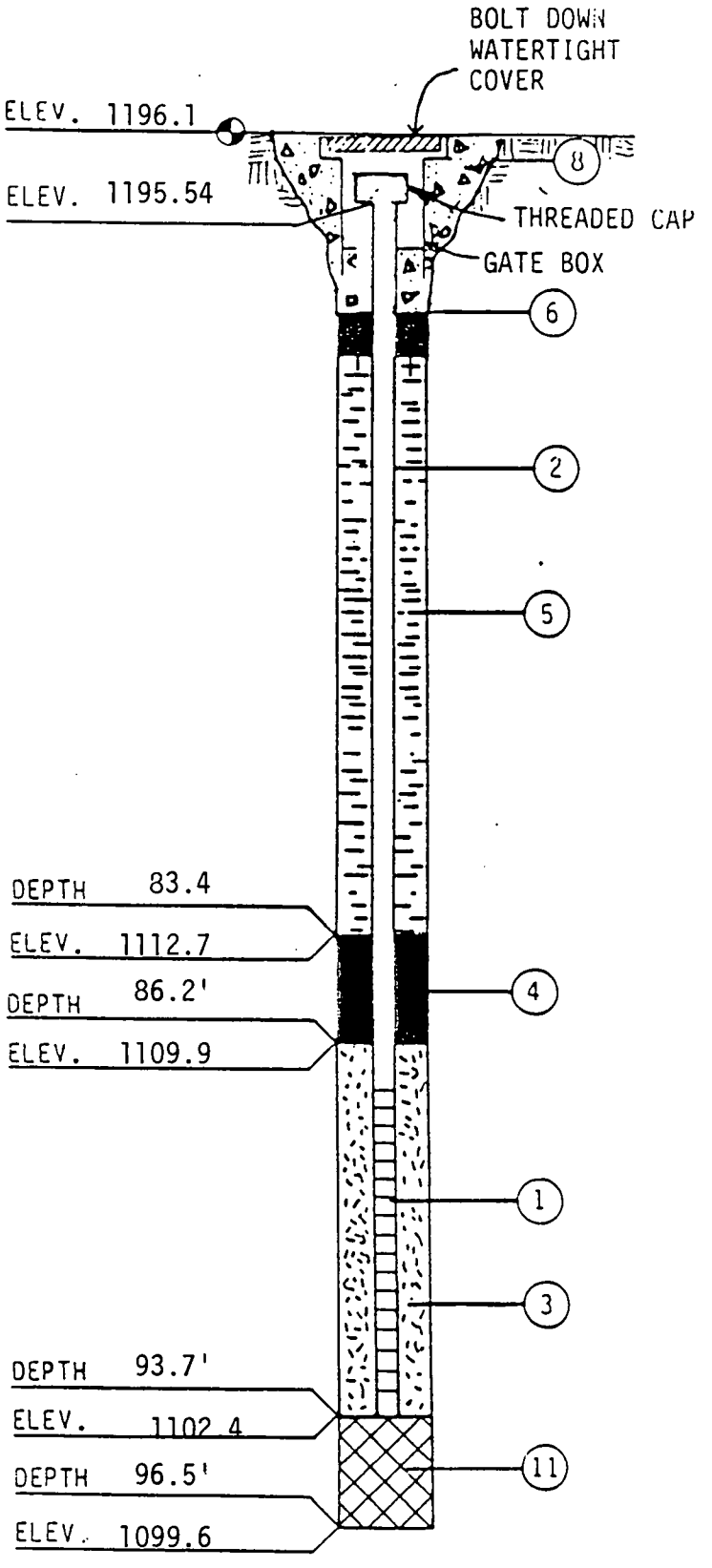
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-22

DATE 10/14/87

CHIEF/UNIT JW/D-50

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 5.0' ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 88.7 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE)
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL YES (NO)

9. DRILLING METHOD RB/DM

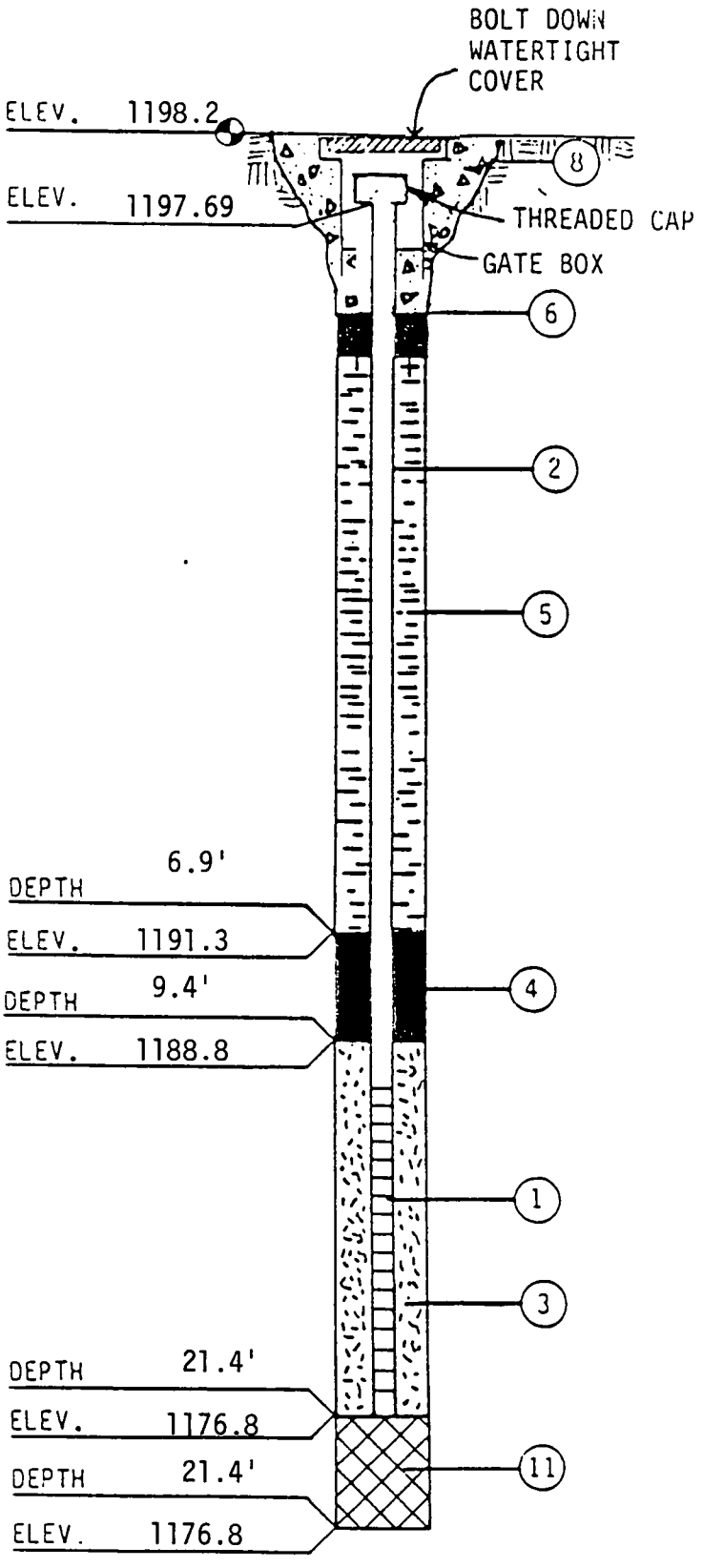
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL Natural Sand

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-23A

DATE 10/30/87

CHIEF/UNIT LE/CME 750

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 10.9 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 10.5 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Powder & Water

   HOW INSTALLED - ~~TREMIE~~
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

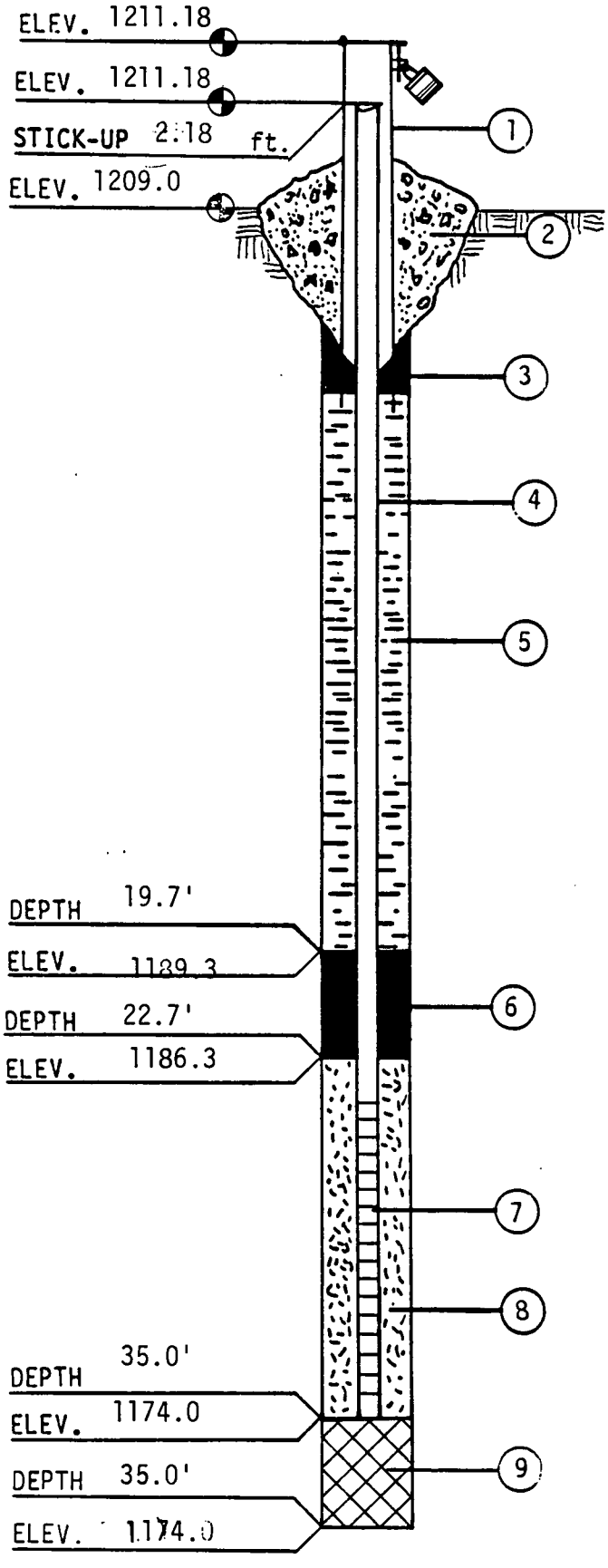
9. DRILLING METHOD HSA

10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-24A

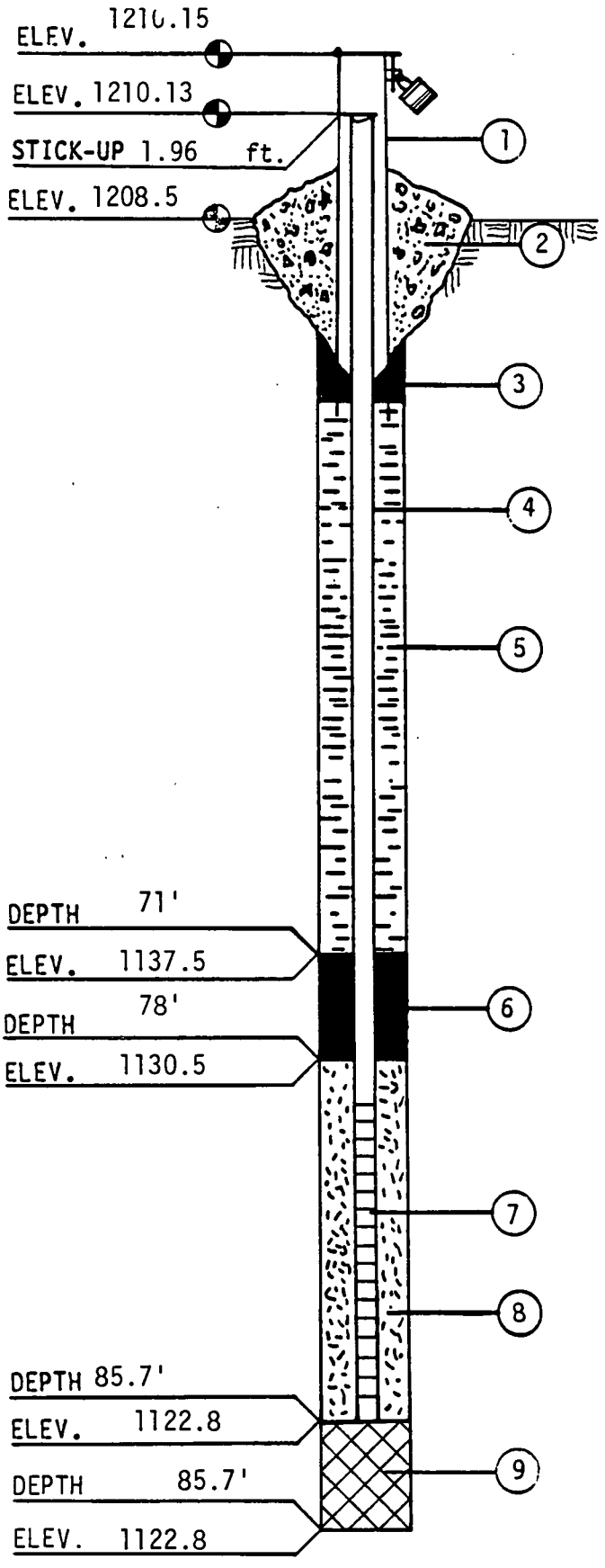
DATE 10/13/87

CHIEF/UNIT LE/CME 45C

1. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
2. CONCRETE SEAL (YES) NO
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets
4. SOLID PIPE TYPE Galvanized
   SOLID PIPE LENGTH 27.2 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
5. TYPE OF BACKFILL Bentonite-Cement Grout
   HOW INSTALLED - ~~TREMIE~~ (FROM SURFACE)
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets
7. SCREEN TYPE Stainless Steel
   SCREEN LENGTH 10'
   SLOT-SIZE 0.010" LENGTH 9.5 ft.
   SCREEN DIAMETER 2.0 in.
8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand
9. TYPE OF BACKFILL None
10. DRILLING METHOD HSA
11. ADDITIVES USED (IF ANY)
    None -

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-24

DATE 10/19/87

CHIEF/UNIT JW/D-50

1. PROTECTIVE CASING YES NO

   LOCKING YES NO

2. CONCRETE SEAL YES NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Galvanized & Stainless Steel*

   SOLID PIPE LENGTH 82.3 ft.

   JOINT TYPE SLIP/GLUED ~~THREADED~~ w/Teflon Tape on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL None

10. DRILLING METHOD RB/DM

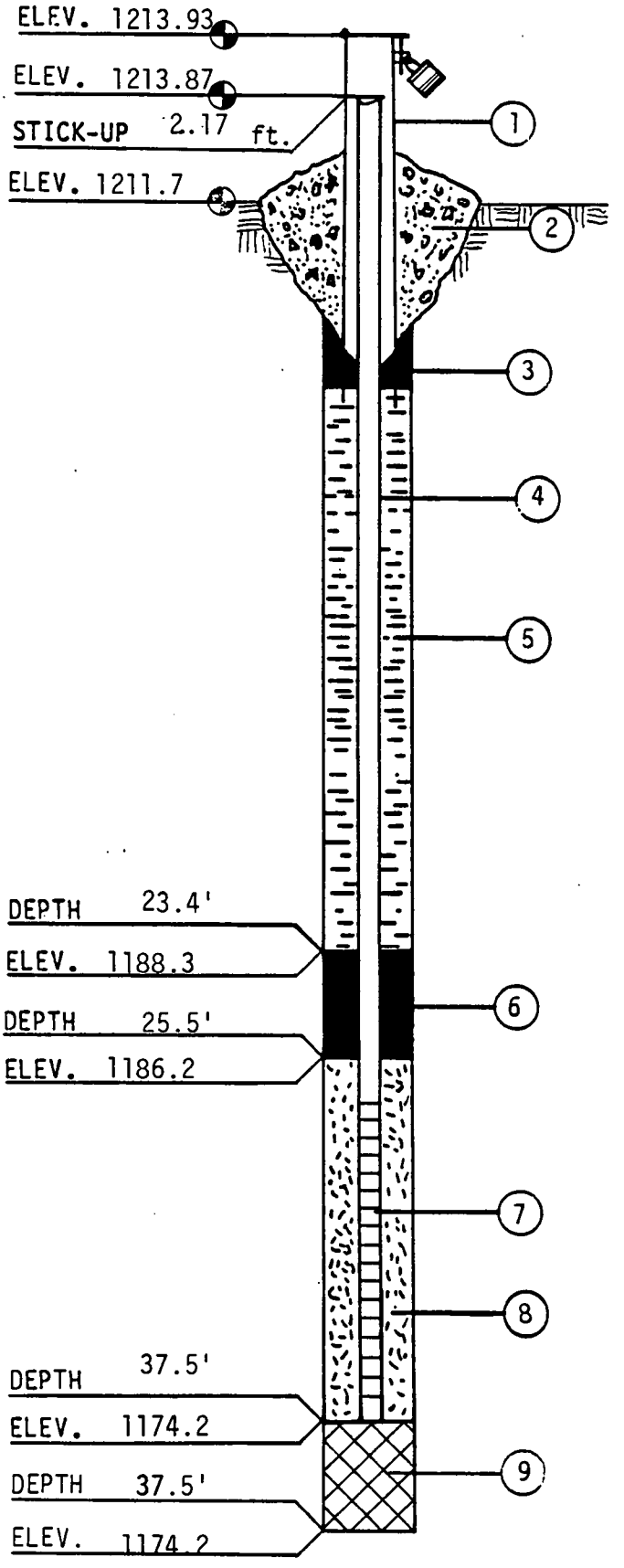
11. ADDITIVES USED (IF ANY)
    None

Note: 10' of stainless steel riser above screen

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-25A

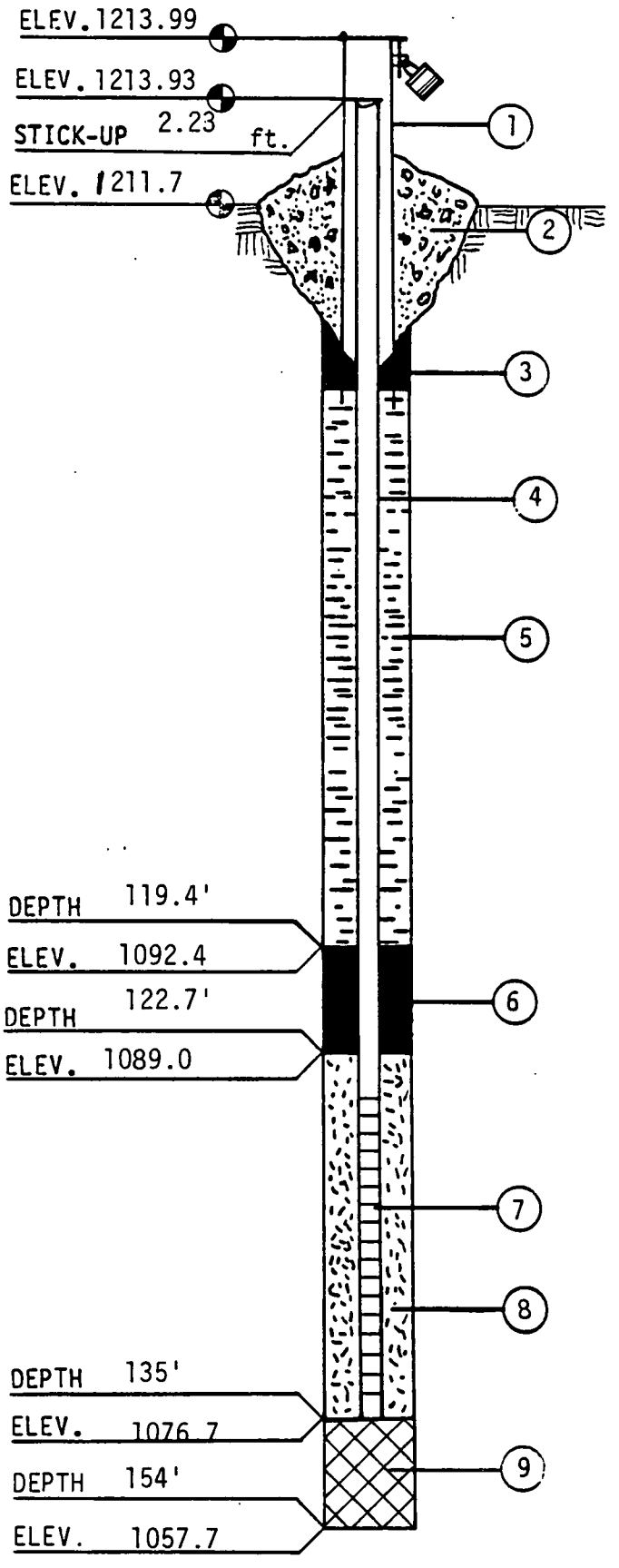
DATE 10/22/87

CHIEF/UNIT LE/CME 750

1. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
2. CONCRETE SEAL YES (NO)
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets
4. SOLID PIPE TYPE Galvanized Steel
   SOLID PIPE LENGTH 29.2 ft.
   JOINT TYPE SLIP/GLUED (THREADED) w/Teflon Tape on Joints
5. TYPE OF BACKFILL Bentonite Slrry
   HOW INSTALLED - TREMIE (FROM SURFACE)
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets
7. SCREEN TYPE Stainless Steel
   SCREEN LENGTH 10.5'
   SLOT-SIZE 0.010" LENGTH 10 ft.
   SCREEN DIAMETER 2.0 in.
8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand
9. TYPE OF BACKFILL None
10. DRILLING METHOD HSA
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 27.35' DATE 10/22/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-25

DATE 10/21/87

CHIEF/UNIT LE/CME 750

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite & Bentonite Pellets

4. SOLID PIPE TYPE Galvanized & Stainless Steel*

   SOLID PIPE LENGTH 131.7 ft.

   JOINT TYPE SLIP/GLUED (THREADED)
   w/Teflon Tape on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE)
   FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.5'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL Sand & Bentonite Pellets

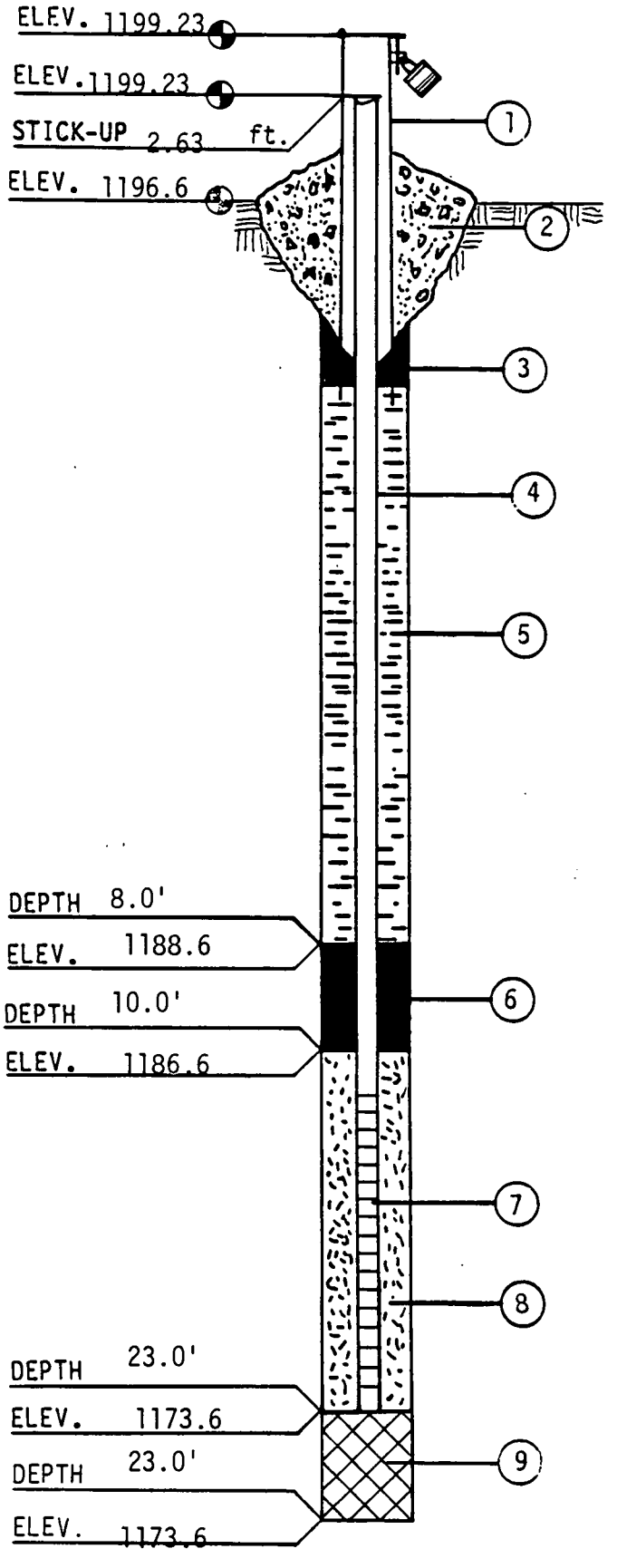
10. DRILLING METHOD RB/DM/Water

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 27.51 DATE 10/22/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-26A

DATE 11/6/87

CHIEF/UNIT MK/CME 750

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL (YES) NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 15.6 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless

   SCREEN LENGTH 10.0'

   SLOT-SIZE 0.010" LENGTH 10 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

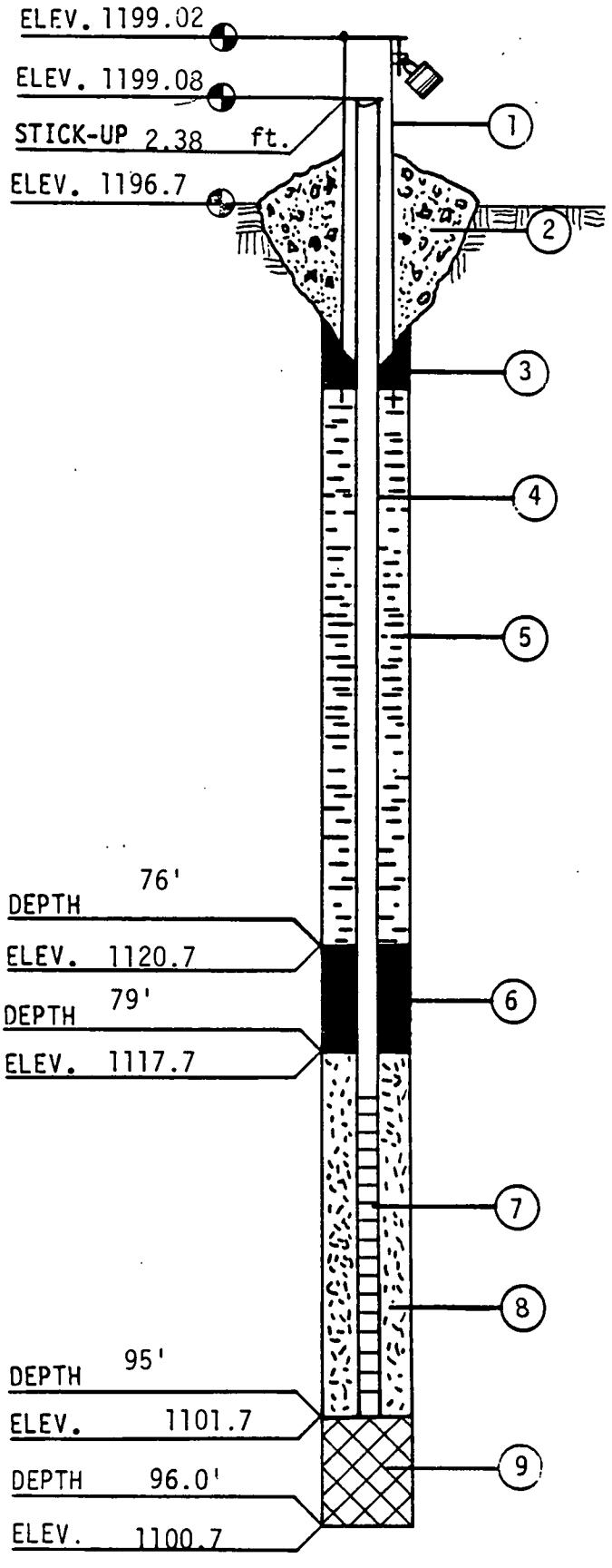
9. TYPE OF BACKFILL None

10. DRILLING METHOD HSA 4 1/4"

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL - DATE

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-26

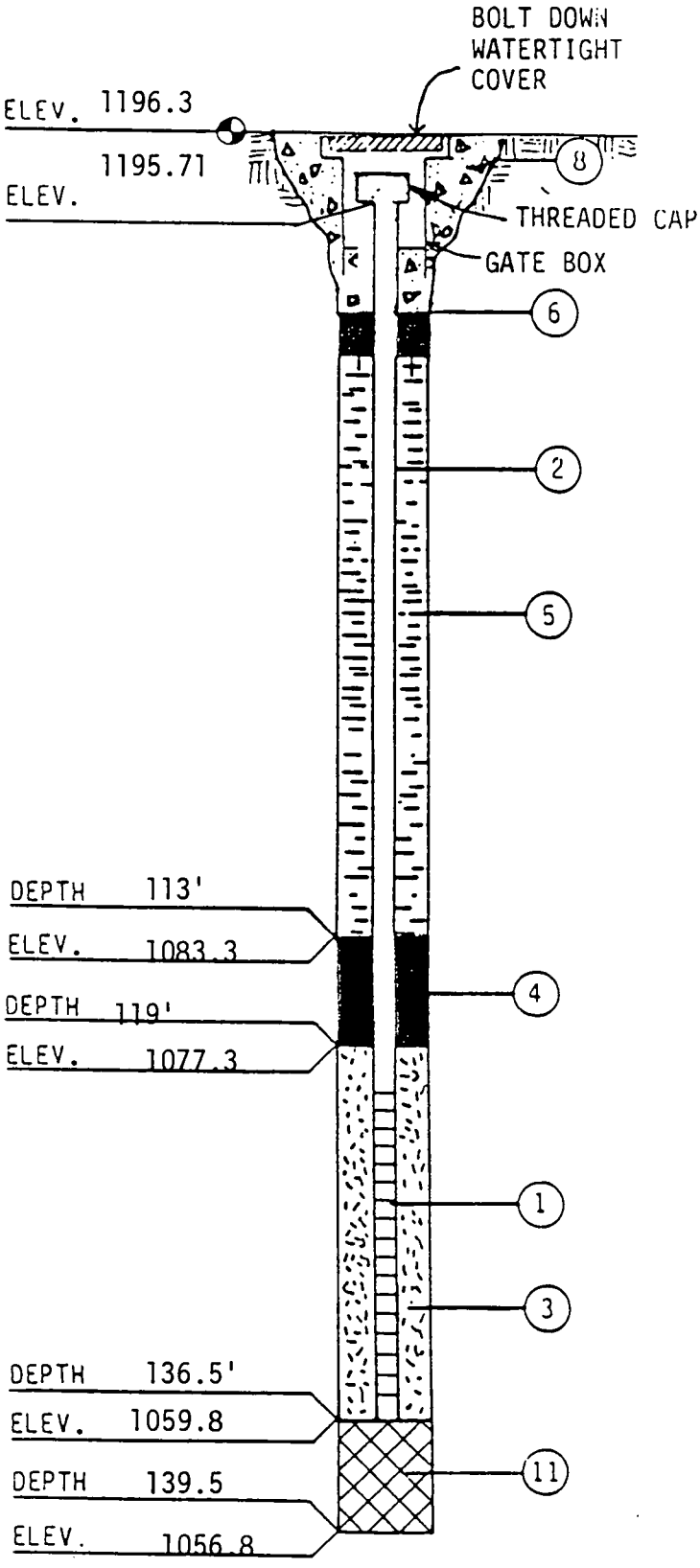
DATE 11/11/87

CHIEF/UNIT MK/CME 750

1. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
2. CONCRETE SEAL (YES) NO
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   None
4. SOLID PIPE TYPE Galvanized & Stainless Steel
   SOLID PIPE LENGTH 9T ft.
   JOINT TYPE SLIP/GLUED (THREADED)
5. TYPE OF BACKFILL Bentonite Slurry
   HOW INSTALLED - (TREMIE) FROM SURFACE
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets
7. SCREEN TYPE Stainless Steel
   SCREEN LENGTH 5'
   SLOT-SIZE 0.010" LENGTH 5.0 ft.
   SCREEN DIAMETER 2.0 in.
8. TYPE OF BACKFILL AROUND SCREEN
   Natural Sand
9. TYPE OF BACKFILL Natural
10. DRILLING METHOD RB/DM
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL - DATE

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-27

DATE 12/12/87

CHIEF/UNIT PD/D-50

1. SCREEN TYPE Stainless

   SLOTTED LENGTH 5.0 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 131 ft.

   JOINT TYPE SLIP/GLUED/(THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   #30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE)
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD RB/DM

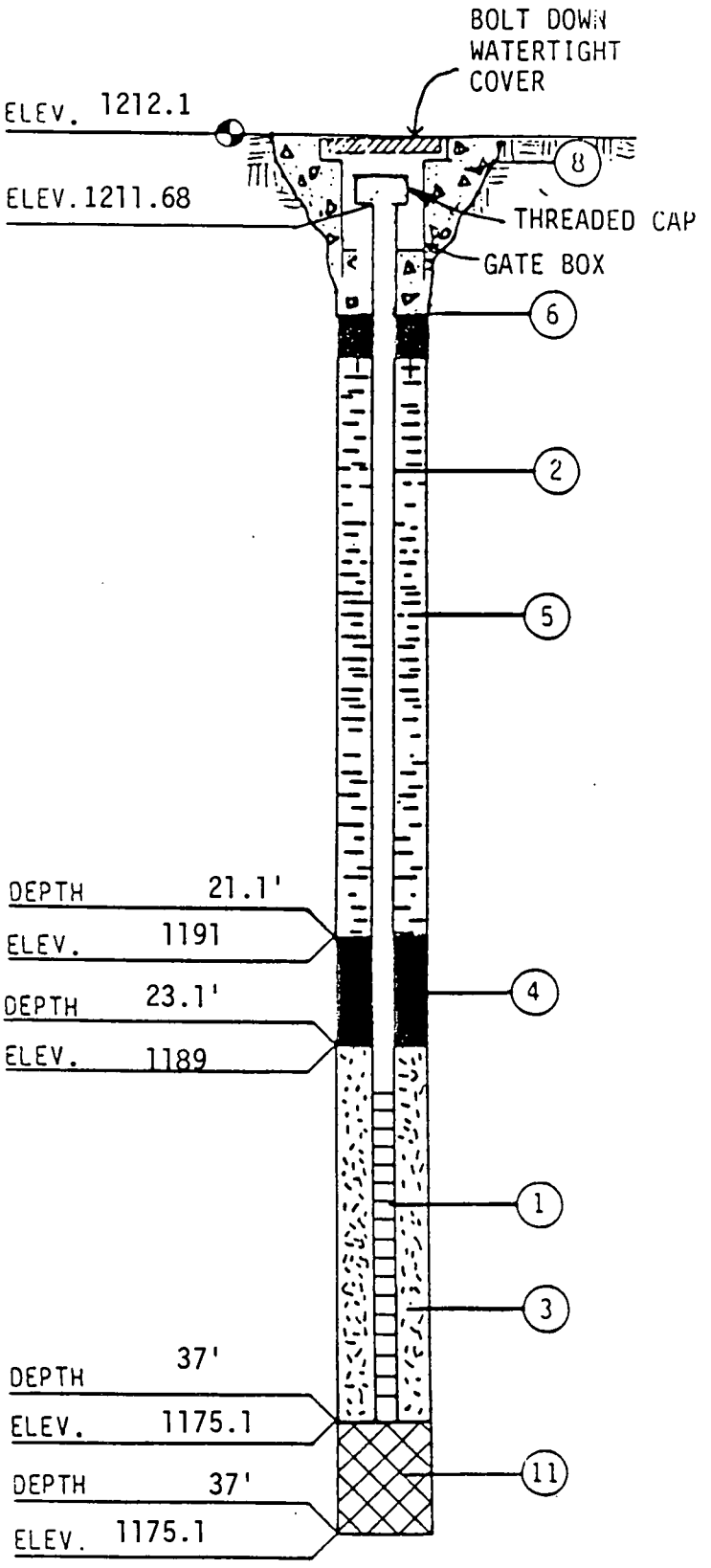
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL #30 Flint Sand

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-28A

DATE 10/13/87

CHIEF/UNIT LE/CME 45

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 9.5 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 27 ft.

   JOINT TYPE SLIP/GLUED THREADED

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets/Concrete

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL YES (NO)

9. DRILLING METHOD HSA

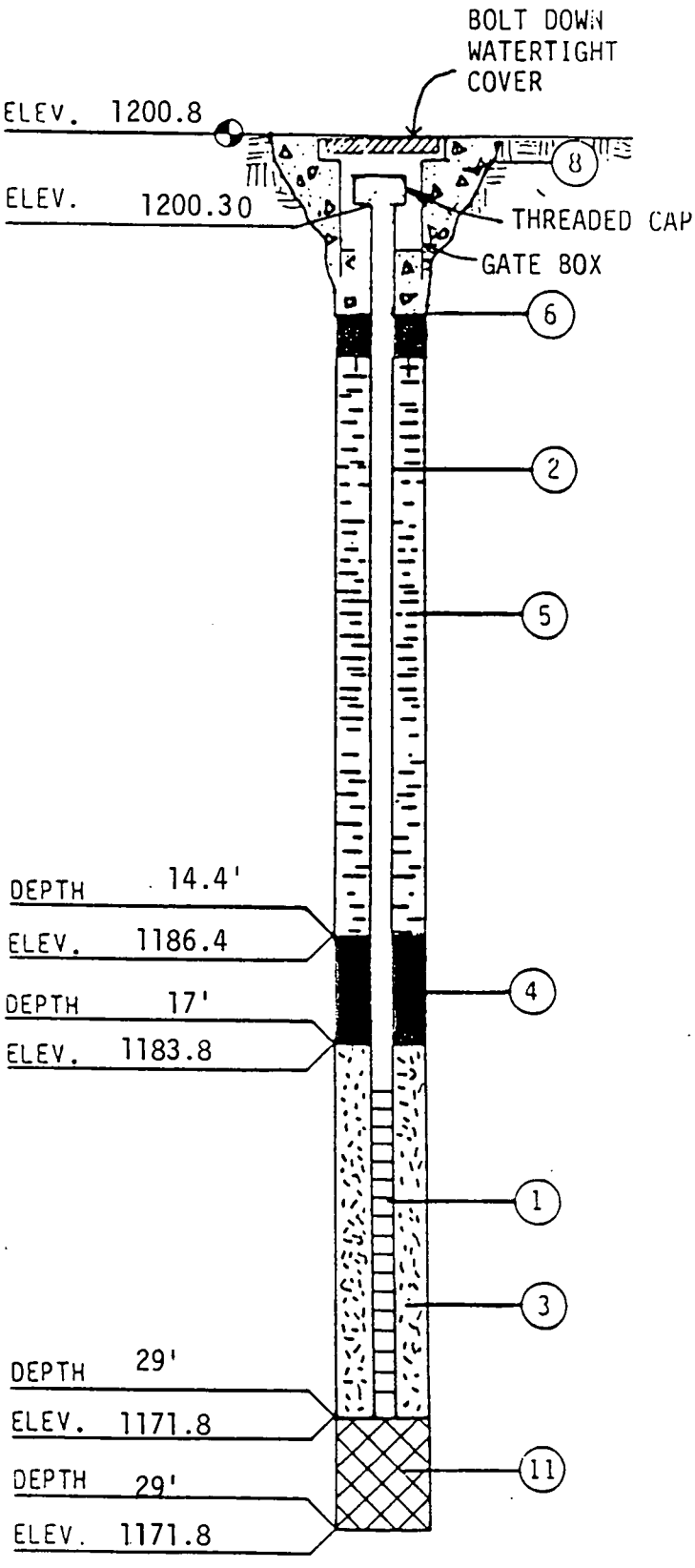
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL 27.23' DATE 10/15/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-29A

DATE 10/23/87

CHIEF/UNIT LE/CME 750

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 10 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 18.1 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular & Pellet Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD HSA

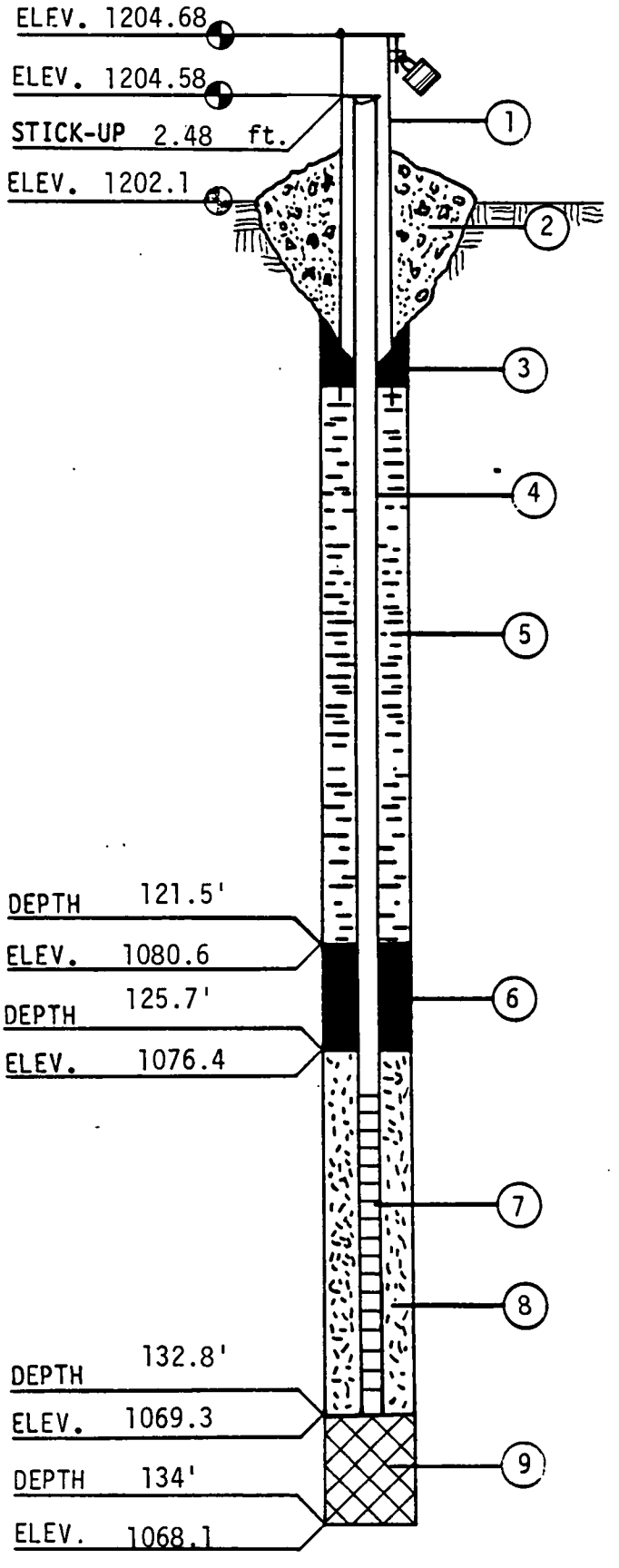
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL 19.12 DATE 10/23/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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*Note: 10' of stainless steel riser above the screen.

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.26

BORING/WELL NO. E-30

DATE 10/30/87

CHIEF/UNIT JW/D50

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Stainless/Galvanized Steel*

   SOLID PIPE LENGTH 130.3 ft.

   JOINT TYPE SLIP/GLUED (THREADED) w/Teflon Taped on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - (TREMIE) FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL - Natural

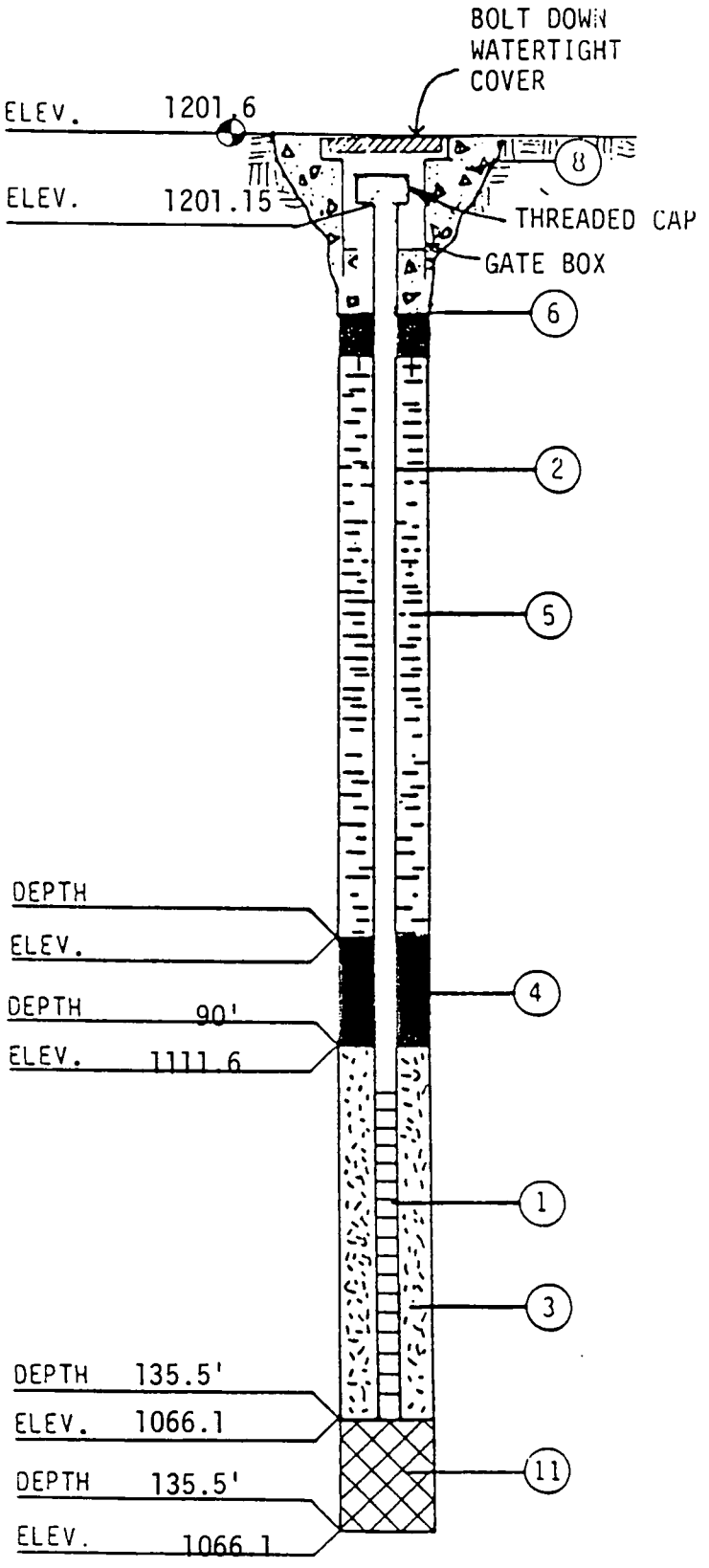
10. DRILLING METHOD RB/DM

11. ADDITIVES USED (IF ANY)
    - None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. E-31

DATE 11/5/87

CHIEF/UNIT LE/CME 750

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 5.0 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized & Stainless Steel

   SOLID PIPE LENGTH 129.5 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Natural Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Slurry

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE - FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL YES (NO)

9. DRILLING METHOD RB/DM

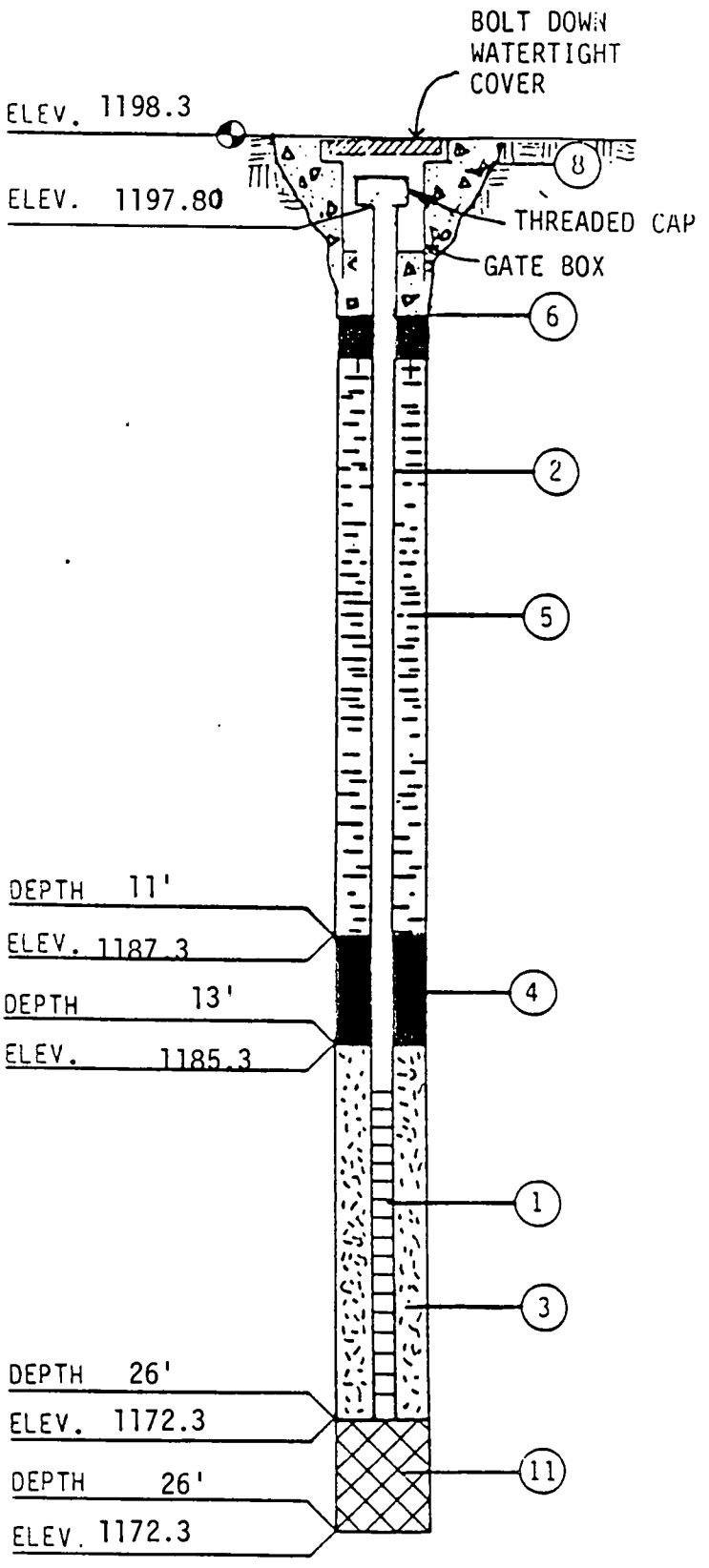
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. F-37A

DATE 11/12/87

CHIEF/UNIT MK/CME 750

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 10 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 15.5 ft.

   JOINT TYPE SLIP/GLUED THREADED

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD HSA

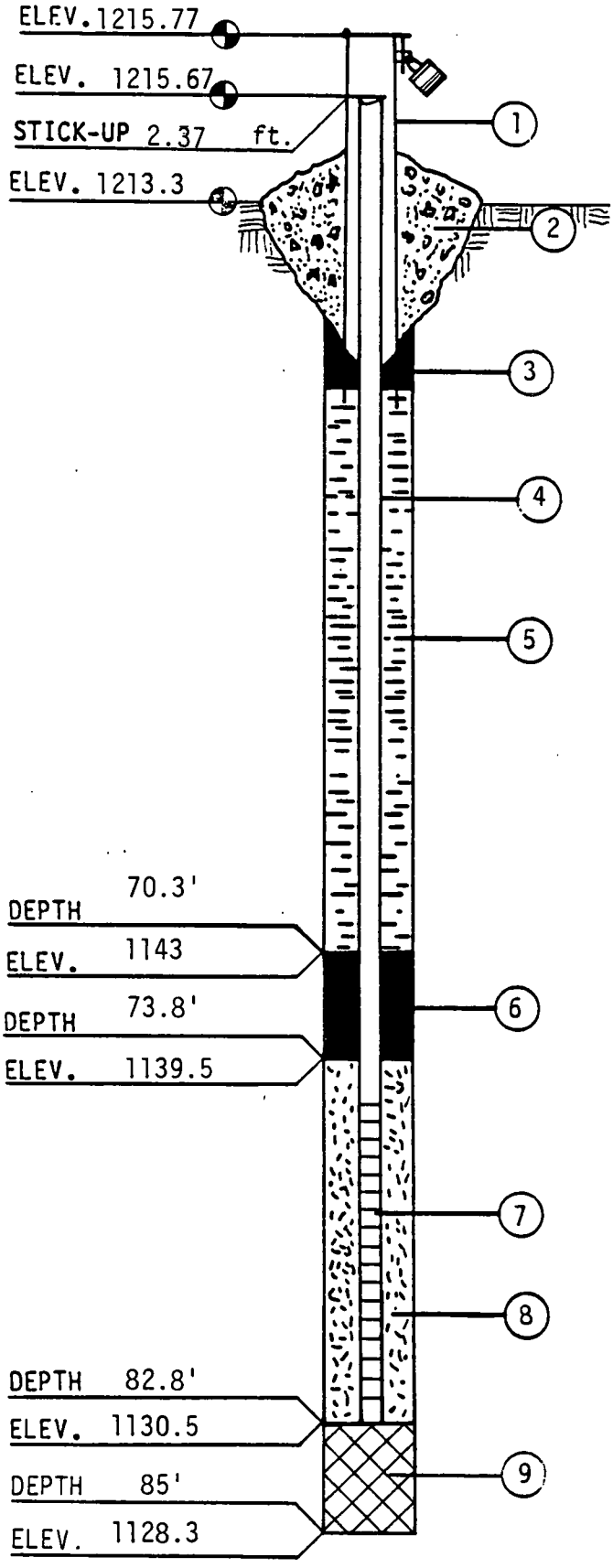
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-50

DATE 10/29/87

CHIEF/UNIT LE/CME 750

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular/Bentonite Pellets

4. SOLID PIPE TYPE* Galvanized/Stainless Steel

   SOLID PIPE LENGTH 81.9 ft.

   JOINT TYPE SLIP/GLUED (THREADED) w/Teflon Tape on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE) ~~FROM~~ SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.5'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL Natural Cave-in

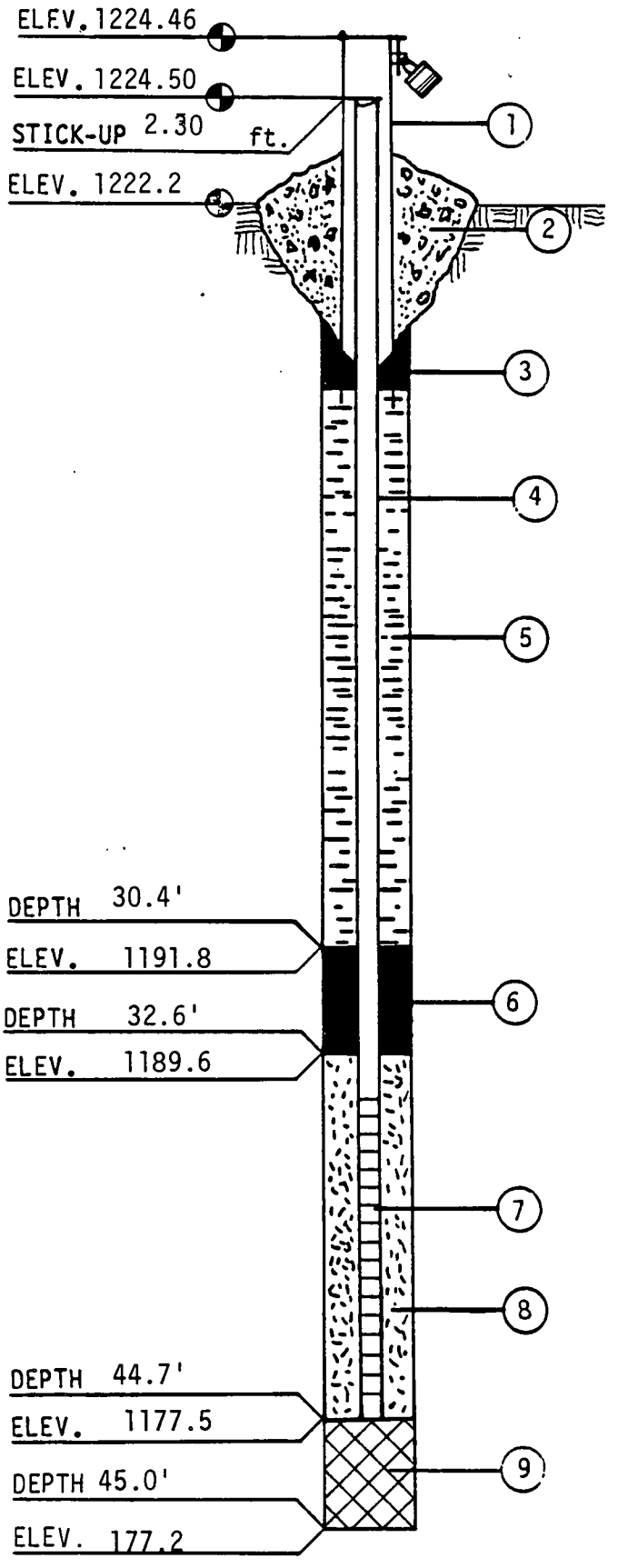
10. DRILLING METHOD RB/DM/Water

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



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MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-51A

DATE 10/15/87

CHIEF/UNIT LE/CME 45C

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 37.2 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 10'

   SLOT-SIZE 0.010" LENGTH 9.5 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

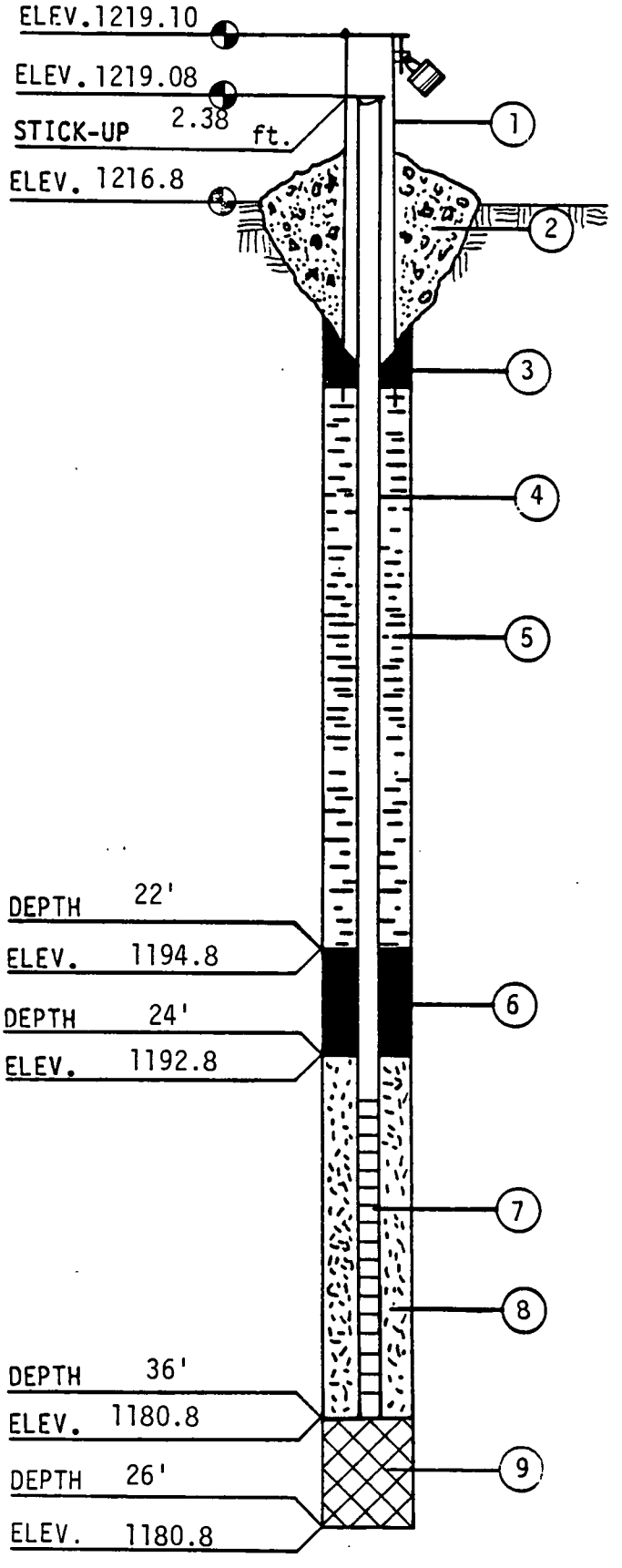
9. TYPE OF BACKFILL Natural Sand

10. DRILLING METHOD HSA

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 34.2' DATE 10/15/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-52A

DATE 11/12/87

CHIEF/UNIT MK/CME 750

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   None

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 28.3 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 10'

   SLOT-SIZE 0.010" LENGTH 10 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

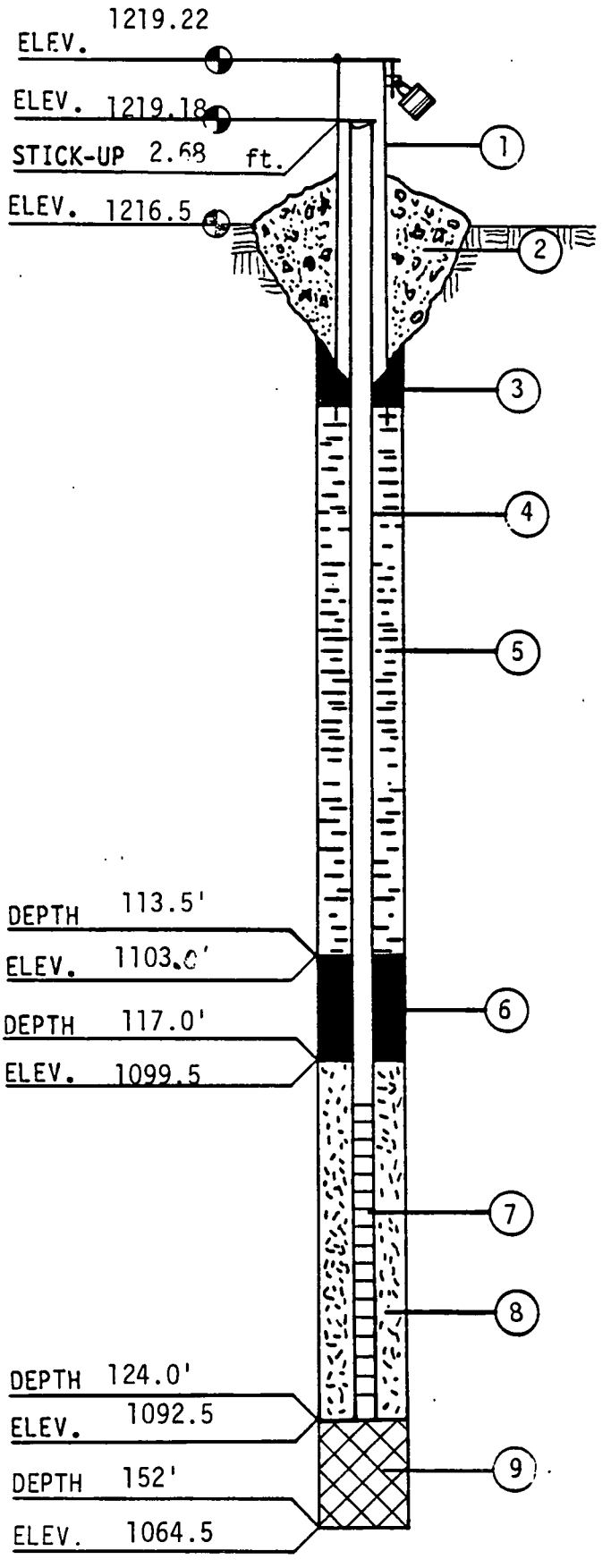
9. TYPE OF BACKFILL -

10. DRILLING METHOD HSA

11. ADDITIVES USED (IF ANY)
    -

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



WARZYN ENGINEERING INC

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-52

DATE 11/10/87

CHIEF/UNIT MP/Canterra

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite & Pellets

4. SOLID PIPE TYPE Galvanized & Stainless ~~Steel*~~

   SOLID PIPE LENGTH 121.7 ft.

   JOINT TYPE SLIP/GLUED (THREADED) w/Teflon Tape on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED ~~TREMIE~~ FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 4.5 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

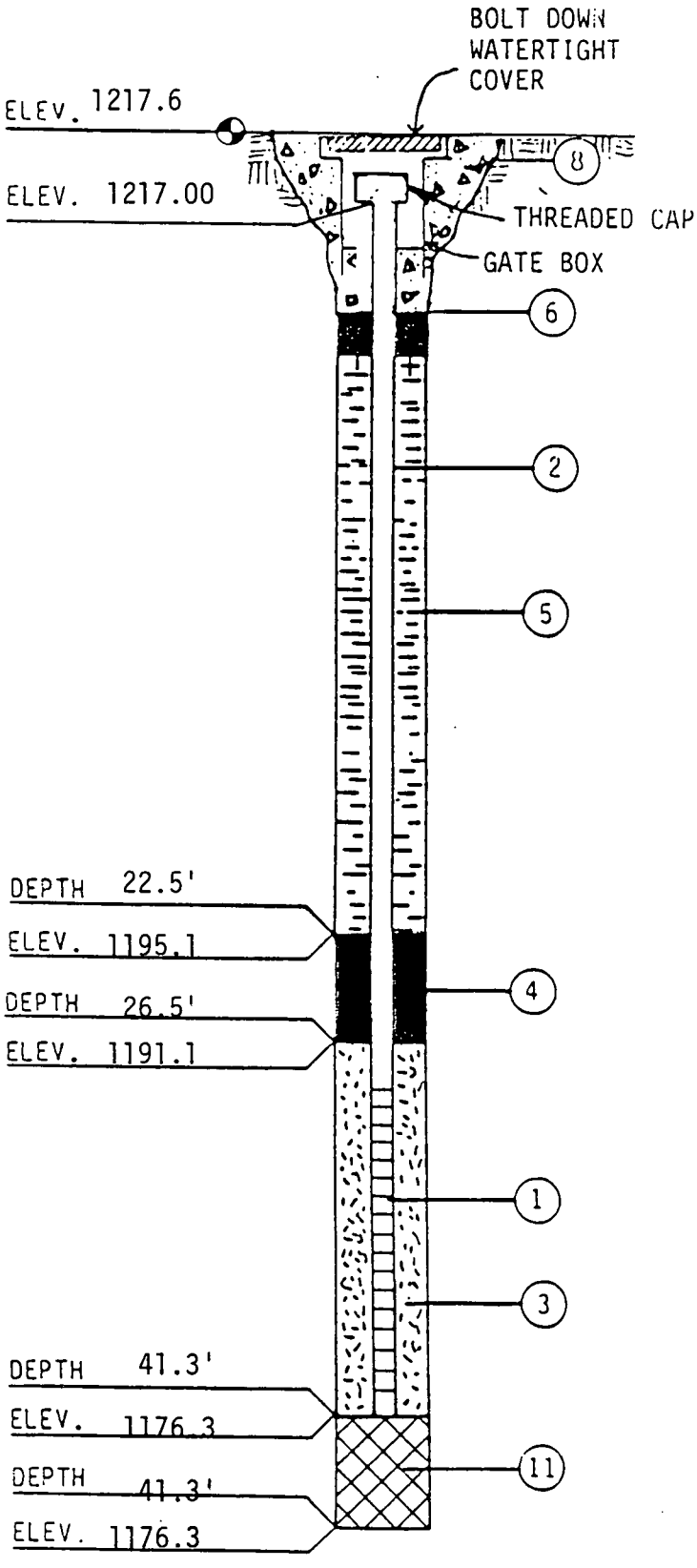
9. TYPE OF BACKFILL No. 30 Flint Sand & ~~Bentonite Pellts~~

10. DRILLING METHOD RB/DM

11. ADDITIVES USED (IF ANY)
    -

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-53A

DATE 11/2/87

CHIEF/UNIT JW/D50

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 10 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 30.2 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD HSA

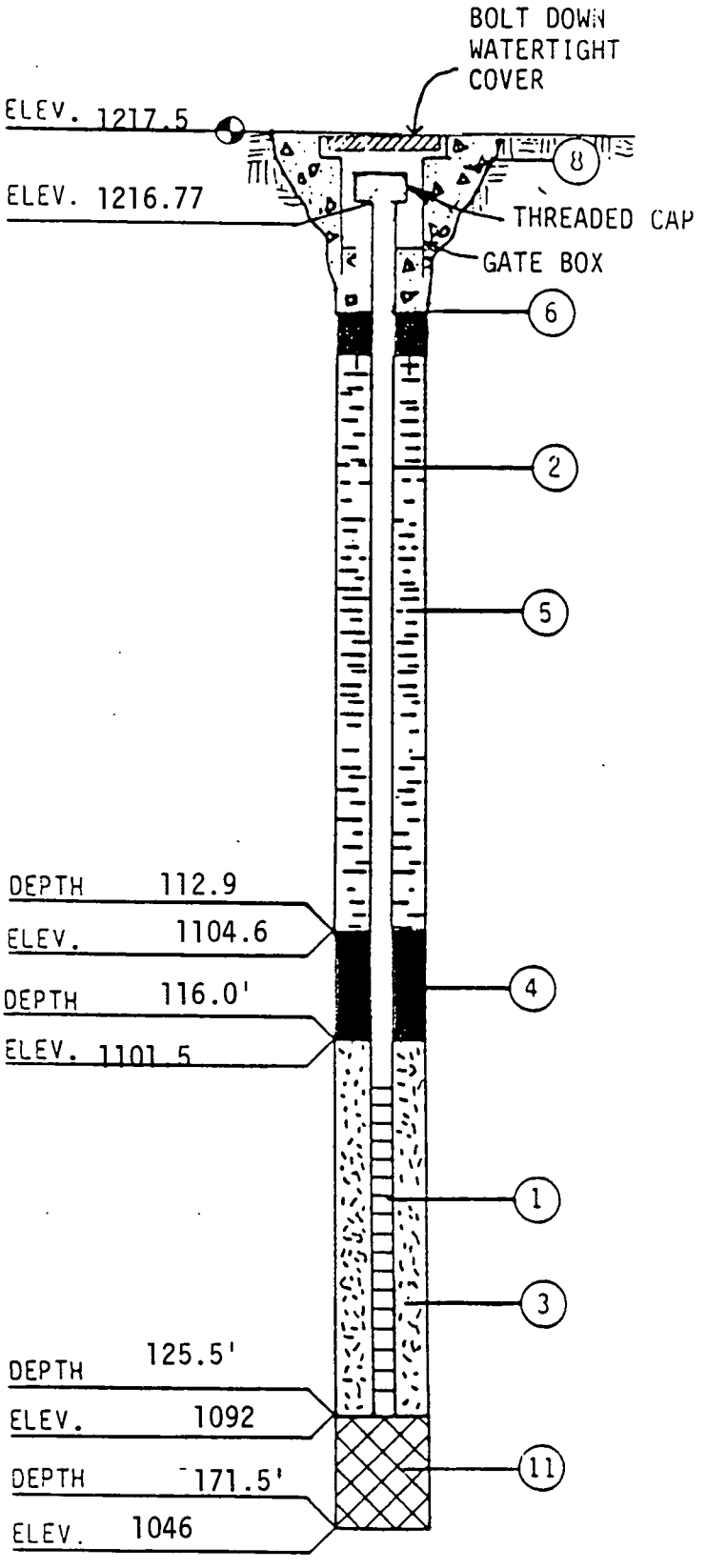
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-53

DATE 11/1/87

CHIEF/UNIT JW/D50

1. SCREEN TYPE Stainless Steel

   SLOTTED LENGTH 4.5 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized & 10' of ~~Stainless~~

   SOLID PIPE LENGTH 119.8 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD RB/DM

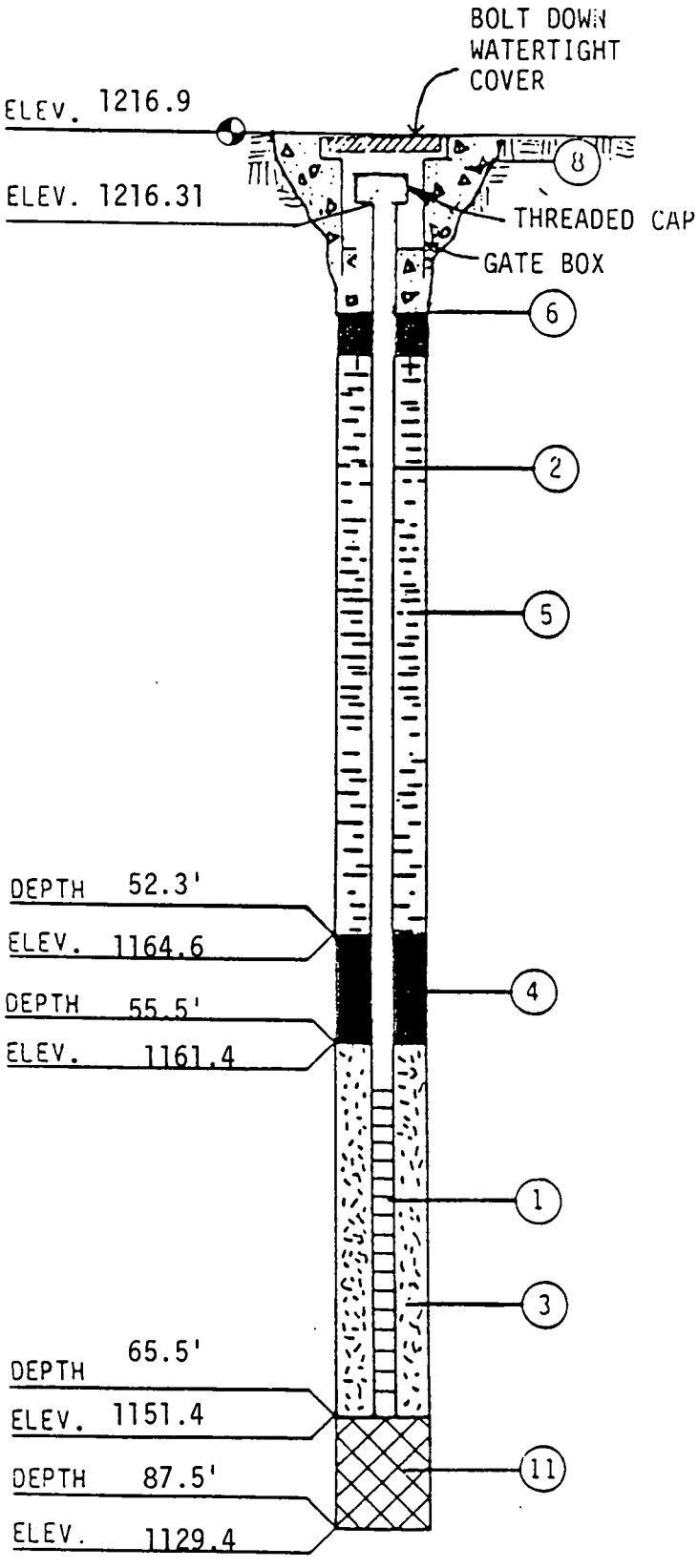
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL Natural Sand, #30 Flint Sand ~~& Bentonite Pellets~~

WATER LEVEL - DATE

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-54

DATE 11/12/87

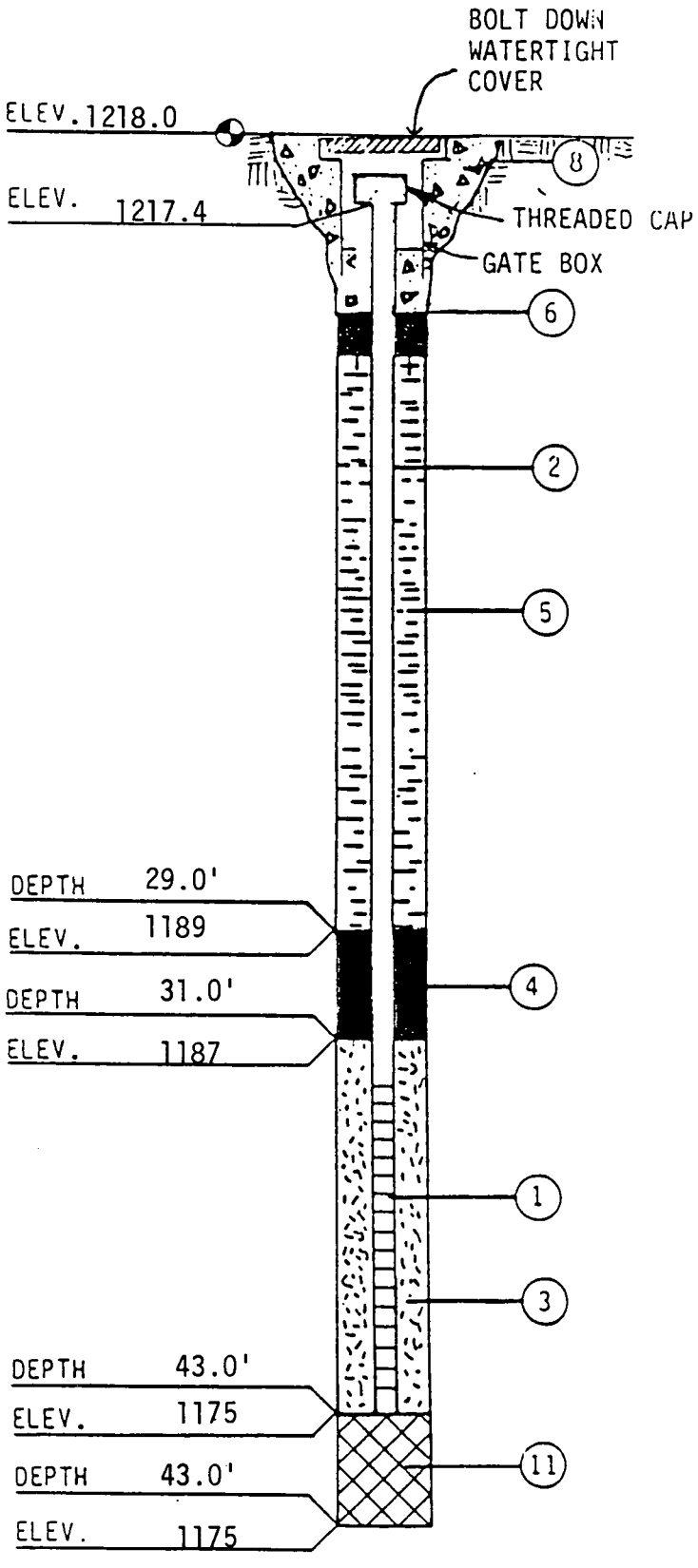
CHIEF/UNIT JW/D50

1. SCREEN TYPE Stainless Steel
   SLOTTED LENGTH 4.5 ft.
   SLOT SIZE 0.010"
   SCREEN DIAMETER 2.0 in.
2. SOLID PIPE TYPE Galvanized & Stainless Steel
   SOLID PIPE LENGTH 59.9 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand
4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets
5. TYPE OF BACKFILL Bentonite Slurry
   HOW INSTALLED - TREMIE
   (FROM SURFACE)
6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Powder
7. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
8. CONCRETE SEAL (YES) NO
9. DRILLING METHOD HSA & RB/DM
10. ADDITIVES USED (IF ANY)
    None
11. TYPE OF BACKFILL Natural Sand, #30 Flint Sand & Bentonite Pellets

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-55A

DATE 10/5/87

CHIEF/UNIT LE/CME-45C

1. SCREEN TYPE Stainless

   SLOTTED LENGTH 9.5 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 32.4 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD HSA

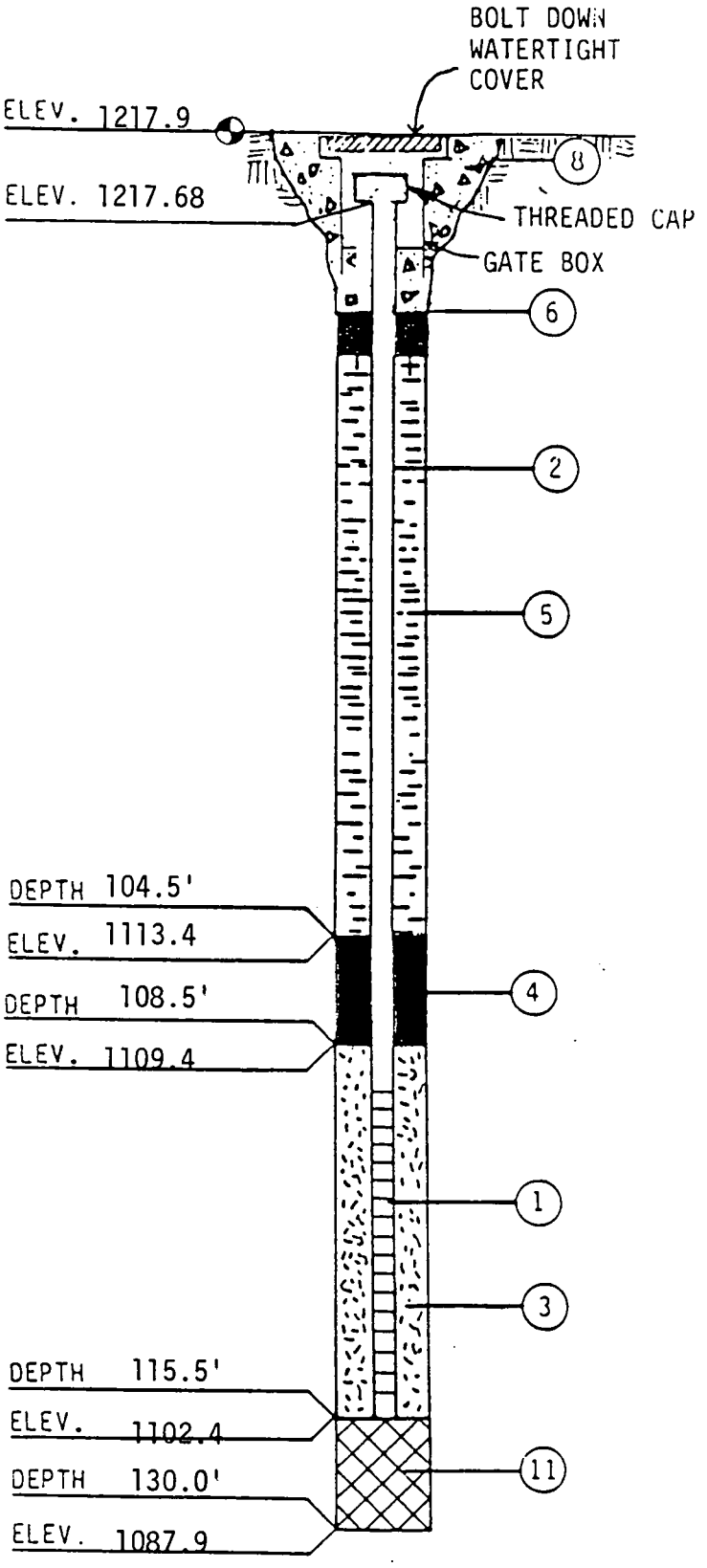
10. ADDITIVES USED (IF ANY)
    -

11. TYPE OF BACKFILL -

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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Note: 10' of stainless steel riser above screen.

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-55

DATE 10/29/87

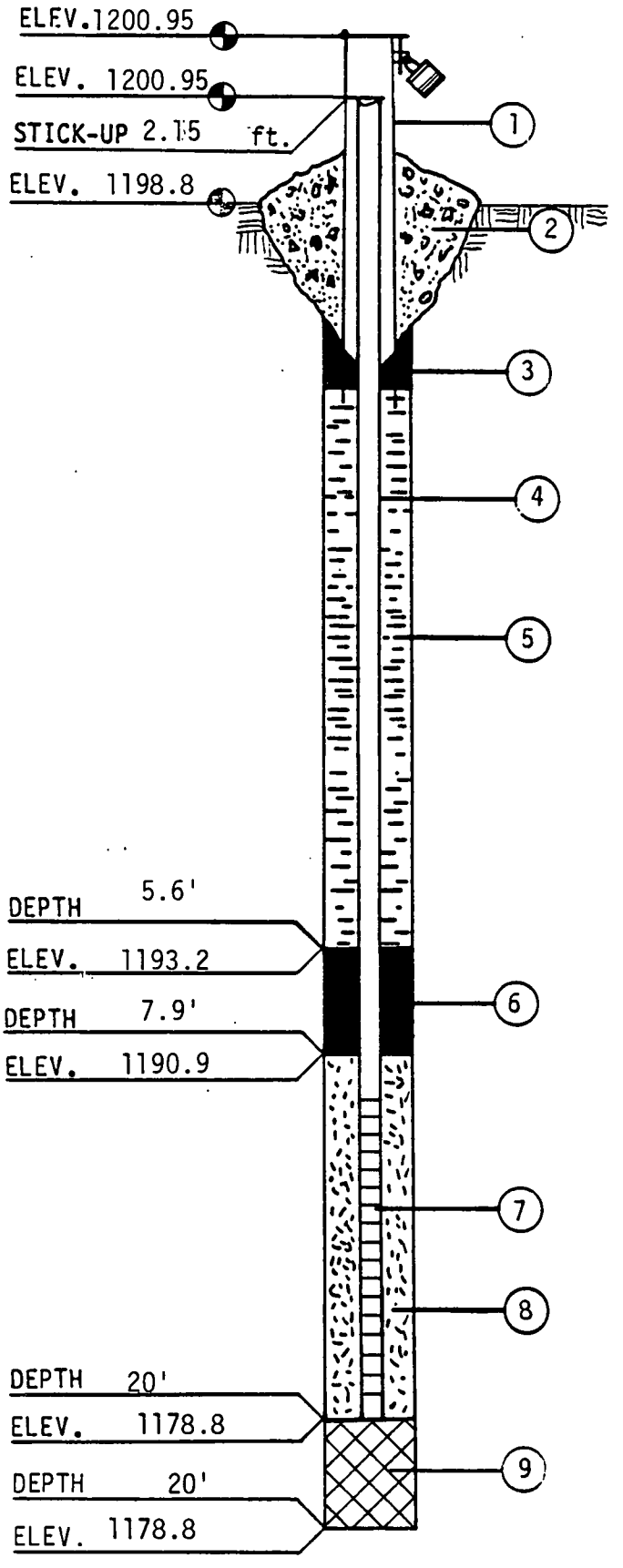
CHIEF/UNIT MP/D-50

1. SCREEN TYPE Stainless Steel
   SLOTTED LENGTH 5.0 ft.
   SLOT SIZE 0.010"
   SCREEN DIAMETER 2.0 in.
2. SOLID PIPE TYPE 2" Galvanized & Stainless Steel*
   SOLID PIPE LENGTH 110.3 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
3. TYPE OF BACKFILL AROUND SCREEN Natural Sand
4. TYPE OF LOWER SEAL (IF INSTALLED) Bentonite Pellets
5. TYPE OF BACKFILL Bentonite Slurry
   HOW INSTALLED (TREMIE) FROM SURFACE
6. TYPE OF SURFACE SEAL (IF INSTALLED) Bentonite Slurry
7. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
8. CONCRETE SEAL YES (NO)
9. DRILLING METHOD RB/DM
10. ADDITIVES USED (IF ANY) -
11. TYPE OF BACKFILL Natural Sand

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-56A

DATE 10/15/87

CHIEF/UNIT LE/CME 45C

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Galvanized

   SOLID PIPE LENGTH 12.2 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 10'

   SLOT-SIZE 0.010" LENGTH 9.5 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL None

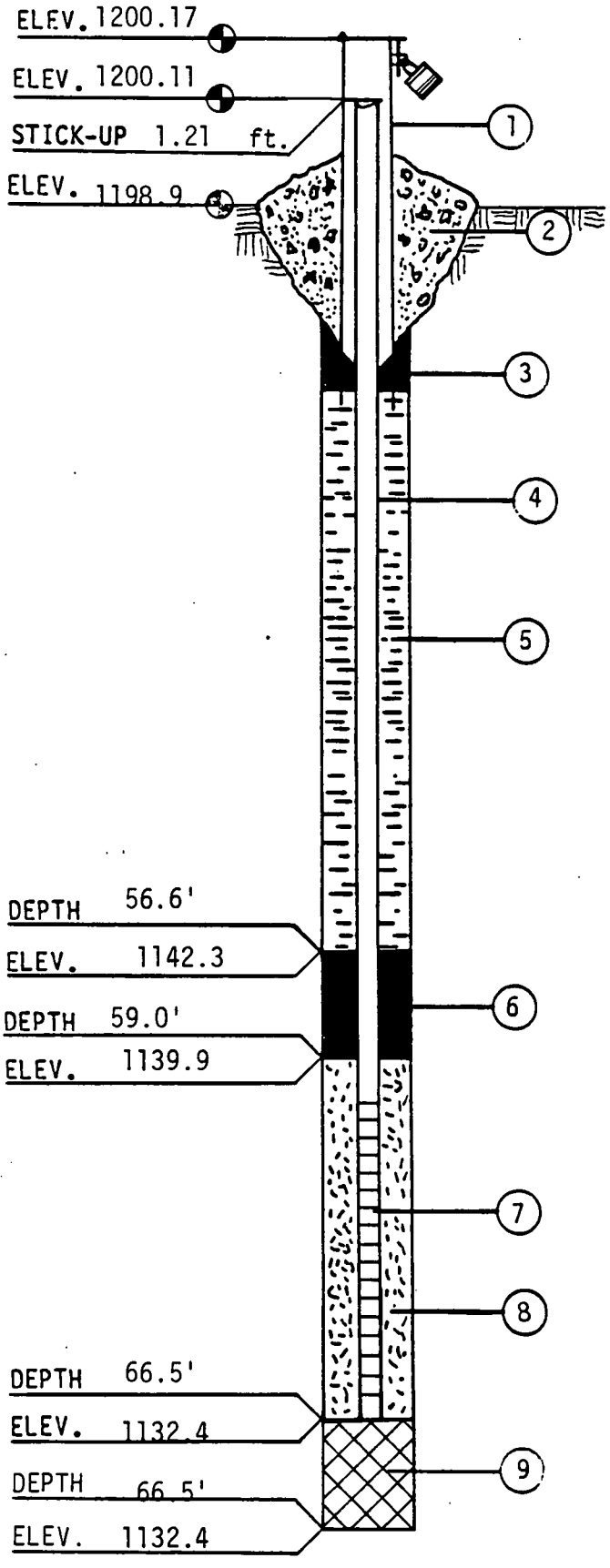
10. DRILLING METHOD HSA

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 8.7' DATE 10/15/87

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-56

DATE 10/20/87

CHIEF/UNIT JW/D-50

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Galvanized & Stainless Steel*

   SOLID PIPE LENGTH 62.7 ft.

   JOINT TYPE SLIP/GLUED (THREADED)
   w/Teflon Tape at joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED (TREMIE FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 5.0 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL None

10. DRILLING METHOD RB/DM

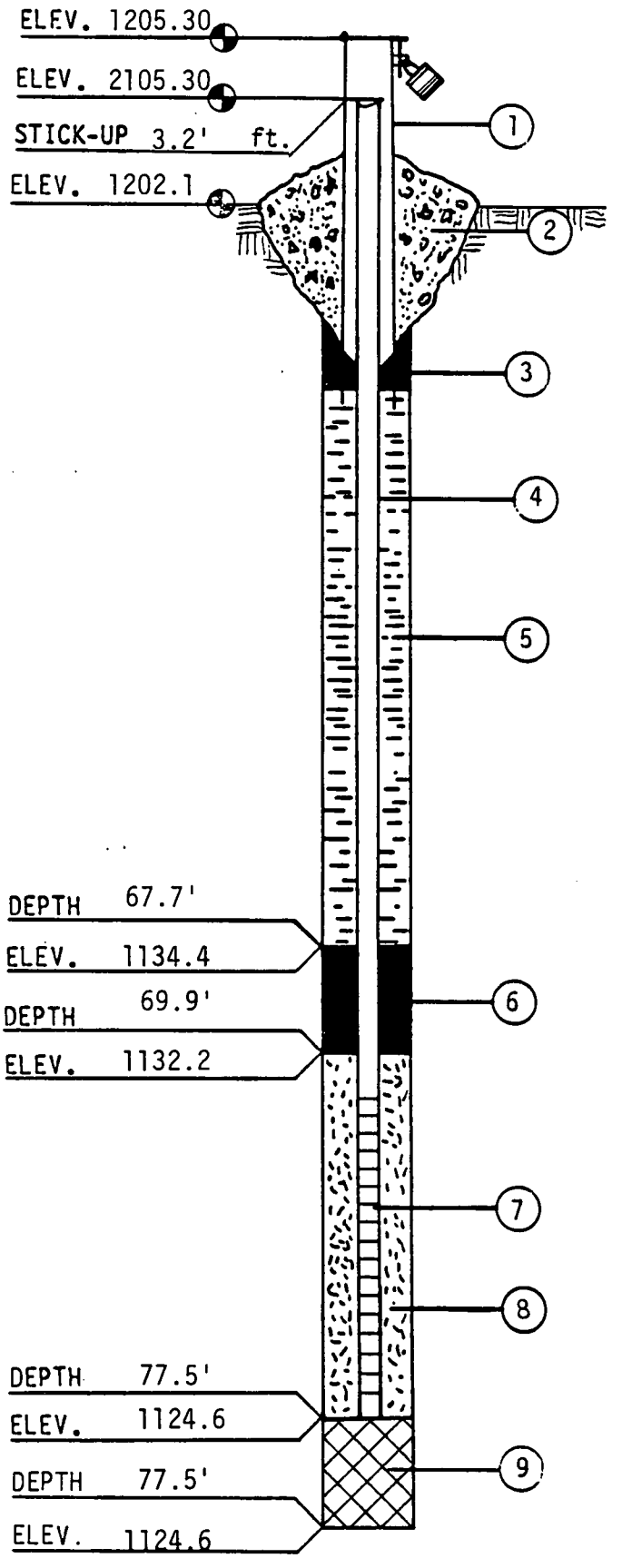
11. ADDITIVES USED (IF ANY)
    None

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*Note: 10' of Stainless Steel Riser above Screen.

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



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MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.25

BORING/WELL NO. W-57

DATE 10/22/87

CHIEF/UNIT JW/D-50

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite Pellets

4. SOLID PIPE TYPE Stainless/Galvanized Steel

   SOLID PIPE LENGTH 75.7 ft.

   JOINT TYPE SLIP/GLUED (THREADED) w/Teflon Tape on Joints

5. TYPE OF BACKFILL Bentonite Slurry

   HOW INSTALLED ~~TREMIE~~ FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Bentonite Pellets

7. SCREEN TYPE Stainless Steel

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 4.5 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   No. 30 Flint Sand

9. TYPE OF BACKFILL None

10. DRILLING METHOD RB/DM

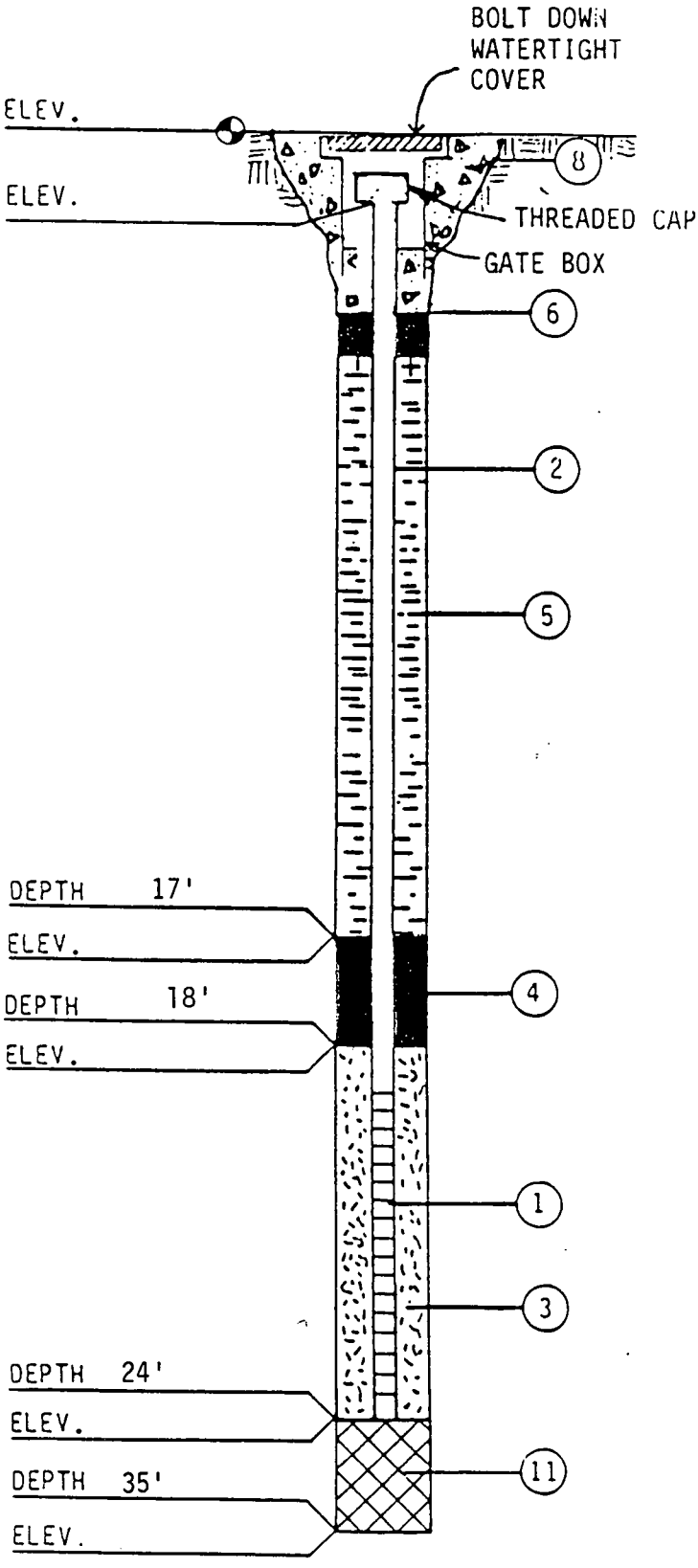
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL - DATE

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

APPENDIX D.2

GAS PROBE CONSTRUCTION DETAILS



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-3D

DATE 6/29/88

CHIEF/UNIT LL/CME 750

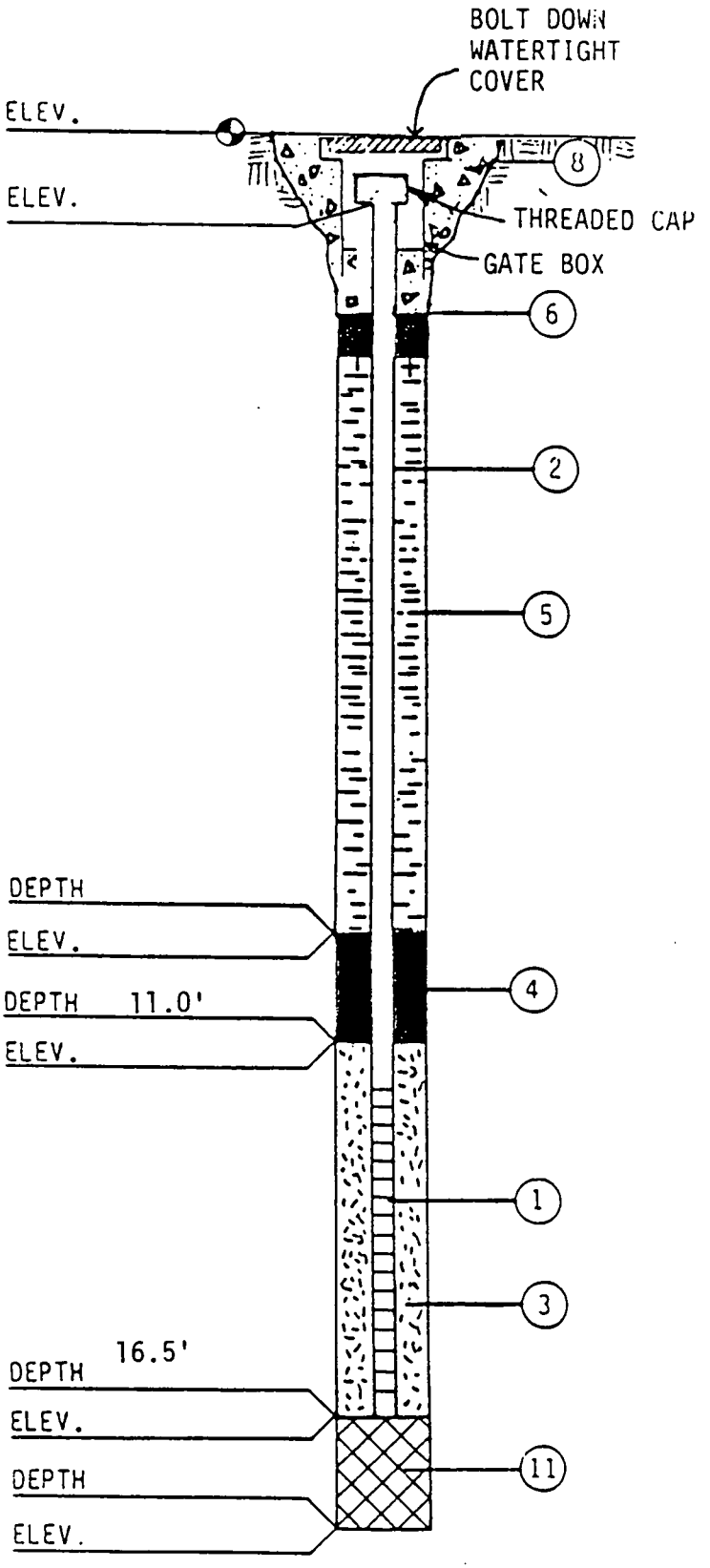
1. SCREEN TYPE SCH 40 PVC
   SLOTTED LENGTH 5.0 ft.
   SLOT SIZE NA
   SCREEN DIAMETER 3/4 in.
2. SOLID PIPE TYPE SCH 40 PVC
   SOLID PIPE LENGTH 19.0 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
3. TYPE OF BACKFILL AROUND SCREEN
   Pea Gravel
4. TYPE OF LOWER SEAL (IF INSTALLED)
   Granular Bentonite
5. TYPE OF BACKFILL Gravel
   HOW INSTALLED - TREMIE
   (FROM SURFACE)
6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite
7. PROTECTIVE CASING (YES) NO
   LOCKING YES (NO)
8. CONCRETE SEAL (YES) NO
9. DRILLING METHOD 4¼" HSA
10. ADDITIVES USED (IF ANY)
    None
11. TYPE OF BACKFILL Cave-in & Flint Sand

Note: Probe B-3D is nested with probe B-3S within Boring B3

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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Note: Probe B-3S is nested with Probe B-3D within Boring B3

GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-3S

DATE 6/29/88

CHIEF/UNIT LL/CME 750

1. SCREEN TYPE Hand Slot SCH 40 PVC

   SLOTTED LENGTH 5.0 ft.

   SLOT SIZE –

   SCREEN DIAMETER 3/4 in.

2. SOLID PIPE TYPE 3/4" SCH 40 PVC

   SOLID PIPE LENGTH 11.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   NA

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD 4¼" HSA

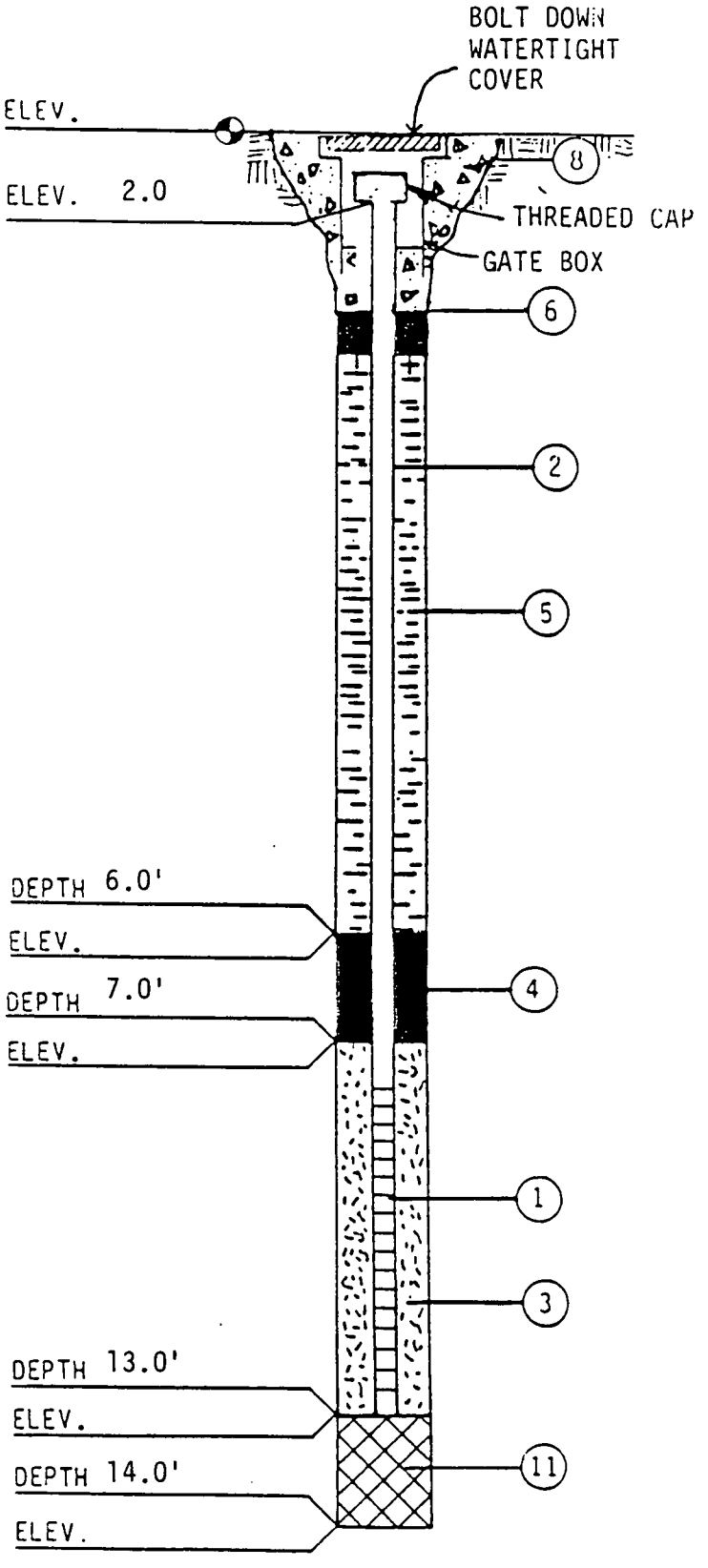
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL _____

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-6S

DATE 6/28/88

CHIEF/UNIT LL/CME 45

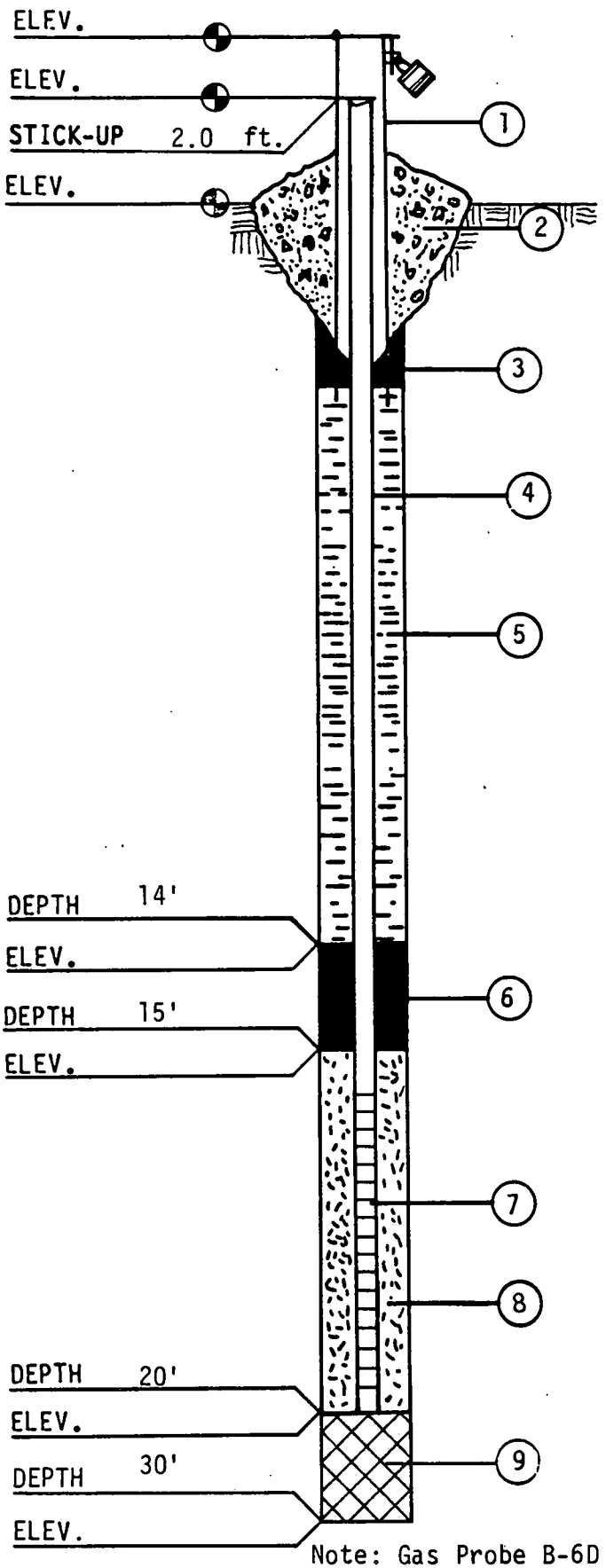
1. SCREEN TYPE 3/4" SCH 40 PVC
   SLOTTED LENGTH 5.0 ft.
   SLOT SIZE -
   SCREEN DIAMETER 3/4 in.
2. SOLID PIPE TYPE 3/4" SCH 40 PVC
   SOLID PIPE LENGTH 10 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
3. TYPE OF BACKFILL AROUND SCREEN
   Gravel
4. TYPE OF LOWER SEAL (IF INSTALLED)
   Granular Bentonite
5. TYPE OF BACKFILL Granular Bentonite & ~~Cuttings Mixture~~
   HOW INSTALLED - TREMIE
   (FROM SURFACE)
6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite
7. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
8. CONCRETE SEAL YES (NO)
9. DRILLING METHOD 4¼" Hollow Stem Auger
10. ADDITIVES USED (IF ANY)
    None
11. TYPE OF BACKFILL #30 Flint Sand

Note: Gas Probe B-6S is nested with Probe B-6D in Boring B6.

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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Note: Gas Probe B-6D is nested with Probe B-6S in Boring B6.

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GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-6D

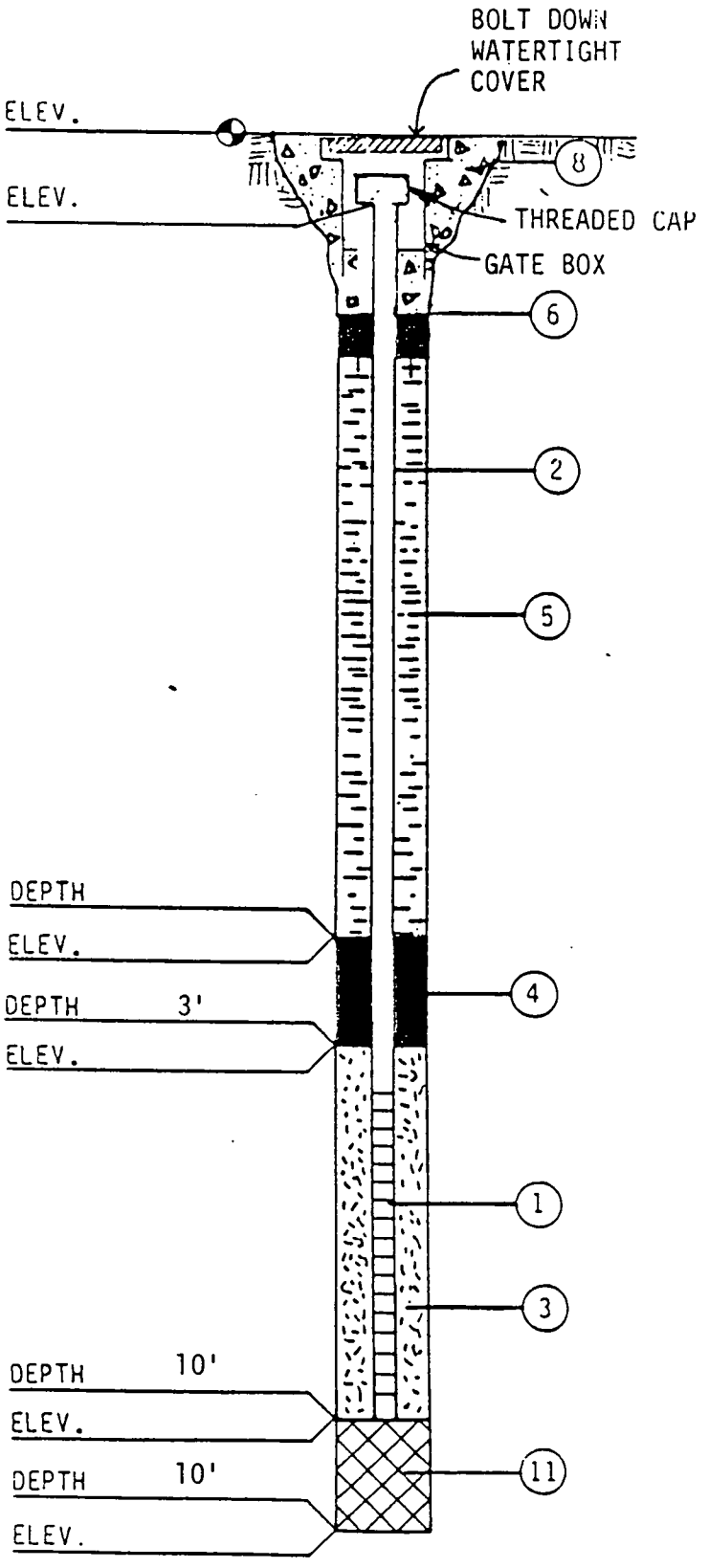
DATE 6/28/88

CHIEF/UNIT LL/CME 45

1. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
2. CONCRETE SEAL YES (NO)
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Bentonite
4. SOLID PIPE TYPE 3/4"
   SOLID PIPE LENGTH 17 ft.
   JOINT TYPE SLIP/GLUED THREADED
5. TYPE OF BACKFILL 3/8" Pea Gravel
   HOW INSTALLED - TREMIE FROM SURFACE
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Granular Bentonite
7. SCREEN TYPE 3/4" SCH 40 PVC
   SCREEN LENGTH 5'
   SLOT-SIZE _____ LENGTH _____ ft.
   SCREEN DIAMETER 3/4 in.
8. TYPE OF BACKFILL AROUND SCREEN
   3/8" Pea Gravel
9. TYPE OF BACKFILL Flint Sand
10. DRILLING METHOD Flight Auger
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL Dry DATE 6/28/88

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-8

DATE 6/29/88

CHIEF/UNIT LL/CME 750

1. SCREEN TYPE SCH 40 PVC

   SLOTTED LENGTH 7.0 ft.

   SLOT SIZE NA

   SCREEN DIAMETER 3/4 in.

2. SOLID PIPE TYPE SCH 40 PVC

   SOLID PIPE LENGTH 3.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   NA

5. TYPE OF BACKFILL NA

   HOW INSTALLED - TREMIE
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING YES (NO)

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD 4¼" HSA

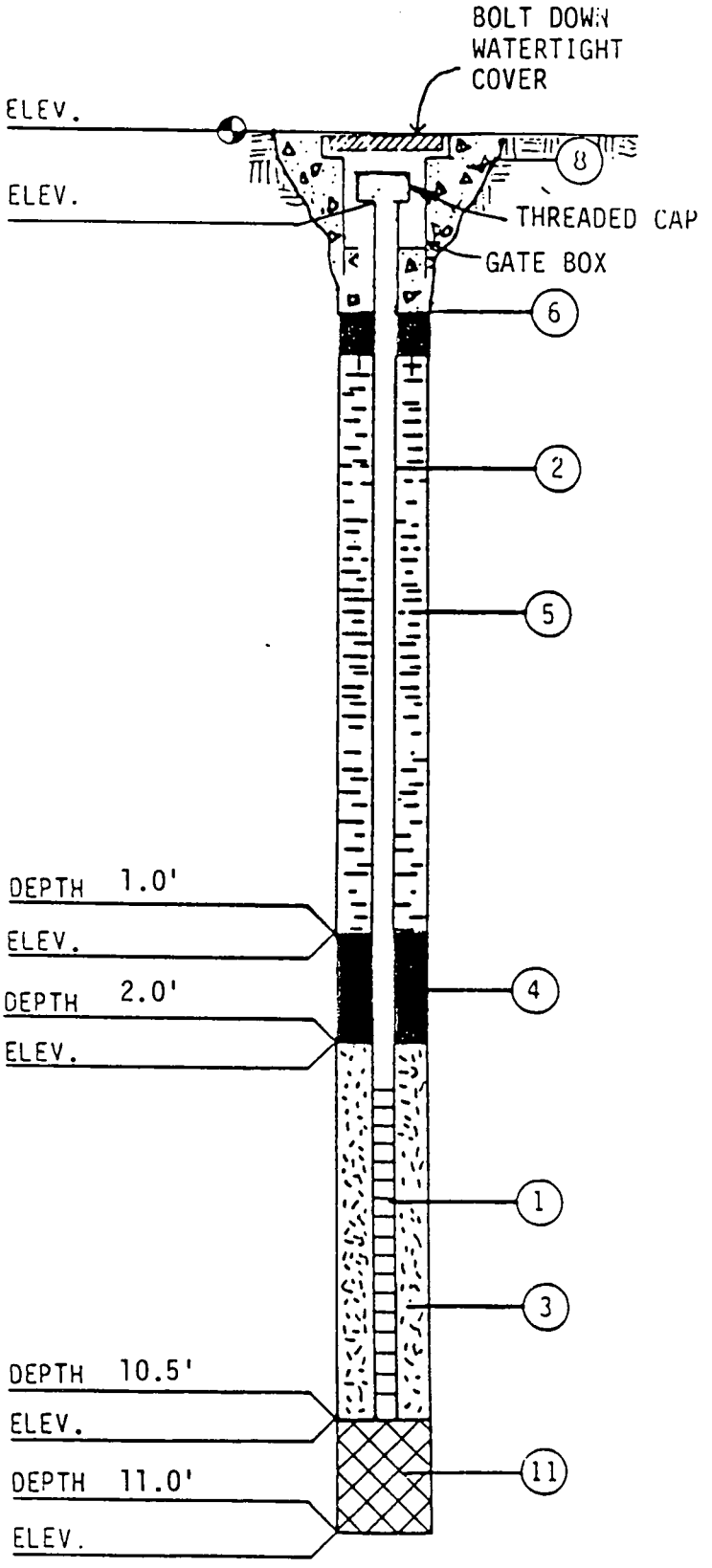
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-9

DATE 6/29/88

CHIEF/UNIT Mark/D-45

1. SCREEN TYPE PVC

   SLOTTED LENGTH _____ ft.

   SLOT SIZE -

   SCREEN DIAMETER 3/4 in.

2. SOLID PIPE TYPE SCH 40 PVC

   SOLID PIPE LENGTH 1.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

5. TYPE OF BACKFILL NA

   HOW INSTALLED - TREMIE
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD Flight Auger

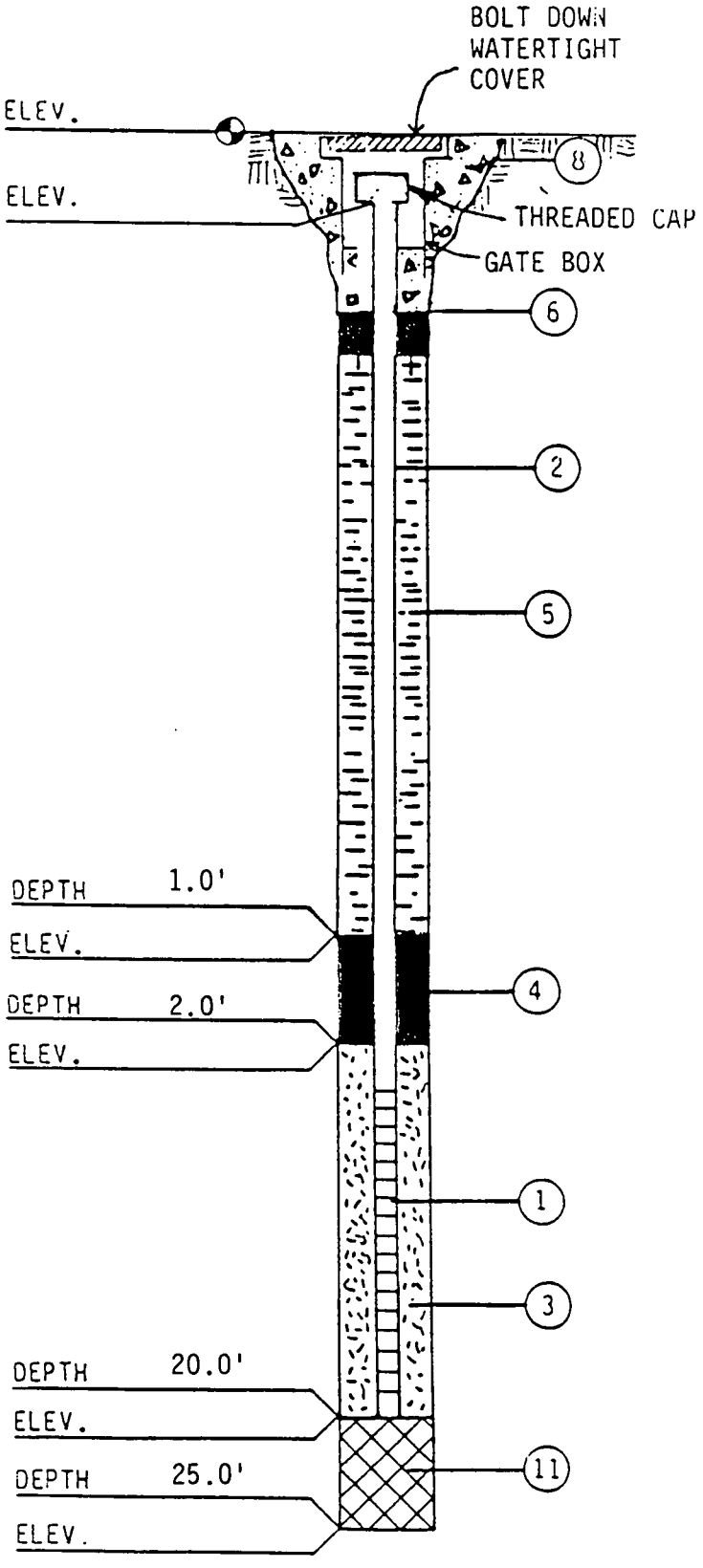
10. ADDITIVES USED (IF ANY)
    -

11. TYPE OF BACKFILL Gravel

WATER LEVEL Dry DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-10

DATE 6/28/88

CHIEF/UNIT MM/CME 45

1. SCREEN TYPE SCH 40 PVC

   SLOTTED LENGTH 18.0 ft.

   SLOT SIZE NA

   SCREEN DIAMETER 3/4 in.

2. SOLID PIPE TYPE SCH 40 PVC

   SOLID PIPE LENGTH 2.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Pea Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE
   FROM SURFACE

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING YES (NO)

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD 4¼" HSA

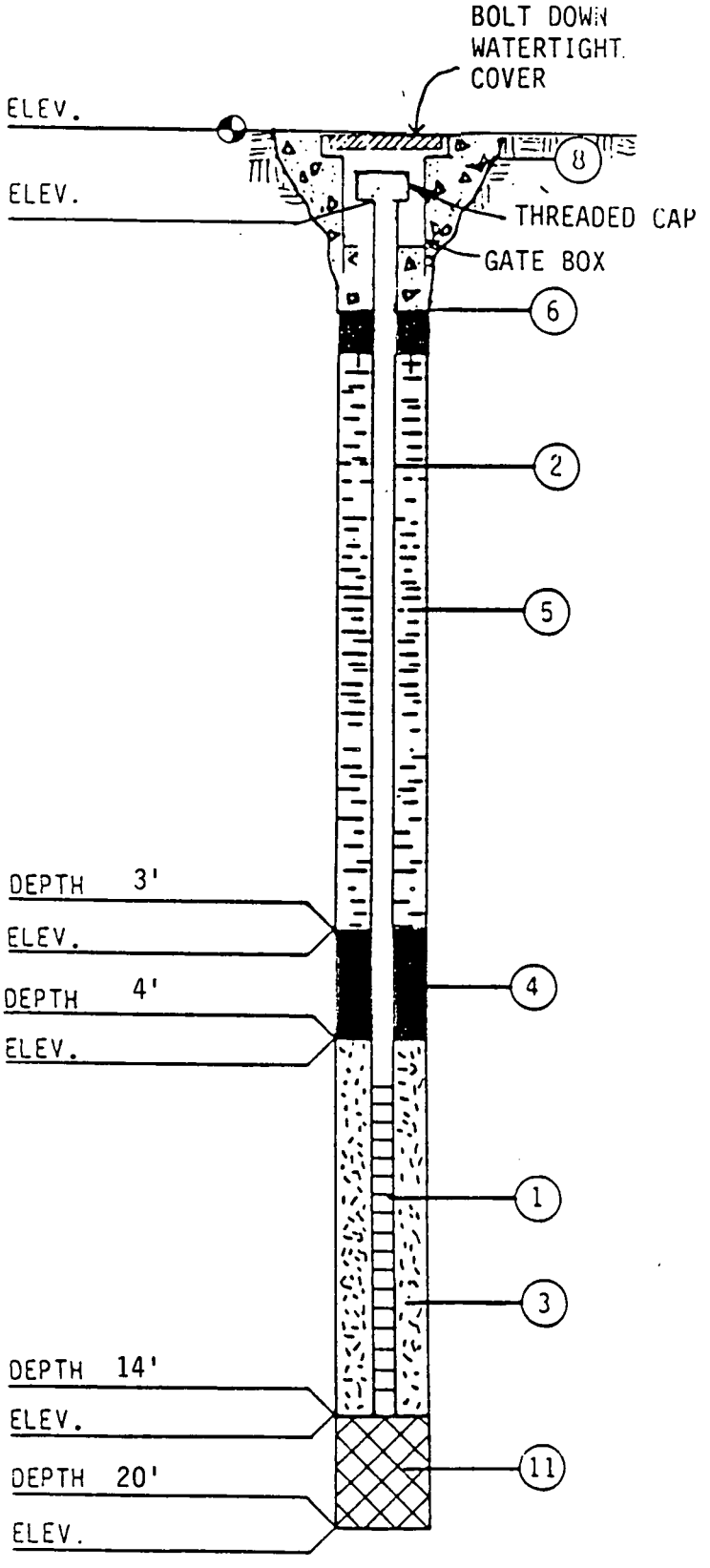
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL Flint Sand

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-11

DATE 6/29/88

CHIEF/UNIT MM/CME 45

1. SCREEN TYPE SCH 40 PVC

   SLOTTED LENGTH 10.0 ft.

   SLOT SIZE 0.010"

   SCREEN DIAMETER 2.0 in.

2. SOLID PIPE TYPE 2" SCH 40 PVC

   SOLID PIPE LENGTH 4.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Pea Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING YES (NO)

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD 4¼" HSA

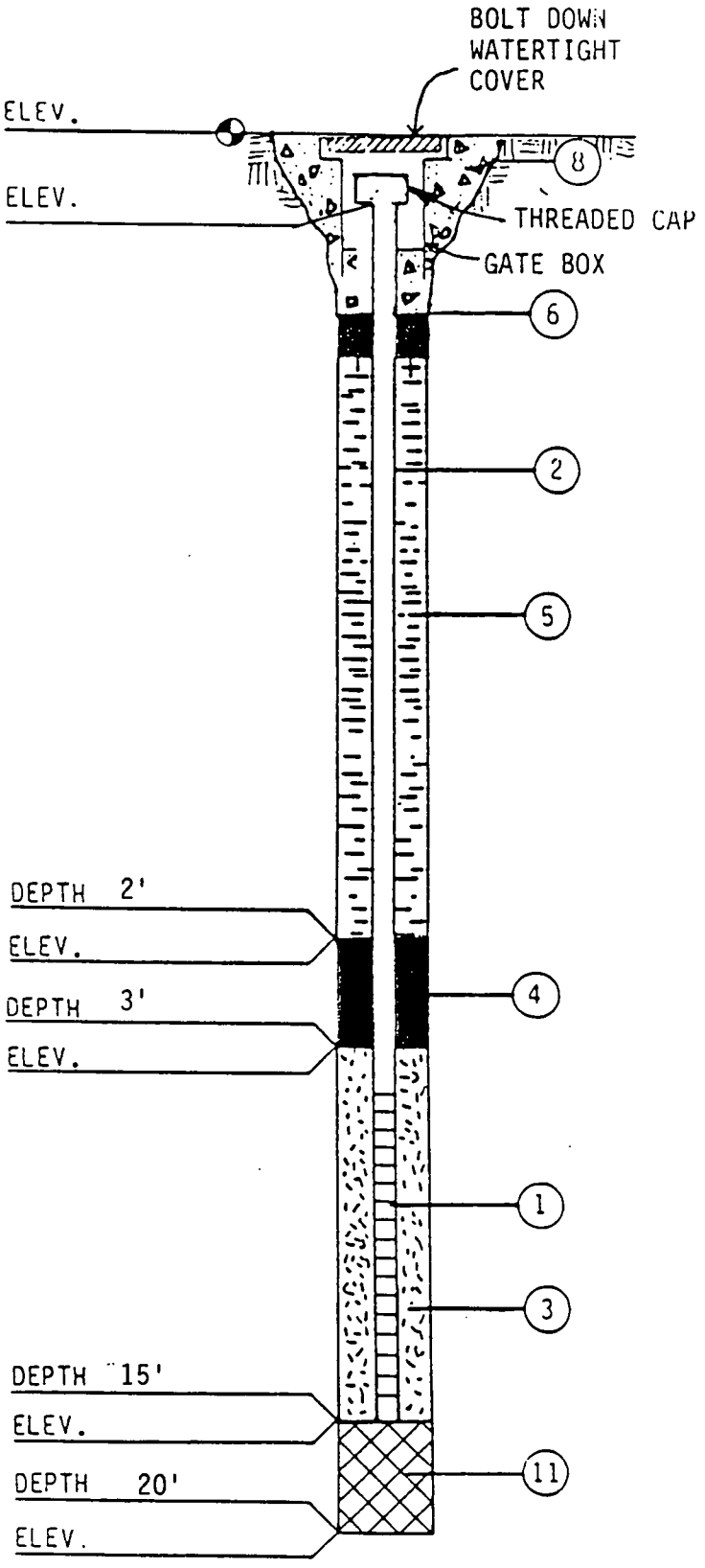
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL Gravel

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-12

DATE 6/29/88

CHIEF/UNIT LL/CME 750

1. SCREEN TYPE SCH 40 PVC

   SLOTTED LENGTH 12 ft.

   SLOT SIZE NA

   SCREEN DIAMETER 3/4 in.

2. SOLID PIPE TYPE SCH 40 PVC

   SOLID PIPE LENGTH 3.0 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

3. TYPE OF BACKFILL AROUND SCREEN
   Gravel

4. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE
   (FROM SURFACE)

6. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

7. PROTECTIVE CASING (YES) NO

   LOCKING YES (NO)

8. CONCRETE SEAL (YES) NO

9. DRILLING METHOD 4¼" HSA

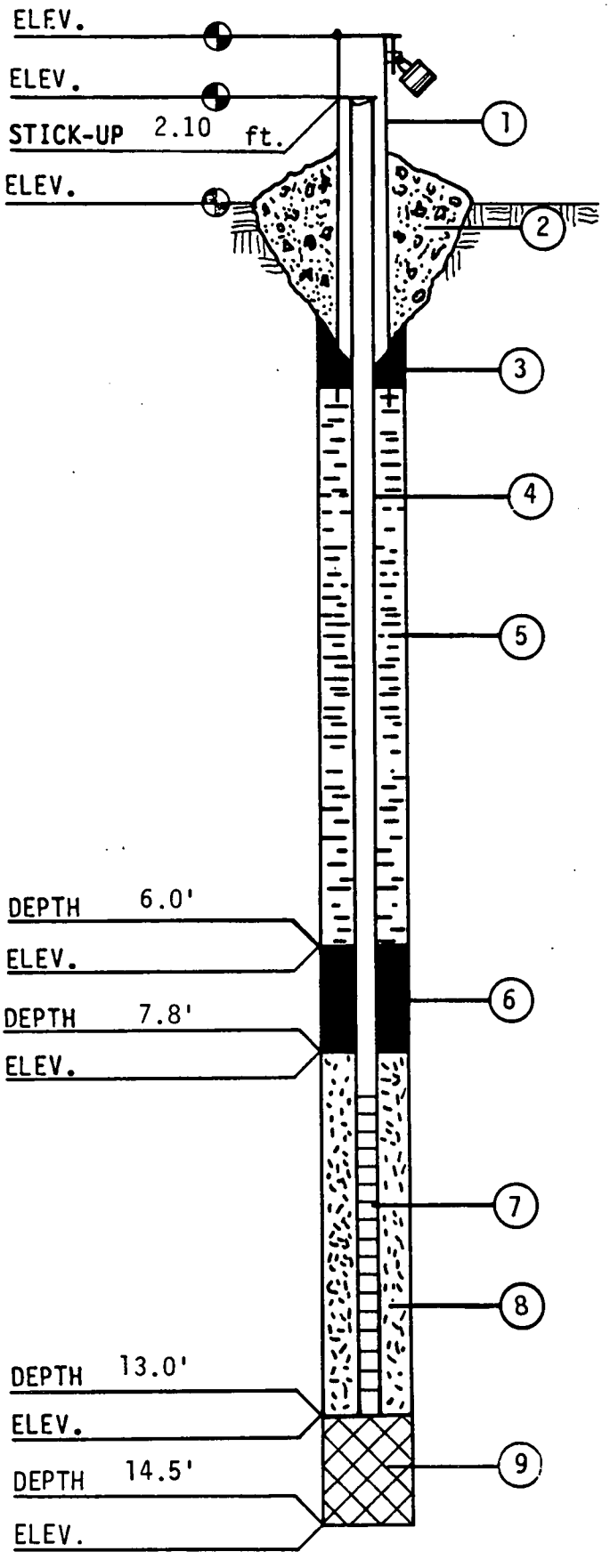
10. ADDITIVES USED (IF ANY)
    None

11. TYPE OF BACKFILL Gravel

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-22

DATE 7/1/88

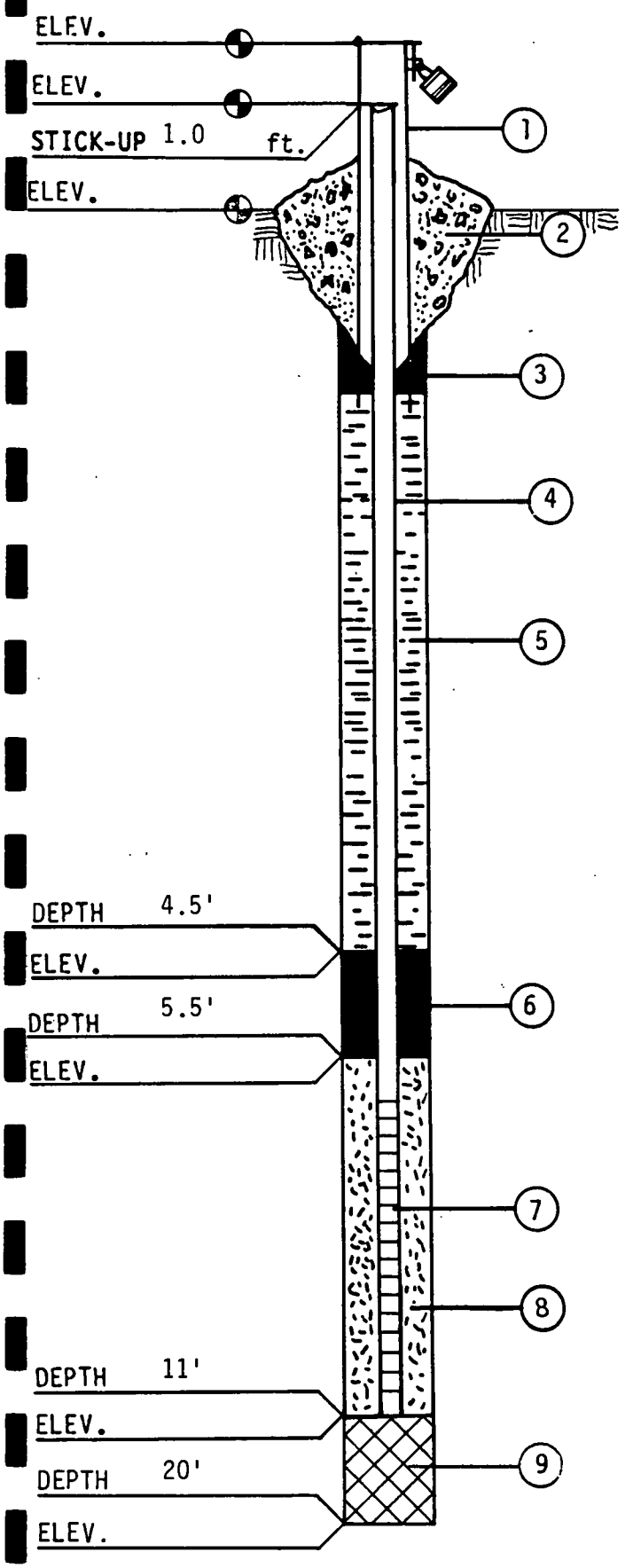
CHIEF/UNIT LL/CME 750

1. PROTECTIVE CASING YES (NO)
   LOCKING YES (NO)
2. CONCRETE SEAL YES (NO)
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Native Soil Backfill
4. SOLID PIPE TYPE 3/4" SCH 40 PVC
   SOLID PIPE LENGTH 10.0 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
5. TYPE OF BACKFILL Granular Bentonite
   HOW INSTALLED - TREMIE (FROM SURFACE)
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand
7. SCREEN TYPE Hand Slot SCH 40 PVC
   SCREEN LENGTH 5.0'
   SLOT-SIZE 0.10" LENGTH 5.0 ft.
   SCREEN DIAMETER 3/4 in.
8. TYPE OF BACKFILL AROUND SCREEN
   Gravel
9. TYPE OF BACKFILL Collapse & Gravel
10. DRILLING METHOD 4 1/4" HSA
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 14.5' DATE 7/1/88

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-23

DATE 7/1/88

CHIEF/UNIT MM/CME 45

1. PROTECTIVE CASING YES (NO)

   LOCKING YES (NO)

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite

4. SOLID PIPE TYPE SCH 40 PVC 3/4"

   SOLID PIPE LENGTH 7.0 ft.

   JOINT TYPE SLIP/GLUED THREADED

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

7. SCREEN TYPE SCH 40 PVC

   SCREEN LENGTH 5.5'

   SLOT-SIZE NA LENGTH 5.0 ft.

   SCREEN DIAMETER 3/4 in.

8. TYPE OF BACKFILL AROUND SCREEN
   Gravel

9. TYPE OF BACKFILL Cave-in & Gravel

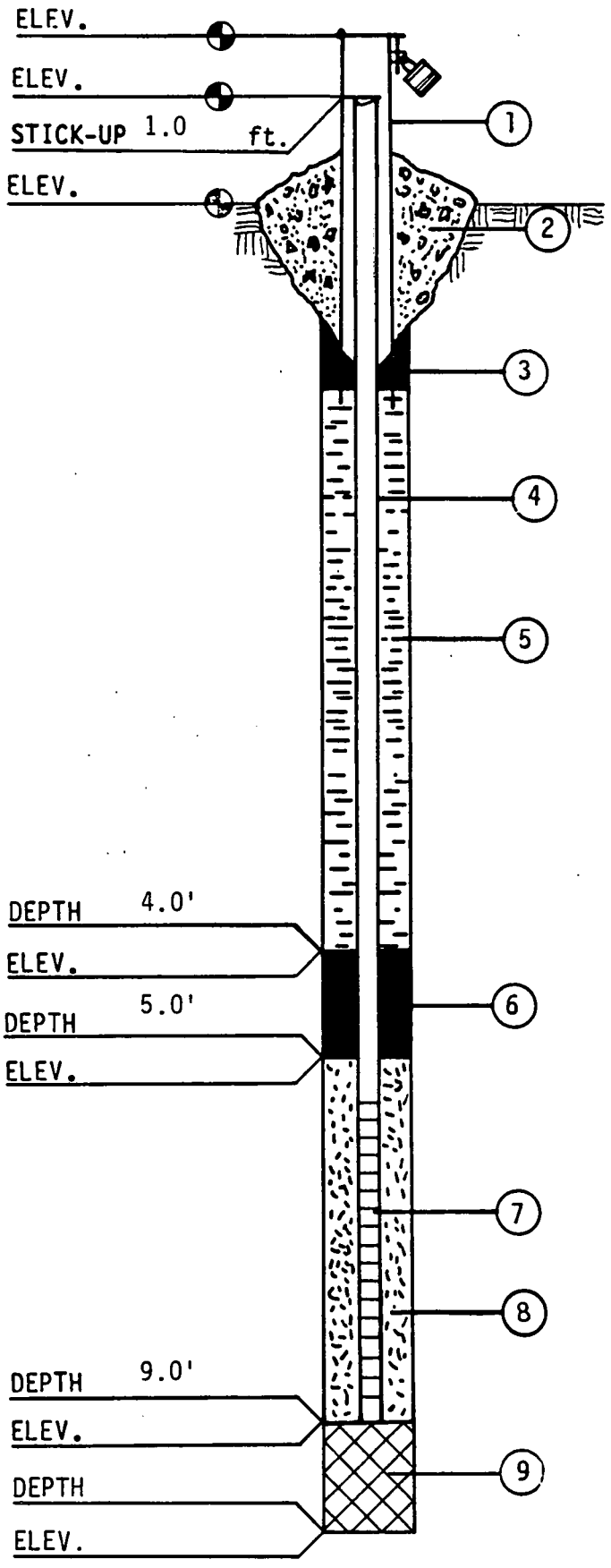
10. DRILLING METHOD 4 1/4" HSA

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

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GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-24

DATE 7/1/88

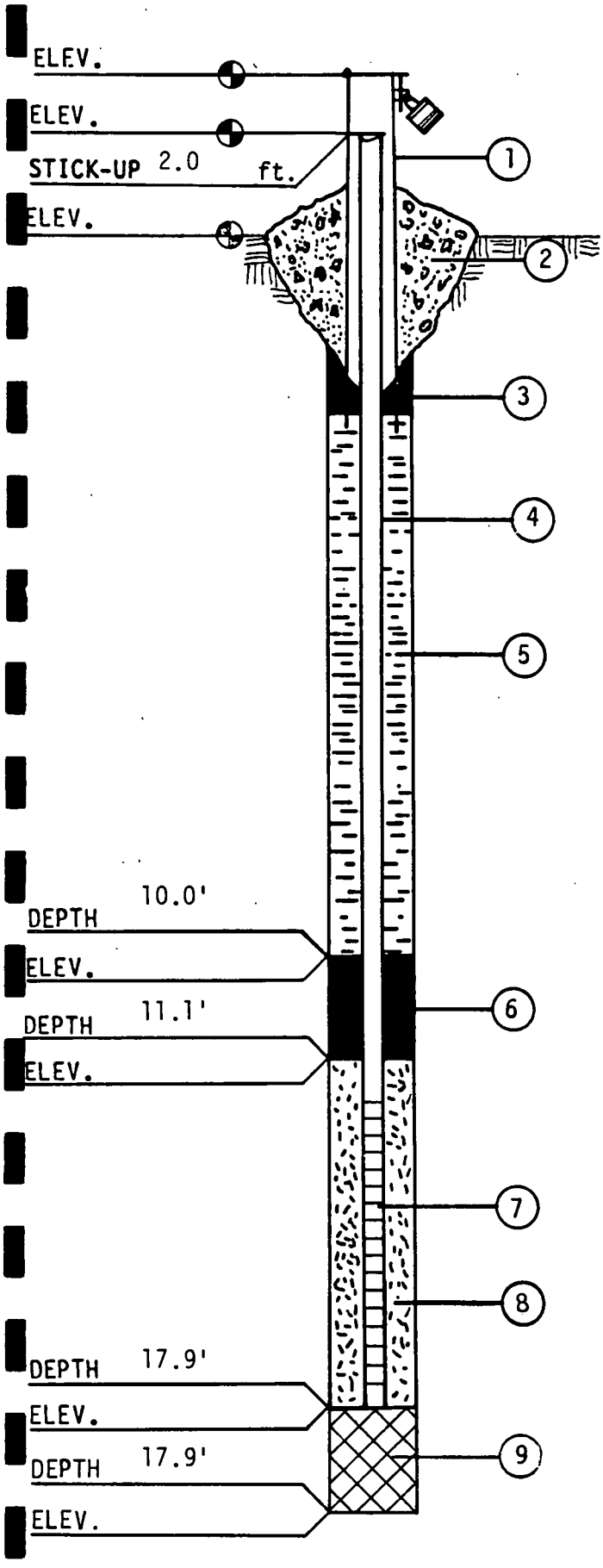
CHIEF/UNIT MM/CME 45

1. PROTECTIVE CASING YES (NO)
   LOCKING YES (NO)
2. CONCRETE SEAL YES (NO)
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Granular Bentonite
4. SOLID PIPE TYPE SCH 40 PVC 3/4"
   SOLID PIPE LENGTH 6.0 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
5. TYPE OF BACKFILL Granular Bentonite
   HOW INSTALLED - TREMIE (FROM SURFACE)
6. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand
7. SCREEN TYPE SCH 40 PVC
   SCREEN LENGTH 4.0
   SLOT-SIZE NA LENGTH 4.0 ft.
   SCREEN DIAMETER 3/4 in.
8. TYPE OF BACKFILL AROUND SCREEN
   Gravel
9. TYPE OF BACKFILL Cave-in & Gravel
10. DRILLING METHOD 4 1/4" HSA
11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL _____ DATE _____

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



GAS PROBE CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-25

DATE 7/1/88

CHIEF/UNIT LL/CME 750

1. PROTECTIVE CASING YES (NO)

   LOCKING YES (NO)

2. CONCRETE SEAL YES (NO)

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   Cuttings & Granular Bentonite

4. SOLID PIPE TYPE SCH 40 PVC

   SOLID PIPE LENGTH 20 ft.

   JOINT TYPE SLIP/GLUED (THREADED)

5. TYPE OF BACKFILL Granular Bentonite

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Flint Sand

7. SCREEN TYPE SCH 40 PVC

   SCREEN LENGTH 5.0'

   SLOT-SIZE 0.010" LENGTH 4.8 ft.

   SCREEN DIAMETER 2.0 in.

8. TYPE OF BACKFILL AROUND SCREEN
   Gravel

9. TYPE OF BACKFILL None

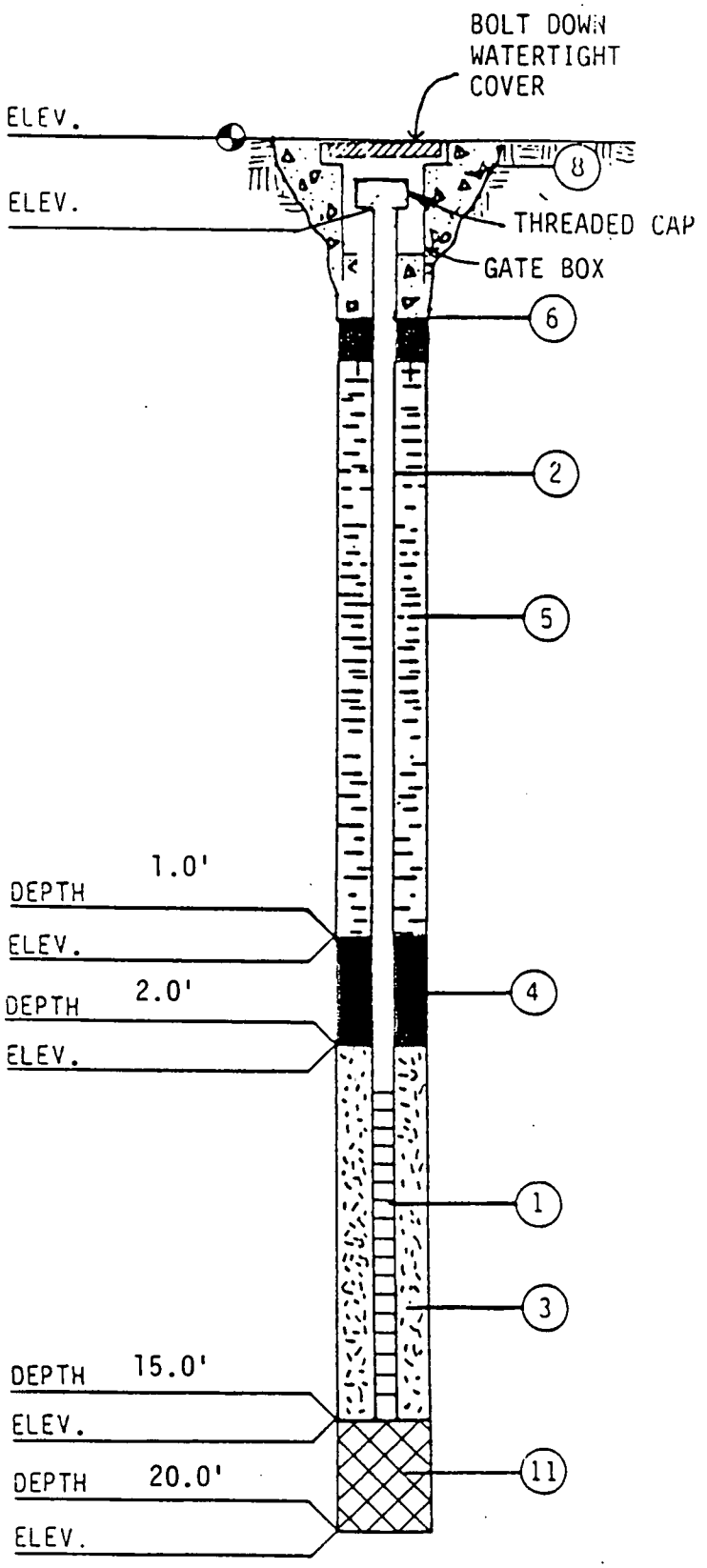
10. DRILLING METHOD 4¼" HSA

11. ADDITIVES USED (IF ANY)
    None

WATER LEVEL 16.5' DATE 7/5/88

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

WARZYN ENGINEERING INC



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. 13076.31

BORING/WELL NO. B-26

DATE 6/30/88

CHIEF/UNIT MM/CME 45

1. SCREEN TYPE 3/4" I.D. SCH 40 PVC
   SLOTTED LENGTH 13.0 ft.
   SLOT SIZE NA
   SCREEN DIAMETER 3/4 in.
2. SOLID PIPE TYPE I.D. SCH 40 PVC
   SOLID PIPE LENGTH 1.5 ft.
   JOINT TYPE SLIP/GLUED (THREADED)
3. TYPE OF BACKFILL AROUND SCREEN Gravel
4. TYPE OF LOWER SEAL (IF INSTALLED) N/A
5. TYPE OF BACKFILL Granular Bentonite
   HOW INSTALLED - TREMIE (FROM SURFACE)
6. TYPE OF SURFACE SEAL (IF INSTALLED) N/A
7. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
8. CONCRETE SEAL (YES) NO
9. DRILLING METHOD 4¼" HSA
10. ADDITIVES USED (IF ANY) None
11. TYPE OF BACKFILL Gravel

WATER LEVEL Dry DATE

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

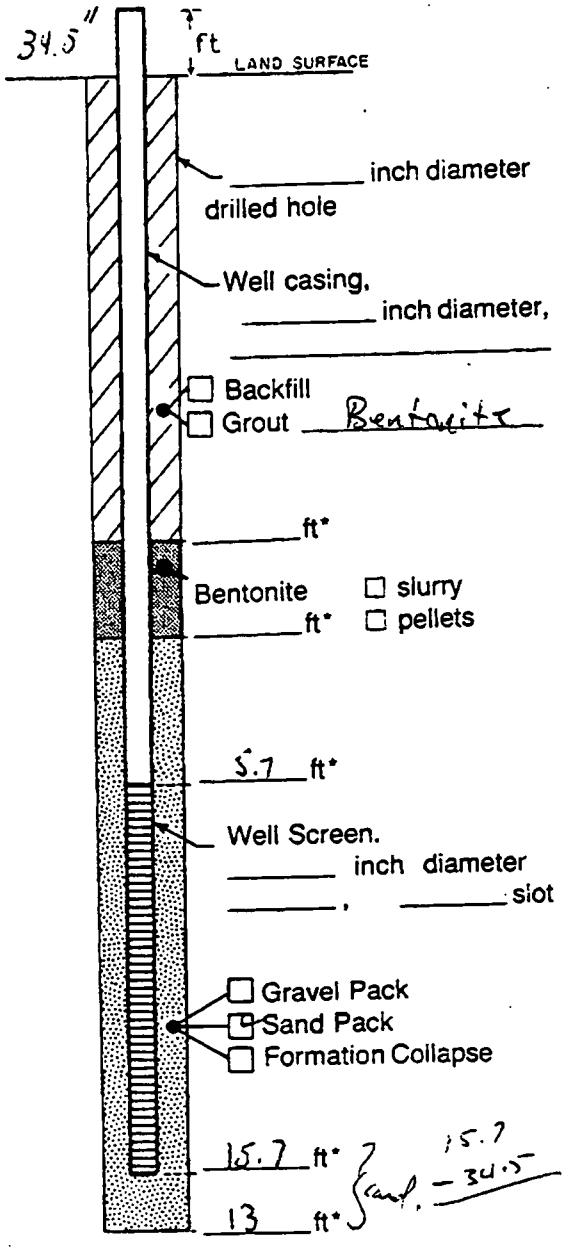
WARZYN ENGINEERING INC

APPENDIX D.3

WELL CONSTRUCTION DETAILS FOR GERAGHTY AND MILLER WELLS INSTALLED ON ISLAND AND WEST BANK OF WISCONSIN RIVER

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

*Depth Below Land Surface

Project Wausau Well WSWS

Town/City Wausau

County Marathon State WI

Permit No.

Land-Surface Elevation and Datum 3 feet Above River

TOC ELEV = 1193.24

☑ Surveyed

☐ ~~Estimated~~

Installation Date(s) 8·2·88

Drilling Method Dual Tube

Drilling Contractor Layne-NW.

Drilling Fluid Air & Water

Development Technique(s) and Date(s)
Vac lift pump

Fluid Loss During Drilling ? gallons

Water Removed During Development 100 gallons

Static Depth to Water 5.17 feet below M.P.

Pumping Depth to Water feet below M.P.

Pumping Duration 20 min ~~hours~~

Yield 5 gpm Date 8·2·88

Specific Capacity gpm/ft

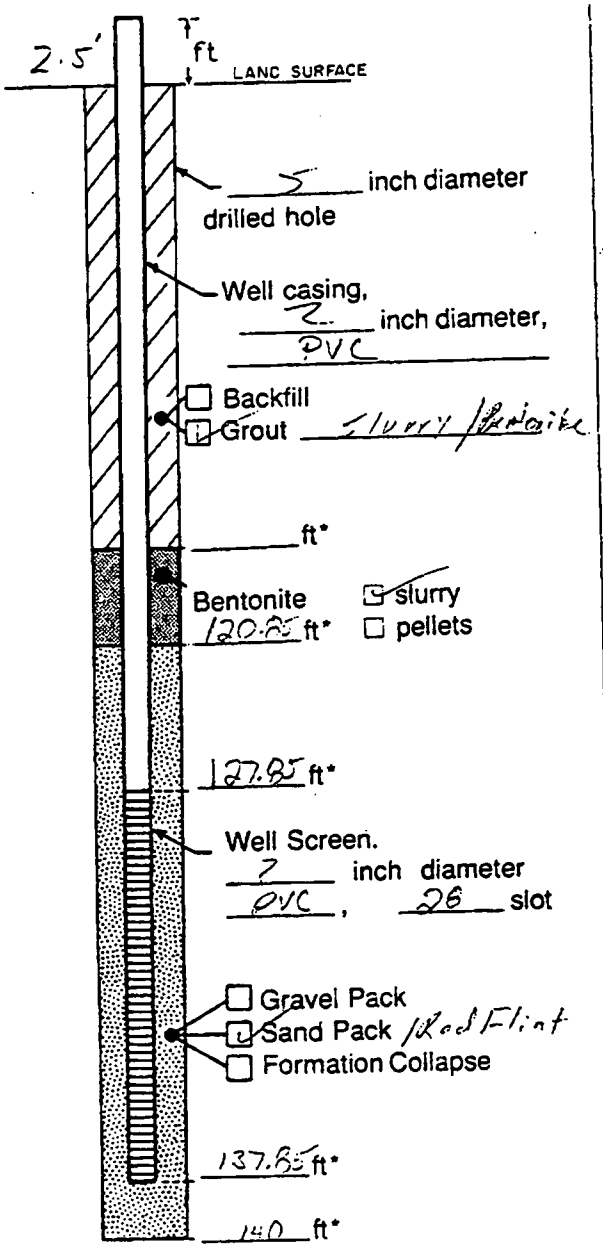
Well Purpose monitoring

Remarks

Prepared by

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

*Depth Below Land Surface

Project Wausau Well IWD
Town/City Wausau
County Marathon State WI
Permit No.
Land-Surface Elevation TOC ELEV = 1192.56
and Datum 3 feet ☑ Surveyed
Above River ☐ Estimated
Installation Date(s) 7-27-88
Drilling Method Dual Tube
Drilling Contractor Layne-Northwest
Drilling Fluid Water & Air

Development Technique(s) and Date(s)
Vac lift Pump

Fluid Loss During Drilling ? gallons
Water Removed During Development 200 gallons
Static Depth to Water 5.85' feet below M.P.
Pumping Depth to Water feet below M.P.
Pumping Duration 35 min hours
Yield gpm Date
Specific Capacity gpm/ft
Well Purpose Monitoring well / Deep well
@ 137.85'

Remarks Packed 140

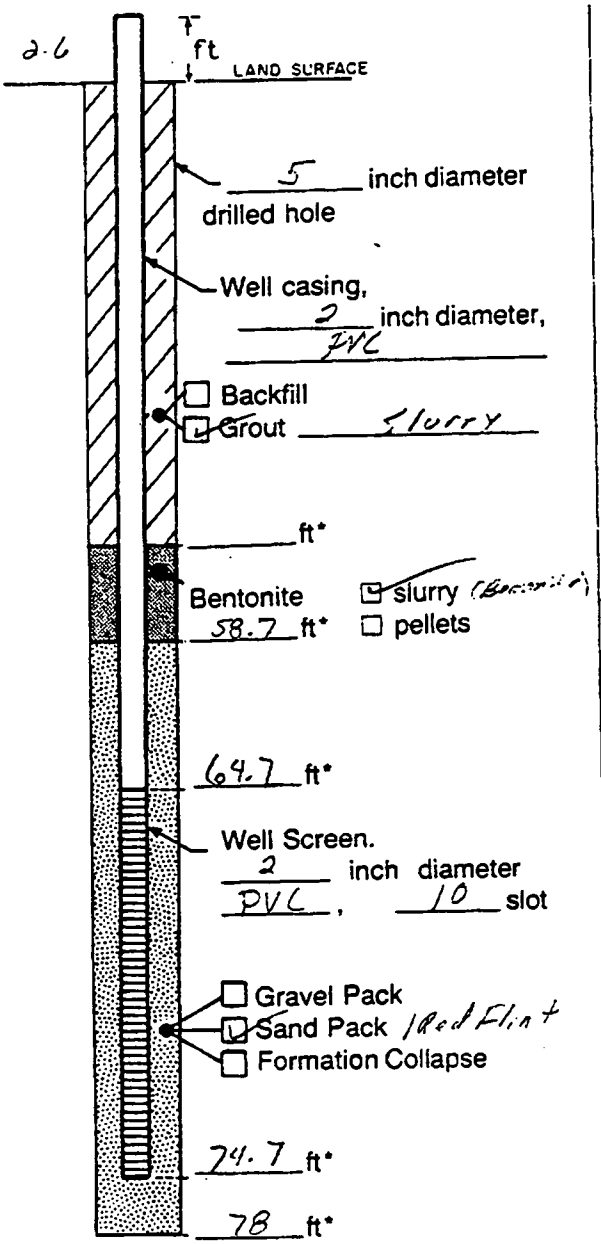
Prepared by

Southpoint 87-1776

G&M Form 05 5-87

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project Wausau Well IWM

Town/City Wausau

County Marathon State WI

Permit No.

Land-Surface Elevation and Datum 3 feet above River — TOC ELEV = 1192.91 — ☑ Surveyed ☐ Estimated

Installation Date(s) 7-28-88

Drilling Method Dual Tube

Drilling Contractor Layne - Northwest

Drilling Fluid Water & Air

Development Technique(s) and Date(s)
Vac. lift Pump

Fluid Loss During Drilling ? gallons

Water Removed During Development 140 gallons

Static Depth to Water 6.18 feet below M.P.

Pumping Depth to Water feet below M.P.

Pumping Duration 35 min. hours

Yield gpm Date 7-27-88

Specific Capacity gpm/ft

Well Purpose Monitoring / Medium Depth

@ 75'

Remarks [illegible] @ 75'

Prepared by [signature]

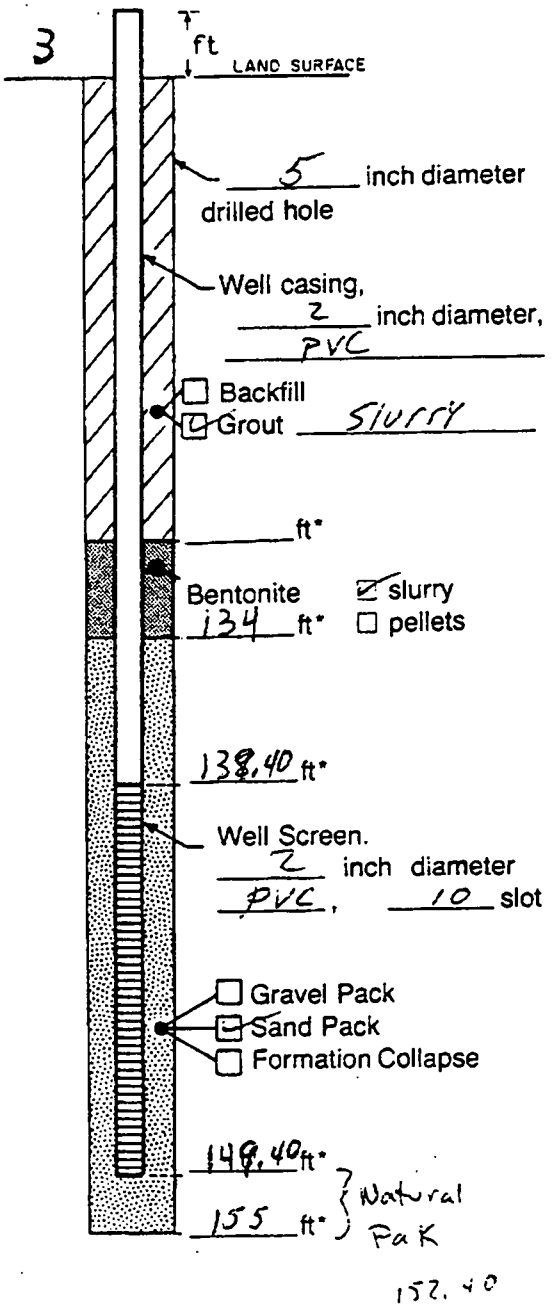
64.7
[illegible]

G&M Form 05 5-87

Southprint 87-1776

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

*Depth Below Land Surface

Project Wausau Well WSWD

Town/City Wausau

County Marathon State WI

Permit No.

Land-Surface Elevation TOC ELEV = 1193.46

and Datum ≈ 3 feet ☐ Surveyed

Above River ☑ Estimated

Installation Date(s) 8/1 & 8/2 '88

Drilling Method Dual Tube Air rotary

Drilling Contractor Layne-NW

Drilling Fluid Air & water

Development Technique(s) and Date(s)

Vac lift pump

Fluid Loss During Drilling ? gallons

Water Removed During Development 200 gallons

Static Depth to Water 6' feet below M.P.

Pumping Depth to Water ≈ 10 feet below M.P.

Pumping Duration 40 min. ~~hours~~

Yield 5 gpm Date 8-2-88

Specific Capacity gpm/ft

Well Purpose Monitoring

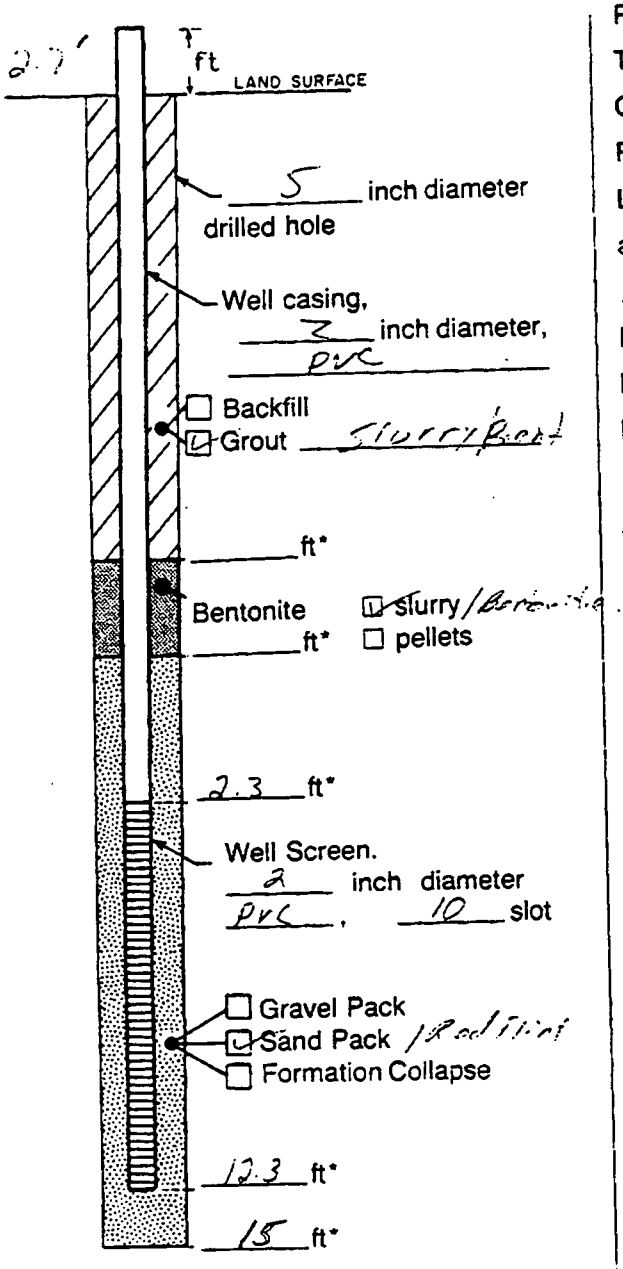
Remarks

Prepared by D. Bauer

Southprint 87-1776

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG
(UNCONSOLIDATED)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project Wausau Well TW5

Town/City Wausau

County Marathon State WI

Permit No.

Land-Surface Elevation and Datum 3 feet above River — TOC ELEV = 1193.17 ☑ Surveyed ☐ Estimated

Installation Date(s) 7-28-88

Drilling Method Dual Tube

Drilling Contractor Layne-Northwest

Drilling Fluid Water & Air

Development Technique(s) and Date(s) Vac lift pump / Bailer Jetting

Fluid Loss During Drilling ? gallons

Water Removed During Development ~60 gallons

Static Depth to Water feet below M.P

Pumping Depth to Water feet below M.P

Pumping Duration 40 min. hours

Yield gpm Date

Specific Capacity gpm/ft

Well Purpose Monitoring

Remarks Bottom at 15'

Prepared by

Southprint 87-1776

G&M Form 05 5-87

APPENDIX E

NATURAL GAMMA RADIATION LOGS

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: E22

Job No.: 13076

Sheet 1 of 2

1400 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10/16/87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Galv Steel Diam. 2.0"
Depth of Well or Boring: 96.5'
Backfill Type: Bentonite Slurry
Logging Rate:

Borehole Diam. 4"
Depth to Water: 13 ft

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

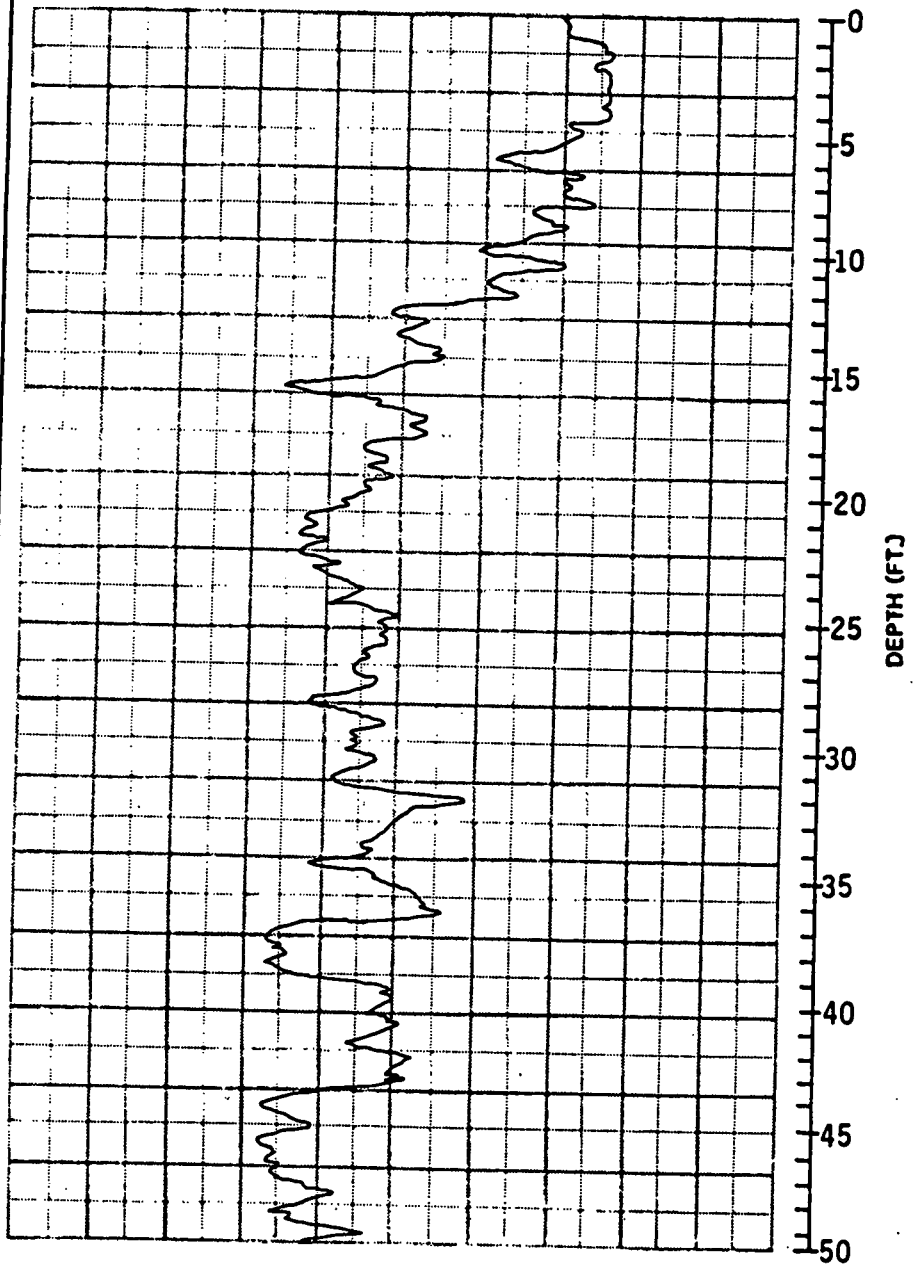
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1196.1



DESCRIPTIONS

Refer to Log of Boring E22 for soil descriptions

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

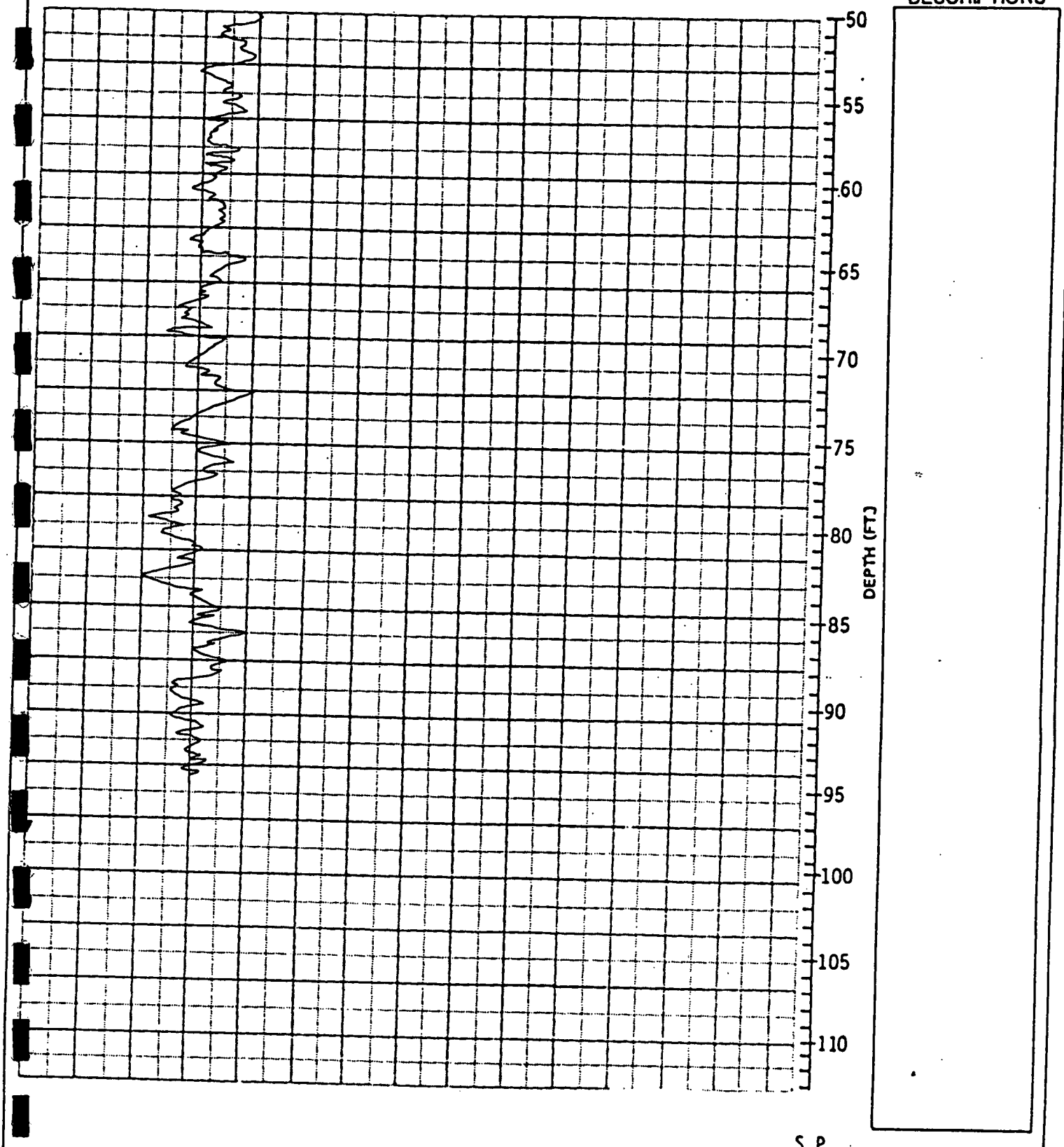
LOCATION: Wausau, Wisconsin

Boring No.: EZZ

Job No.: 13076

Sheet 2 of 2

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: E24

Job No.: 13076

Sheet 1 of 2

1400 EMIL STREET, P.O. BOX 8636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10-16-87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Galv. Steel Diam. 2.0
Depth of Well or Boring: 83.5'
Backfill Type: Bentonite Slurry
Logging Rate: NA

Borehole Diam. 5 7/8"
Depth to Water: 24 ft

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

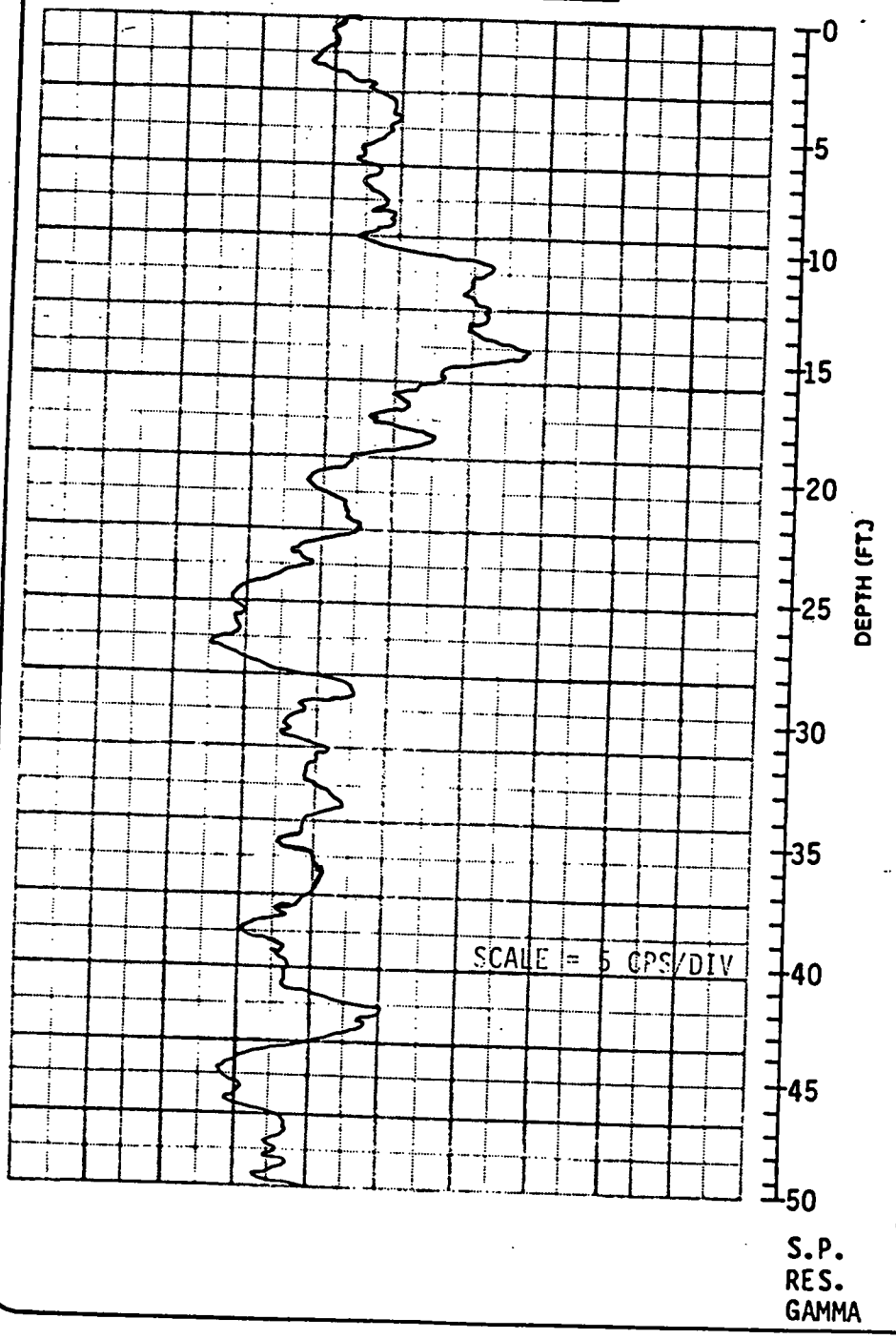
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1208.5



DESCRIPTIONS

Refer to log of boring E24 for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

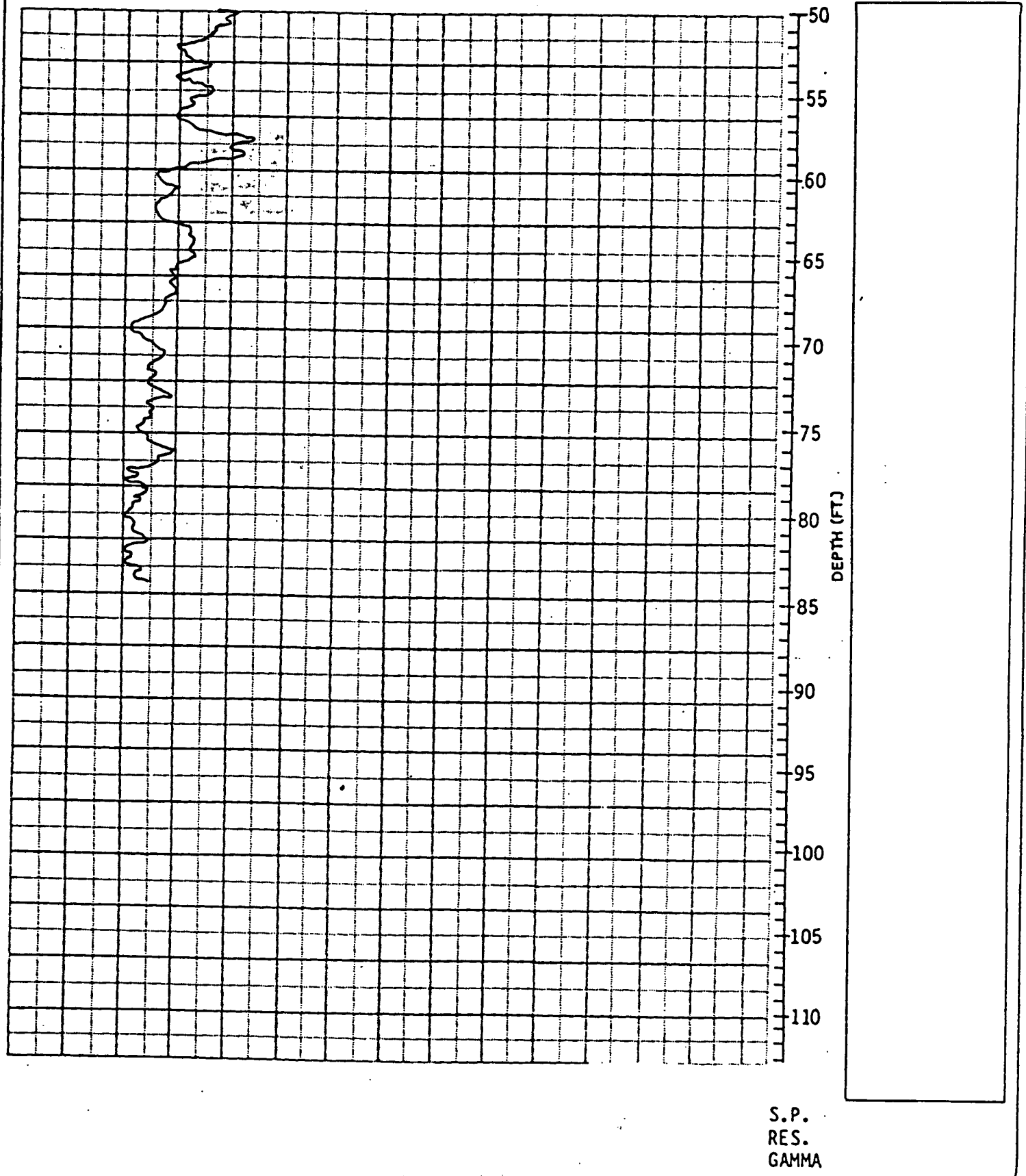
LOCATION: Wausau, Wisconsin

Boring No.: E24

Job No.: 13076

Sheet 2 of 2

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: E25

Job No.: 13076

Sheet 1 of 3

1400 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10-20-87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Steel Diam. 4.0"
Depth of Well or Boring: 155'
Backfill Type: Bentonite Slurry
Logging Rate: NA

Borehole Diam. 3 7/8"
Depth to Water: 25 ft

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

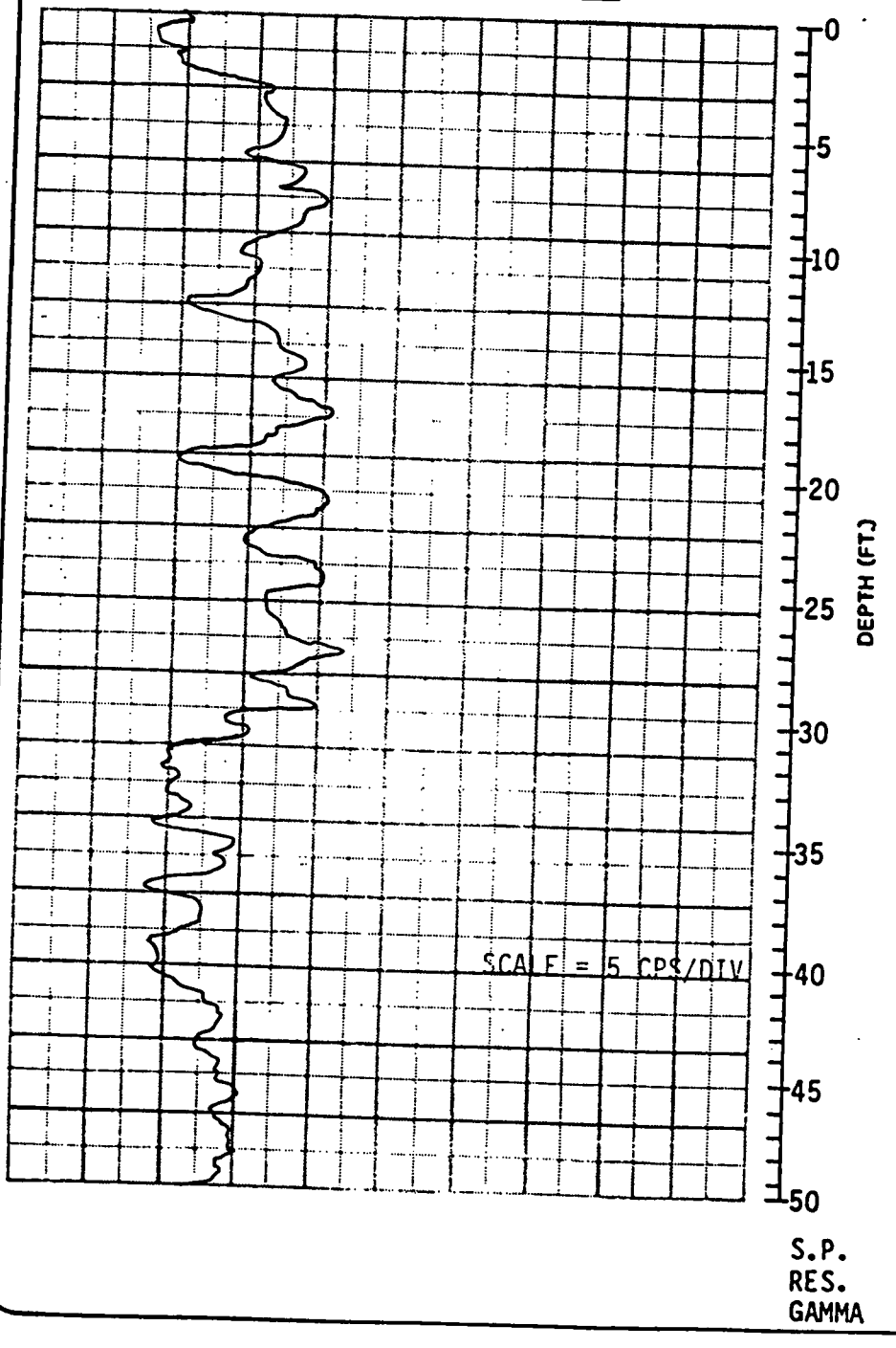
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1211.7



DESCRIPTIONS

Refer to log of boring E25 for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

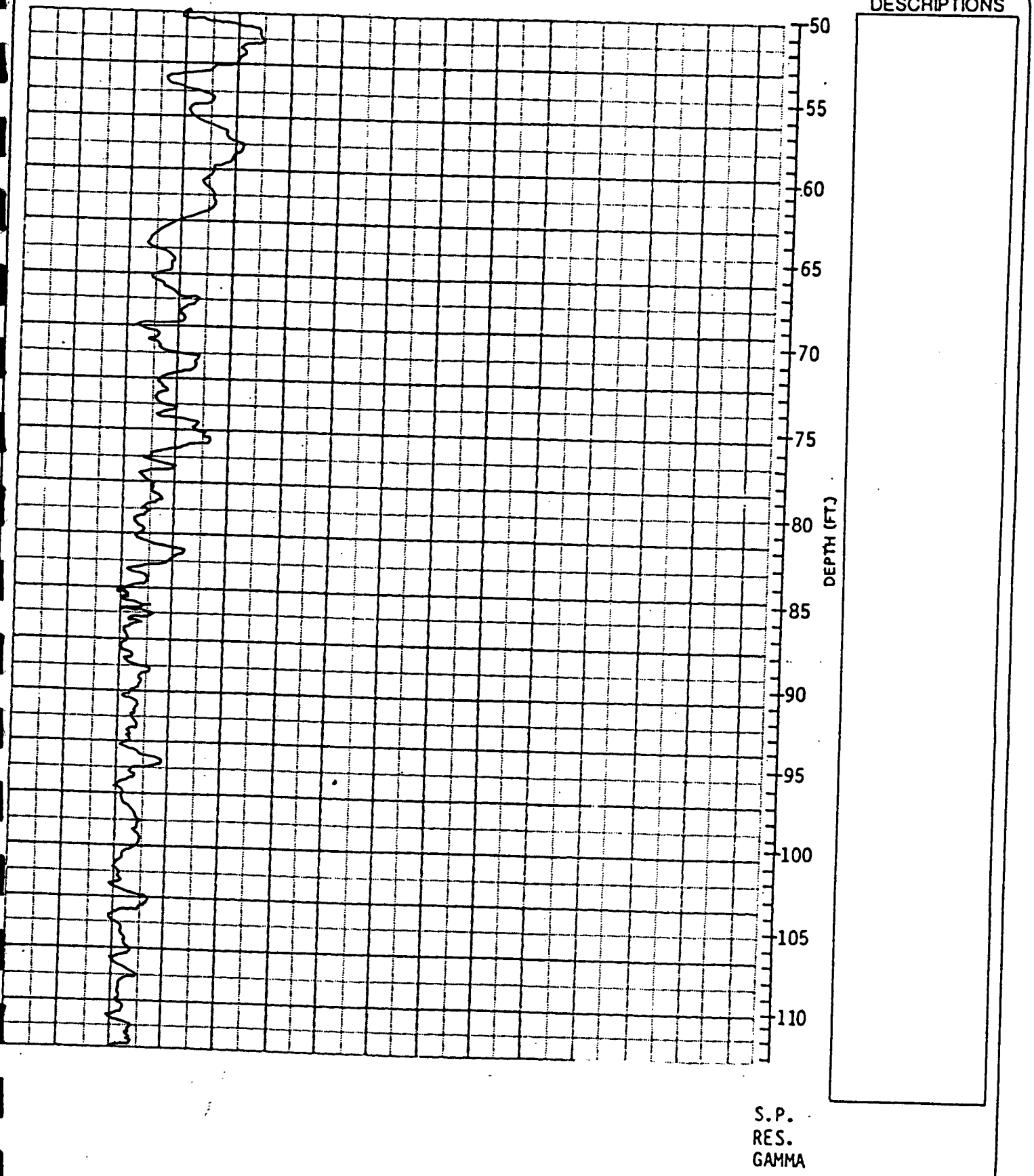
LOCATION: Wausau, Wisconsin

Boring No.: E25

Job No.: 13076

Sheet 2 of 3

1409 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

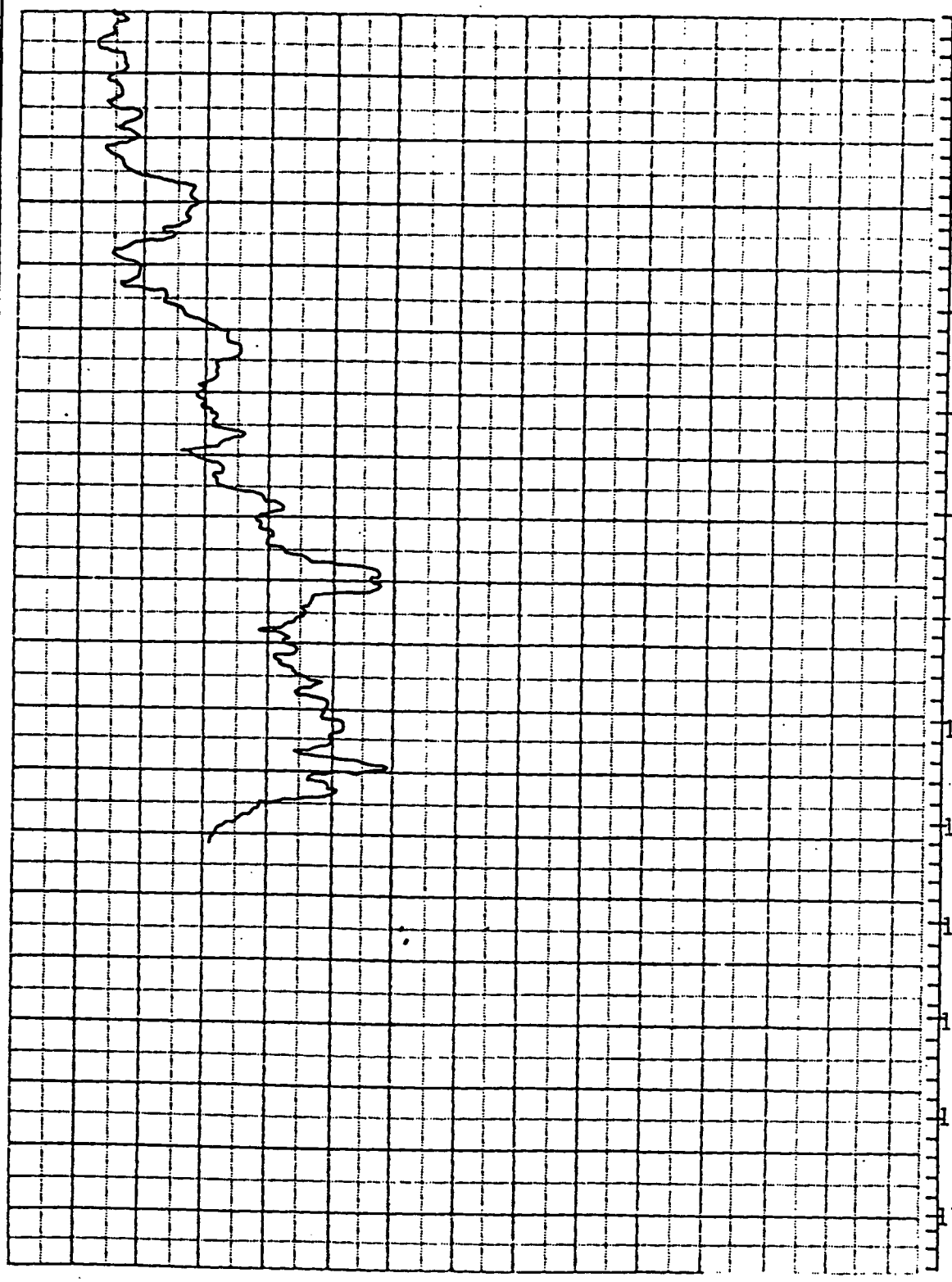
LOCATION: Wausau, Wisconsin

Boring No.: E25

Job No.: 13076

Sheet 3 of 3

1409 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



DESCRIPTIONS

S.P.
RES.
GAMMA

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: E31

Job No.: 13076

Sheet 1 of 3

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 11-5-87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Steel Diam. 4.0"
Depth of Well or Boring: 133.0'
Backfill Type: Bentonite Slurry
Logging Rate: NA

Borehole Diam. 4.0"
Depth to Water: 16 ft

NATURAL GAMMA LOG

Scale: 5 Disp.: 0

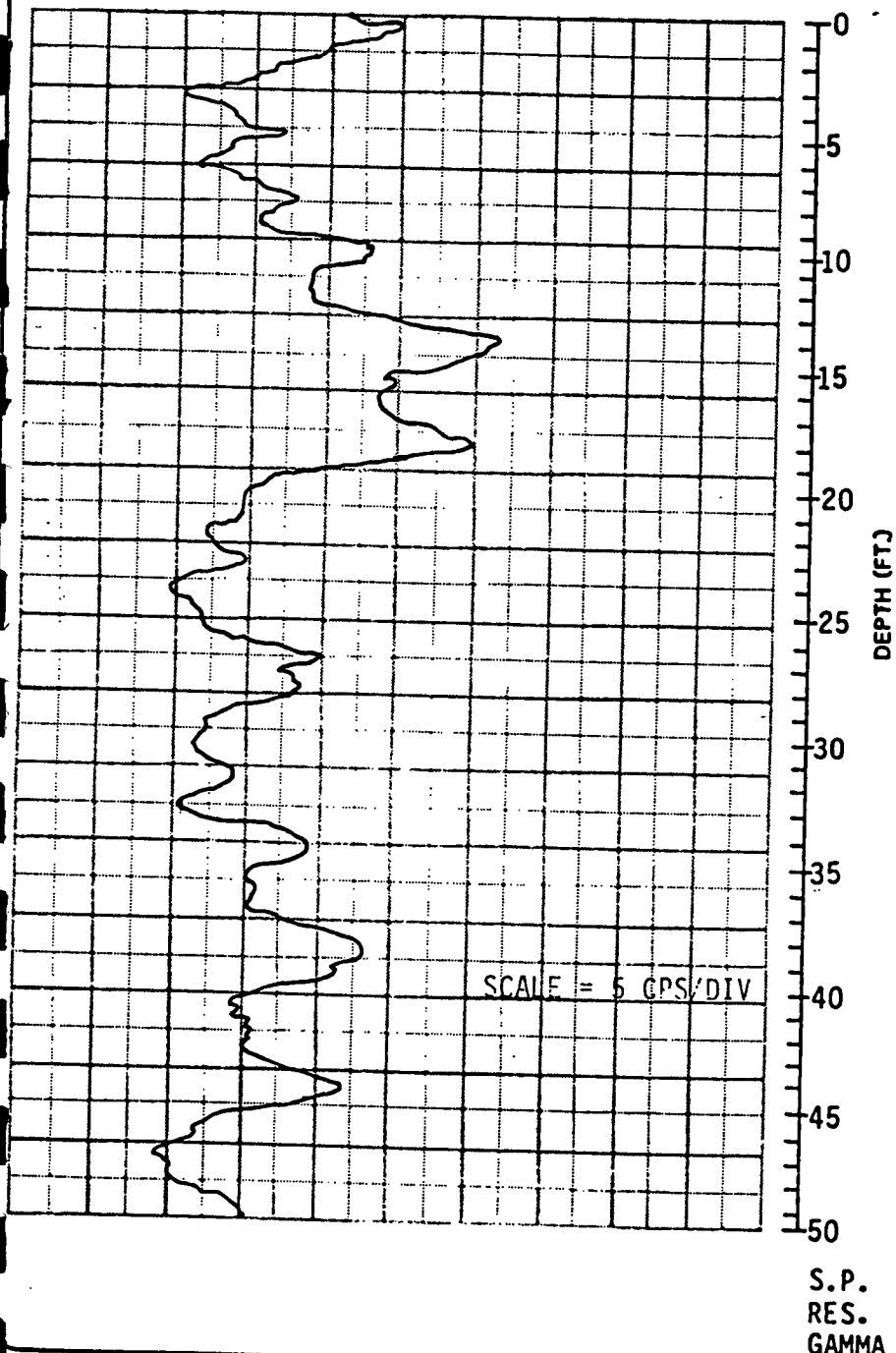
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1201.6



DESCRIPTIONS

Refer to log of boring E31 for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

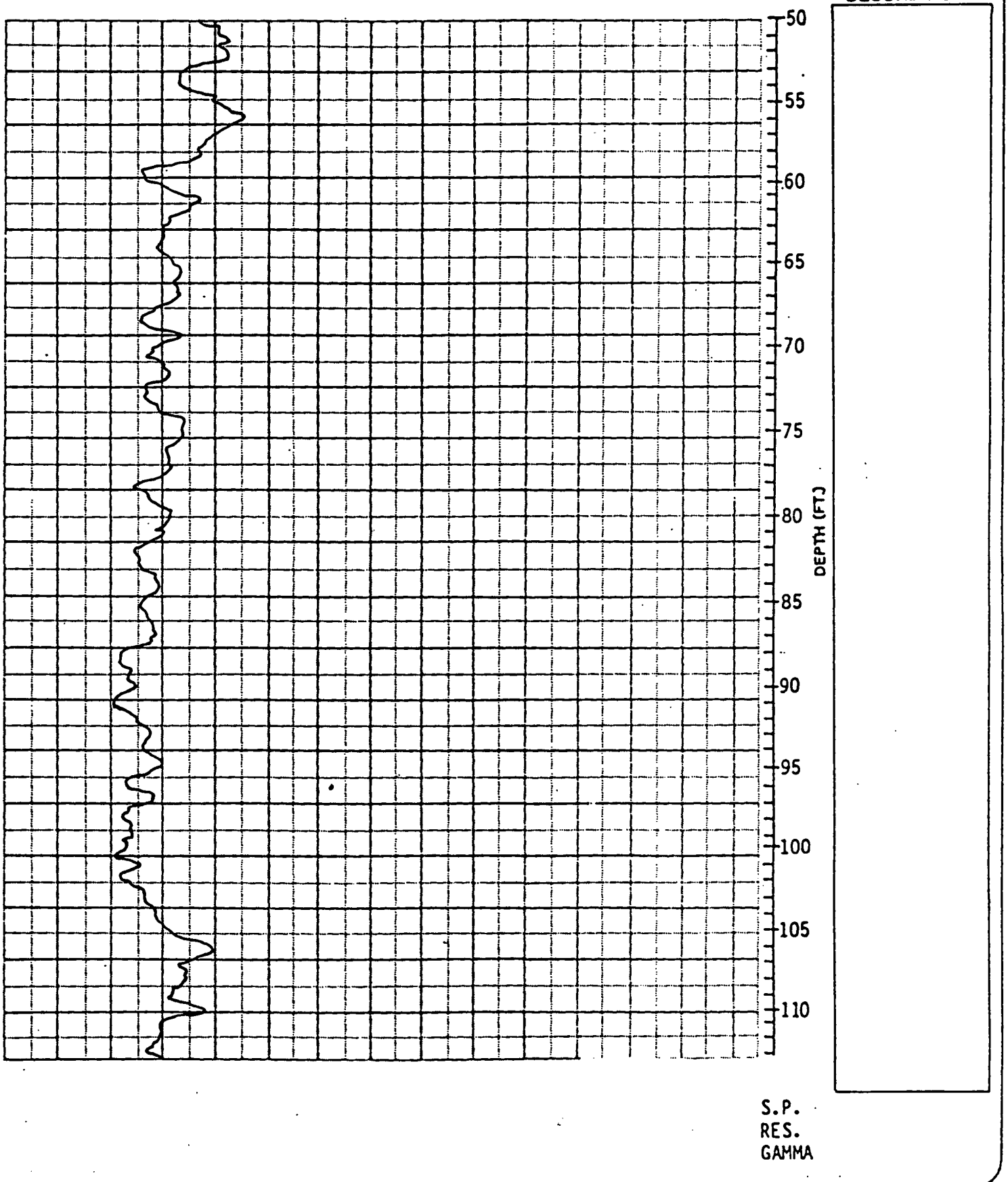
LOCATION: Wausau, Wisconsin

Boring No.: E31

Job No.: 13076

Sheet 2 of 3

1400 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

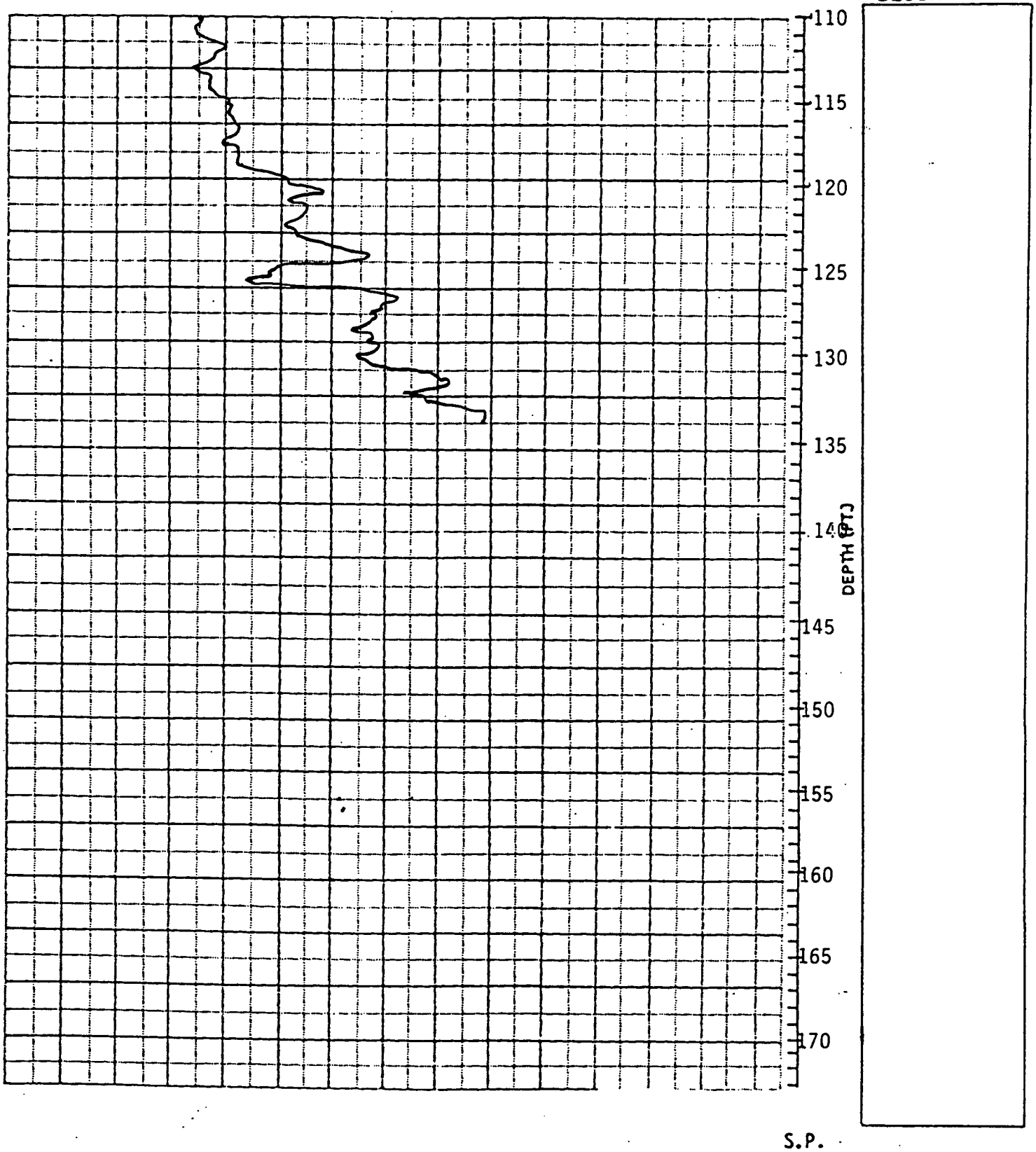
LOCATION: Wausau, Wisconsin

Boring No.: E31

Job No.: 13076

Sheet 3 of 3

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-1848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: W50

Job No.: 13076

Sheet 1 of 2

1400 EMIL STREET, P.O. BOX 8636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10-27-87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Steel Diam. 4.0"
Depth of Well or Boring: 85 ft
Backfill Type: Bentonite Slurry
Logging Rate: NA

Borehole Diam. 3 7/8"
Depth to Water: 25 ft

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

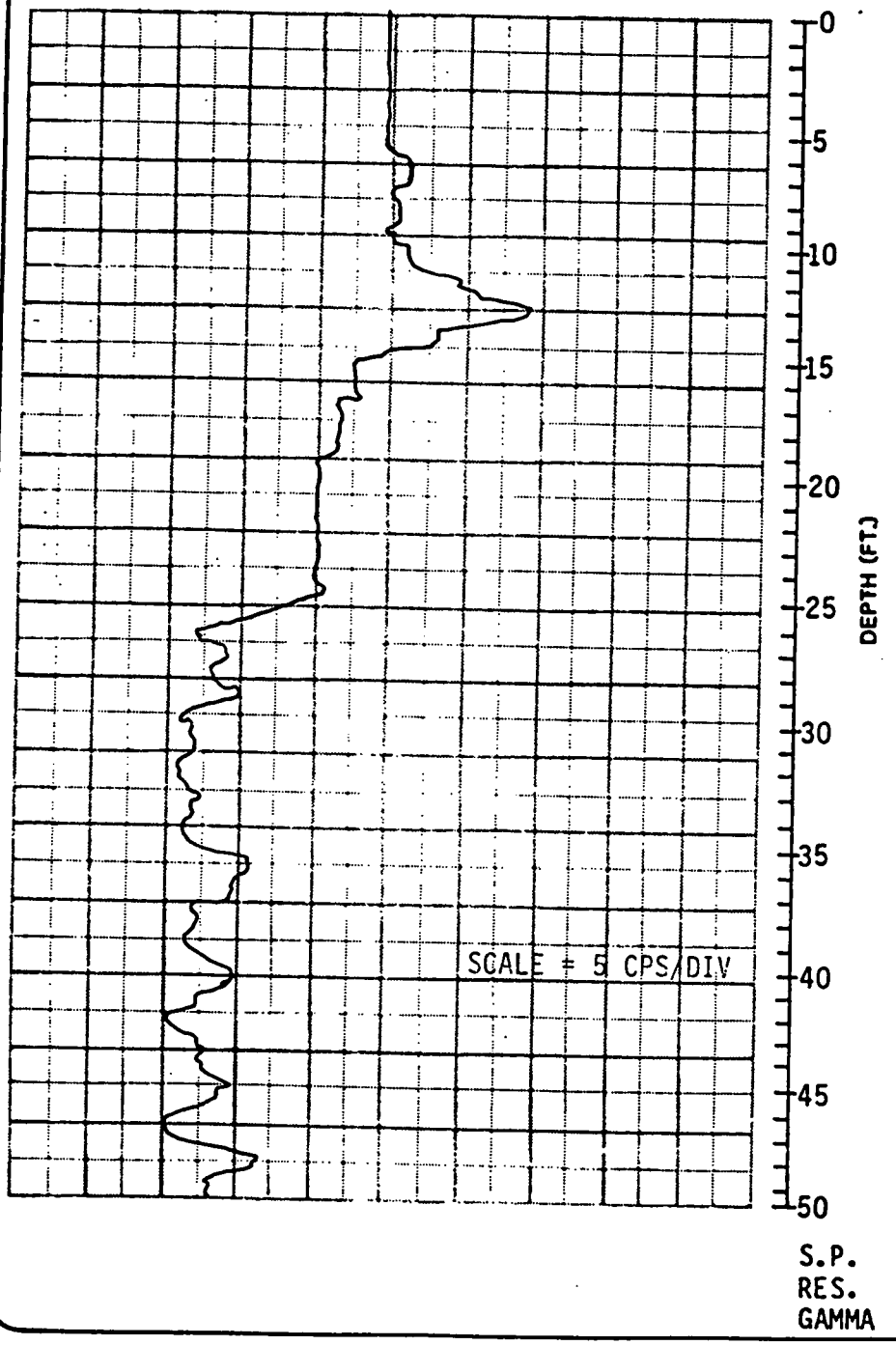
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1213.3



DESCRIPTIONS

Refer to log of boring W50 for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

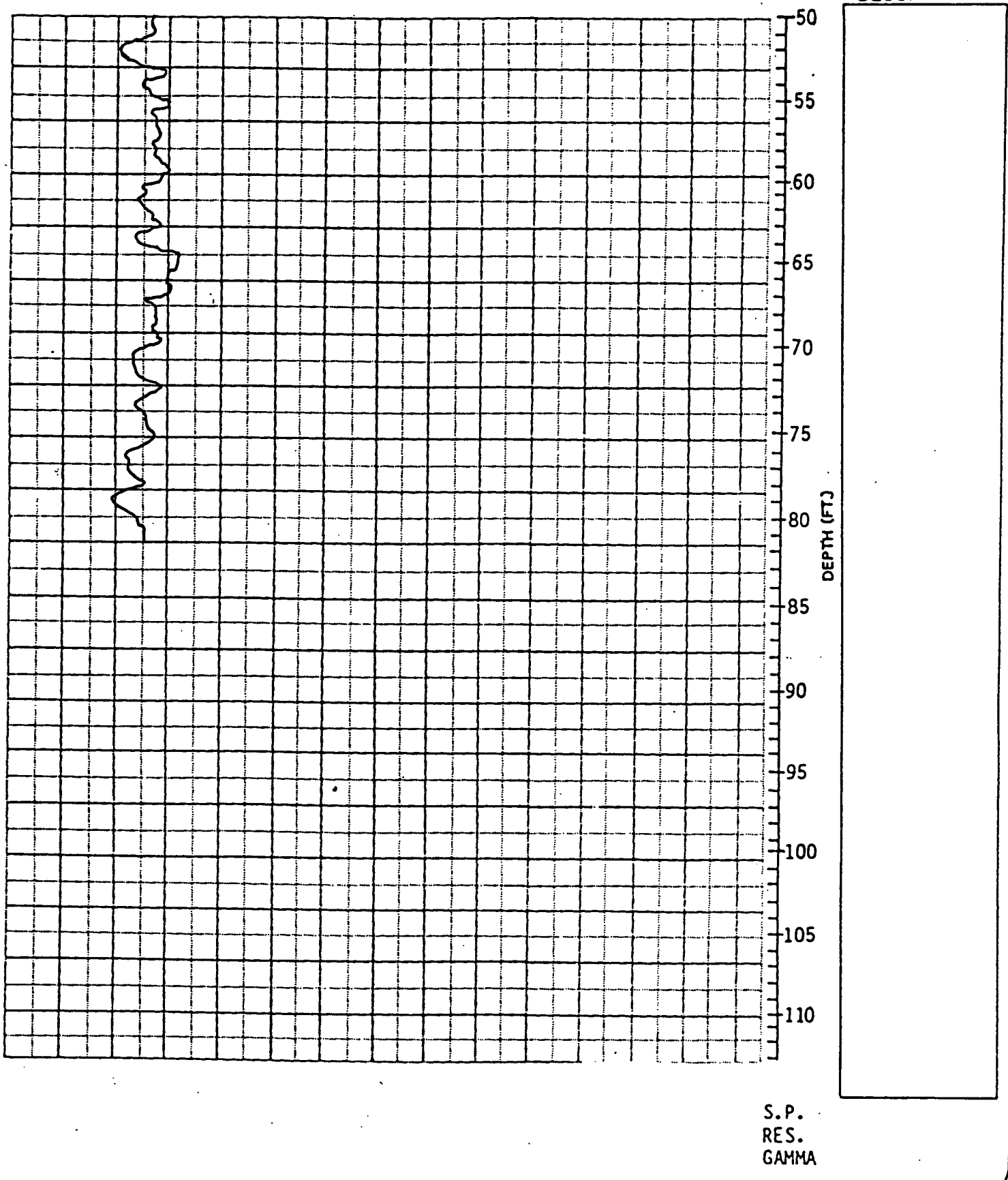
LOCATION: Wausau, Wisconsin

Boring No.: W50

Job No.: 13076

Sheet 2 of 2

1409 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

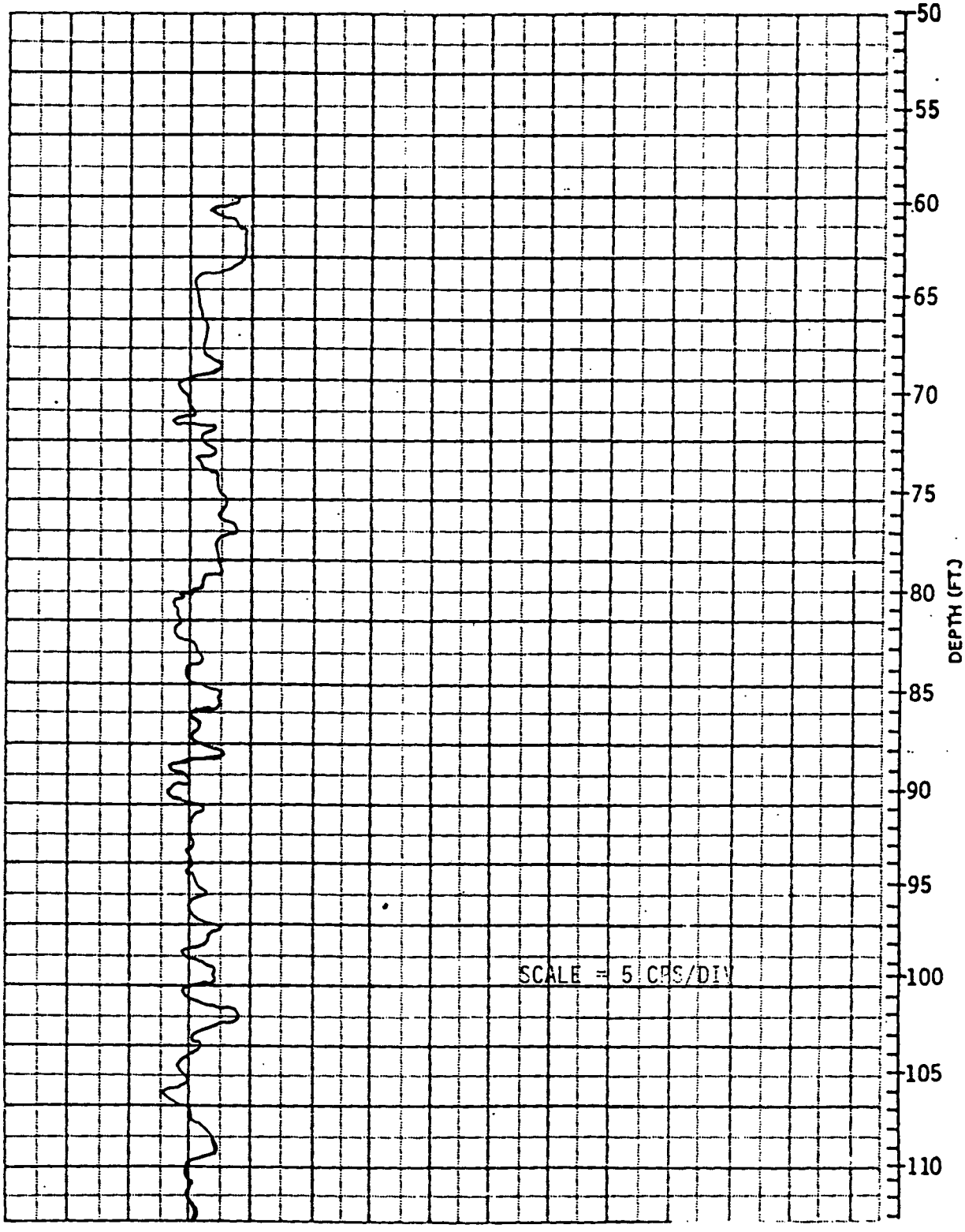
Boring No.: W53

Job No.: 13076

Sheet 1 of 2

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

GROUND SURFACE ELEV. = 1217.6



S.P.
RES.
GAMMA

DESCRIPTIONS

Log not legible from 0 to 60 ft due to equipment Malfunction

Refer to log of boring W53 for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

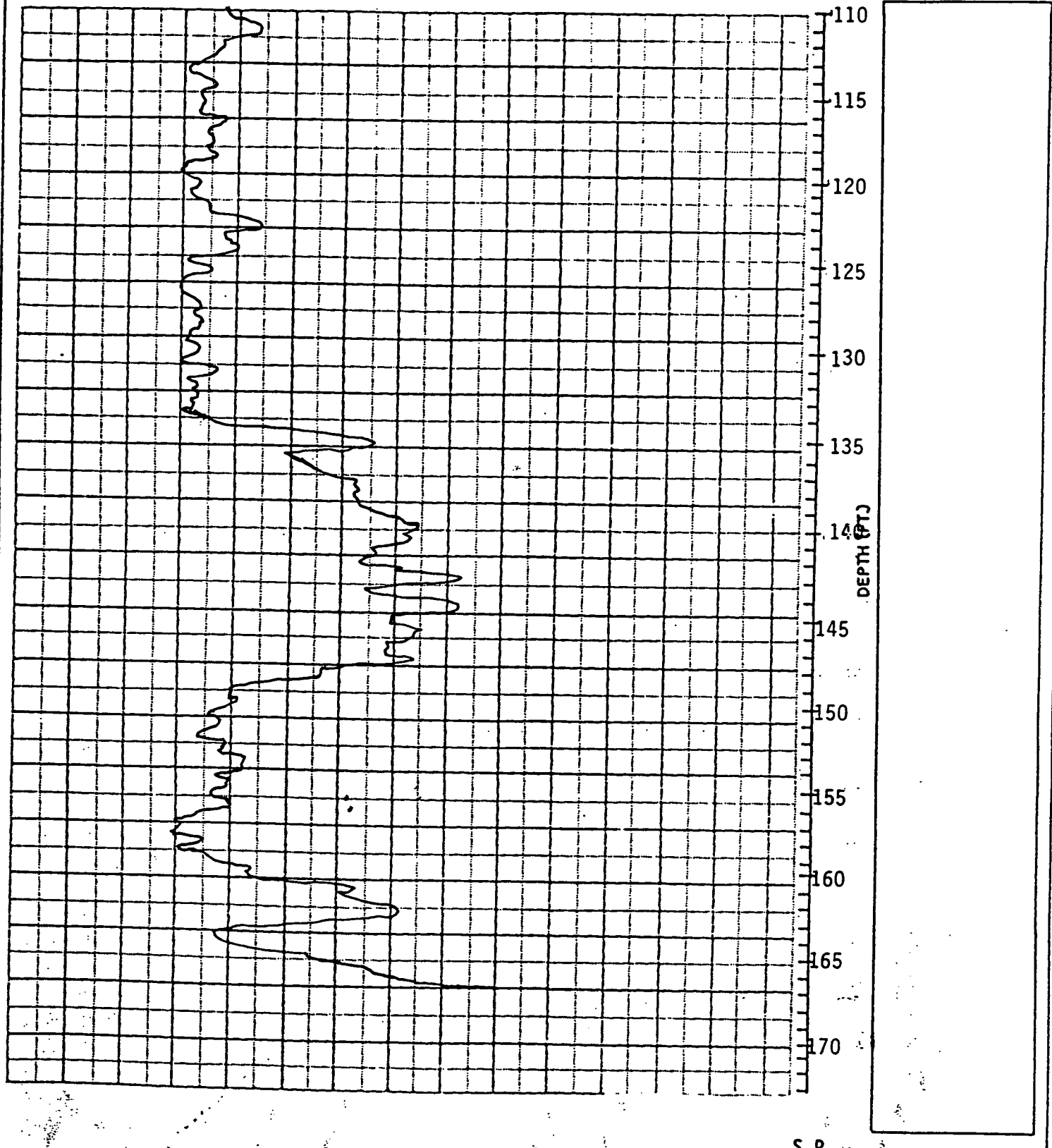
LOCATION: Wausau, Wisconsin

Boring No.: W53

Job No.: 13076

Sheet 2 of 2

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-3648 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: W 56

Job No.: 13076

Sheet 1 of 2

1400 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10-22-87
Personnel: GSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: Galv Steel Diam. 2.0
Depth of Well or Boring: 62.5'
Backfill Type: Bentonite Slurry
Logging Rate: NA

Borehole Diam. 5 7/8"
Depth to Water: 9.0 ft

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

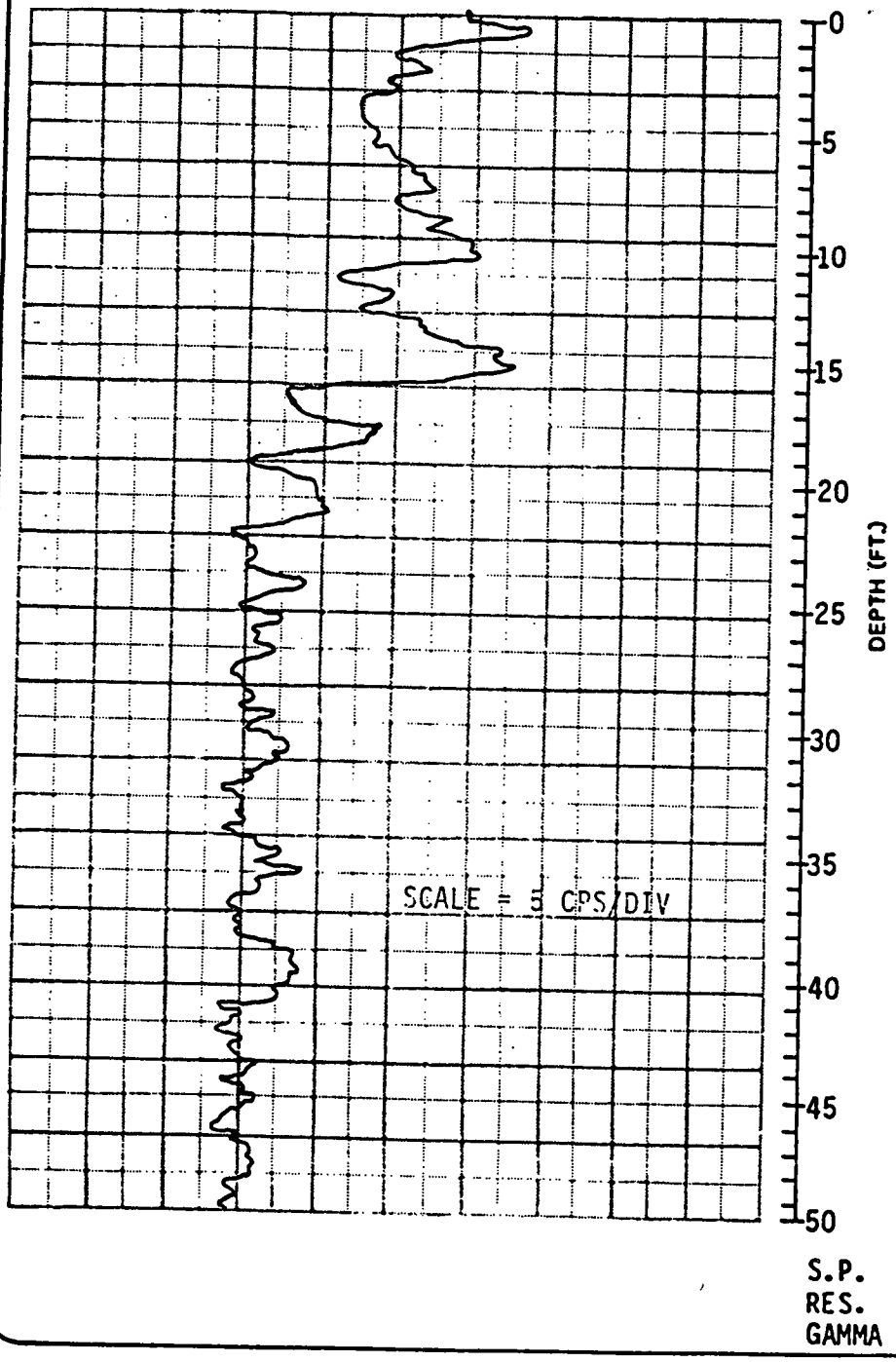
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: _____



DESCRIPTIONS

Refer to log of boring W56 for soil description.

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

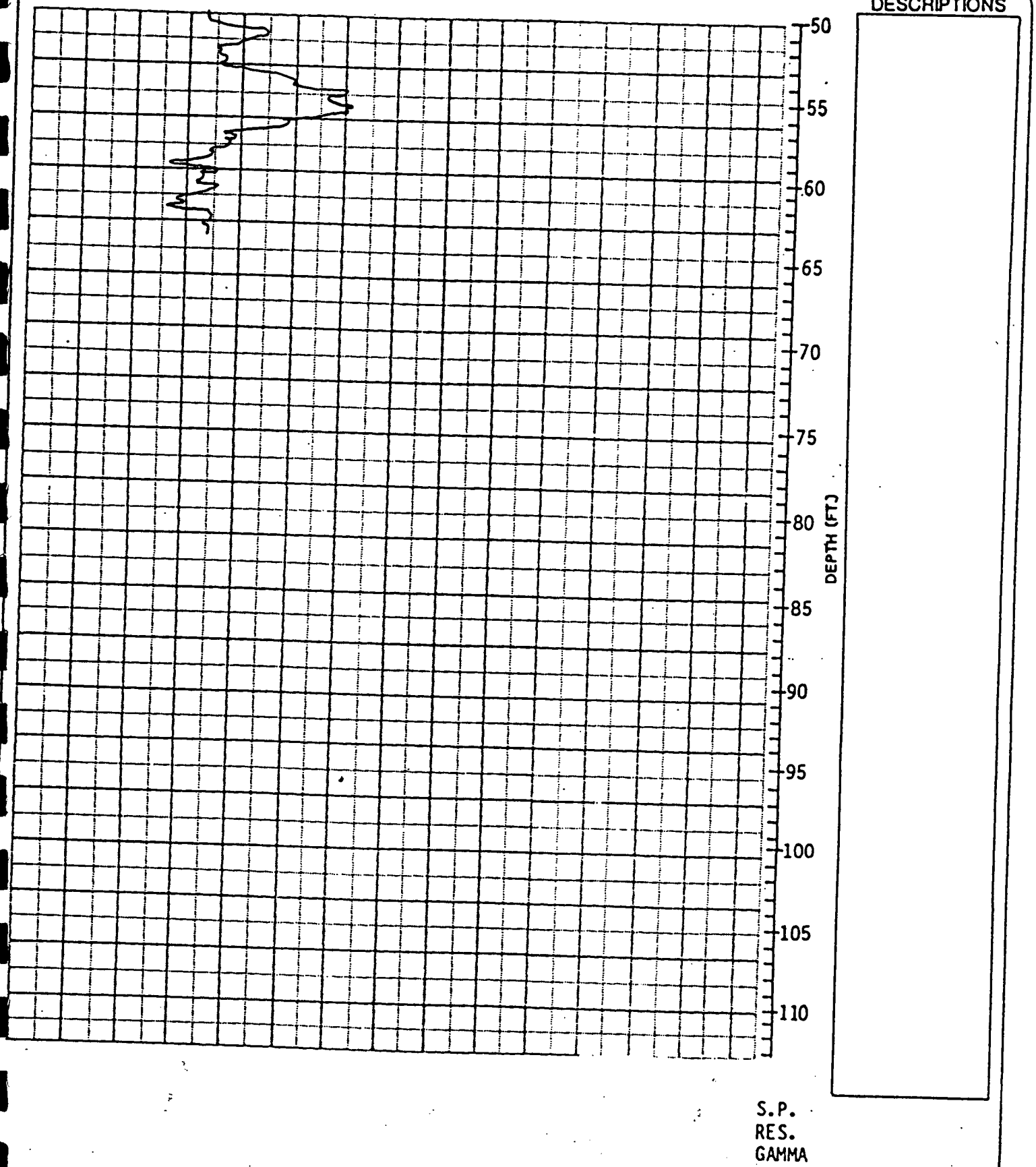
LOCATION: Wausau, Wisconsin

Boring No.: W 56

Job No.: 13076

Sheet 2 of 2

1409 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

LOCATION: Wausau, Wisconsin

Boring No.: EPA 1A

Job No.: 13076

Sheet 1 of 3

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.

Date of Log: 10-22-87
Personnel: CSR
Instrument: MS 1000 C
Probe No: SN 1372

Casing: PVC Diam. 2" Borehole Diam. 4.0"
Depth of Well or Boring: 132 ft Depth to Water: 27.7
Backfill Type: Cement Bentonite Grout
Logging Rate: NA

NATURAL GAMMA LOG

Scale: 10 Disp.: 0

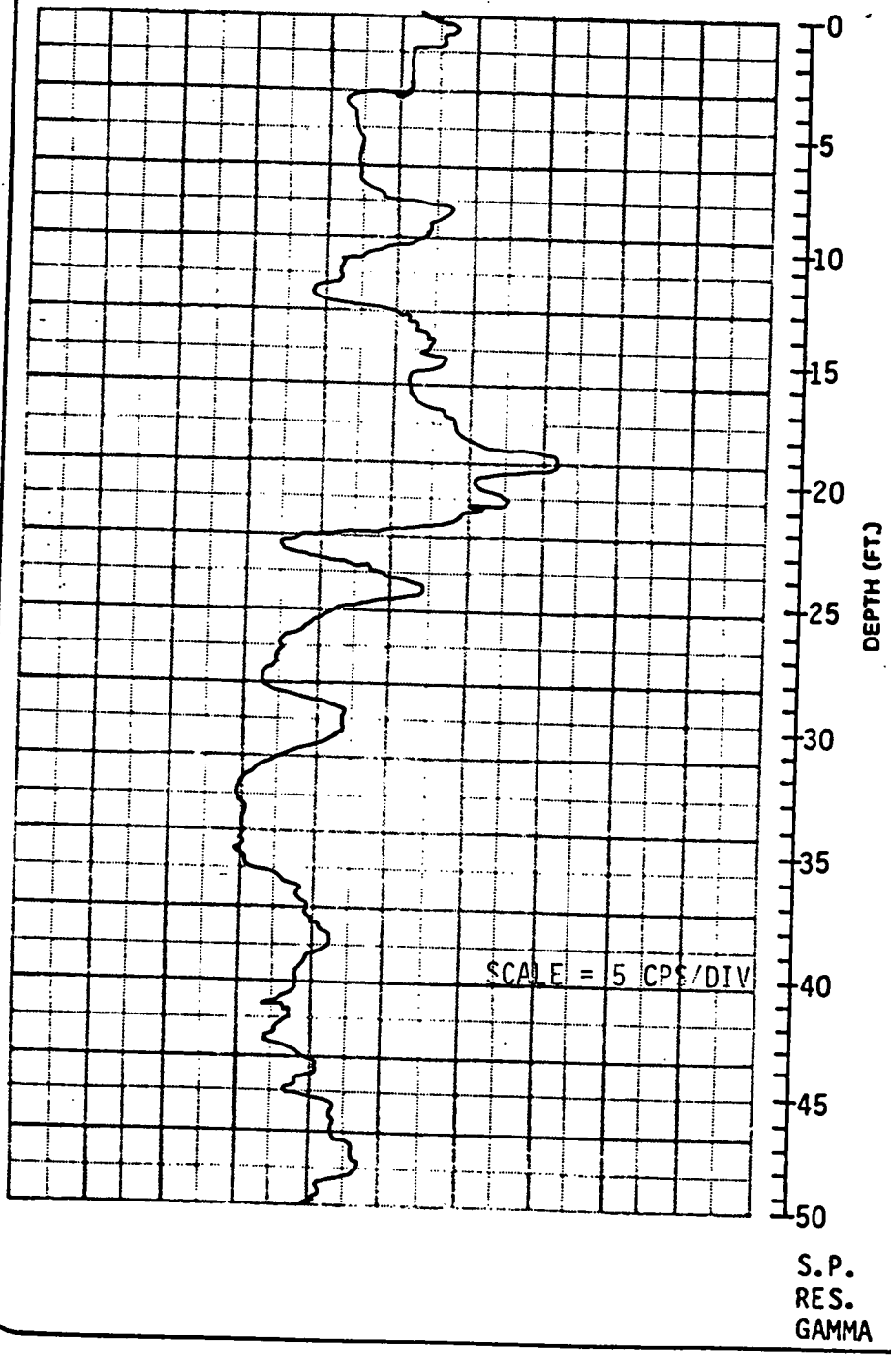
S.P. LOG

Scale: _____ Bias.: _____

RESISTIVITY LOG

Scale: _____ Disp.: _____

Datum: _____ Elev.: _____
Ground Surface Elevation: 1214.21



DESCRIPTIONS

Refer to log of boring EPA 1A for soil description

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

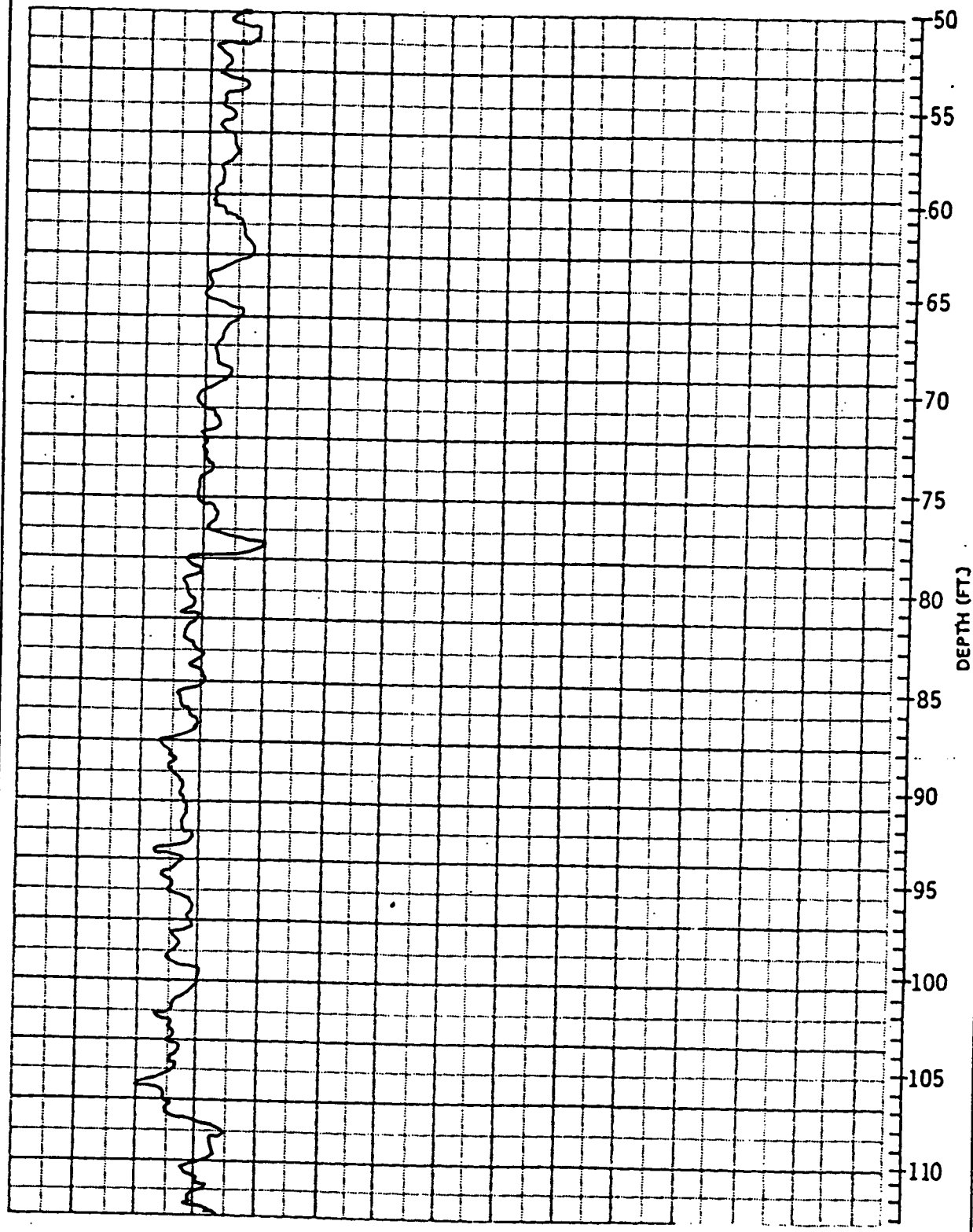
LOCATION: Wausau, Wisconsin

Boring No.: EPA 1A

Job No.: 13076

Sheet 2 of 3

1409 EMIL STREET, P.O. BOX 9638, MADISON, WIS. 53715 • TEL. (608) 257-4848 WIS.



DESCRIPTIONS

S.P.
RES.
GAMMA

WARZYN ENGINEERING INC

GEOPHYSICAL LOG

PROJECT: Wausau Water Supply NPL Site

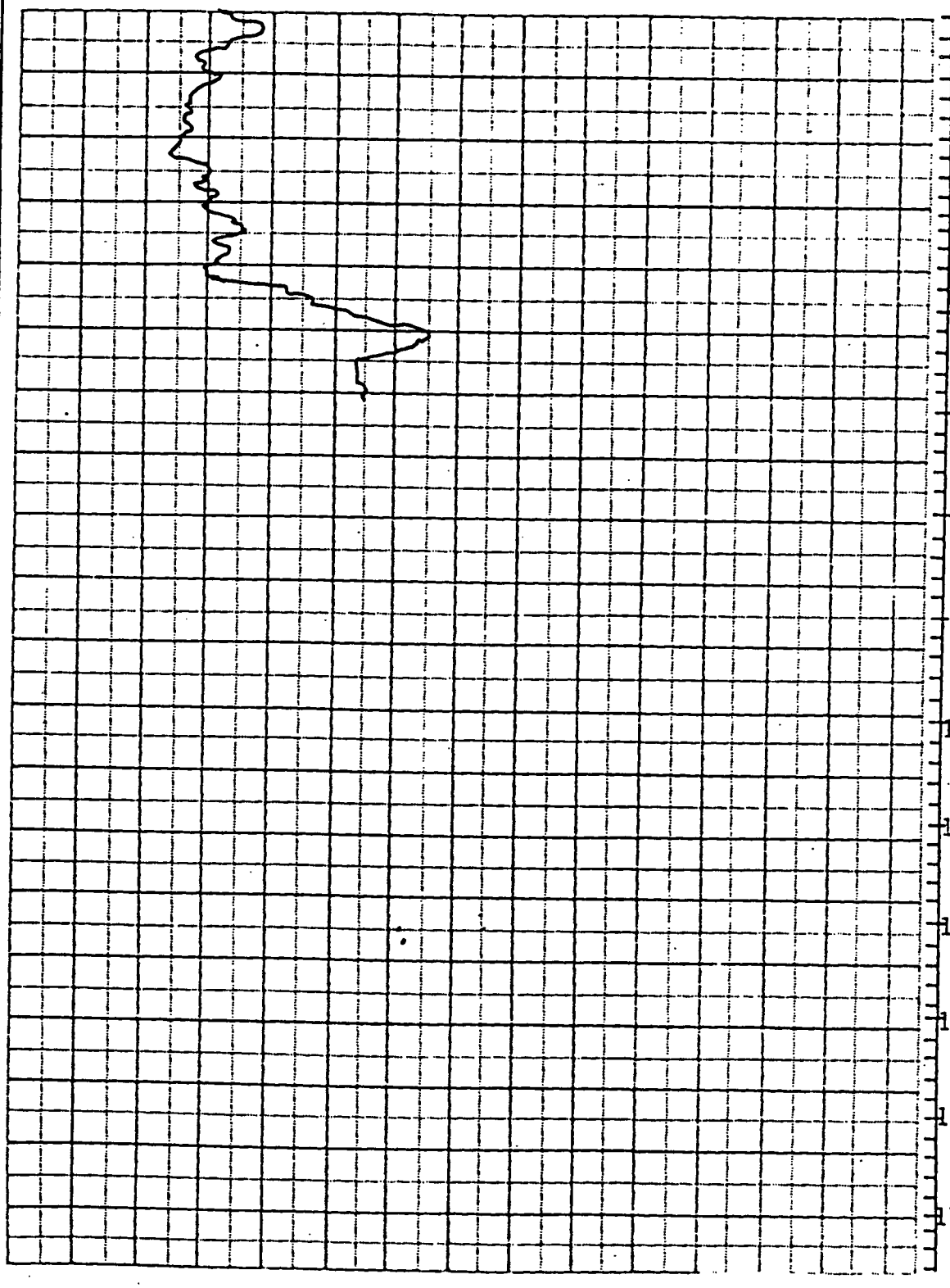
LOCATION: Wausau, Wisconsin

Boring No.: EPA 1A

Job No.: 13076

Sheet 3 of 3

1409 EMIL STREET, P.O. BOX 9636, MADISON, WIS. 53715 • TEL. (608) 257-3848 WIS.



DESCRIPTIONS

S.P.
RES.
GAMMA

APPENDIX F

SUMMARY OF MONITORING WELL CONSTRUCTION AND OBSERVED GROUNDWATER ELEVATIONS

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

WEST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	OCTOBER 5,1987 DEPTH TO WATER (FEET)	OCTOBER 5,1987 WATER TABLE ELEV (FEET MSL)	DECEMBER 10,1987 DEPTH TO WATER (FEET)	DECEMBER 10,1987 WATER TABLE ELEV (FEET MSL)	JANUARY 7, 1988 DEPTH TO WATER (FEET)	JANUARY 7, 1988 WATER TABLE ELEV (FEET MSL)
CW6 #	1220.02		1220.02	100.00	38.50	1120.02-1158.52	60.58	1159.44	43.00	1177.02	60.00	1160.02
CW7 #	1223.63		1223.63	100.00	39.00	1123.63-1162.63	64.23	1159.40	65.00	1158.63	64.00	1159.63
CW9 #	1224.56		1224.56	100.00	60.00	1124.56-1184.56	62.00	1162.56	59.00	1165.56	43.00	1181.56
CW90BS	1224.40	1224.40	1222.30	78.00			41.10	1183.30	-	-	40.29	1184.11
CW10			1215.05				-	-	SEALED	-	SEALED	-
C1S	1223.69		1220.98	29.90	15.00	1206.08-1191.08	30.72	1192.97	>32.01	ERR	29.95	1193.74
C2S	1219.24	1219.36	1216.30	37.90	15.00	1193.34-1178.34	32.21	1187.03	32.46	1186.78	32.65	1186.59
C3S	1220.24	1220.52	1217.60	38.90	15.00	1193.51-1178.51	33.20	1187.04	33.54	1186.70	33.84	1186.40
C4S	1216.84	1216.94	1214.30	32.20	15.00	1197.06-1182.06	29.84	1187.00	30.19	1186.65	30.50	1186.34
C4D	1216.32	1216.56	1214.20	104.20	5.00	1114.84-1109.84	29.36	1186.96	29.66	1186.66	30.02	1186.30
C6S	1221.69		1219.32	39.50	15.00	1194.82-1179.82	34.50	1187.19	34.94	1186.75	35.13	1186.56
C7S	1221.00	1221.12	1218.20	36.00	15.00	1197.26-1182.26	33.91	1187.09	34.29	1186.71	34.40	1186.60
MW1A	1215.79	1215.93	1214.21	130.00	8.00	1092.21-1084.21	30.05	1185.74	30.48	1185.31	30.03	1185.76
MW3A	1223.26		1221.11	140.00	10.00	1091.11-1081.11	38.43	1184.83	38.98	1184.28	38.34	1184.92
MW3B	1223.53		1221.17	74.70	10.00	1156.27-1146.27	38.62	1184.91	39.15	1184.38	38.58	1184.95
MW4A	1215.22	1215.52	1215.50	100.00	10.00	1125.59-1115.59	32.72	1182.50	32.59	1182.63	31.37	1183.85
MW4B	1215.58	1215.62	1215.60	60.5	10.00	1165.18-1155.18	32.82	1182.76	32.99	1182.59	31.79	1183.79
MW4C	1215.34	1215.39	1215.40	40.00	10.00	1185.69-1175.69	32.44	1182.90	32.70	1182.64	31.49	1183.85
MW5	1219.22		1219.08	45.00	10.00	1184.28-1174.28	36.42	1182.80	36.92	1182.30	-	-
MW6	1218.93		1218.93	45.00	10.00	1184.00-1174.00	OBSTRUCTED	-	-	-	-	-
MW7	1219.10		1219.10	45.00	10.00	1184.06-1174.06	37.10	1182.00	37.52	1181.58	-	-
MW8	1217.55		1217.55	45.00	10.00	1182.55-1172.55	-	-	-	-	-	-
MW9	1201.91	1201.97	1202.00	50.00	15.00	1166.91-1151.91	18.29	1183.62	20.64	1181.27	17.46	1184.45
PLUM ST	1215.85			95.00			26.47	1189.38	26.74	1189.11	26.00	1189.85
R1S	1222.13	1222.19	1220.10	40.50	10.00	1189.51-1179.51	34.35	1187.78	34.92	1187.21	34.97	1187.16
R1D	1222.39	1222.41	1220.10	121.00	10.00	1109.16-1099.16	34.85	1187.54	35.41	1186.98	35.43	1186.96
R2S	1209.88	1209.96	1208.10	28.00	10.00	1190.05-1180.05	22.44	1187.44	23.28	1186.60	23.05	1186.83
R2D	1209.58	1209.82	1207.90	135.00	10.00	1082.69-1072.69	23.21	1186.37	23.60	1185.98	23.41	1186.17
R3S	1215.29	1215.35	1212.80	32.00	10.00	1190.79-1180.79	27.29	1188.00	28.00	1187.29	28.07	1187.22
R3D	1215.53	1215.57	1213.10	136.00	10.00	1087.09-1077.09	28.90	1186.63	29.24	1186.29	29.18	1186.35
R4D	1219.24	1219.28	1216.00	133.00	10.00	1093.05-1083.05	32.25	1186.99	32.51	1186.73	32.72	1186.52
R5S							-	-	-	-	-	-
R6S							-	-	-	-	-	-
R7S							-	-	-	-	-	-
GM1S	1216.07	1216.11	1214.30	37.00	10	1167.42-1157.42	30.23	1185.84	30.80	1185.27	30.16	1185.91
GM2S	1211.91		1212.30	34.00	10.00	1188.79-1178.79	26.03	1185.88	26.52	1185.39	26.12	1185.79
GM3S	1214.72		1215.10	37.00	10.00	1188.10-1178.10	28.20	1186.52	28.52	1186.20	28.21	1186.51
GM4S	1216.13		1214.30	36.00	10.00	1188.31-1178.31	30.06	1186.07	30.62	1185.51	30.02	1186.11
GM4D	1216.46		1214.50	145.00	10.00	1079.52-1069.52	30.34	1186.12	30.42	1186.04	30.32	1186.14
W50	1215.67	1215.77	1213.30	82.80	5.00	1135.50-1130.50	-	-	29.07	1186.60	29.00	1186.67
W51A	1224.50	1224.46	1222.20	44.70	10.00	1187.50-1177.50	-	-	37.10	1187.40	37.22	1187.28
W52	1219.18	1219.22	1216.50	124.00	5.00	1097.50-1092.50	-	-	32.23	1186.95	32.74	1186.44
W52A	1219.08	1219.10	1216.80	36.00	10.00	1190.80-1180.80	-	-	32.70	1186.38	32.27	1186.81
W53	1216.77	1217.53	1217.50	125.50	5.00	1097.00-1092.00	-	-	30.10	1186.67	-	-
W53A	1217.00	1217.62	1217.60	41.30	10.00	1186.30-1176.30	-	-	30.31	1186.69	-	-
W54	1216.31	1216.87	1216.90	65.50	5.00	1156.40-1151.40	-	-	24.71	1191.60	29.85	1186.46
W55	1217.68	1217.93	1217.90	115.50	5.00	1107.40-1102.40	-	-	32.78	1184.90	32.14	1185.54
W55A	1217.40	1217.98	1218.00	43.00	10.00	1185.00-1175.00	-	-	31.88	1185.52	31.62	1185.78
W56	1200.11	1200.17	1198.90	66.50	5.00	1137.40-1132.40	-	-	14.49	1185.62	14.11	1186.00
W56A	1200.95	1200.95	1198.80	20.00	10.00	1188.80-1178.80	-	-	11.76	1189.19	11.91	1189.04
W57	1205.30	1205.30	1202.10	77.50	5.00	1129.60-1124.60	-	-	21.98	1183.32	20.91	1184.39
SG1	1189.39	1189.30					-	-	-	-	FROZEN	-
SG2	1193.34	1193.34					-	-	-	-	2.02	1191.32
ISLAND WELLS												
WSS	1193.24			18.5	10.00	1185-1175	-	-	-	-	-	-
WSD	1193.46			152	10.00	1051-1041	-	-	-	-	-	-
IWS	1193.17			15.0	10.00	1188.2-1178.2	-	-	-	-	-	-
WSM	1192.91			77.3	10.00	1125.6-1115.6	-	-	-	-	-	-
IWD	1192.56			140.4	10.00	1062.2-1052.2	-	-	-	-	-	-

CORRECTED BY ADDING 0.25 TO RMT SURVEYED TOP OF CASING ELEVATION
- WATER LEVEL NOT RECORDED
@ PUMPING WELL

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

WEST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	MARCH 3,1988 DEPTH TO WATER (FEET)	MARCH 3,1988 WATER TABLE ELEV (FEET MSL)	APRIL 27, 1988 DEPTH TO WATER (FEET)	APRIL 27, 1988 WATER TABLE ELEV (FEET MSL)	JUNE 27-28 1988 DEPTH TO WATER (FEET)	JUNE 27-28 1988 WATER TABLE ELEV (FEET MSL)
CW6 #	1220.02		1220.02	100.00	38.50	1120.02-1158.52	40.00	1180.02	42.00	1178.02	42.00	1178.02
CW7 #	1223.63		1223.63	100.00	39.00	1123.63-1162.63	64.00	1159.63	65.00	1158.63	64.00	1159.63
CW9 #	1224.56		1224.56	100.00	60.00	1124.56-1184.56	43.00	1181.56	58.00	1166.56	59.00	1165.56
CW9OBS	1224.40	1224.40	1222.30	78.00			40.89	1183.51	40.57	1183.83	41.61	1182.79
CW10			1215.05				-	-	-	-	-	-
C1S	1223.69		1220.98	29.90	15.00	1206.08-1191.08	32.36	ERR	30.21	1193.48	29.34	1194.35
C2S	1219.24	1219.36	1216.30	37.90	15.00	1193.34-1178.34	33.31	1185.93	32.30	1186.94	32.40	1186.84
C3S	1220.24	1220.52	1217.60	38.90	15.00	1193.51-1178.51	34.59	1185.65	33.41	1186.83	33.32	1186.92
C4S	1216.84	1216.94	1214.30	32.20	15.00	1197.06-1182.06	31.19	1185.65	29.95	1186.89	29.87	1186.97
C4D	1216.32	1216.56	1214.20	104.20	5.00	1114.84-1109.84	30.65	1185.67	29.42	1186.90	29.34	1186.98
C6S	1221.69		1219.32	39.50	15.00	1194.82-1179.82	35.83	1185.86	34.66	1187.03	34.52	1187.17
C7S	1221.00	1221.12	1218.20	36.00	15.00	1197.26-1182.26	35.10	1185.90	34.04	1186.96	33.99	1187.01
MW1A	1215.79	1215.93	1214.21	130.00	8.00	1092.21-1084.21	30.80	1184.99	30.03	1185.76	30.11	1185.68
MW3A	1223.26		1221.11	140.00	10.00	1091.11-1081.11	38.91	1184.35	38.22	1185.04	38.50	1184.76
MW3B	1223.53		1221.17	74.70	10.00	1156.27-1146.27	39.12	1184.41	38.44	1185.09	38.70	1184.83
MW4A	1215.22	1215.52	1215.50	100.00	10.00	1125.59-1115.59	32.62	1182.60	32.05	1183.17	32.76	1182.46
MW4B	1215.58	1215.62	1215.60	60.5	10.00	1165.18-1155.18	33.01	1182.57	32.46	1183.12	33.20	1182.38
MW4C	1215.34	1215.39	1215.40	40.00	10.00	1185.69-1175.69	32.71	1182.63	32.14	1183.20	-	-
MW5	1219.22		1219.08	45.00	10.00	1184.28-1174.28	-	-	36.17	1183.05	can't find	-
MW6	1218.93		1218.93	45.00	10.00	1184.00-1174.00	-	-	-	-	dry?	-
MW7	1219.10		1219.10	45.00	10.00	1184.06-1174.06	37.56	1181.54	36.88	1182.22	-	-
MW8	1217.55		1217.55	45.00	10.00	1182.55-1172.55	-	-	35.04	1182.51	35.65	1181.90
MW9	1201.91	1201.97	1202.00	50.00	15.00	1166.91-1151.91	18.72	1183.19	18.11	1183.80	-	-
PLUM ST	1215.85			95.00			26.63	1189.22	26.39	1189.46	26.56	1189.29
R1S	1222.13	1222.19	1220.10	40.50	10.00	1189.51-1179.51	35.54	1186.59	34.66	1187.47	34.64	1187.49
R1D	1222.39	1222.41	1220.10	121.00	10.00	1109.16-1099.16	36.01	1186.38	35.12	1187.27	35.11	1187.28
R2S	1209.88	1209.96	1208.10	28.00	10.00	1190.05-1180.05	23.62	1186.26	22.29	1187.59	22.89	1186.99
R2D	1209.58	1209.82	1207.90	135.00	10.00	1082.69-1072.69	24.14	1185.44	23.29	1186.29	23.34	1186.24
R3S	1215.29	1215.35	1212.80	32.00	10.00	1190.79-1180.79	28.50	1186.79	27.54	1187.75	27.70	1187.59
R3D	1215.53	1215.57	1213.10	136.00	10.00	1087.09-1077.09	29.85	1185.68	29.00	1186.53	29.01	1186.52
R4D	1219.24	1219.28	1216.00	133.00	10.00	1093.05-1083.05	33.32	1185.92	32.34	1186.90	32.31	1186.93
R5S							33.92	-	33.04	-	33.02	-
R6S							-	-	33.66	-	-	-
R7S							-	-	-	-	-	-
GM1S	1216.07	1216.11	1214.30	37.00	10	1167.42-1157.42	31.05	1185.02	30.20	1185.87	30.34	1185.73
GM2S	1211.91		1212.30	34.00	10.00	1188.79-1178.79	26.45	1185.46	25.78	1186.13	26.00	1185.91
GM3S	1214.72		1215.10	37.00	10.00	1188.10-1178.10	-	-	-	ERR	-	-
GM4S	1216.13		1214.30	36.00	10.00	1188.31-1178.31	30.38	1185.75	29.65	1186.48	29.94	1186.19
GM4D	1216.46		1214.50	145.00	10.00	1079.52-1069.52	30.60	1185.86	29.90	1186.56	30.22	1186.24
W50	1215.67	1215.77	1213.30	82.80	5.00	1135.50-1130.50	29.63	1186.04	28.73	1186.94	28.81	1186.86
W51A	1224.50	1224.46	1222.20	44.70	10.00	1187.50-1177.50	37.79	1186.71	37.03	1187.47	36.88	1187.62
W52	1219.18	1219.22	1216.50	124.00	5.00	1097.50-1092.50	33.37	1185.81	32.47	1186.71	32.45	1186.73
W52A	1219.08	1219.10	1216.80	36.00	10.00	1190.80-1180.80	32.91	1186.17	31.93	1187.15	31.98	1187.10
W53	1216.77	1217.53	1217.50	125.50	5.00	1097.00-1092.00	31.00	1185.77	29.92	1186.85	29.85	1186.92
W53A	1217.00	1217.62	1217.60	41.30	10.00	1186.30-1176.30	31.21	1185.79	30.19	1186.81	30.14	1186.86
W54	1216.31	1216.87	1216.90	65.50	5.00	1156.40-1151.40	-	-	29.38	1186.93	-	-
W55	1217.68	1217.93	1217.90	115.50	5.00	1107.40-1102.40	33.00	1184.68	32.24	1185.44	32.51	1185.17
W55A	1217.40	1217.98	1218.00	43.00	10.00	1185.00-1175.00	32.88	1184.52	32.11	1185.29	32.36	1185.04
W56	1200.11	1200.17	1198.90	66.50	5.00	1137.40-1132.40	14.89	1185.22	14.08	1186.03	14.34	1185.77
W56A	1200.95	1200.95	1198.80	20.00	10.00	1188.80-1178.80	12.15	1188.80	11.29	1189.66	11.55	1189.40
W57	1205.30	1205.30	1202.10	77.50	5.00	1129.60-1124.60	22.17	1183.13	21.59	1183.71	-	-
SG1	1189.39	1189.30					‡	1187.3	1.80	1187.59	-	1187.70
SG2	1193.34	1193.34					1.70	1191.64	0.45	1192.89	1.48	1191.86
ISLAND WELLS												
WSS	1193.24			18.5	10.00	1185-1175	-	-	-	-	-	-
WSD	1193.46			152	10.00	1051-1041	-	-	-	-	-	-
IWS	1193.17			15.0	10.00	1188.2-1178.2	-	-	-	-	-	-
WSM	1192.91			77.3	10.00	1125.6-1115.6	-	-	-	-	-	-
IWD	1192.56			140.4	10.00	1062.2-1052.2	-	-	-	-	-	-

‡ CORRECTED BY ADDING 0.25 TO RMT SURVEYED TOP OF CASING ELEVATION
- WATER LEVEL NOT RECORDED
PUMPING WELL

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

WEST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	JULY 1 1988 DEPTH TO WATER (FEET)	JULY 1 1988 WATER TABLE ELEV (FEET MSL)	JULY 7 1988 DEPTH TO WATER (FEET)	JULY 7 1988 WATER TABLE ELEV (FEET MSL)	AUGUST 10 1988 DEPTH TO WATER (FEET)	AUGUST 10 1988 WATER TABLE ELEV (FEET MSL)
CW6 #	1220.02		1220.02	100.00	38.50	1120.02-1158.52	23.00	1197.02	40.00	1180.02	53.00	1167.02
CW7 #	1223.63		1223.63	100.00	39.00	1123.63-1162.63	64.00	1159.63	62.00	1161.63	67.00	1156.63
CW9 #	1224.56		1224.56	100.00	60.00	1124.56-1184.56	48.00	1176.56	61.00	1163.56	43.00	1181.56
CW9OBS	1224.40	1224.40	1222.30	78.00			40.98	1183.42	40.74	1183.66	41.28	1183.12
CW10			1215.05				-	-	-	-	-	-
C1S	1223.69		1220.98	29.90	15.00	1206.08-1191.08	29.32	1194.37	29.35	1194.34	29.81	1193.88
C2S	1219.24	1219.36	1216.30	37.90	15.00	1193.34-1178.34	-	-	32.21	1187.03	31.98	1187.26
C3S	1220.24	1220.52	1217.60	38.90	15.00	1193.51-1178.51	33.26	1186.98	33.31	1186.93	32.95	1187.29
C4S	1216.84	1216.94	1214.30	32.20	15.00	1197.06-1182.06	29.85	1186.99	29.92	1186.92	29.50	1187.34
C4D	1216.32	1216.56	1214.20	104.20	5.00	1114.84-1109.84	29.29	1187.03	29.93	1186.39	28.90	1187.42
C6S	1221.69		1219.32	39.50	15.00	1194.82-1179.82	34.49	1187.20	34.48	1187.21	34.24	1187.45
C7S	1221.00	1221.12	1218.20	36.00	15.00	1197.26-1182.26	33.94	1187.06	33.94	1187.06	33.70	1187.30
MW1A	1215.79	1215.93	1214.21	130.00	8.00	1092.21-1084.21	29.56	1186.23	29.48	1186.31	30.28	1185.51
MW3A	1223.26		1221.11	140.00	10.00	1091.11-1081.11	37.60	1185.66	37.75	1185.51	38.82	1184.44
MW3B	1223.53		1221.17	74.70	10.00	1156.27-1146.27	37.81	1185.72	38.01	1185.52	39.06	1184.47
MW4A	1215.22	1215.52	1215.50	100.00	10.00	1125.59-1115.59	31.49	1183.73	31.27	1183.95	33.29	1181.93
MW4B	1215.58	1215.62	1215.60	60.5	10.00	1165.18-1155.18	31.89	1183.69	31.67	1183.91	33.68	1181.90
MW4C	1215.34	1215.39	1215.40	40.00	10.00	1185.69-1175.69	31.51	-	31.38	1183.96	33.42	1181.92
MW5	1219.22		1219.08	45.00	10.00	1184.28-1174.28	-	-	35.45	1183.77	36.76	1182.46
MW6	1218.93		1218.93	45.00	10.00	1184.00-1174.00 dry?		-	-	-	OBSTRUCTED	-
MW7	1219.10		1219.10	45.00	10.00	1184.06-1174.06	34.54	1184.56	35.97	1183.13	38.78	1180.32
MW8	1217.55		1217.55	45.00	10.00	1182.55-1172.55	33.22	1184.33	34.30	1183.25	37.65	1179.90
MW9	1201.91	1201.97	1202.00	50.00	15.00	1166.91-1151.91	17.76	1184.15	17.47	1184.44	19.06	1182.85
PLUM ST	1215.85			95.00			26.58	1189.27	-	-	26.40	1189.45
R1S	1222.13	1222.19	1220.10	40.50	10.00	1189.51-1179.51	34.61	1187.52	34.59	1187.54	34.60	1187.53
R1D	1222.39	1222.41	1220.10	121.00	10.00	1109.16-1099.16	35.02	1187.37	35.02	1187.37	35.07	1187.32
R2S	1209.88	1209.96	1208.10	28.00	10.00	1190.05-1180.05	22.82	1187.06	22.63	1187.25	23.00	1186.88
R2D	1209.58	1209.82	1207.90	135.00	10.00	1082.69-1072.69	22.97	1186.61	22.94	1186.64	23.34	1186.24
R3S	1215.29	1215.35	1212.80	32.00	10.00	1190.79-1180.79	-	-	27.66	1187.63	27.75	1187.54
R3D	1215.53	1215.57	1213.10	136.00	10.00	1087.09-1077.09	-	-	28.72	1186.81	28.93	1186.60
R4D	1219.24	1219.28	1216.00	133.00	10.00	1093.05-1083.05	-	-	32.22	1187.02	32.00	1187.24
R5S							32.97	-	32.93	-	-	-
R6S							-	-	-	-	-	-
R7S							-	-	-	-	-	-
GM1S	1216.07	1216.11	1214.30	37.00	10	1167.42-1157.42	29.84	1186.23	29.70	1186.37	30.47	1185.60
GM2S	1211.91		1212.30	34.00	10.00	1188.79-1178.79	25.57	1186.34	25.65	1186.26	26.05	1185.86
GM3S	1214.72		1215.10	37.00	10.00	1188.10-1178.10	27.68	1187.04	27.84	1186.88	27.96	1186.76
GM4S	1216.13		1214.30	36.00	10.00	1188.31-1178.31	29.66	1186.47	29.67	1186.46	29.94	1186.19
GM4D	1216.46		1214.50	145.00	10.00	1079.52-1069.52	29.92	1186.54	29.96	1186.50	30.20	1186.26
W50	1215.67	1215.77	1213.30	82.80	5.00	1135.50-1130.50	28.65	1187.02	28.59	1187.08	28.74	1186.93
W51A	1224.50	1224.46	1222.20	44.70	10.00	1187.50-1177.50	36.85	1187.65	36.82	1187.68	36.78	1187.72
W52	1219.18	1219.22	1216.50	124.00	5.00	1097.50-1092.50	-	-	32.25	1186.93	32.24	1186.94
W52A	1219.08	1219.10	1216.80	36.00	10.00	1190.80-1180.80	-	-	31.89	1187.19	31.73	1187.35
W53	1216.77	1217.53	1217.50	125.50	5.00	1097.00-1092.00	-	-	29.80	1186.97	29.49	1187.28
W53A	1217.00	1217.62	1217.60	41.30	10.00	1186.30-1176.30	30.07	1186.93	30.07	1186.93	29.78	1187.22
W54	1216.31	1216.87	1216.90	65.50	5.00	1156.40-1151.40	-	-	-	-	28.95	1187.36
W55	1217.68	1217.93	1217.90	115.50	5.00	1107.40-1102.40	-	-	31.82	1185.86	32.93	1184.75
W55A	1217.40	1217.98	1218.00	43.00	10.00	1185.00-1175.00	-	-	31.57	1185.83	32.62	1184.78
W56	1200.11	1200.17	1198.90	66.50	5.00	1137.40-1132.40	13.78	1186.33	13.74	1186.37	14.58	1185.53
W56A	1200.95	1200.95	1198.80	20.00	10.00	1188.80-1178.80	11.71	1189.24	11.66	1189.29	11.95	1189.00
W57	1205.30	1205.30	1202.10	77.50	5.00	1129.60-1124.60	18.21	1187.09	20.91	1184.39	22.56	1182.74
SG1	1189.39	1189.30					-	1187.80	-	- NOT LOCATED		-
SG2	1193.34	1193.34					2.45	1190.89	1.65	1191.69	2.63	1190.71
ISLAND WELLS												
WSS	1193.24			18.5	10.00	1185-1175	-	-	-	-	-	-
WSD	1193.46			152	10.00	1051-1041	-	-	-	-	-	-
IWS	1193.17			15.0	10.00	1188.2-1178.2	-	-	-	-	-	-
WSM	1192.91			77.3	10.00	1125.6-1115.6	-	-	-	-	-	-
IWD	1192.56			140.4	10.00	1062.2-1052.2	-	-	-	-	-	-

CORRECTED BY ADDING 0.25 TO RMT SURVEYED TOP OF CASING ELEVATION
- WATER LEVEL NOT RECORDED
PUMPING WELL

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

WEST WELL FIELD

SEPTEMBER 29 1988

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	DEPTH TO WATER (FEET)	WATER TABLE ELEV (FEET MSL)
CW6 #	1220.02		1220.02	100.00	38.50	1120.02-1158.52	48.00	1172.02
CW7 #	1223.63		1223.63	100.00	39.00	1123.63-1162.63	40.00	1183.63
CW9 #	1224.56		1224.56	100.00	60.00	1124.56-1184.56	57.00	1167.56
CW9OBS	1224.40	1224.40	1222.30	78.00			40.43	1183.97
CW10			1215.05				-	-
C1S	1223.69		1220.98	29.90	15.00	1206.08-1191.08	30.51	1193.18
C2S	1219.24	1219.36	1216.30	37.90	15.00	1193.34-1178.34	32.00	1187.24
C3S	1220.24	1220.52	1217.60	38.90	15.00	1193.51-1178.51	33.05	1187.19
C4S	1216.84	1216.94	1214.30	32.20	15.00	1197.06-1182.06	29.57	1187.27
C4D	1216.32	1216.56	1214.20	104.20	5.00	1114.84-1109.84	29.01	1187.31
C6S	1221.69		1219.32	39.50	15.00	1194.82-1179.82	34.18	1187.51
C7S	1221.00	1221.12	1218.20	36.00	15.00	1197.26-1182.26	33.73	1187.27
MW1A	1215.79	1215.93	1214.21	130.00	8.00	1092.21-1084.21	29.82	1185.97
MW3A	1223.26		1221.11	140.00	10.00	1091.11-1081.11	37.89	1185.37
MW3B	1223.53		1221.17	74.70	10.00	1156.27-1146.27	38.10	1185.43
MW4A	1215.22	1215.52	1215.50	100.00	10.00	1125.59-1115.59	32.35	1182.87
MW4B	1215.58	1215.62	1215.60	60.5	10.00	1165.18-1155.18	32.70	1182.88
MW4C	1215.34	1215.39	1215.40	40.00	10.00	1185.69-1175.69	32.40	1182.94
MW5	1219.22		1219.08	45.00	10.00	1184.28-1174.28	36.52	1182.70
MW6	1218.93		1218.93	45.00	10.00	1184.00-1174.00	OBSTRUCTED	-
MW7	1219.10		1219.10	45.00	10.00	1184.06-1174.06	37.74	1181.36
MW8	1217.55		1217.55	45.00	10.00	1182.55-1172.55	35.62	1181.93
MW9	1201.91	1201.97	1202.00	50.00	15.00	1166.91-1151.91	18.28	1183.63
PLUM ST	1215.85			95.00			26.46	1189.39
R1S	1222.13	1222.19	1220.10	40.50	10.00	1189.51-1179.51	34.60	1187.53
R1D	1222.39	1222.41	1220.10	121.00	10.00	1109.16-1099.16	35.03	1187.36
R2S	1209.88	1209.96	1208.10	28.00	10.00	1190.05-1180.05	22.90	1186.98
R2D	1209.58	1209.82	1207.90	135.00	10.00	1082.69-1072.69	23.04	1186.54
R3S	1215.29	1215.35	1212.80	32.00	10.00	1190.79-1180.79	27.75	1187.54
R3D	1215.53	1215.57	1213.10	136.00	10.00	1087.09-1077.09	28.77	1186.76
R4D	1219.24	1219.28	1216.00	133.00	10.00	1093.05-1083.05	32.03	1187.21
R5S							32.93	-
R6S							33.35	-
R7S							-	-
GM1S	1216.07	1216.11	1214.30	37.00	10	1167.42-1157.42	30.06	1186.01
GM2S	1211.91		1212.30	34.00	10.00	1188.79-1178.79	25.23	1186.68
GM3S	1214.72		1215.10	37.00	10.00	1188.10-1178.10	27.55	1187.17
GM4S	1216.13		1214.30	36.00	10.00	1188.31-1178.31	29.31	1186.82
GM4D	1216.46		1214.50	145.00	10.00	1079.52-1069.52	29.59	1186.87
W50	1215.67	1215.77	1213.30	82.80	5.00	1135.50-1130.50	28.65	1187.02
W51A	1224.50	1224.46	1222.20	44.70	10.00	1187.50-1177.50	36.78	1187.72
W52	1219.18	1219.22	1216.50	124.00	5.00	1097.50-1092.50	32.20	1186.98
W52A	1219.08	1219.10	1216.80	36.00	10.00	1190.80-1180.80	31.80	1187.28
W53	1216.77	1217.53	1217.50	125.50	5.00	1097.00-1092.00	29.56	1187.21
W53A	1217.00	1217.62	1217.60	41.30	10.00	1186.30-1176.30	29.85	1187.15
W54	1216.31	1216.87	1216.90	65.50	5.00	1156.40-1151.40	29.04	1187.27
W55	1217.68	1217.93	1217.90	115.50	5.00	1107.40-1102.40	32.27	1185.41
W55A	1217.40	1217.98	1218.00	43.00	10.00	1185.00-1175.00	32.16	1185.24
W56	1200.11	1200.17	1198.90	66.50	5.00	1137.40-1132.40	14.20	1185.91
W56A	1200.95	1200.95	1198.80	20.00	10.00	1188.80-1178.80	12.12	1188.83
W57	1205.30	1205.30	1202.10	77.50	5.00	1129.60-1124.60	21.75	1183.55
SB1	1189.39	1189.30					1.46	1187.93
SG2	1193.34	1193.34					2.50	1190.84
ISLAND WELLS								
WSS	1193.24			18.5	10.00	1185-1175	5.20	1188.04
WSD	1193.46			152	10.00	1051-1041	6.01	1187.45
IWS	1193.17			15.0	10.00	1188.2-1178.2	5.67	1187.50
WSM	1192.91			77.3	10.00	1125.6-1115.6	6.05	1186.86
IWD	1192.56			140.4	10.00	1062.2-1052.2	5.74	1186.82

‡ CORRECTED BY ADDING 0.25 TO RMT SURVEYED TOP OF CASING ELEVATION
- WATER LEVEL NOT RECORDED
PUMPING WELL

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

EAST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	OCTOBER 5,1987 DEPTH TO WATER (FEET)	OCTOBER 5,1987 WATER TABLE ELEV (FEET MSL)	DECEMBER 10,1987 DEPTH TO WATER (FEET)	DECEMBER 10,1987 WATER TABLE ELEV (FEET MSL)	JANUARY 7, 1988 DEPTH TO WATER (FEET)	JANUARY 7, 1988 WATER TABLE ELEV (FEET MSL)
CW3 #	1204.08	1202.31		92.00	40.00	1152.64-1112.64	42.00	1162.08	17.00	1187.08	43.00	1161.08
CW4	1198.25		1198.19	130.00	40.00	1108.25-1068.25	-	-	Not Pumping	-	PUMPING	-
HURD	1199.79		1198.70	100.00	20.00	1119.52-1099.52	-	-	13.50	1186.29	14.15	1185.64
MERGIN #	1201.09			50			41.43	1159.66	-	-	PUMPING	-
MC1	1197.22	1197.36	1195.30	23.00	10.00	1183.97-1173.97	12.28	1184.94	12.16	1185.06	13.27	1183.95
MC2	1198.22	1198.24	1196.10	24.00	10.00	1183.93-1173.93	13.19	1185.03	13.18	1185.04	14.32	1183.90
MC3	1198.37	1198.41	1196.60	161.00	3.00	1040.11-1037.11	13.17	1185.20	13.19	1185.18	14.47	1183.90
MC3A	1198.00	1198.04	1196.40	65.00	3.00	1135.76-1132.76	12.90	1185.10	12.98	1185.02	14.12	1183.88
MC3B	1198.15	1198.19	1196.90	24.00	10.00	1183.89-1173.89	12.90	1185.25	13.28	1184.87	14.34	1183.81
MC3C	1198.62	1198.76	1196.90	29.00	10.00	1179.37-1169.37	13.64	1184.98	13.75	1184.87	14.79	1183.83
MC4	1196.86	1196.88	1195.00	60.00	3.00	1139.58-1136.58	11.44	1185.42	11.46	1185.40	12.58	1184.28
MC4A	1196.69	1196.75	1195.00	30.00	10.00	1176.41-1166.41	11.28	1185.41	11.34	1185.35	12.42	1184.27
MC5	1196.73	1196.75	1195.00	70.00	3.00	1129.49-1126.49	11.88	1184.85	11.59	1185.14	12.69	1184.04
MC5A	1196.75	1196.85	1194.70	30.00	10.00	1176.52-1166.52	11.91	1184.84	11.59	1185.16	12.72	1184.03
MC6	1198.25	1198.25	1196.50	70	3.00	1131.01-1128.01	12.97	1185.28	13.23	1185.02	14.86	1183.39
MC6A	1198.73	1198.69	1196.90	30.00	10.00	1178.50-1168.50	13.44	1185.29	13.69	1185.04	15.34	1183.39
MC7	1197.06	1197.12	1195.10	60.00	3.00	1139.82-1136.82	11.25	1185.81	11.92	1185.14	13.40	1183.66
MC7A	1196.88	1196.94	1194.90	30.00	10.00	1176.63-1166.63	11.42	1185.46	11.76	1185.12	13.27	1183.61
MW8	1198.96	none	1198.20	23.50	10.00	1185.20-1175.20	13.62	1185.34	13.77	1185.19	15.14	1183.82
MCI1	1199.40	1199.62	1196.80	26.50	10.00	1182.90-1172.90	14.67	1184.73	14.70	1184.70	16.04	1183.36
MCI2	1199.72	none		26.50	10.00	1183.10-1173.10	14.72	1185.00	14.76	1184.96	16.09	1183.63
MCI3	1199.90	1200.13	1197.20	26.50	10.00	1183.40-1173.40	15.06	1184.84	15.12	1184.78	PUMPING	-
MCI4 #	1202.25	none		26.50	10.00	1185.50-1175.50	-	-	-	-	PUMPING	-
MCI5 #	1203.39	none		26.50	10.00	1186.70-1176.70	21.20	1182.19	20.43	1182.96	PUMPING	-
MCI6 #	1200.14	none		26.50	10.00	1183.40-1173.40	15.16	1184.98	15.21	1184.93	16.61	1183.53
MCI7 #	1202.47	none		27.50	10.00	1184.60-1174.60	20.24	1182.23	20.73	1181.74	PUMPING	-
MCI8 #	1202.04	none		26.50	10.00	1185.30-1175.30	18.65	1183.39	17.14	1184.90	18.34	1183.70
MCI9	1199.25	none		26.50	10.00	1182.50-1172.50	14.22	1185.03	14.23	1185.02	15.48	1183.77
MCI10 #	1203.29	1203.29	1200.10	26.50	10.00	1186.60-1176.60	18.26	1185.03	18.26	1185.03	19.46	1183.83
MCI11	1203.73	none		26.50	10.00	1187.00-1177.00	-	-	-	-	19.92	1183.81
MCI12	1199.79	1199.81	1196.80	26.50	10.00	1183.10-1173.10	14.68	1185.11	14.72	1185.07	15.96	1183.83
MCI13	1199.52	none		26.70	10.00	1182.60-1172.60	14.33	1185.19	14.38	1185.14	15.60	1183.92
MCI14	1199.46	none		26.70	10.00	1182.50-1172.50	14.22	1185.24	14.28	1185.18	15.52	1183.94
MCI15	1199.20	none		26.50	10.00	1182.50-1172.50	14.33	1184.87	14.06	1185.14	15.26	1183.94
MW7A	1201.28	1201.34	1199.10	69.50	10.00	1141.58-1131.58	18.39	1182.89	17.26	1184.02	17.91	1183.37
MW9A	1197.10	1197.10	1195.00	141.00	10	1065.68-1055.68	11.32	1185.78	11.79	1185.31	13.38	1183.72
MW10A	1206.94	1206.98	1204.60	76.50	10.00	1140.20-1130.20	21.85	1185.09	22.20	1184.74	22.80	1184.14
MW10B	1206.80	1206.86	1204.70	35.00	10.00	1181.55-1171.55	21.70	1185.10	22.04	1184.76	22.69	1184.11
MW11#	1210.15			35	10	1184.90-1174.90	25.28	1184.87	25.58	1184.57	-	-
MW12	1200.08	COULD NOT LOCATE		70.0	20.00	1130.08-1130.08	-	-	-	-	-	-
MW13#	1211.34	1211.42	1211.40	45.00	10.00	1176.09-1155.09	26.35	1184.99	26.66	1184.68	27.28	1184.06
MW14	1198.21	1198.26	1198.30	45	10.00	1162.97-1152.97	16.01	1182.20	14.00	1184.21	14.74	1183.47
WW1	1198.61	1198.73	1197.30	40.00	5.00	1153.37-1158.37	14.79	1183.82	13.48	1185.13	14.91	1183.70
WW2	1203.26	1203.38	1202.00	40.00	5.00	1158.02-1163.02	19.59	1183.67	17.81	1185.45	19.31	1183.95
WW3	1201.90	1202.06	1200.70	40.00	5.00	1156.66-1161.55	19.06	1182.84	16.55	1185.35	18.09	1183.81
WW4	1202.31	1202.41	1200.90	40.00	5.00	1167.11-1162.11	19.35	1182.96	17.22	1185.09	18.82	1183.49
WW5	1210.33	1210.43	1208.30	37.00	5.00	1178.05-1173.05	26.72	1183.61	25.48	1184.85	26.83	1183.50
WW6	1200.66	1200.96	1199.20	41.00	5.00	1164.42-1159.42	17.73	1182.91	16.04	1184.60	17.61	1183.03
WW7	1200.86	1201.08	1199.20	48.00	5.00	1157.63-1152.63	18.04	1182.82	15.96	1184.90	17.63	1183.23
TCT1(40)	1204.55	1204.75	1202.00	72.10	5.00	1137.25-1132.25	-	-	-	-	20.82	1183.73
TCT2(41)	1203.54	1203.68	1200.70	22.10	15.00	1196.19-1181.19	19.56	1183.98	18.30	1185.24	19.96	1183.58
TCT3(42)	1201.66	NONE	1200.40	54.00	5.00	1152.43-1147.43	19.57	1182.09	16.40	1185.26	18.02	1183.64
TCT4(43)	1203.23	1203.35	1201.70	23.80	15.00	1194.17-1179.17	20.35	1182.88	17.69	1185.54	19.20	1184.03
TCT5(44)	1204.45	1204.57	1202.30	23.00	15.00	1196.21-1181.21	-	-	18.81	1185.64	20.22	1184.23
FVD1	1199.70	1199.74	1197.60	22.00	10.00	1187.70-1177.70	15.39	1184.31	14.74	1184.96	15.94	1183.76
FVD2	1199.27	1199.35	1197.30	20.00	10.00	1189.27-1179.27	14.90	1184.37	14.30	1184.97	15.48	1183.79
FVD5	1198.88	1198.92	1196.90	20.50	10.00	1188.35-1178.35	14.61	1184.27	13.88	1185.00	15.13	1183.75
FVD7	1198.59	1198.73	1196.90	18.50	10.00	1189.77-1179.77	14.68	1183.91	13.54	1185.05	14.94	1183.65
GM5D	1200.38	1200.90	1200.90	114.00	10.00	1096.21-1086.21	17.79	1182.59	15.31	1185.07	16.97	1183.41
GM6D	1198.78	1199.06	1199.10	126.00	10.00	1082.46-1072.46	15.86	1182.92	13.64	1185.14	15.26	1183.52
GM7D	1198.77	1199.21	1199.20	123.00	10.00	1085.54-1075.54	15.39	1183.38	13.79	1184.98	15.25	1183.52
GM8D#	1196.18			122.50	10.00	1083.43-1073.43	12.53	1183.65	11.08	1185.10	12.54	1183.64
GM9S	1198.94	1199.23	1199.20	20.00	10.00	1188.67-1178.67	15.60	1183.34	13.82	1185.12	15.38	1183.56
E20	1199.18	1199.34	1197.20	79.50	5.00	1122.70-1117.70	-	-	14.02	1185.16	15.46	1183.72
E21	1197.61	1197.53	1195.20	129.50	5.00	1071.20-1065.70	-	-	11.57	1186.04	12.55	1185.06
E21A	1197.95	1197.87	1195.20	22.00	10.00	1183.20-1173.20	-	-	11.93	1186.02	12.94	1185.01
E22	1195.54	1196.08	1196.10	93.70	5.00	1107.40-1102.40	-	-	10.47	1185.07	11.76	1183.78
E22A	1195.93	1196.43	1196.40	22.00	10.00	1184.40-1174.40	-	-	10.87	1185.06	12.10	1183.83
E23A	1197.69	1198.15	1198.20	21.40	10.00	1186.80-1176.80	-	-	12.80	1184.89	14.24	1183.45
E24	1210.13	1210.15	1208.50	85.70	5.00	1127.80-1122.80	-	-	25.26	1184.87	26.13	1184.00
E24A	1211.18	1211.18	1209.00	35.00	10.00	1184.00-1174.00	-	-	26.36	1184.82	27.22	1183.96
E25	1213.93	1213.99	1211.70	135.00	5.00	1081.70-1076.70	-	-	29.34	1184.59	29.79	1184.14
E25A	1213.87	1213.93	1211.70	37.50	10.00	1184.20-1174.20	-	-	29.28	1184.59	29.76	1184.11
E26	1199.08	1199.02	1196.70	95.00	5.00	1106.70-1101.70	-	-	13.76	1185.32	14.91	1184.17
E26A	1199.23	1199.23	1196.60	23.00	10.00	1183.60-1173.60	-	-	13.88	1185.35	15.01	1184.22
E27	1195.71	1196.31	1196.30	136.50	5.00	1064.80-1059.80	-	-	-	-	10.57	1185.14
E28A	1211.68	1212.14	1212.10	37.00	10.00	1185.10-1175.10	-	-	26.49	1185.19	27.66	1184.02
E29A	1200.30	1200.80	1200.80	29.00	10.00	1181.80-1171.80	-	-	15.20	1185.10	16.94	1183.36
E30	1204.58	1204.68	1202.10	132.80	5.00	1074.30-1069.30	-	-	18.99	1185.59	20.25	1184.33
E31	1201.15	1201.65	1201.60	135.50	5.00	1071.10-1066.10	-	-	15.72	1185.43	17.43	1183.72
E37A	1197.80	1198.28	1198.30	26.00	10.00	1182.30-1172.30	-	-	12.95	1184.85	14.34	1183.46

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

EAST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	MARCH 3,1988 DEPTH TO WATER (FEET)	MARCH 3,1988 WATER TABLE ELEV (FEET MSL)	APRIL 27, 1988 DEPTH TO WATER (FEET)	APRIL 27, 1988 WATER TABLE ELEV (FEET MSL)	June 27-28 1988 DEPTH TO WATER (FEET)	June 27-28 1988 WATER TABLE ELEV (FEET MSL)
CW3 #	1204.08	1202.31		92.00	40.00	1152.64-1112.64	46.00	1158.08	19.00	1185.08	48.00	1156.08
CW4	1198.25		1198.19	130.00	40.00	1108.25-1068.25	PUMPING	-	PUMPING	-	PUMPING	-
HURD	1199.79		1198.70	100.00	20.00	1119.52-1099.52	15.00	1184.79	13.86	1185.93	14.11	1185.68
MERGIN #	1201.09			50			PUMPING	-	PUMPING	-	PUMPING	-
MC1	1197.22	1197.36	1195.30	23.00	10.00	1183.97-1173.97	14.72	1182.50	13.44	1183.78	14.10	1183.12
MC2	1198.22	1198.24	1196.10	24.00	10.00	1183.93-1173.93	15.80	1182.42	14.59	1183.63	15.24	1182.98
MC3	1198.37	1198.41	1196.60	161.00	3.00	1040.11-1037.11	15.84	1182.53	14.70	1183.67	15.22	1183.15
MC3A	1198.00	1198.04	1196.40	65.00	3.00	1135.76-1132.76	15.55	1182.45	14.35	1183.65	14.89	1183.11
MC3B	1198.15	1198.19	1196.90	24.00	10.00	1183.89-1173.89	15.72	1182.43	14.80	1183.35	15.21	1182.94
MC3C	1198.62	1198.76	1196.90	29.00	10.00	1179.37-1169.37	16.28	1182.34	15.08	1183.54	15.57	1183.05
MC4	1196.86	1196.88	1195.00	60.00	3.00	1139.58-1136.58	14.01	1182.85	12.72	1184.14	13.10	1183.76
MC4A	1196.69	1196.75	1195.00	30.00	10.00	1176.41-1166.41	13.78	1182.91	12.35	1184.34	12.85	1183.84
MC5	1196.73	1196.75	1195.00	70.00	3.00	1129.49-1126.49	14.17	1182.56	12.71	1184.02	13.44	1183.29
MC5A	1196.75	1196.85	1194.70	30.00	10.00	1176.52-1166.52	14.19	1182.56	12.75	1184.00	13.49	1183.26
MC6	1198.25	1198.25	1196.50	70	3.00	1131.01-1128.01	16.16	1182.09	15.37	1182.88	16.04	1182.21
MC6A	1198.73	1198.69	1196.90	30.00	10.00	1178.50-1168.50	16.65	1182.08	15.85	1182.88	16.47	1182.26
MC7	1197.06	1197.12	1195.10	60.00	3.00	1139.82-1136.82	14.48	1182.58	13.81	1183.25	14.29	1182.77
MC7A	1196.88	1196.94	1194.90	30.00	10.00	1176.63-1166.63	14.62	1182.26	13.88	1183.00	14.15	1182.73
MW8	1198.96	none	1198.20	23.50	10.00	1185.20-1175.20	16.48	1182.48	15.48	1183.48	15.99	1182.97
MCX1	1199.40	1199.62	1196.80	26.50	10.00	1182.90-1172.90	-	-	17.39	1182.01	-	-
MCX2	1199.72	none		26.50	10.00	1183.10-1173.10	-	-	19.54	1180.18	-	-
MCX3	1199.90	1200.13	1197.20	26.50	10.00	1183.40-1173.40	17.78	1182.12	-	-	-	-
MCX4 #	1202.25	none		26.50	10.00	1185.50-1175.50	-	-	-	-	-	-
MCX5 #	1203.39	none		26.50	10.00	1186.70-1176.70	24.30	1179.09	-	-	-	-
MCX6 #	1200.14	none		26.50	10.00	1183.40-1173.40	-	-	-	-	-	-
MCX7 #	1202.47	none		27.50	10.00	1184.60-1174.60	21.86	1180.61	-	-	-	-
MCX8 #	1202.04	none		26.50	10.00	1185.30-1175.30	19.66	1182.38	-	-	-	-
MCX9	1199.25	none		26.50	10.00	1182.50-1172.50	-	-	-	-	-	-
MCX10 #	1203.29	1203.29	1200.10	26.50	10.00	1186.60-1176.60	-	-	-	-	-	-
MCX11	1203.73	none		26.50	10.00	1187.00-1177.00	-	-	-	-	-	-
MCX12	1199.79	1199.81	1196.80	26.50	10.00	1183.10-1173.10	-	-	-	-	-	-
MCX13	1199.52	none		26.70	10.00	1182.60-1172.60	16.93	1182.59	15.70	1183.82	-	-
MCX14	1199.46	none		26.70	10.00	1182.50-1172.50	-	-	-	-	-	-
MCX15	1199.20	none		26.50	10.00	1182.50-1172.50	16.63	1182.57	15.45	1183.75	-	-
MW7A	1201.28	1201.34	1199.10	69.50	10.00	1141.58-1131.58	20.23	1181.05	17.60	1183.68	19.56	1181.72
MW9A	1197.10	1197.10	1195.00	141.00	10	1065.68-1055.68	14.52	1182.58	13.88	1183.22	14.22	1182.88
MW10A	1206.94	1206.98	1204.60	76.50	10.00	1140.20-1130.20	24.68	1182.26	23.18	1183.76	24.43	1182.51
MW10B	1206.80	1206.86	1204.70	35.00	10.00	1181.55-1171.55	24.52	1182.28	23.54	1183.26	24.28	1182.52
MW11#	1210.15			35	10	1184.90-1174.90	27.11	1183.04	26.54	1183.61	27.30	1182.85
MW12	1200.08	COULD NOT LOCATE		70.0	20.00	1150.08-1130.08	-	-	-	-	-	-
MW13#	1211.34	1211.42	1211.40	45.00	10.00	1176.09-1155.09	28.97	1182.37	27.82	1183.52	28.60	1182.74
MW14	1198.21	1198.26	1198.30	45	10.00	1162.97-1152.97	17.92	1180.29	14.30	1183.91	damaged	-
MW1	1198.61	1198.73	1197.30	40.00	5.00	1153.37-1158.37	16.73	1181.88	14.69	1183.92	16.02	1182.59
MW2	1203.26	1203.38	1202.00	40.00	5.00	1158.02-1163.02	21.27	1181.99	18.94	1184.32		REMOVED
MW3	1201.90	1202.06	1200.70	40.00	5.00	1156.66-1161.55	20.76	1181.14	17.80	1184.10	20.04	1181.86
MW4	1202.31	1202.41	1200.90	40.00	5.00	1167.11-1162.11	21.03	1181.28	18.52	1183.79	-	-
MW5	1210.33	1210.43	1208.30	37.00	5.00	1178.05-1173.05	28.57	1181.76	26.72	1183.61	20.36	1189.97
MW6	1200.64	1200.96	1199.20	41.00	5.00	1164.42-1159.42	19.70	1180.94	17.41	1183.23	19.01	1181.63
MW7	1200.86	1201.08	1199.20	48.00	5.00	1157.63-1152.63	19.90	1180.96	17.32	1183.54	19.47	1181.39
TCT1(40)	1204.55	1204.75	1202.00	72.10	5.00	1137.25-1132.25	22.81	1181.74	20.36	1184.19		REMOVED
TCT2(41)	1203.54	1203.68	1200.70	22.10	15.00	1196.19-1181.19	23.04	1180.50	19.62	1183.92	21.38	1182.16
TCT3(42)	1201.66	NONE	1200.40	56.00	5.00	1152.43-1147.43	21.26	1180.40	17.70	1183.96	20.60	1181.06
TCT4(43)	1203.23	1203.35	1201.70	23.80	15.00	1194.17-1179.17	21.20	1182.03	18.95	1184.28	20.42	1182.81
TCT5(44)	1204.45	1204.57	1202.30	23.00	15.00	1196.21-1181.21	21.98	1182.47	20.00	1184.45	21.17	1183.28
FVD1	1199.70	1199.74	1197.60	22.00	10.00	1187.70-1177.70	17.49	1182.21	15.91	1183.79	16.85	1182.85
FVD2	1199.27	1199.35	1197.30	20.00	10.00	1189.27-1179.27	17.02	1182.25	15.46	1183.81	16.36	1182.91
FVD5	1198.88	1198.92	1196.90	20.50	10.00	1188.35-1178.35	16.70	1182.18	15.08	1183.80	16.05	1182.83
FVD7	1198.59	1198.73	1196.90	18.50	10.00	1189.77-1179.77	16.65	1181.94	14.76	1183.83	15.97	1182.62
GM5D	1200.38	1200.90	1200.90	114.00	10.00	1096.21-1086.21	19.53	1180.85	OBSTRUCTED	-	-	-
GM6D	1198.78	1199.06	1199.10	126.00	10.00	1082.46-1072.46	17.66	1181.12	14.94	1183.84	-	-
GM7D	1198.77	1199.21	1199.20	123.00	10.00	1085.54-1075.54	17.26	1181.51	15.08	1183.69	-	-
GM8D#	1196.18			122.50	10.00	1083.43-1073.43	14.50	1181.68	12.30	1183.88	-	-
GM9S	1198.94	1199.23	1199.20	20.00	10.00	1188.67-1178.67	17.48	1181.46	15.10	1183.84	-	-
E20	1199.18	1199.34	1197.20	79.50	5.00	1122.70-1117.70	17.31	1181.87	15.24	1183.94	16.60	1182.58
E21	1197.61	1197.53	1195.20	129.50	5.00	1071.20-1065.70	13.73	1183.88	12.24	1185.37	12.62	1184.99
E21A	1197.95	1197.87	1195.20	22.00	10.00	1183.20-1173.20	14.12	1183.83	12.64	1185.31	13.02	1184.93
E22	1195.54	1196.08	1196.10	93.70	5.00	1107.40-1102.40	13.40	1182.14	11.68	1183.86	12.80	1182.74
E22A	1195.93	1196.43	1196.40	22.00	10.00	1184.40-1174.40	13.80	1182.13	12.08	1183.85	13.10	1182.83
E23A	1197.69	1198.15	1198.20	21.40	10.00	1186.80-1176.80	15.96	1181.73	14.09	1183.60	15.34	1182.35
E24	1210.13	1210.15	1208.50	85.70	5.00	1127.80-1122.80	27.76	1182.37	26.30	1183.63	27.30	1182.83
E24A	1211.18	1211.18	1209.00	35.00	10.00	1184.00-1174.00	28.85	1182.33	27.38	1183.60	28.38	1182.80
E25	1213.93	1213.99	1211.70	133.00	5.00	1081.70-1076.70	31.27	1182.66	30.21	1183.72	30.88	1183.05
E25A	1213.87	1213.93	1211.70	37.50	10.00	1184.20-1174.20	31.23	1182.64	30.14	1183.73	30.83	1183.04
E26	1199.08	1199.02	1196.70	95.00	5.00	1106.70-1101.70	16.42	1182.66	14.81	1184.27	15.60	1183.48
E26A	1199.23	1199.23	1196.60	23.00	10.00	1183.60-1173.60	16.51	1182.72	14.94	1184.29	15.69	1183.54
E27	1195.71	1196.31	1196.30	136.50	5.00	1064.80-1059.80	11.68	1184.03	10.31	1185.40	-	-
E28A	1211.68	1212.14	1212.10	37.00	10.00	1185.10-1175.10	28.52	1183.16	27.56	1184.12	-	-
E29A	1200.30	1200.80	1200.80	29.00	10.00	1181.80-1171.80	19.39	1180.91	OBSTRUCTED	ERR	-	-
E30	1204.58	1204.68	1202.10	132.80	5.00	1074.30-1069.30	22.08	1182.50	20.20	1184.38	21.25	1183.33
E31	1201.15	1201.65	1201.60	135.50	5.00	1071.10-1066.10	-	-	16.84	1184.31	REMOVED	-
E37A	1197.80	1198.28	1198.30	26.00	10.00	1182.30-1172.30	15.97	1181.83	14.20	1183.60	15.35	1182.45

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

EAST WELL FIELD

WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	July 1 1988 DEPTH TO WATER (FEET)	July 1 1988 WATER TABLE ELEV (FEET MSL)	July 7 1988 DEPTH TO WATER (FEET)	July 7 1988 WATER TABLE ELEV (FEET MSL)	August 10 1988 DEPTH TO WATER (FEET)	August 10 1988 WATER TABLE ELEV (FEET MSL)
CW3 #	1204.08	1202.31		92.00	40.00	1152.64-1112.64	PUMPING	-	49.00	1155.08	18.00	1186.08
CW4	1198.25		1198.19	130.00	40.00	1108.25-1068.25	PUMPING	-	PUMPING	-	OFF	-
HURD	1199.79		1198.70	100.00	20.00	1119.52-1099.52	13.89	1185.90	14.00	1185.79	13.12	1186.67
MERGIN #	1201.09			50			PUMPING	-	PUMPING	-	PUMPING	-
MC1	1197.22	1197.36	1195.30	23.00	10.00	1183.97-1173.97	14.06	1183.16	14.11	1183.11	11.42	1185.80
MC2	1198.22	1198.24	1196.10	24.00	10.00	1183.93-1173.93	15.23	1182.99	15.26	1182.96	12.44	1185.78
MC3	1198.37	1198.41	1196.60	161.00	3.00	1040.11-1037.11	15.24	1183.13	15.38	1182.99	12.40	1185.97
MC3A	1198.00	1198.04	1196.40	65.00	3.00	1135.76-1132.76	14.88	1183.12	14.94	1183.06	12.07	1185.93
MC3B	1198.15	1198.19	1196.90	24.00	10.00	1183.89-1173.89	15.20	1182.95	15.24	1182.91	12.19	1185.96
MC3C	1198.62	1198.76	1196.90	29.00	10.00	1179.37-1169.37	15.57	1183.05	15.60	1183.02	12.66	1185.96
MC4	1196.86	1196.88	1195.00	60.00	3.00	1139.58-1136.58	13.06	1183.80	13.11	1183.75	10.65	1186.21
MC4A	1196.69	1196.75	1195.00	30.00	10.00	1176.41-1166.41	12.88	1183.81	12.94	1183.75	10.46	1186.23
MC5	1196.73	1196.75	1195.00	70.00	3.00	1129.49-1126.49	13.41	1183.32	13.45	1183.28	10.95	1185.78
MC5A	1196.75	1196.85	1194.70	30.00	10.00	1176.52-1166.52	13.47	1183.28	13.51	1183.24	11.00	1185.75
MC6	1198.25	1198.25	1196.50	70	3.00	1131.01-1128.01	16.00	1182.25	16.04	1182.21	12.33	1185.92
MC6A	1198.73	1198.69	1196.90	30.00	10.00	1178.50-1168.50	16.50	1182.23	16.55	1182.18	12.84	1185.89
MC7	1197.06	1197.12	1195.10	60.00	3.00	1139.82-1136.82	14.30	1182.76	14.35	1182.71	11.02	1186.04
MC7A	1196.88	1196.94	1194.90	30.00	10.00	1176.63-1166.63	14.16	1182.72	14.20	1182.68	10.82	1186.06
MW8	1198.96	none	1198.20	23.50	10.00	1185.20-1175.20	15.98	1182.98	16.05	1182.91	12.90	1186.06
MCI1	1199.40	1199.62	1196.80	26.50	10.00	1182.90-1172.90	-	-	-	-	-	-
MCI2	1199.72	none		26.50	10.00	1183.10-1173.10	-	-	-	-	-	-
MCI3	1199.90	1200.13	1197.20	26.50	10.00	1183.40-1173.40	-	-	-	-	-	-
MCI4 #	1202.25	none		26.50	10.00	1185.50-1175.50	-	-	19.10	1183.15	-	-
MCI5 #	1203.39	none		26.50	10.00	1186.70-1176.70	-	-	-	-	-	-
MCI6 #	1200.14	none		26.50	10.00	1183.40-1173.40	-	-	17.13	1183.01	-	-
MCI7 #	1202.47	none		27.50	10.00	1184.60-1174.60	-	-	-	-	-	-
MCI8 #	1202.04	none		26.50	10.00	1185.30-1175.30	-	-	18.88	1183.16	-	-
MCI9	1199.25	none		26.50	10.00	1182.50-1172.50	-	-	-	-	-	-
MCI10 #	1203.29	1203.29	1200.10	26.50	10.00	1186.60-1176.60	-	-	-	-	-	-
MCI11	1203.73	none		26.50	10.00	1187.00-1177.00	-	-	-	-	-	-
MCI12	1199.79	1199.81	1196.80	26.50	10.00	1183.10-1173.10	-	-	-	-	-	-
MCI13	1199.52	none		26.70	10.00	1182.60-1172.60	-	-	16.16	1183.36	-	-
MCI14	1199.46	none		26.70	10.00	1182.50-1172.50	-	-	-	-	-	-
MCI15	1199.20	none		26.50	10.00	1182.50-1172.50	-	-	15.90	1183.30	-	-
MW7A	1201.28	1201.34	1199.10	69.50	10.00	1141.58-1131.58	19.54	1181.74	19.24	1182.04	16.23	1185.05
MW9A	1197.10	1197.10	1195.00	141.00	10	1065.68-1055.68	14.22	1182.88	14.33	1182.77	10.92	1186.18
MW10A	1206.94	1206.98	1204.60	76.50	10.00	1140.20-1130.20	-	-	24.46	1182.48	21.37	1185.57
MW10B	1206.80	1206.86	1204.70	35.00	10.00	1181.55-1171.55	-	-	24.30	1182.50	21.20	1185.60
MW11#	1210.15			35	10	1184.90-1174.90	-	-	27.36	1182.79	24.84	1185.31
MW12	1200.08	COULD NOT LOCATE		70.0	20.00	1150.08-1130.08	-	-	-	-	-	-
MW13#	1211.34	1211.42	1211.40	45.00	10.00	1176.09-1155.09	-	-	28.91	1182.43	25.88	1185.46
MW14	1198.21	1198.26	1198.30	45	10.00	1162.97-1152.97	damaged	-	-	-	12.95	1185.26
MW1	1198.61	1198.73	1197.30	40.00	5.00	1153.37-1158.37	15.98	1182.63	16.03	1182.58	13.25	1185.36
MW2	1203.26	1203.38	1202.00	40.00	5.00	1158.02-1163.02	- REMOVED		REMOVED		REMOVED	-
MW3	1201.90	1202.06	1200.70	40.00	5.00	1156.66-1161.55	-	-	20.02	1181.88	LOCK STUCK	-
MW4	1202.31	1202.41	1200.90	40.00	5.00	1167.11-1162.11	20.31	1182.00	20.35	1181.96	17.28	1185.03
MW5	1210.33	1210.43	1208.30	37.00	5.00	1178.05-1173.05	-	-	-	-	25.34	1184.99
MW6	1200.64	1200.96	1199.20	41.00	5.00	1164.42-1159.42	18.99	1181.65	19.03	1181.61	15.95	1184.69
MW7	1200.86	1201.08	1199.20	48.00	5.00	1157.63-1152.63	19.22	1181.64	19.24	1181.62	15.94	1184.92
TCT1(40)	1204.55	1204.75	1202.00	72.10	5.00	1137.25-1132.25		REMOVED	-	REMOVED	REMOVED	-
TCT2(41)	1203.54	1203.68	1200.70	22.10	15.00	1196.19-1181.19	-	-	21.35	1182.19	18.36	1185.18
TCT3(42)	1201.66	NONE	1200.40	54.00	5.00	1152.43-1147.43	-	-	20.56	1181.10	16.43	1185.23
TCT4(43)	1203.23	1203.35	1201.70	23.80	15.00	1194.17-1179.17	-	-	20.40	1182.83	17.78	1185.45
TCT5(44)	1204.45	1204.57	1202.30	23.00	15.00	1196.21-1181.21	21.08	1183.37	21.12	1183.33	18.85	1185.60
FVD1	1199.70	1199.74	1197.60	22.00	10.00	1187.70-1177.70	16.83	1182.87	16.87	1182.83	14.33	1185.37
FVD2	1199.27	1199.35	1197.30	20.00	10.00	1189.27-1179.27	16.35	1182.92	16.41	1182.86	13.85	1185.42
FVD5	1198.88	1198.92	1196.90	20.50	10.00	1188.35-1178.35	16.03	1182.85	16.09	1182.79	13.52	1185.36
FVD7	1198.59	1198.73	1196.90	18.50	10.00	1189.77-1179.77	15.94	1182.65	15.98	1182.61	13.31	1185.28
GM5D	1200.38	1200.90	1200.90	114.00	10.00	1096.21-1086.21	-	-	-	-	15.89	1184.49
GM6D	1198.78	1199.06	1199.10	126.00	10.00	1082.46-1072.46	-	-	-	-	13.59	1185.19
GM7D	1198.77	1199.21	1199.20	123.00	10.00	1085.54-1075.54	-	-	-	-	13.66	1185.11
GM8D#	1196.18			122.50	10.00	1083.43-1073.43	13.74	1182.44	-	-	10.87	1185.31
GM9S	1198.94	1199.23	1199.20	20.00	10.00	1188.67-1178.67	-	-	16.82	1182.12	13.70	1185.24
E20	1199.18	1199.34	1197.20	79.50	5.00	1122.70-1117.70	16.56	1182.62	16.60	1182.58	13.79	1185.39
E21	1197.61	1197.53	1195.20	129.50	5.00	1071.20-1065.70	-	-	12.57	1185.04	11.20	1186.41
E21A	1197.95	1197.87	1195.20	22.00	10.00	1183.20-1173.20	-	-	13.00	1184.95	11.61	1186.34
E22	1195.54	1196.08	1196.10	93.70	5.00	1107.40-1102.40	12.69	1182.85	12.72	1182.82	10.15	1185.39
E22A	1195.93	1196.43	1196.40	22.00	10.00	1184.40-1174.40	13.06	1182.87	13.12	1182.81	10.55	1185.38
E23A	1197.69	1198.15	1198.20	21.40	10.00	1186.80-1176.80	15.31	1182.38	15.34	1182.35	12.60	1185.09
E24	1210.13	1210.15	1208.50	85.70	5.00	1127.80-1122.80	-	-	27.31	1182.82	24.60	1185.53
E24A	1211.18	1211.18	1209.00	35.00	10.00	1184.00-1174.00	-	-	28.40	1182.78	25.70	1185.48
E25	1213.93	1213.99	1211.70	135.00	5.00	1081.70-1076.70	-	-	30.89	1183.04	28.57	1185.36
E25A	1213.87	1213.93	1211.70	37.50	10.00	1184.20-1174.20	-	-	30.86	1183.01	28.54	1185.33
E26	1199.08	1199.02	1196.70	95.00	5.00	1106.70-1101.70	15.56	1183.52	15.61	1183.47	13.28	1185.80
E26A	1199.23	1199.23	1196.60	23.00	10.00	1183.60-1173.60	15.65	1183.58	15.69	1183.54	13.38	1185.85
E27	1195.71	1196.31	1196.30	136.50	5.00	1064.80-1059.80	-	-	10.66	1185.05	9.39	1186.32
E28A	1211.68	1212.14	1212.10	37.00	10.00	1185.10-1175.10	-	-	28.21	1183.47	27.15	1184.53
E29A	1200.30	1200.80	1200.80	29.00	10.00	1181.80-1171.80	-	-	-	-	15.28	1185.02
E30	1204.58	1204.68	1202.10	132.80	5.00	1074.30-1069.30	21.18	1183.40	21.22	1183.36	18.89	1185.69
E31	1201.15	1201.65	1201.60	135.50	5.00	1071.10-1066.10	REMOVED	-	REMOVED	-	REMOVED	-
E37A	1197.80	1198.28	1198.30	26.00	10.00	1182.30-1172.30	15.31	1182.49	15.35	1182.45	12.70	1185.10

MONITORING WELL CONSTRUCTION DETAILS AND WATER LEVELS
WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

EAST WELL FIELD

September 29 1988

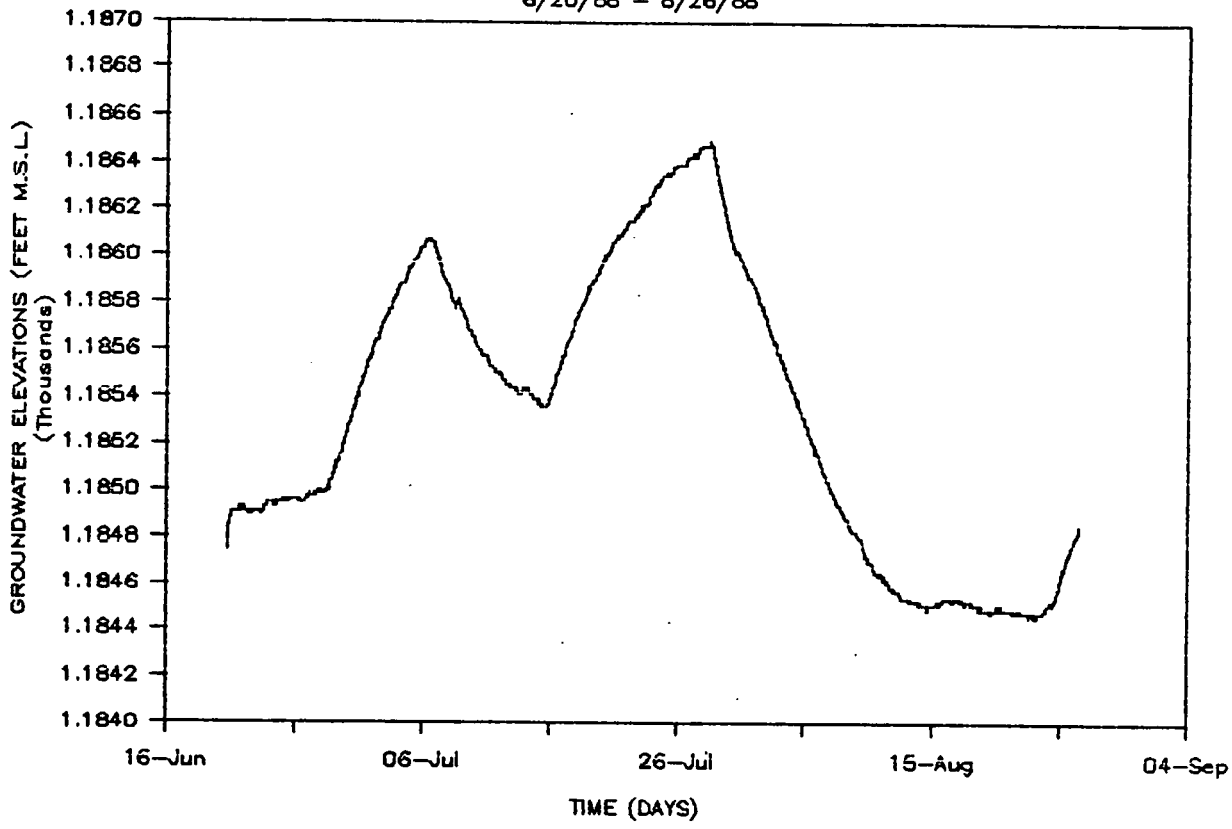
WELL ID	TOP OF RISER ELEVATION (FEET MSL)	TOP OF STEEL CASING ELEVATION (FEET MSL)	GROUND SURFACE ELEVATION (FEET MSL)	WELL DEPTH FROM TOP OF RISER	LENGTH OF SCREEN (FEET)	SCREEN INTERVAL (FEET MSL)	DEPTH TO WATER (FEET)	WATER TABLE ELEV (FEET MSL)
CW3 #	1204.08	1202.31		92.00	40.00	1152.64-1112.64	43.00	1161.08
CW4	1198.25		1198.19	130.00	40.00	1108.25-1068.25	OFF	-
HURD	1199.79		1198.70	100.00	20.00	1119.52-1099.52	13.44	1186.35
WERGIN #	1201.09			50			41.53	1159.56
WC1	1197.22	1197.36	1195.30	23.00	10.00	1183.97-1173.97	11.66	1185.56
WC2	1198.22	1198.24	1196.10	24.00	10.00	1183.93-1173.93	12.64	1185.58
WC3	1198.37	1198.41	1196.60	161.00	3.00	1040.11-1037.11	12.62	1185.75
WC3A	1198.00	1198.04	1196.40	65.00	3.00	1135.76-1132.76	12.28	1185.72
WC3B	1198.15	1198.19	1196.90	24.00	10.00	1183.89-1173.89	12.40	1185.75
WC3C	1198.62	1198.76	1196.90	29.00	10.00	1179.37-1169.37	12.89	1185.73
WC4	1196.86	1196.88	1195.00	60.00	3.00	1139.58-1136.58	10.93	1185.93
WC4A	1196.69	1196.75	1195.00	30.00	10.00	1176.41-1166.41	10.77	1185.92
WC5	1196.73	1196.75	1195.00	70.00	3.00	1129.49-1126.49	11.28	1185.45
WC5A	1196.75	1196.85	1194.70	30.00	10.00	1176.52-1166.52	11.31	1185.44
WC6	1198.25	1198.25	1196.50	70	3.00	1131.01-1128.01	12.44	1185.81
WC6A	1198.73	1198.69	1196.90	30.00	10.00	1178.50-1168.50	12.94	1185.79
WC7	1197.06	1197.12	1195.10	60.00	3.00	1139.82-1136.82	11.09	1185.97
WC7A	1196.88	1196.94	1194.90	30.00	10.00	1176.63-1166.63	10.90	1185.98
MW8	1198.96	none	1198.20	23.50	10.00	1185.20-1175.20	13.10	1185.86
WCI1	1199.40	1199.62	1196.80	26.50	10.00	1182.90-1172.90	-	-
WCI2	1199.72	none		26.50	10.00	1183.10-1173.10	-	-
WCI3	1199.90	1200.13	1197.20	26.50	10.00	1183.40-1173.40	-	-
WCI4 #	1202.25	none		26.50	10.00	1185.50-1175.50	-	-
WCI5 #	1203.39	none		26.50	10.00	1186.70-1176.70	-	-
WCI6 #	1200.14	none		26.50	10.00	1183.40-1173.40	-	-
WCI7 #	1202.47	none		27.50	10.00	1184.60-1174.60	-	-
WCI8 #	1202.04	none		26.50	10.00	1185.30-1175.30	-	-
WCI9	1199.25	none		26.50	10.00	1182.50-1172.50	-	-
WCI10 #	1203.29	1203.29	1200.10	26.50	10.00	1186.60-1176.60	-	-
WCI11	1203.73	none		26.50	10.00	1187.00-1177.00	-	-
WCI12	1199.79	1199.81	1196.80	26.50	10.00	1183.10-1173.10	-	-
WCI13	1199.52	none		26.70	10.00	1182.60-1172.60	-	-
WCI14	1199.46	none		26.70	10.00	1182.50-1172.50	-	-
WCI15	1199.20	none		26.50	10.00	1182.50-1172.50	-	-
MW7A	1201.28	1201.34	1199.10	69.50	10.00	1141.58-1131.58	17.59	1183.69
MW9A	1197.10	1197.10	1195.00	141.00	10	1065.68-1055.68	10.98	1186.12
MW10A	1206.94	1206.98	1204.60	76.50	10.00	1140.20-1130.20	21.32	1185.62
MW10B	1206.80	1206.86	1204.70	35.00	10.00	1181.55-1171.55	21.16	1185.64
MW11#	1210.15			35	10	1184.90-1174.90	24.72	1185.43
MW12	1200.08	COULD NOT LOCATE		70.0	20.00	1150.08-1130.08	-	-
MW13#	1211.34	1211.42	1211.40	45.00	10.00	1176.09-1155.09	25.80	1185.54
MW14	1198.21	1198.26	1198.30	45	10.00	1162.97-1152.97	15.20	1183.01
MW1	1198.61	1198.73	1197.30	40.00	5.00	1153.37-1158.37	14.07	1184.54
MW2	1203.26	1203.38	1202.00	40.00	5.00	1158.02-1163.02	REMOVED	-
MW3	1201.90	1202.06	1200.70	40.00	5.00	1156.66-1161.55	18.28	1183.62
MW4	1202.31	1202.41	1200.90	40.00	5.00	1167.11-1162.11	18.56	1183.75
MW5	1210.33	1210.43	1208.30	37.00	5.00	1178.05-1173.05	25.95	1184.38
MW6	1200.64	1200.96	1199.20	41.00	5.00	1164.42-1159.42	16.91	1183.73
MW7	1200.86	1201.08	1199.20	48.00	5.00	1157.63-1152.63	17.22	1183.64
TCT1(40)	1204.55	1204.75	1202.00	72.10	5.00	1137.25-1132.25	REMOVED	-
TCT2(41)	1203.54	1203.68	1200.70	22.10	15.00	1196.19-1181.19	18.69	1184.85
TCT3(42)	1201.66	NONE	1200.40	54.00	5.00	1152.43-1147.43	20.45	1181.21
TCT4(43)	1203.23	1203.35	1201.70	23.80	15.00	1194.17-1179.17	18.87	1184.36
TCT5(44)	1204.45	1204.57	1202.30	23.00	15.00	1196.21-1181.21	19.70	1184.75
FVD1	1199.70	1199.74	1197.60	22.00	10.00	1187.70-1177.70	14.70	1185.00
FVD2	1199.27	1199.35	1197.30	20.00	10.00	1189.27-1179.27	14.22	1185.05
FVD5	1198.88	1198.92	1196.90	20.50	10.00	1188.35-1178.35	13.93	1184.95
FVD7	1198.59	1198.73	1196.90	18.50	10.00	1189.77-1179.77	13.94	1184.65
GM5D	1200.38	1200.90	1200.90	114.00	10.00	1096.21-1086.21	16.96	1183.42
GM6D	1198.78	1199.06	1199.10	126.00	10.00	1082.46-1072.46	15.03	1183.75
GM7D	1198.77	1199.21	1199.20	123.00	10.00	1085.54-1075.54	-	-
GM8D#	1196.18			122.50	10.00	1083.43-1073.43	11.81	1184.37
GM9S	1198.94	1199.23	1199.20	20.00	10.00	1188.67-1178.67	14.84	1184.10
E20	1199.18	1199.34	1197.20	79.50	5.00	1122.70-1117.70	14.65	1184.53
E21	1197.61	1197.53	1195.20	129.50	5.00	1071.20-1065.70	11.72	1185.89
E21A	1197.95	1197.87	1195.20	22.00	10.00	1183.20-1173.20	12.13	1185.82
E22	1195.54	1196.08	1196.10	93.70	5.00	1107.40-1102.40	10.65	1184.89
E22A	1195.93	1196.43	1196.40	22.00	10.00	1184.40-1174.40	11.05	1184.88
E23A	1197.69	1198.15	1198.20	21.40	10.00	1186.80-1176.80	13.30	1184.39
E24	1210.13	1210.15	1208.50	85.70	5.00	1127.80-1122.80	24.70	1185.43
E24A	1211.18	1211.18	1209.00	35.00	10.00	1184.00-1174.00	25.77	1185.41
E25	1213.93	1213.99	1211.70	135.00	5.00	1081.70-1076.70	28.39	1185.54
E25A	1213.87	1213.93	1211.70	37.50	10.00	1184.20-1174.20	28.35	1185.52
E26	1199.08	1199.02	1196.70	95.00	5.00	1106.70-1101.70	13.72	1185.36
E26A	1199.23	1199.23	1196.60	23.00	10.00	1183.60-1173.60	13.80	1185.43
E27	1195.71	1196.31	1196.30	136.50	5.00	1064.80-1059.80	9.70	1186.01
E28A	1211.68	1212.14	1212.10	37.00	10.00	1185.10-1175.10	26.46	1185.22
E29A	1200.30	1200.80	1200.80	29.00	10.00	1181.80-1171.80	16.80	1183.50
E30	1204.58	1204.68	1202.10	132.80	5.00	1074.30-1069.30	19.82	1184.76
E31	1201.15	1201.65	1201.60	135.50	5.00	1071.10-1066.10	REMOVED	-
E37A	1197.80	1198.28	1198.30	26.00	10.00	1182.30-1172.30	13.26	1184.54

APPENDIX G

DRAWDOWN TEST HYDROGRAPHS AND PRODUCTION WELL PUMPAGE SUMMARIES

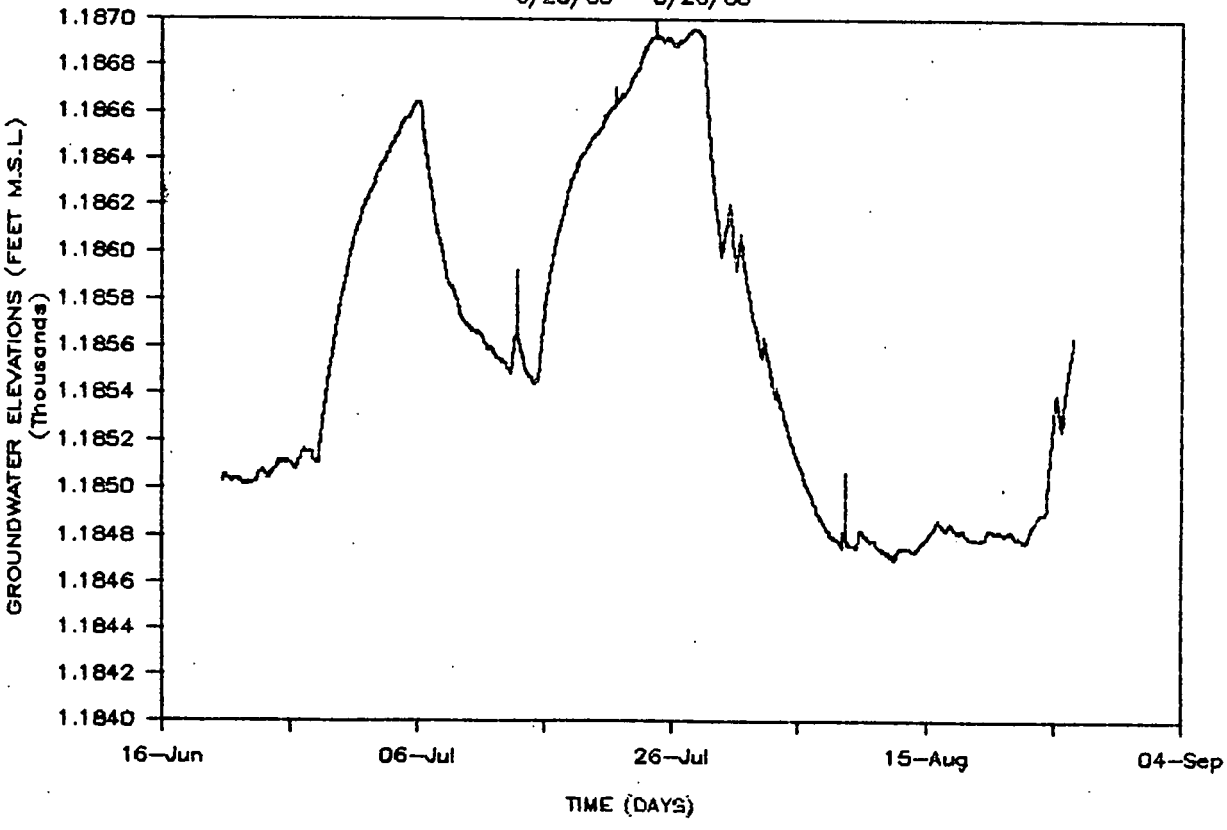
HYDROGRAPH — WELL W55A

6/20/88 - 8/26/88



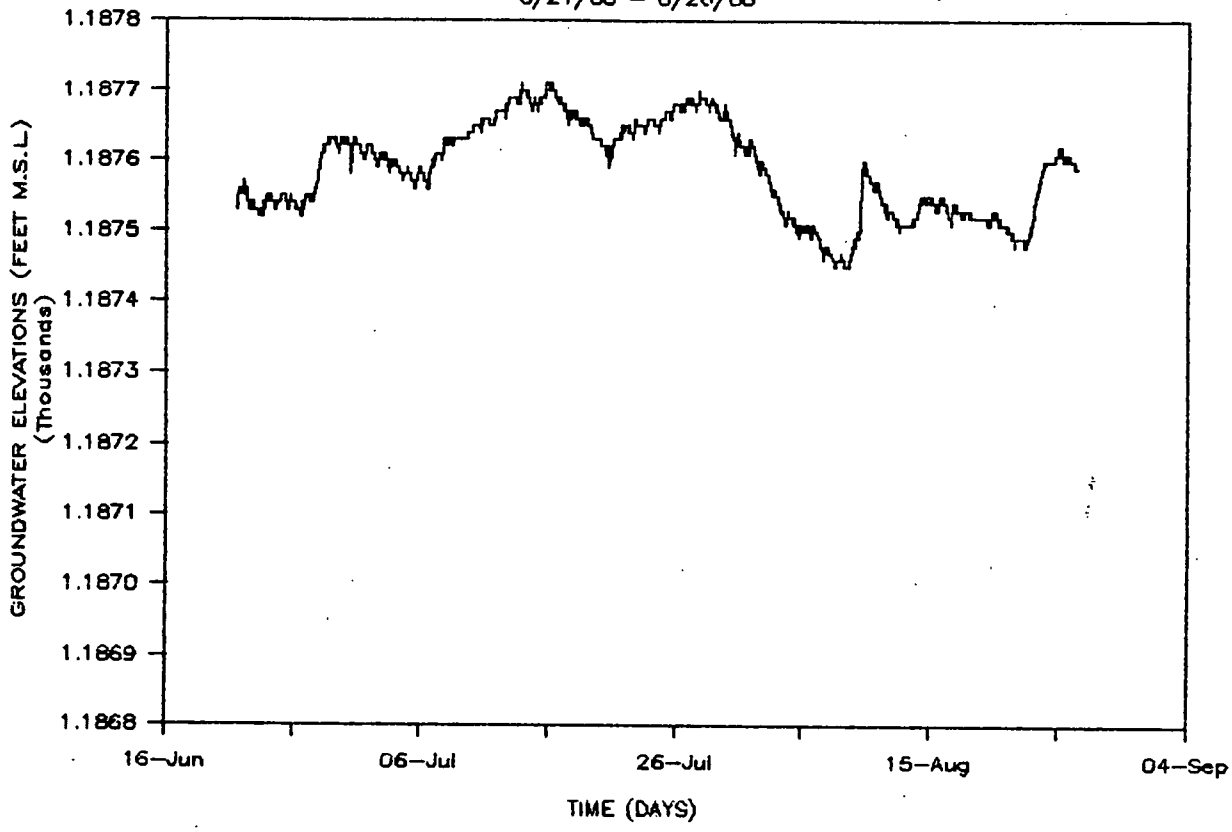
HYDROGRAPH — WELL W55

6/20/88 - 8/26/88



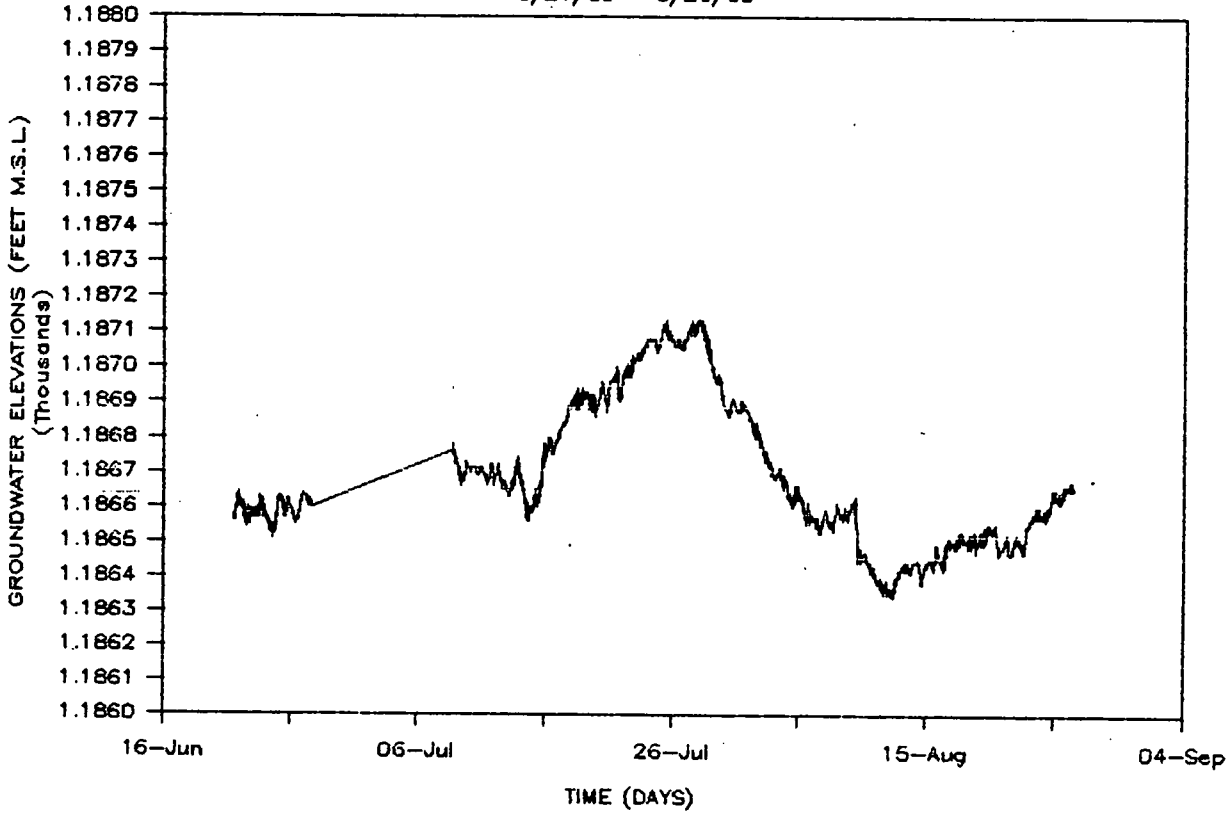
HYDROGRAPH — WELL R3S

6/21/88 – 8/26/88



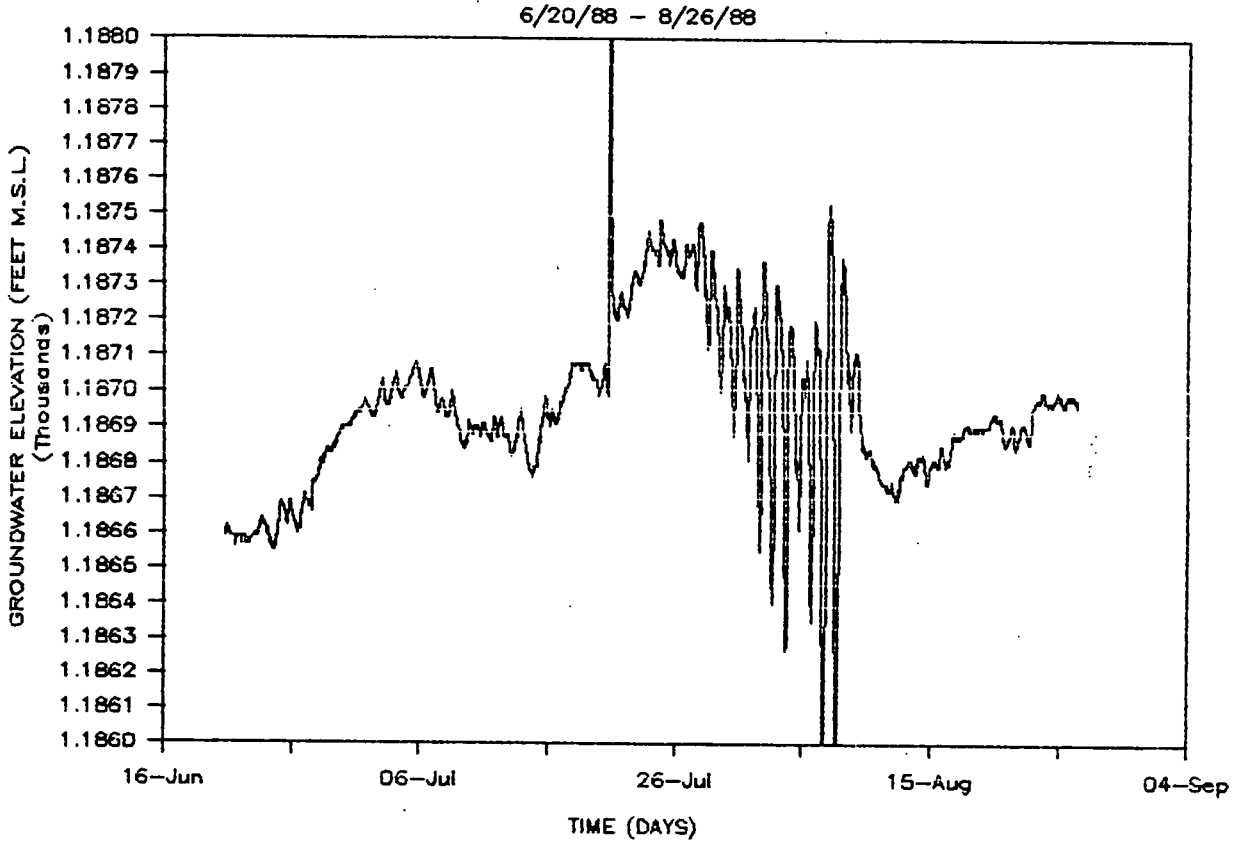
HYDROGRAPH — WELL R3D

6/21/88 – 8/26/88



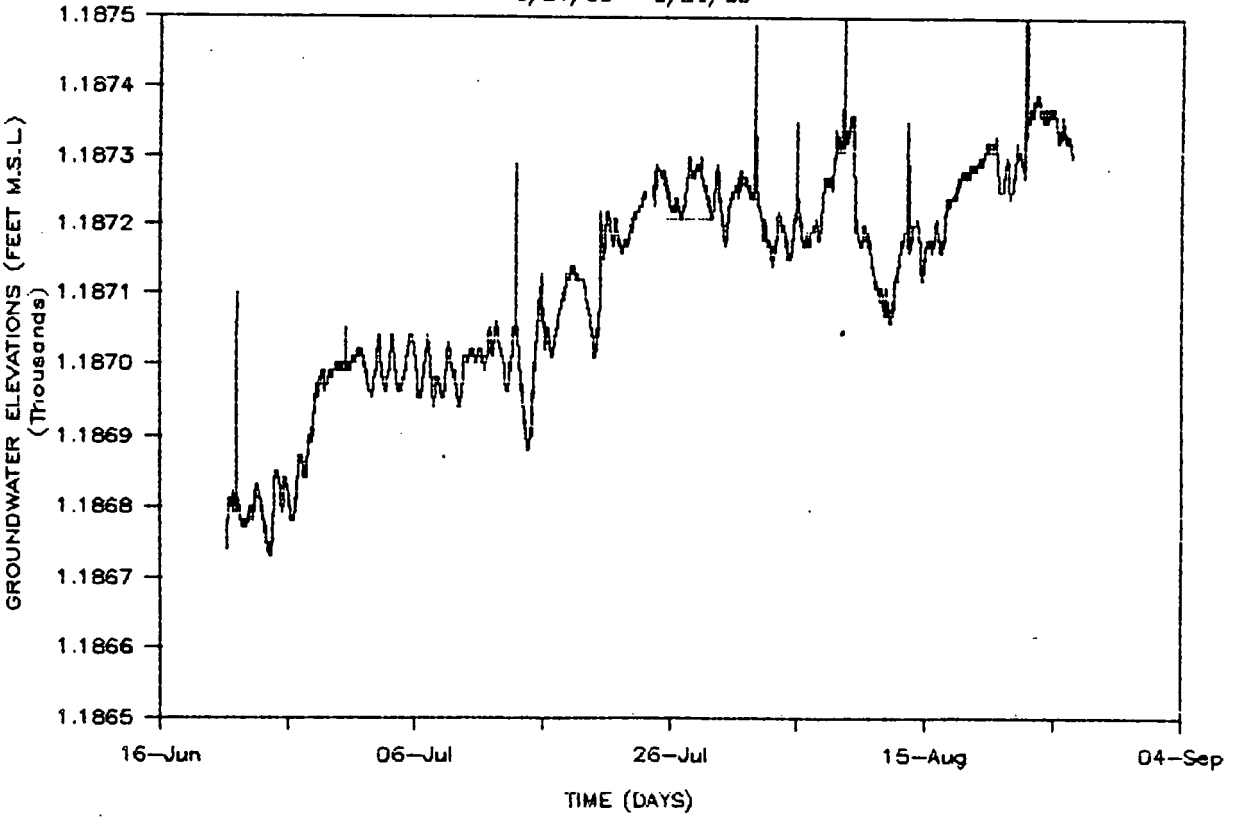
HYDROGRAPH — WELL W52

6/20/88 – 8/26/88



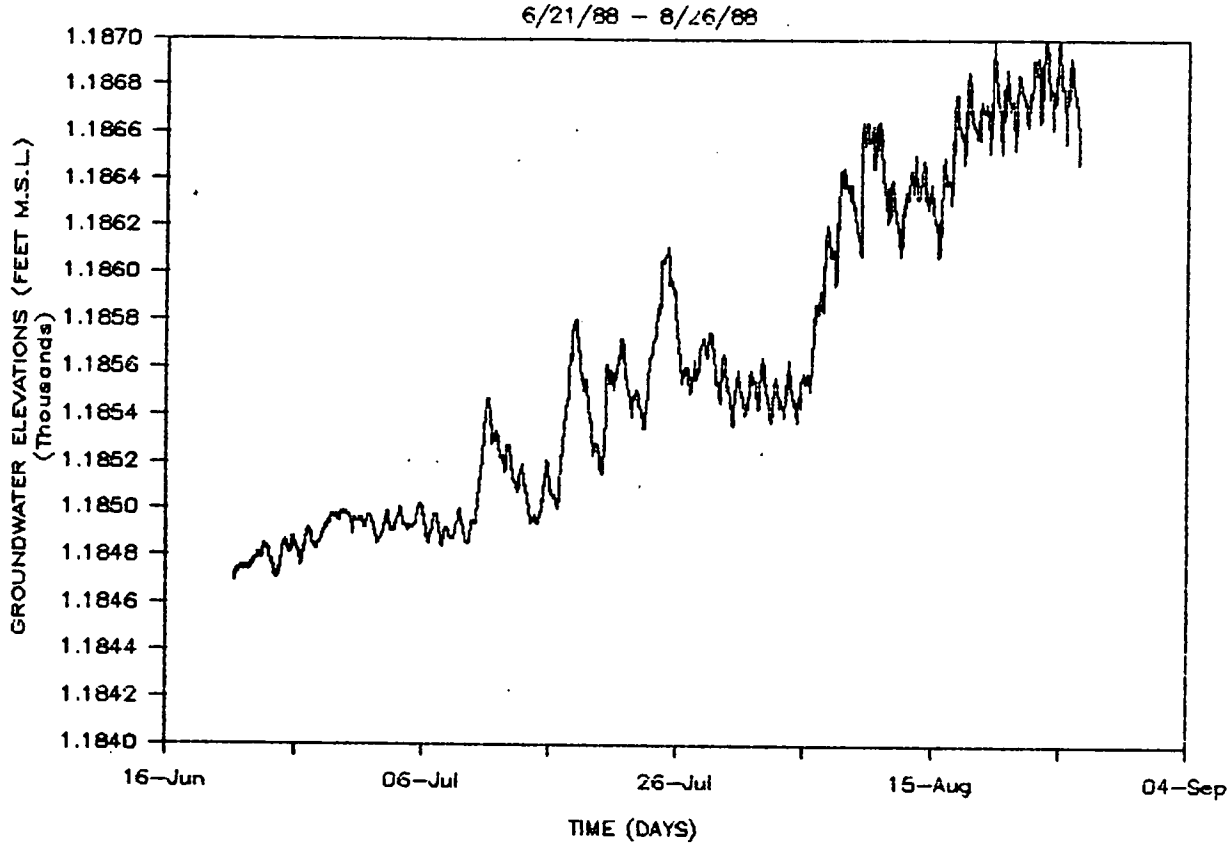
HYDROGRAPH — WELL W53

6/21/88 – 8/26/88



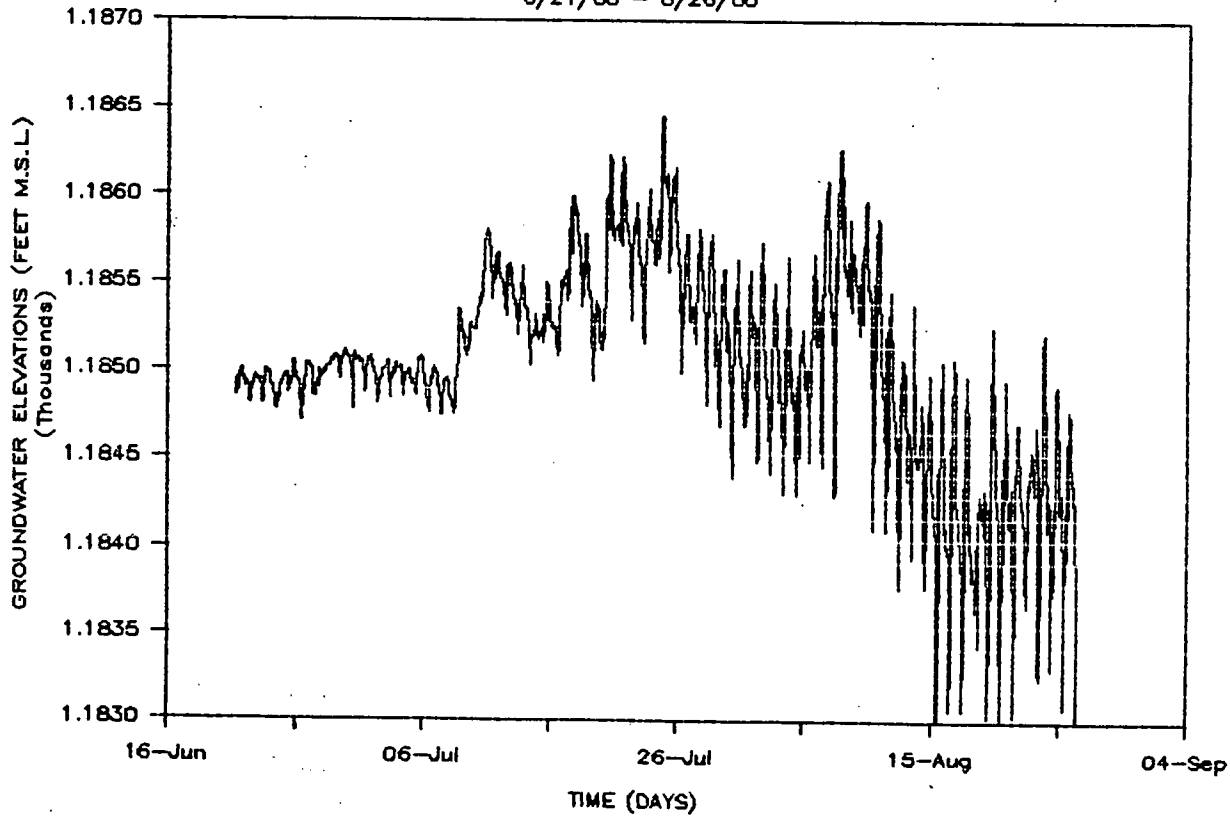
HYDROGRAPH — WELL E21A

6/21/88 – 8/26/88



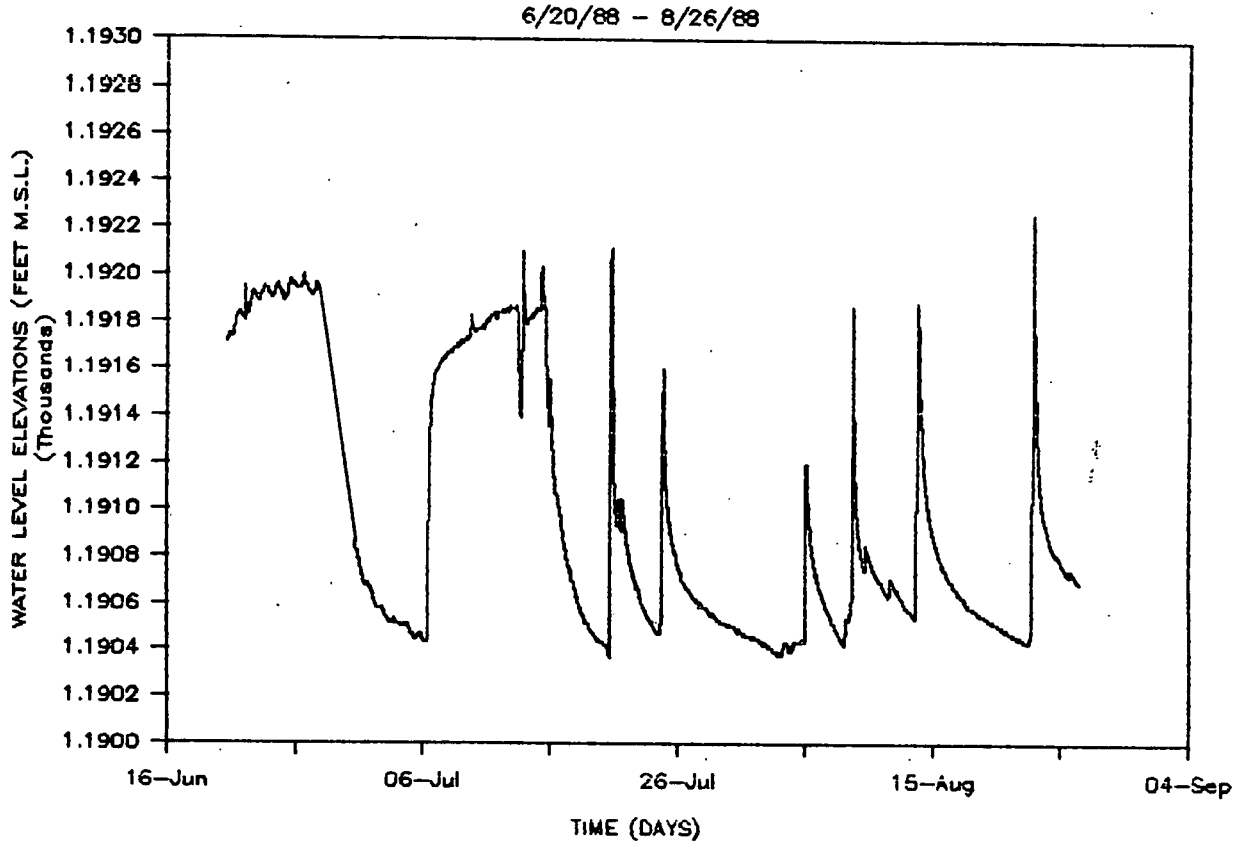
HYDROGRAPH — WELL E21

6/21/88 – 8/26/88



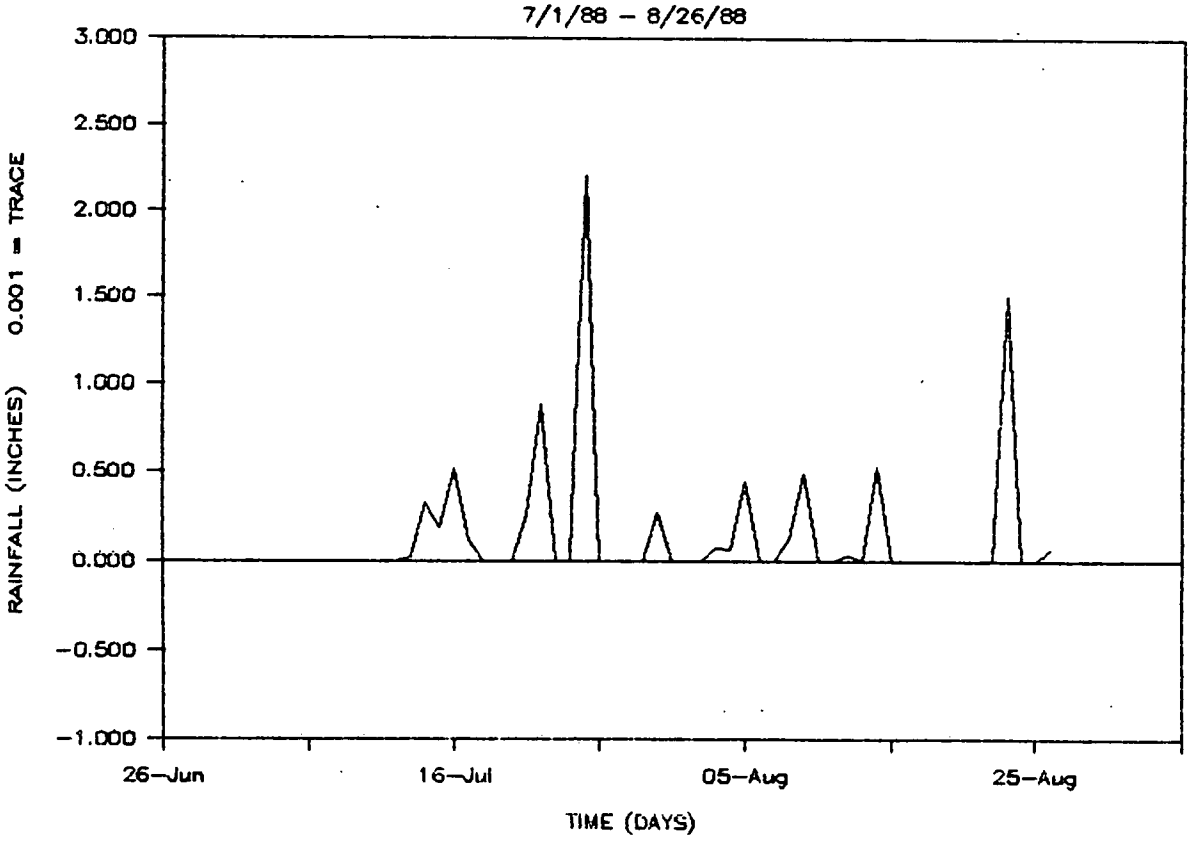
WATER ELEVATION CURVE – BOS CREEK

6/20/88 – 8/26/88



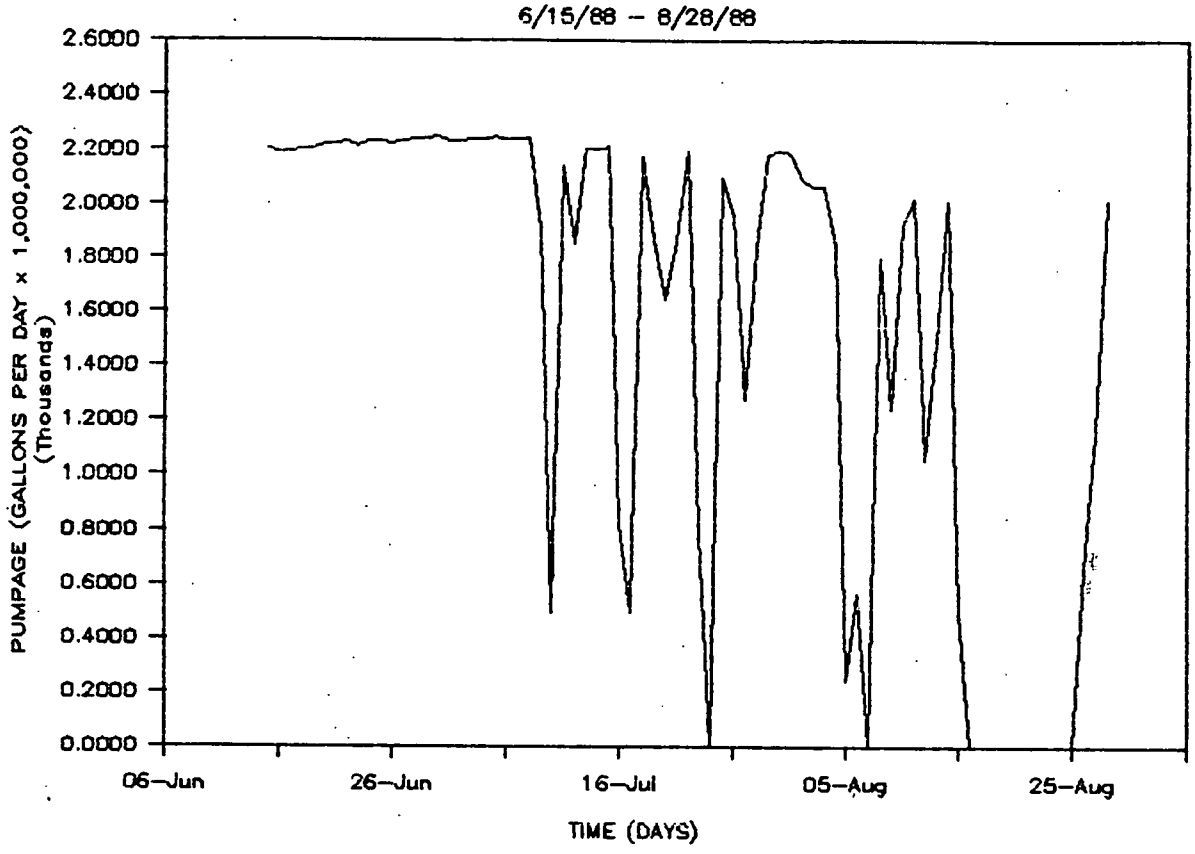
WAUSAU AIRPORT RAINFALL

7/1/88 – 8/26/88



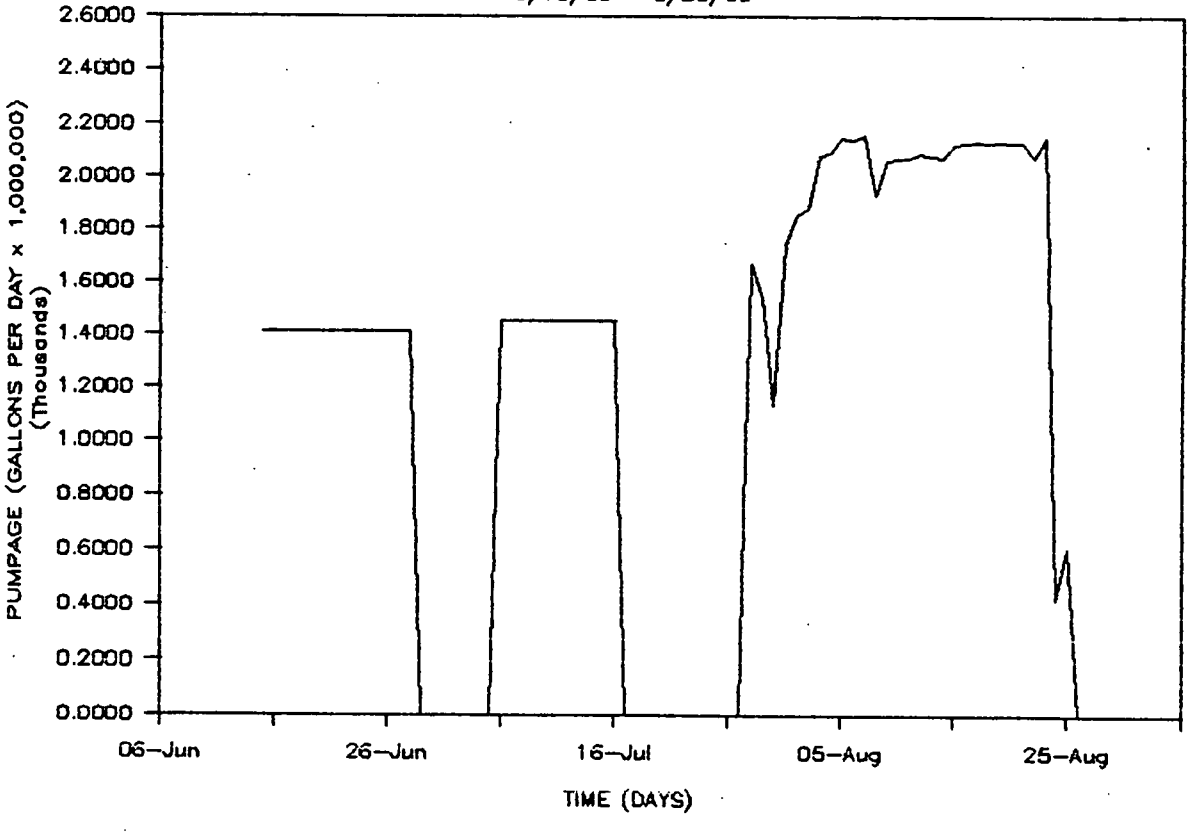
WELL CW3 PUMPAGE RECORD VS TIME

6/15/88 - 8/28/88



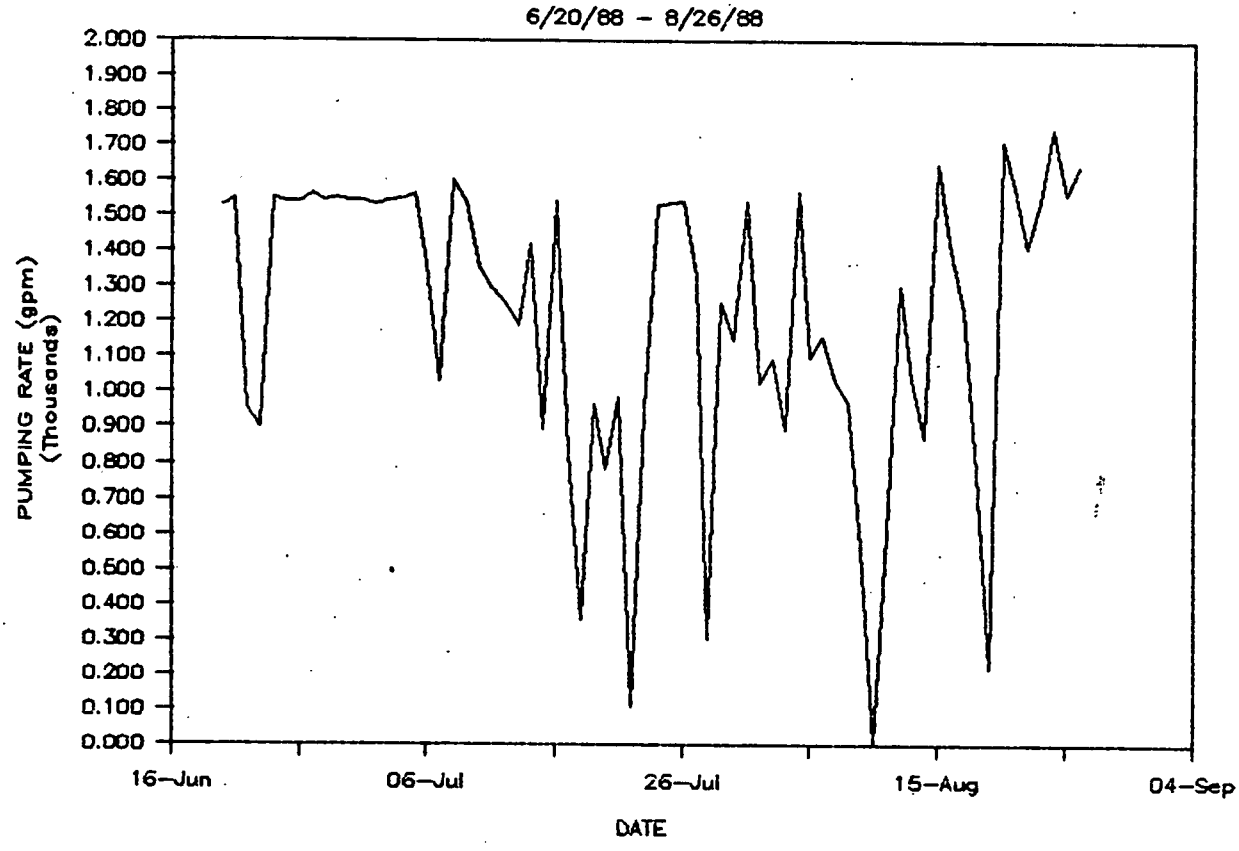
WELL CW6 PUMPAGE RECORD VS TIME

6/15/88 - 8/28/88



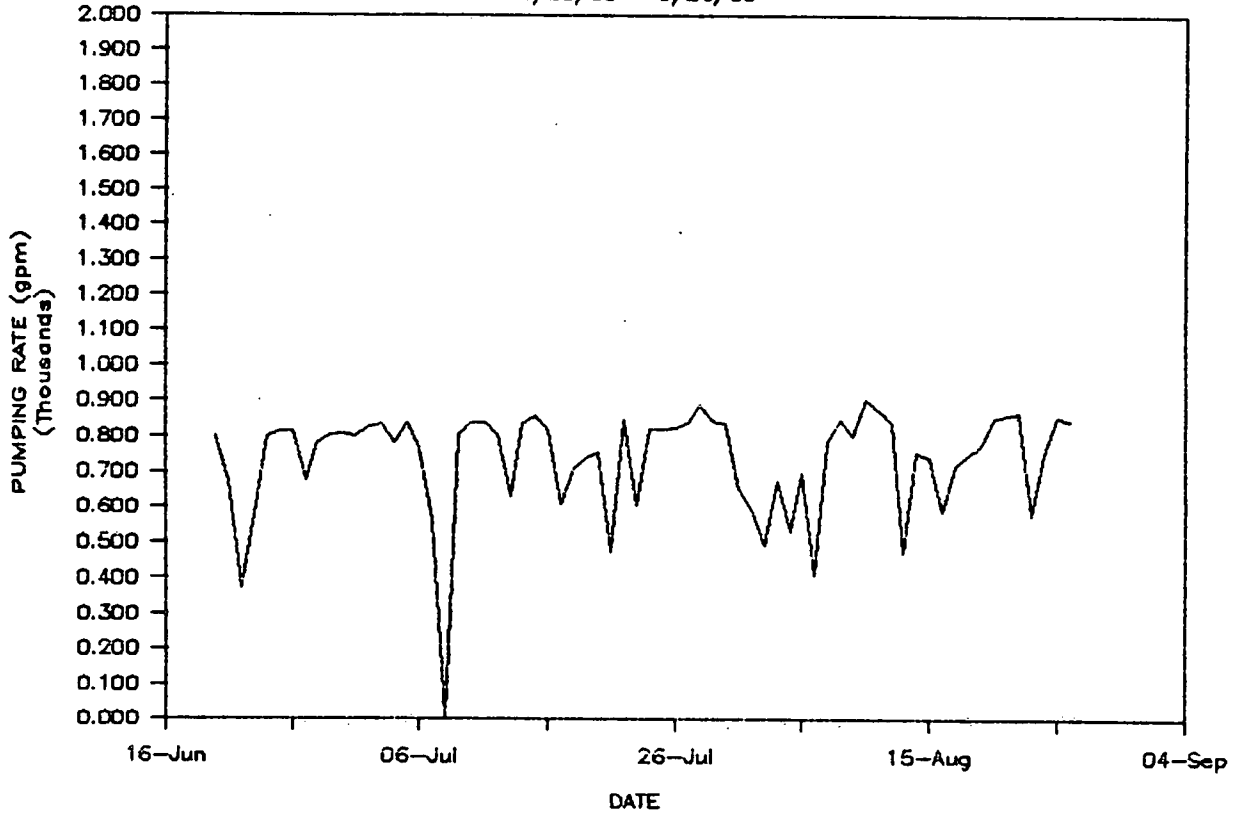
WELL CW7 PUMPAGE RECORD VS TIME

6/20/88 - 8/26/88



WELL CW9 PUMPAGE RECORD VS TIME

6/20/88 - 8/26/88



APPENDIX H

BOS CREEK STREAM GAGING RESULTS

BOS CREEK AT RANDOLPH STREET,WAUSAU 3/17/87
V = 2.180R + 0.02 (feet/sec)
Measured flow 5' D/S from culvert

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
6.5	0.25	0	0	0	0	0	0.0000
7	0.5	0.3	3	21.4	0.3256	0.15	0.0488
7.5	0.5	0.45	3	26.2	0.2696	0.225	0.0607
8	0.5	0.6	5	24	0.4742	0.3	0.1423
8.5	0.5	0.69	3	23.3	0.3007	0.345	0.1037
9	0.5	0.79	3	17.4	0.3959	0.395	0.1564
9.5	0.5	0.8	3	29	0.2455	0.4	0.0982
10	0.5	0.89	3	30.2	0.2366	0.445	0.1053
10.5	0.5	0.97	3	21.2	0.3285	0.485	0.1593
11	0.5	0.96	3	24.9	0.2827	0.48	0.1357
11.5	0.5	1.02	3	27	0.2622	0.51	0.1337
12	0.5	1.1	3	24.2	0.2902	0.55	0.1596
12.5	0.5	1.12	3	29.3	0.2432	0.56	0.1362
13	0.5	1.13	3	31.6	0.2270	0.565	0.1282
13.5	0.5	1.02	3	32.5	0.2212	0.51	0.1128
14	0.5	1.11	3	20.9	0.3329	0.555	0.1848
14.5	0.5	1.13	3	26.8	0.2640	0.565	0.1492
15	0.5	1.18	3	27.5	0.2578	0.59	0.1521
15.5	0.5	1.18	3	25	0.2816	0.59	0.1661
16	0.5	1.1	3	23.4	0.2995	0.55	0.1647
16.5	0.5	1.01	3	17.5	0.3937	0.505	0.1988
17	0.5	0.9	3	19.7	0.3520	0.45	0.1584
17.5	0.5	0.81	3	18.1	0.3813	0.405	0.1544
18	0.5	0.7	3	21.4	0.3256	0.35	0.1140
18.5	0.5	0.61	3	23.2	0.3019	0.305	0.0921
19	0.5	0.45	1	40	0.0745	0.225	0.0168
19.5	1	0.4	0	0	0	0.4	0.0000
21	0.75	0	0	0	0	0	0.0000
TOTALS	14.5					11.41	3.2323

MEAN VELOCITY = 0.2833
FLOW = 3.23 CFS

BOS CREEK AT BURNS STREET, WAUSAU, WI 3/17/87
V = 1.00*R (pygmy)
Measured flow 50' D/S from bridge & below well discharge

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
9.9	0.15	0	0	0	0	0	0.0000
10.2	0.35	0.2	7	18.4	0.3804	0.07	0.0266
10.6	0.4	0.32	5	18.2	0.2747	0.128	0.0352
11	0.4	0.55	5	13.1	0.3817	0.22	0.0840
11.4	0.4	0.66	7	17.2	0.407	0.264	0.1074
11.8	0.4	0.83	7	14.7	0.4762	0.332	0.1581
12.2	0.4	1	7	12.8	0.5469	0.4	0.2188
12.6	0.4	1.08	10	14.1	0.7092	0.432	0.3064
13	0.4	1.09	7	16.2	0.4321	0.436	0.1884
13.4	0.4	1.1	10	15.5	0.6452	0.44	0.2839
13.8	0.4	1.01	7	13.3	0.5263	0.404	0.2126
14.2	0.4	0.9	10	16.3	0.6135	0.36	0.2209
14.6	0.4	1.02	7	14.2	0.493	0.408	0.2011
15	0.4	0.81	10	16.2	0.6173	0.324	0.2000
15.4	0.4	0.85	7	18.5	0.3784	0.34	0.1286
15.8	0.4	0.84	7	19.7	0.3553	0.336	0.1194
16.2	0.4	0.85	5	17.7	0.2825	0.34	0.0960
16.6	0.4	0.5	7	18.9	0.3704	0.2	0.0741
17	0.4	0.52	5	19.9	0.2513	0.208	0.0523
17.4	0.4	0.5	5	19.4	0.2577	0.2	0.0515
17.8	0.4	0.4	1	19	0.0526	0.16	0.0084
18.2	0.2	0.3	0	0	0	0.06	0.0000
TOTALS	8.3					6.062	2.7737

MEAN VELOCITY = 0.4576 FEET/SEC
FLOW = 2.77 CFS

APPENDIX I

HYDRAULIC CONDUCTIVITY TEST METHODS AND RESULTS

BAILDOWN HYDRAULIC CONDUCTIVITY TEST METHODS AND RESULTS

The purpose of the baildown tests conducted on the site is to measure in-situ saturated hydraulic conductivity of subsurface materials. Baildown tests measure the saturated hydraulic conductivity of undisturbed, in-place aquifer material, whereas laboratory tests require removal of a sample from its natural environment.

The general procedure for a baildown test is to instantaneously remove a measured volume of water from the well as rapidly as possible, by bailing or pumping, and measure the rate at which the water in the well returns to its static level. The hydraulic conductivity of the aquifer material is a function of the rate of water level rise and the well geometry. In permeable aquifer material, the location of the well screen with respect to the water table and the base of the aquifer are important. The configuration of a typical baildown test is illustrated in Figure A.

DATA REDUCTION

Several methods are available to interpret the water level versus time data that are obtained from a baildown test. These include Hvorslev (1951), NAVFAC (1971), Papadopulos, et al. (1973), and Bouwer and Rice (1976). The first three references use an analytical solution to a well fully penetrating a confined aquifer. The method by Bouwer and Rice utilizes an analog model of both fully and partially penetrating wells to aid in solution of the modified Thiem equation. The Bouwer and Rice method was selected because of its ability to incorporate the effects on recovery rate due to a partially penetrating well.

The Bouwer and Rice method is based on solution of a modified Thiem equation for radial flow to a pumped well as shown in Equation 1.

$$Q = 2 \quad (KLy)/(\ln(R_e/r_w)) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Where:

Q = flow into the well (L^3/T)

K = hydraulic conductivity of the aquifer (L/T)

L = open length of open interval in the well (L)

y = difference between the water level in the well and the equilibrium level in the aquifer (L)

R_e = radius of influence of the well (L)

r_w = effective well radius (L)

In a single well test, the value of R_e is unknown. Values of R_e, in terms of the $\ln(R_e/r_w)$ were determined by Bower and Rice (1976) with an electric analog model of a homogeneous isotropic aquifer. The analog model was used to analyze the effects of the aquifer and well geometry. Results of the study for a partially penetrating well is shown in Equation 2 using Equation 3 to determine the value of $\ln(R_e/r_w)$.

$$K = \frac{r_c^2 \ln(R_e/r_w)}{2L} \quad \frac{1}{t} \quad \ln \quad \frac{y_o}{y_t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

Where:

r_c = radius of the well casing (L)

t = time (T)

y_o, y_t = difference between the water level in the well and the equilibrium level in the aquifer at times o and t

$$\ln(R_e/r_w) = \quad 1.1/\ln(Hr_w) + \frac{A+B \ln(D-H)/r_w)}{L/r_w} \quad ^{-1} \quad \ldots\ldots \quad (3)$$

Where:

A,B = constants obtained from Figure B

H = depth to the bottom of the screen from the water table

D = thickness of the aquifer

As noted by Bouwer and Rice, a semilog plot of y_o/y_t versus time (t) (on the linear scale) should yield a straight line.

A FORTRAN program was developed by WEI to reduce the baildown field test data. The program allows for skewed data points and outliers to be deleted from the time-drawdown plot, and the remaining data points are then matched to a linear least square fit.

Input data for each test is listed in the following pages. Output from the test analysis follows the input data. Results of the tests are summarized and discussed in the text.

REFERENCES CITED

Bouwer, H. and Rice, R.C., 1976, A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells. Water Resources Research, Vol. 12, No. 3, p. 423-428.

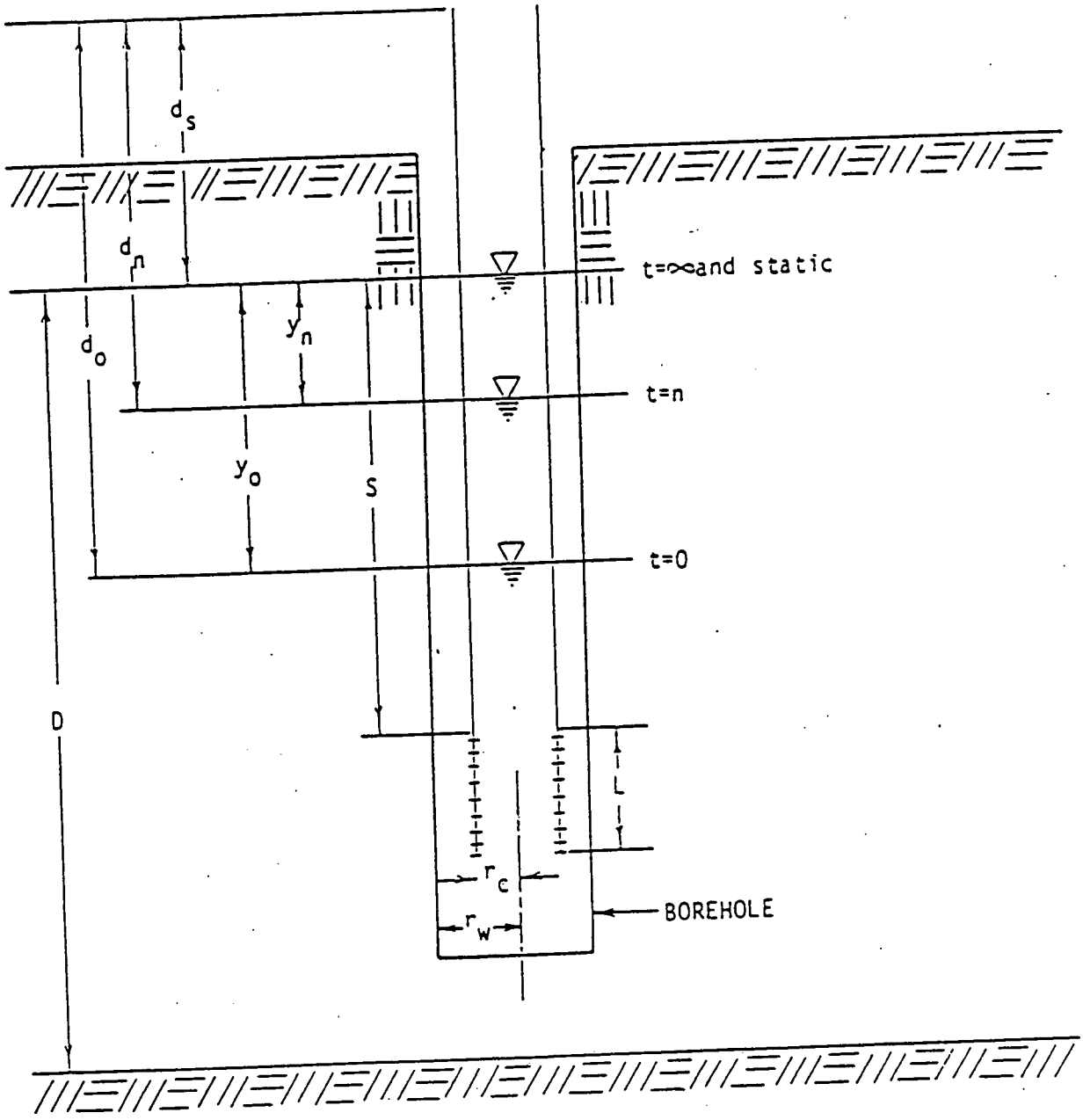
Hvorslev, M.J., 1951, Time Lag and Soil Permeability in Groundwater Observations. U.S. Army Corps of Engineers, Waterways Exp. Sta. Bull 36, Vicksburg, MS.

Papadopulos, S.S., Bredehoeft, J.D., and Cooper, H.H., Jr., 1973, On the Analysis of 'Slug Test' Data. Water Resources Research, Vol. 9, No. 4., p. 1087-1089.

United States Department of the Navy, Design Manual: Soil Mechanics, Foundations, and Earth Structures, NAVFAK DM-F, March 1971, p. 7-4-9.

MMM/cac/KJQ
[cac-53-49]

FIGURE A
BAILDOWN TEST CONFIGURATION



d_s - DEPTH TO STATIC LEVEL
d_o - DEPTH TO WATER AT t=0
d_n - DEPTH TO WATER AT t=n
y_o - RELATIVE DRAWDOWN AT t=0 (d_o-d_s)
y_n - RELATIVE DRAWDOWN AT t=n (d_n-d_s)
S - DEPTH TO TOP OF SCREEN BELOW WATER TABLE
D - AQUIFER THICKNESS

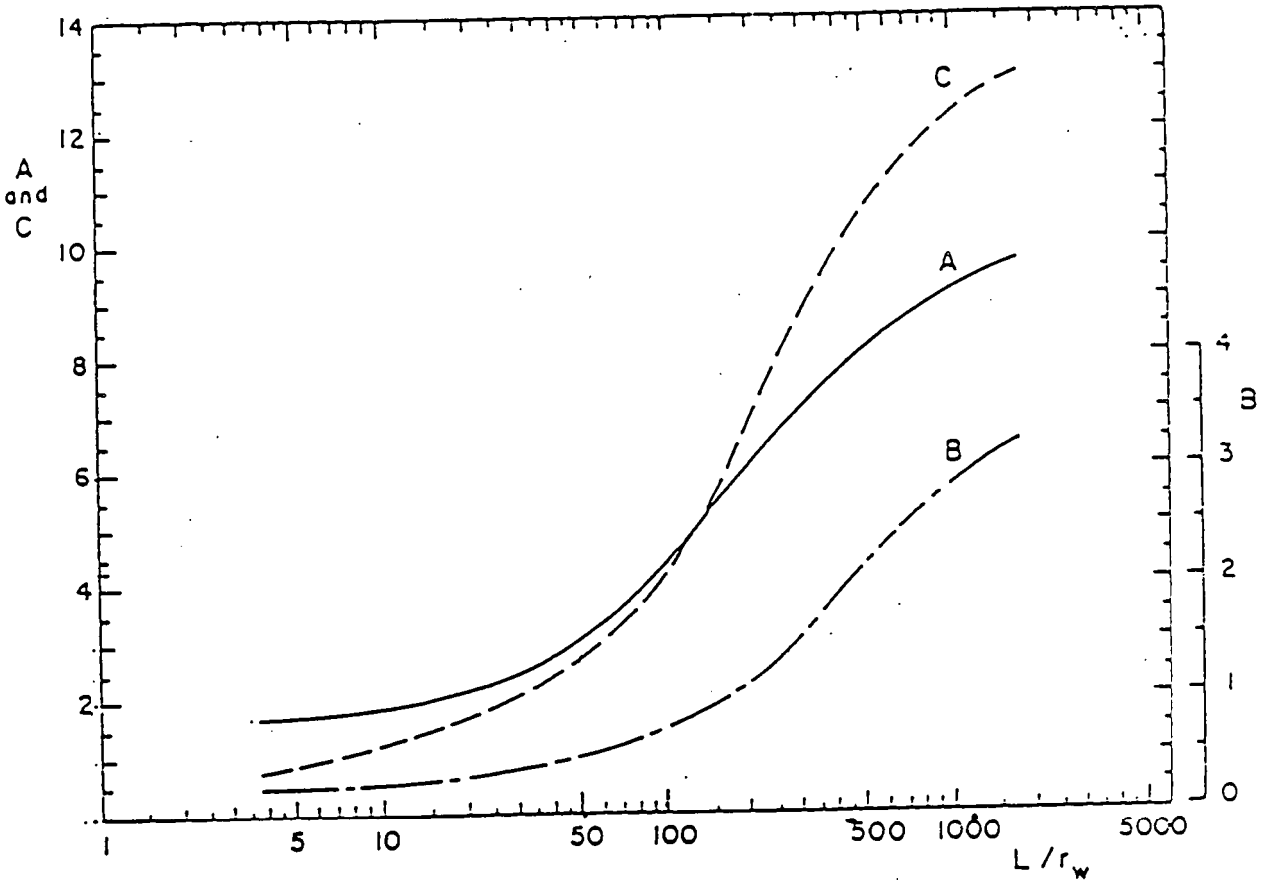


FIGURE B - Curves relating A, B and C to L/r_w
(from Bouwer and Rice, 1976).

SE1000B
Environmental Logger
11/05 18:45

Unit# 00168 Test# 1

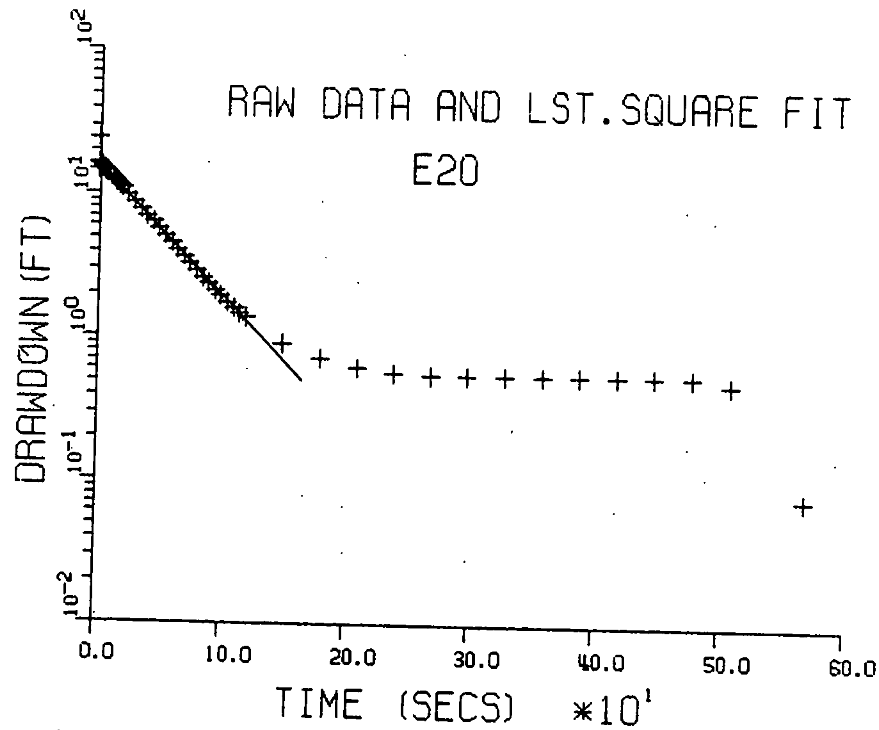
INPUT 1: Level (F) TOC

Reference	18.43
Scale factor	50.48
Offset	0.00

Step# 0 11/05 16:29

Elapsed Time	Value
0.0000	- 59.20
0.0033	- 59.27
0.0066	- 59.25
0.0099	- 59.23
0.0133	- 59.22
0.0166	- 40.19
0.0200	- 31.64
0.0233	- 32.94
0.0266	- 41.57
0.0300	- 39.65
0.0333	- 40.12
0.0500	- 40.39
0.0666	- 40.65
0.0833	- 40.87
0.1000	- 41.13
0.1166	- 41.35
0.1333	- 41.57
0.1500	- 41.81
0.1666	- 42.04
0.1833	- 42.28
0.2000	- 42.48
0.2166	- 42.69
0.2333	- 42.91
0.2500	- 43.10
0.2666	- 43.31
0.2833	- 43.52
0.3000	- 43.71
0.3166	- 43.92
0.3333	- 44.11
0.4167	- 45.06
0.5000	- 45.93
0.5833	- 46.72
0.6667	- 47.46
0.7500	- 48.12
0.8333	- 48.75
0.9167	- 49.30
1.0000	- 49.81
1.0833	- 50.26
1.1667	- 50.67
1.2500	- 51.06
1.3333	- 51.39
1.4166	- 51.70
1.5000	- 51.97
1.5833	- 52.21
1.6667	- 52.43
1.7500	- 52.62
1.8333	- 52.79
1.9167	- 52.95
2.0000	- 53.10
2.5000	- 53.67
3.0000	- 53.97
3.5000	- 54.12
4.0000	- 54.20
4.5000	- 54.25
5.0000	- 54.26
5.5000	- 54.26
6.0000	- 54.28
6.5000	- 54.28
7.0000	- 54.28
7.5000	- 54.28
8.0000	- 54.28
8.5000	- 54.28
9.0000	- 54.28
9.5000	- 54.28
10.0000	- 54.29
12.0000	- 54.28

END



@@

W A R Z Y N E N G I N E E R I N G . I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E20 COR

@@

EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	5.000	FEET
WELL PENETRATION DEPTH	=	62.080	FEET
AQUIFER THICKNESS	=	119.560	FEET
STATIC WATER LEVEL	=	18.430	FEET
AQUIFER CONDUCTIVITY IS	=	.170E-02	CM/SEC
	OR	.362E+02	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.599E+01	CM*CM/SEC
	OR	.416E+04	GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :

START TIME IS	=	.000E+00	SECONDS
END TIME IS	=	.100E+03	SECONDS

SE1000B
Environmental Logger
11/05 18:44

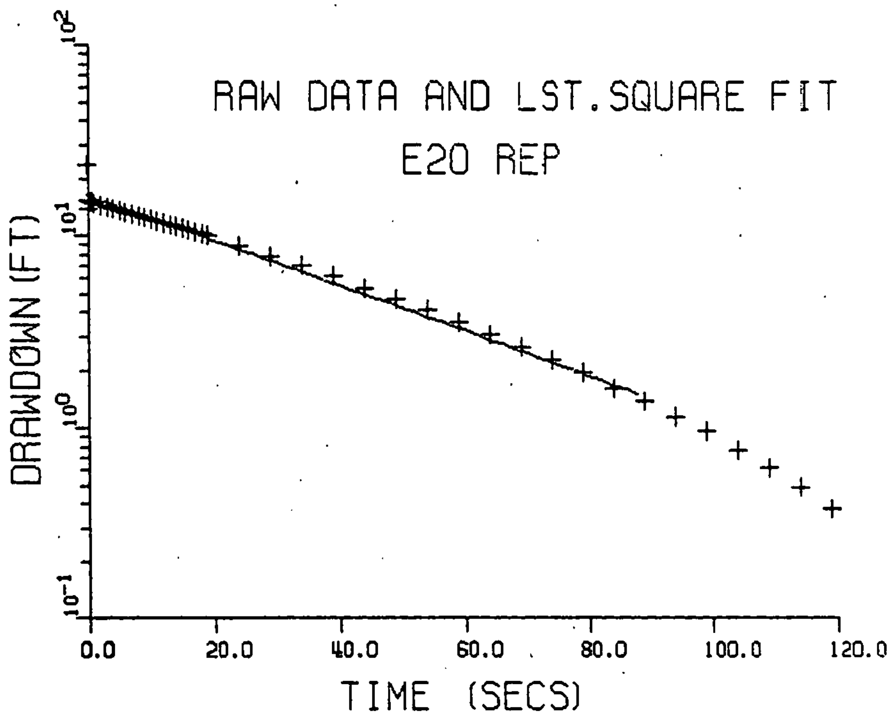
Unit# 00168 Test# 2

INPUT 1: Level (F) TOC

Reference 18.43
Scale factor 50.48
Offset 0.00

Step# 0 11/05 17:20

Elapsed Time	Value
0.0000	14.23
0.0033	14.44
0.0066	21.20
0.0099	40.02
0.0133	42.40
0.0166	32.50
0.0200	34.12
0.0233	33.73
0.0266	33.66
0.0300	33.58
0.0333	33.50
0.0500	33.15
0.0666	32.82
0.0833	32.50
0.1000	32.21
0.1166	31.91
0.1333	31.64
0.1500	31.35
0.1666	31.08
0.1833	30.81
0.2000	30.55
0.2166	30.28
0.2333	30.03
0.2500	29.77
0.2666	29.52
0.2833	29.28
0.3000	29.02
0.3166	28.80
0.3333	28.56
0.4167	27.43
0.5000	26.41
0.5833	25.47
0.6667	24.63
0.7500	23.86
0.8333	23.17
0.9167	22.57
1.0000	22.01
1.0833	21.53
1.1667	21.10
1.2500	20.72
1.3333	20.39
1.4166	20.08
1.5000	19.83
1.5833	19.59
1.6667	19.40
1.7500	19.21
1.8333	19.06
1.9167	18.92
2.0000	18.81
2.5000	18.35
3.0000	18.15
3.5000	18.06
4.0000	18.01
4.5000	17.99
5.0000	17.99
5.5000	17.98
6.0000	17.98
6.5000	17.98
7.0000	17.98
7.5000	17.98
8.0000	17.98
8.5000	17.93
9.0000	17.42
9.5000	17.50
10.0000	90.13
12.0000	90.13



@@

W A R Z Y N   E N G I N E E R I N G , I N C.

M A D I S O N.   W I S C O N S I N.

B A I L   D O W N   A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E20 REP

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.000 FEET

WELL PENETRATION DEPTH = 62.080 FEET

AQUIFER THICKNESS = 119.560 FEET

STATIC WATER LEVEL = 18.430 FEET

AQUIFER CONDUCTIVITY IS = .208E-02 CM/SEC

OR .440E+02 GAL/FT/FT/DAY

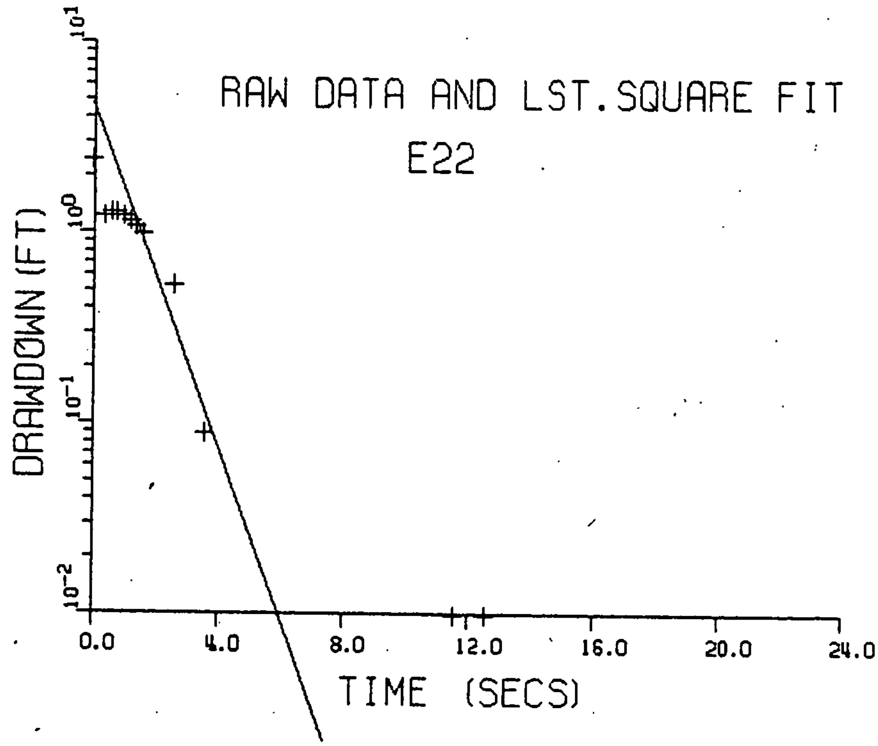
AQUIFER TRANSMISSIVITY IS = .757E+01 CM*CM/SEC

OR .526E+04 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .100E+03 SECONDS



SE1000B
Environmental Logger
11/06 14:28

Unit# 00168 Test# 4

INPUT 1: Level (F) TOC

Reference 11.74
Scale factor 50.48
Offset 0.00

Step# 0 11/06 10:40

Elapsed Time	Value
0.0000	11.74
0.0033	12.15
0.0066	14.17
0.0099	11.53
0.0133	12.98
0.0166	13.03
0.0200	13.04
0.0233	12.99
0.0266	12.90
0.0300	12.82
0.0333	12.74
0.0500	12.28
0.0666	11.83
0.0833	11.58
0.1000	11.46
0.1166	11.48
0.1333	11.53
0.1500	11.62
0.1666	11.69
0.1833	11.74
0.2000	11.75
0.2166	11.75
0.2333	11.74
0.2500	11.72
0.2666	11.72
0.2833	11.70
0.3000	11.70
0.3166	11.70
0.3333	11.70
0.4167	11.72
0.5000	11.72
0.5833	11.70
0.6667	11.70
0.7500	11.70
0.8333	11.72
0.9167	11.72
1.0000	11.70
1.0833	11.70
1.1667	11.70
1.2500	11.70
1.3333	11.70
1.4166	11.70
1.5000	11.70
1.5833	11.70
1.6667	11.70
1.7500	11.70
1.8333	11.70
1.9167	11.70
2.0000	11.70
2.5000	11.70
3.0000	11.70
3.5000	11.70
4.0000	11.70
4.5000	11.70
5.0000	11.70
5.5000	11.70
6.0000	11.70
6.5000	11.70
7.0000	11.70
7.5000	11.70
8.0000	11.70
8.5000	11.70
9.0000	11.70
9.5000	11.70
10.0000	11.70

END

@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E22

@@

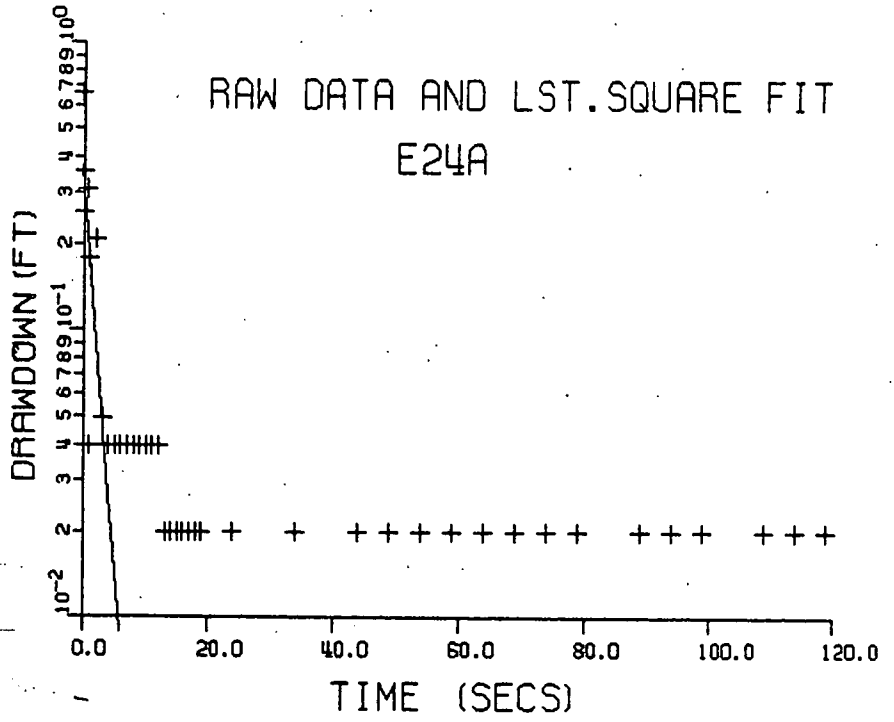
EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	5.000	FEET
WELL PENETRATION DEPTH	=	84.760	FEET
AQUIFER THICKNESS	=	118.250	FEET
STATIC WATER LEVEL	=	11.740	FEET
AQUIFER CONDUCTIVITY IS	=	.812E-01	CM/SEC
	OR	.172E+04	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.293E+03	CM*CM/SEC
	OR	.203E+06	GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :

START TIME IS = .120E+01 SECONDS

END TIME IS = .400E+01 SECONDS



SE1000B
Environmental Logger
11/06 14:27

Unit# 00168 Test# 5

INPUT 1: Level (F) TOC

Reference	26.78
Scale factor	50.48
Offset	0.00

Step# 0 11/06 11:10

Elapsed Time	Value
0.0000	25.93
0.0033	25.95
0.0066	25.95
0.0099	26.15
0.0133	26.58
0.0166	26.17
0.0200	26.27
0.0233	25.61
0.0266	26.2[illegible]
0.0300	26.09
0.0333	25.95
0.0500	26.12
0.0666	25.96
0.0833	25.95
0.1000	25.95
0.1166	25.95
0.1333	25.95
0.1500	25.95
0.1666	25.95
0.1833	25.95
0.2000	25.95
0.2166	25.95
0.2333	25.93
0.2500	25.93
0.2666	25.93
0.2833	25.93
0.3000	25.93
0.3166	25.93
0.3333	25.93
0.4167	25.93
0.5000	25.91
0.5833	25.93
0.6667	25.91
0.7500	25.93
0.8333	25.93
0.9167	25.93
1.0000	25.93
1.0833	25.93
1.1667	25.93
1.2500	25.93
1.3333	25.93
1.4166	25.91
1.5000	25.93
1.5833	25.93
1.6667	25.93
1.7500	25.91
1.8333	25.93
1.9167	25.93
2.0000	25.93
2.5000	25.91
3.0000	25.91
3.5000	25.91
4.0000	25.91
4.5000	25.91
5.0000	25.91
5.5000	25.91
6.0000	25.91
6.5000	25.91
7.0000	25.91
7.5000	25.91
8.0000	25.91
8.5000	25.91
9.0000	25.91
9.5000	43.73
10.0000	43.73

END

@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E24A

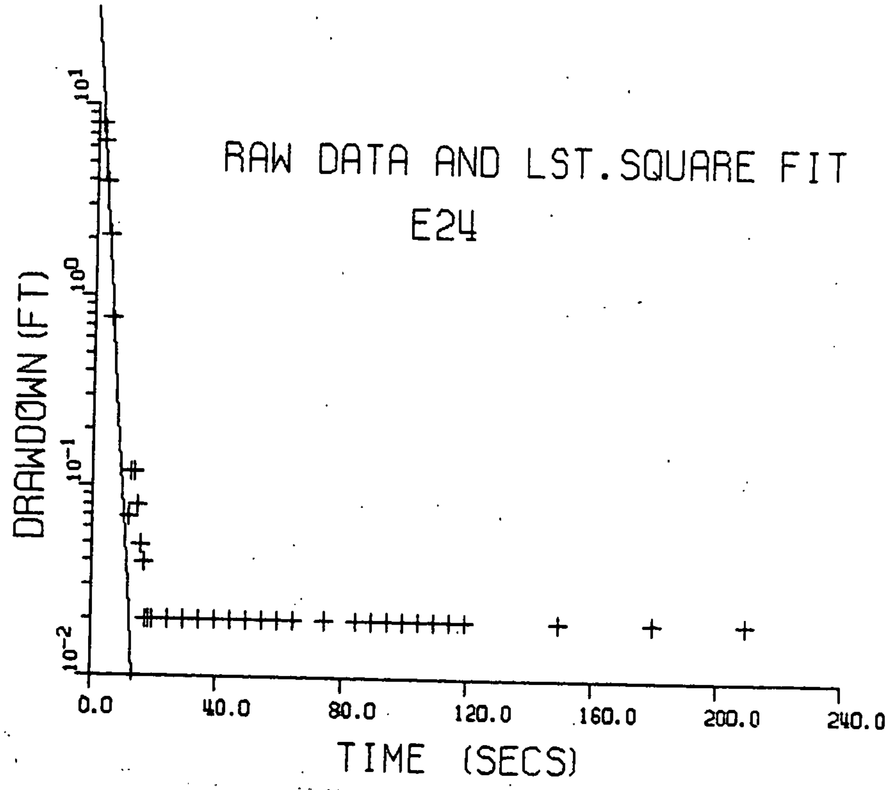
@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	10.000 FEET
WELL PENETRATION DEPTH	=	11.270 FEET
AQUIFER THICKNESS	=	114.400 FEET
STATIC WATER LEVEL	=	25.910 FEET
AQUIFER CONDUCTIVITY IS	=	.290E-01 CM/SEC
	OR	.614E+03 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.101E+03 CM*CM/SEC
	OR	.702E+05 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :

START TIME IS	=	.150E+01 SECONDS
END TIME IS	=	.500E+01 SECONDS



SE1000B
Environmental Logger
11/06 14:25

Unit# 00168 Test# 6

INPUT 1: Level (F) TOC

Reference 28.57
Scale factor 50.48
Offset 0.00

Step# 0 11/06 11:33

Elapsed Time	Value
0.0000	27.66
0.0033	27.66
0.0066	27.66
0.0099	27.66
0.0133	27.64
0.0166	28.52
0.0200	31.13
0.0233	33.19
0.0266	34.57
0.0300	35.37
0.0333	35.69
0.0500	34.08
0.0666	31.59
0.0833	29.74
0.1000	28.39
0.1166	27.56
0.1333	27.21
0.1500	27.21
0.1666	27.37
0.1833	27.56
0.2000	27.69
0.2166	27.74
0.2333	27.74
0.2500	27.70
0.2666	27.67
0.2833	27.66
0.3000	27.64
0.3166	27.64
0.3333	27.64
0.4167	27.64
0.5000	27.64
0.5833	27.64
0.6667	27.64
0.7500	27.64
0.8333	27.64
0.9167	27.64
1.0000	27.64
1.0833	27.64
1.1567	27.62
1.2500	27.64
1.3333	27.62
1.4166	27.64
1.5000	27.64
1.5833	27.64
1.6667	27.64
1.7500	27.64
1.8333	27.64
1.9167	27.64
2.0000	27.64
2.5000	27.64
3.0000	27.64
3.5000	27.64

@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E24

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.000 FEET

WELL PENETRATION DEPTH = 59.700 FEET

AQUIFER THICKNESS = 114.400 FEET

STATIC WATER LEVEL = 27.620 FEET

AQUIFER CONDUCTIVITY IS = .252E-01 CM/SEC

OR .534E+03 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .879E+02 CM*CM/SEC

OR .611E+05 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .195E+01 SECONDS

END TIME IS = .160E+02 SECONDS

SE1000C
Environmental Logger
11/05 18:46

Unit# 00168 Test# 0

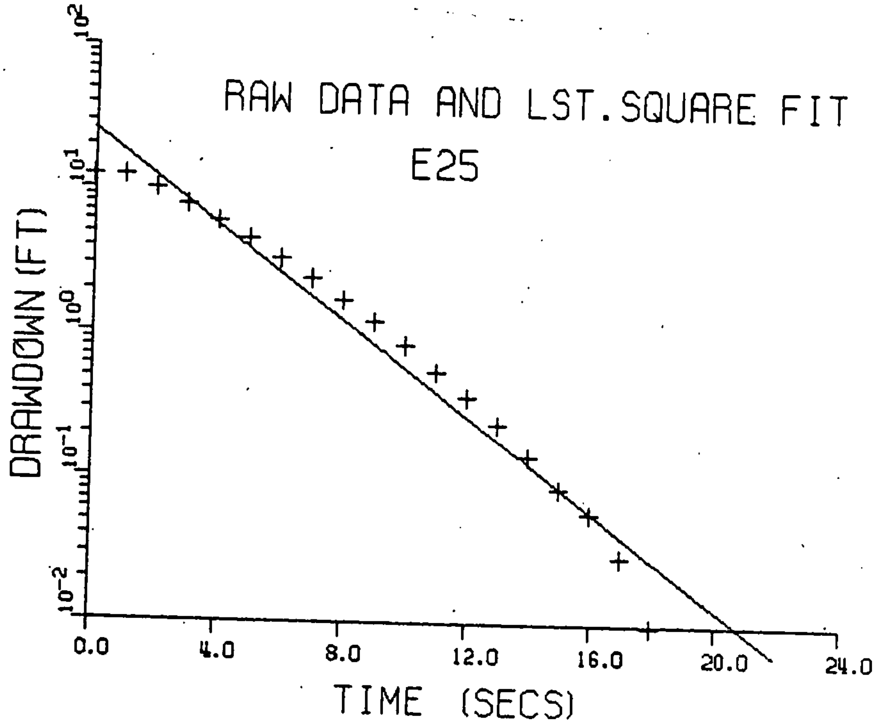
INPUT 1: Level (F) TOC

Reference	29.61
Scale factor	50.48
Offset	0.00

Step# 0 11/05 14:49

Elapsed Time	Value
0.0000	29.91
0.0033	29.91
0.0066	29.91
0.0099	29.91
0.0133	29.91
0.0166	29.91
0.0200	32.28
0.0233	36.70
0.0266	39.47
0.0300	41.14
0.0333	42.20
0.0500	42.10
0.0666	39.85
0.0833	37.61
0.1000	35.74
0.1166	34.24
0.1333	33.03
0.1500	32.11
0.1666	31.39
0.1833	30.86
0.2000	30.47
0.2166	30.18
0.2333	29.99
0.2500	29.86
0.2666	29.76
0.2833	29.70
0.3000	29.67
0.3166	29.64
0.3333	29.62
0.4167	29.59
0.5000	29.57
0.5833	29.57
0.6667	29.57
0.7500	29.57
0.8333	29.56
0.9167	29.56
1.0000	29.56
1.0833	29.56
1.1667	29.57
1.2500	29.56
1.3333	29.57
1.4166	29.56
1.5000	29.56
1.5833	29.56
1.6667	29.57
1.7500	29.56
1.8333	29.57
1.9167	29.56
2.0000	29.56
2.5000	29.57
3.0000	29.57
3.5000	29.57
4.0000	29.57
4.5000	29.59
5.0000	29.57
5.5000	29.59
6.0000	29.59
6.5000	29.59
7.0000	29.59
7.5000	29.59
8.0000	29.59
8.5000	29.59
9.0000	29.61
9.5000	29.61
10.0000	29.59

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR E25

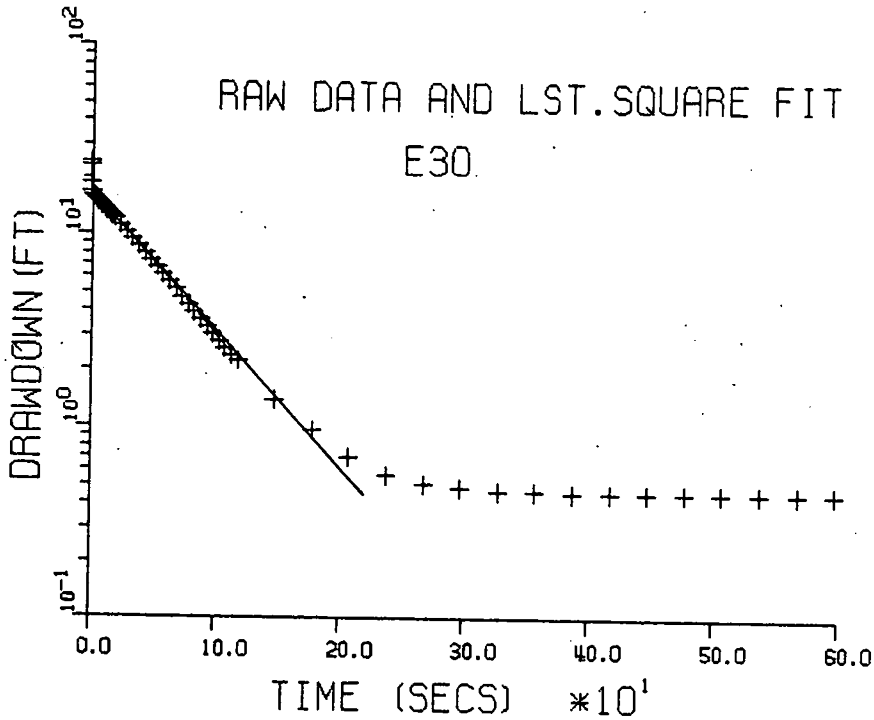
@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	5.000 FEET
WELL PENETRATION DEPTH	=	107.700 FEET
AQUIFER THICKNESS	=	130.000 FEET
STATIC WATER LEVEL	=	29.610 FEET
AQUIFER CONDUCTIVITY IS	=	.302E-01 CM/SEC
	OR	.640E+03 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.120E+03 CM*CM/SEC
	OR	.832E+05 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .180E+02 SECONDS



SE1000B
Environmental Logger
11/05 12:56

Unit# 00168 Test# 5

INPUT 1: Level (F) TOC

Reference	20.57
Scale factor	50.48
Offset	0.00

Step# 0 11/05 07:35

Elapsed Time	Value
0.0000	20.88
0.0033	20.88
0.0066	20.90
0.0099	25.44
0.0133	29.12
0.0166	38.72
0.0200	45.00
0.0233	43.98
0.0266	39.61
0.0300	37.64
0.0333	37.48
0.0500	36.85
0.0666	36.60
0.0833	36.34
0.1000	36.09
0.1166	35.80
0.1333	35.56
0.1500	35.32
0.1666	35.10
0.1833	34.88
0.2000	34.62
0.2166	34.43
0.2333	34.19
0.2500	33.99
0.2666	33.75
0.2833	33.54
0.3000	33.35
0.3166	33.14
0.3333	32.92
0.4167	31.95
0.5000	31.04
0.5833	30.18
0.6667	29.40
0.7500	28.66
0.8333	27.99
0.9167	27.39
1.0000	26.81
1.0833	26.29
1.1667	25.81
1.2500	25.36
1.3333	24.96
1.4166	24.60
1.5000	24.26
1.5833	23.96
1.6667	23.67
1.7500	23.43
1.8333	23.19
1.9167	22.99
2.0000	22.80
2.5000	21.98
3.0000	21.54
3.5000	21.28
4.0000	21.15
4.5000	21.09
5.0000	21.06
5.5000	21.04
6.0000	21.04
6.5000	21.03
7.0000	21.03
7.5000	21.03
8.0000	21.03
8.5000	21.03
9.0000	21.03
9.5000	21.03
10.0000	21.03

END

@@@

W A R Z Y N E N G I N E E R I N G . I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY :	CSR
DATA ANALYZED BY :	CSR
BAIL DOWN PARAMETERS FOR	E30

@@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	5.000 FEET
WELL PENETRATION DEPTH	=	114.800 FEET
AQUIFER THICKNESS	=	117.000 FEET
STATIC WATER LEVEL	=	20.570 FEET
AQUIFER CONDUCTIVITY IS	=	.144E-02 CM/SEC
	OR	.305E+02 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.514E+01 CM*CM/SEC
	OR	.357E+04 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :

START TIME IS	=	.100E+01 SECONDS
END TIME IS	=	.180E+02 SECONDS

SE1000B
Environmental Logger
12/03 15:24

Unit# 00168 Test# 1

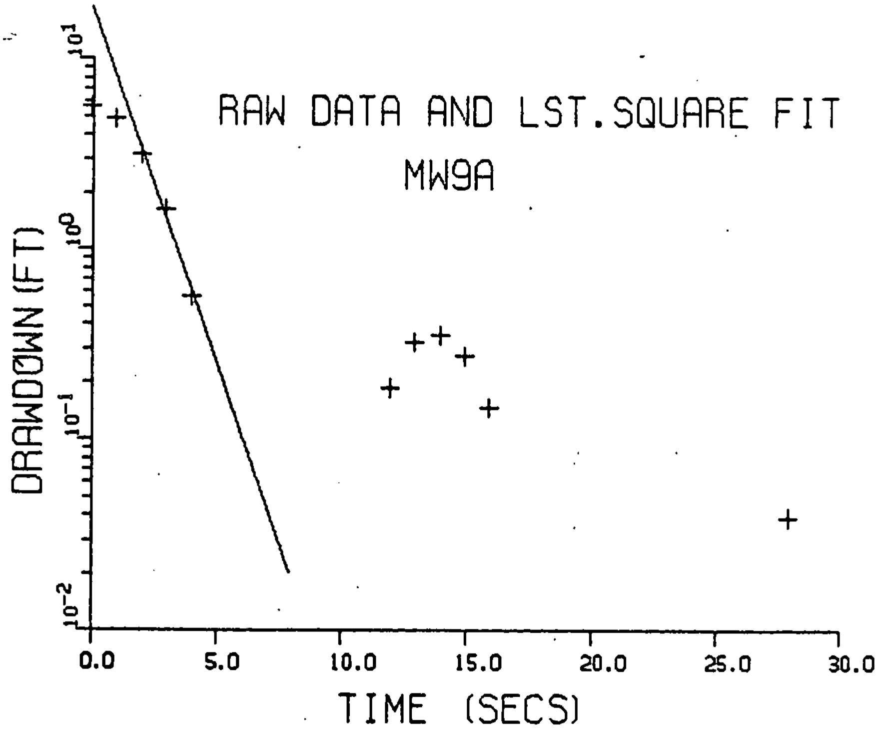
INPUT 1: Level (F) TOC

Reference . 14.21
Scale factor 50.48
Offset 0.00

Step# 0 12/03 07:23

Elapsed Time	Value
0.0000	14.19
0.0033	14.17
0.0066	14.17
0.0099	16.95
0.0133	17.54
0.0166	18.17
0.0200	18.76
0.0233	19.26
0.0266	19.64
0.0300	19.86
0.0333	19.93
0.0500	19.16
0.0666	17.41
0.0833	15.89
0.1000	14.79
0.1166	13.98
0.1333	13.49
0.1500	13.28
0.1666	13.30
0.1833	13.52
0.2000	13.82
0.2166	14.14
0.2333	14.40
0.2500	14.54
0.2666	14.57
0.2833	14.49
0.3000	14.36
0.3166	14.21
0.3333	14.08
0.4167	14.09
0.5000	14.25
0.5833	14.11
0.6667	14.19
0.7500	14.17
0.8333	14.16
0.9167	14.17
1.0000	14.17
1.0833	14.17
1.1667	14.17
1.2500	14.17
1.3333	14.17
1.4166	14.17
1.5000	14.17
1.5833	14.17
1.6667	14.17
1.7500	14.17
1.8333	14.17
1.9167	14.17
2.0000	14.17
2.5000	14.17
3.0000	14.17
3.5000	14.16
4.0000	14.16
4.5000	14.16
5.0000	14.16
5.5000	14.16
6.0000	14.16
6.5000	14.14
7.0000	14.14
7.5000	14.14
8.0000	14.14
8.5000	14.14
9.0000	14.13
9.5000	14.13
10.0000	14.13
12.0000	14.11
14.0000	14.11
16.0000	14.09
18.0000	14.09
20.0000	14.08
22.0000	14.08

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR MW9A

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 10.000 FEET

WELL PENETRATION DEPTH = 127.500 FEET

AQUIFER THICKNESS = 128.800 FEET

STATIC WATER LEVEL = 13.280 FEET

AQUIFER CONDUCTIVITY IS = .457E-01 CM/SEC

OR .968E+03 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .179E+03 CM*CM/SEC

OR .125E+06 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .810E+01 SECONDS

SE1000B
Environmental Logger
11/05 12:58

Unit# 00168 Test# 3

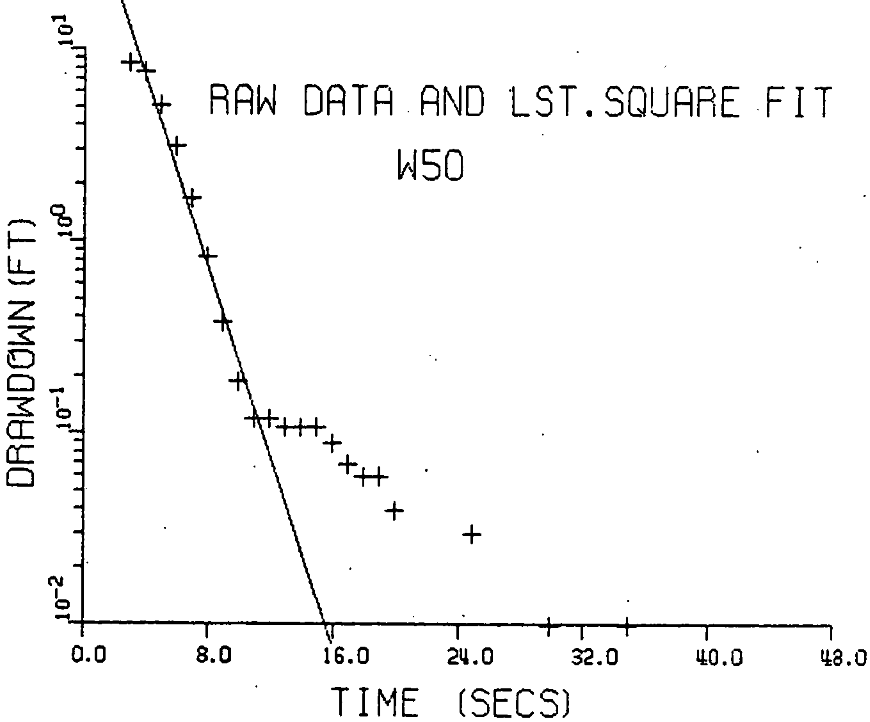
INPUT 1: Level (F) TOC

Reference	16.75
Scale factor	50.48
Offset	0.00

Step# 0 11/04 16:21

Elapsed Time	Value
0.0000	- 47.22
0.0033	- 47.24
0.0066	- 47.24
0.0099	- 47.25
0.0133	- 47.24
0.0166	- 45.34
0.0200	- 41.58
0.0233	- 39.01
0.0266	- 37.55
0.0300	- 36.93
0.0333	- 36.88
0.0500	- 39.51
0.0666	- 42.15
0.0833	- 44.15
0.1000	- 45.52
0.1166	- 46.35
0.1333	- 46.79
0.1500	- 46.98
0.1666	- 47.05
0.1833	- 47.06
0.2000	- 47.06
0.2166	- 47.08
0.2333	- 47.10
0.2500	- 47.11
0.2666	- 47.13
0.2833	- 47.13
0.3000	- 47.14
0.3166	- 47.14
0.3333	- 47.16
0.4167	- 47.18
0.5000	- 47.19
0.5833	- 47.21
0.6667	- 47.21
0.7500	- 47.21
0.8333	- 47.21
0.9167	- 47.21
1.0000	- 47.21
1.0833	- 47.21
1.1667	- 47.22
1.2500	- 47.22
1.3333	- 47.22
1.4166	- 47.22
1.5000	- 47.22
1.5833	- 47.21
1.6667	- 47.21
1.7500	- 47.22
1.8333	- 47.22
1.9167	- 47.22
2.0000	- 47.22
2.5000	- 47.22
3.0000	- 47.22
3.5000	- 47.22
4.0000	- 47.21
4.5000	- 47.21
5.0000	- 47.21
5.5000	- 47.22
6.0000	- 47.22
6.5000	- 47.21
7.0000	- 47.21
7.5000	- 47.21
8.0000	- 47.21
8.5000	- 47.21
9.0000	- 47.21
9.5000	- 47.21
10.0000	- 47.21

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY :	CSR
DATA ANALYZED BY :	CSR
BAIL DOWN PARAMETERS FOR	W50 COR

@@

EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	5.500	FEET
WELL PENETRATION DEPTH	=	55.600	FEET
AQUIFER THICKNESS	=	107.800	FEET
STATIC WATER LEVEL	=	29.550	FEET
AQUIFER CONDUCTIVITY IS	=	.413E-01	CM/SEC
	OR	.875E+03	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.136E+03	CM*CM/SEC
	OR	.943E+05	GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :

START TIME IS	=	.100E+01	SECONDS
END TIME IS	=	.800E+01	SECONDS

SE1000B
Environmental Logger
11/05 12:59

Unit# 00168 Test# 2

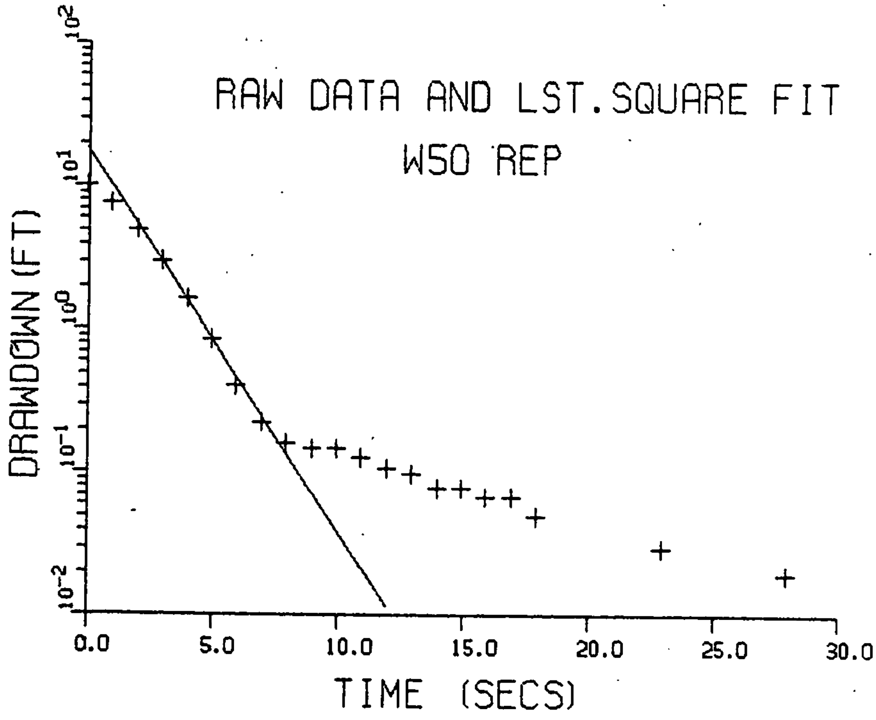
INPUT 1: Level (F) TOC

Reference 29.55
Scale factor 50.48
Offset 0.00

Step# 0 11/04 16:01

Elapsed Time	Value
0.0000	29.48
0.0033	29.48
0.0066	29.48
0.0099	29.48
0.0133	29.48
0.0166	29.48
0.0200	29.48
0.0233	29.48
0.0266	29.48
0.0300	29.48
0.0333	29.48
0.0500	38.15
0.0666	37.28
0.0833	34.73
0.1000	32.68
0.1166	31.27
0.1333	30.39
0.1500	29.93
0.1666	29.74
0.1833	29.67
0.2000	29.67
0.2166	29.66
0.2333	29.66
0.2500	29.66
0.2666	29.64
0.2833	29.62
0.3000	29.61
0.3166	29.61
0.3333	29.59
0.4167	29.58
0.5000	29.56
0.5833	29.56
0.6667	29.55
0.7500	29.55
0.8333	29.55
0.9167	29.55
1.0000	29.55
1.0833	29.53
1.1667	29.53
1.2500	29.53
1.3333	29.53
1.4166	29.55
1.5000	29.55
1.5833	29.55
1.6667	29.55
1.7500	29.55
1.8333	29.55
1.9167	29.55
2.0000	29.55
2.5000	29.55
3.0000	29.53
3.5000	29.53
4.0000	29.53
4.5000	29.55
5.0000	29.55
5.5000	29.55
6.0000	29.55
6.5000	29.55
7.0000	29.55
7.5000	29.55
8.0000	29.53
8.5000	29.53
9.0000	29.55
9.5000	29.53
10.0000	29.53
12.0000	29.55
14.0000	29.55
16.0000	29.55

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W50 REP

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.500 FEET

WELL PENETRATION DEPTH = 55.600 FEET

AQUIFER THICKNESS = 107.800 FEET

STATIC WATER LEVEL = 29.550 FEET

AQUIFER CONDUCTIVITY IS = .475E-01 CM/SEC

OR .101E+04 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .156E+03 CM*CM/SEC

OR .108E+06 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .200E+01 SECONDS

END TIME IS = .800E+01 SECONDS

SE1000B
Environmental Logger
11/05 12:52

Unit# 00168 Test# 9

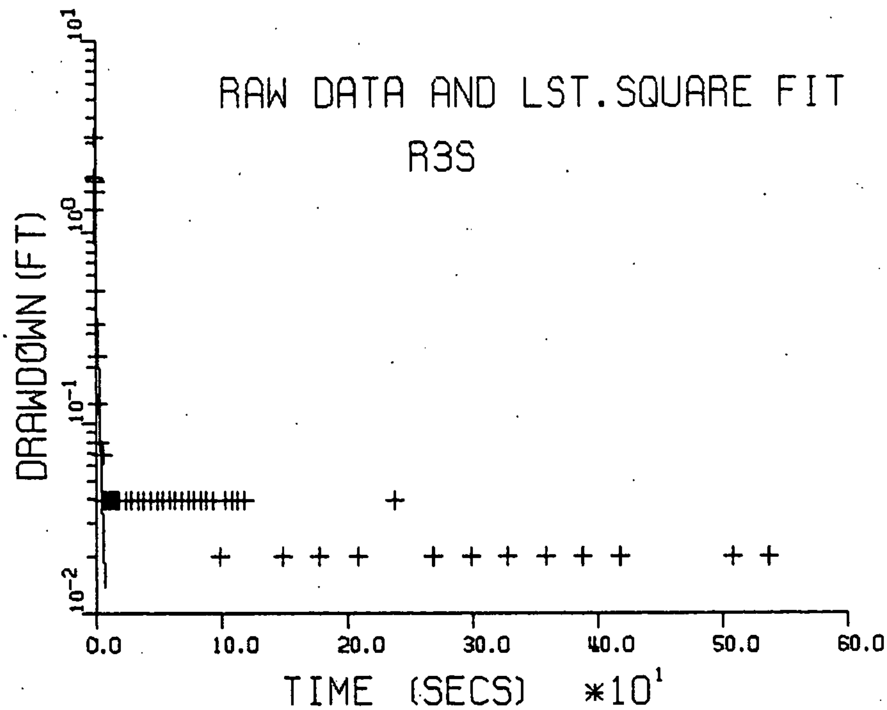
INPUT 1: Level (F) TOC

Reference 27.75
Scale factor 50.48
Offset 0.00

Step# 0 11/05 10:30

Elapsed Time	Value
0.0000	27.78
0.0033	27.95
0.0066	30.18
0.0099	30.84
0.0133	29.59
0.0166	28.97
0.0200	29.29
0.0233	29.51
0.0266	29.31
0.0300	28.14
0.0333	27.97
0.0500	27.86
0.0666	27.76
0.0833	27.71
0.1000	27.70
0.1166	27.70
0.1333	27.67
0.1500	27.67
0.1666	27.67
0.1833	27.67
0.2000	27.67
0.2166	27.67
0.2333	27.67
0.2500	27.67
0.2666	27.67
0.2833	27.67
0.3000	27.67
0.3166	27.67
0.3333	27.67
0.4167	27.67
0.5000	27.67
0.5833	27.67
0.6667	27.67
0.7500	27.67
0.8333	27.67
0.9167	27.67
1.0000	27.67
1.0833	27.67
1.1667	27.67
1.2500	27.67
1.3333	27.67
1.4166	27.67
1.5000	27.67
1.5833	27.67
1.6667	27.65
1.7500	27.67
1.8333	27.67
1.9167	27.67
2.0000	27.67
2.5000	27.65
3.0000	27.65
3.5000	27.65
4.0000	27.67
4.5000	27.65
5.0000	27.65
5.5000	27.65
6.0000	27.65
6.5000	27.65
7.0000	27.65
7.5000	27.63
8.0000	27.63
8.5000	27.65
9.0000	27.65
9.5000	27.63
10.0000	27.63

END



@@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR R3S

@@@

EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	6.970	FEET
WELL PENETRATION DEPTH	=	6.970	FEET
AQUIFER THICKNESS	=	110.000	FEET
STATIC WATER LEVEL	=	27.750	FEET
AQUIFER CONDUCTIVITY IS	=	.680E-01	CM/SEC
	OR	.144E+04	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.228E+03	CM*CM/SEC
	OR	.158E+06	GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .000E+00 SECONDS

SE1000B
Environmental Logger
12/03 15:25

Unit# 00168 Test# 0

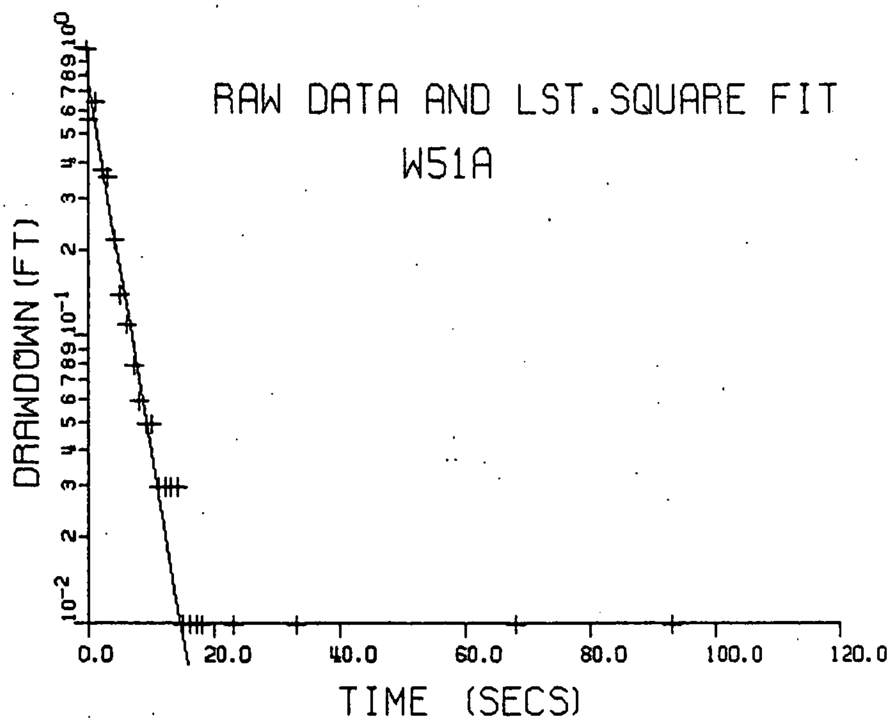
INPUT 1: Level (F) TOC

Reference 37.00
Scale factor 50.48
Offset 0.00

Step# 0 12/02 08:14

Elapsed Time	Value
0.0000	35.85
0.0033	35.86
0.0066	35.86
0.0099	35.86
0.0133	35.86
0.0166	36.21
0.0200	36.15
0.0233	35.77
0.0266	36.85
0.0300	36.42
0.0333	35.72
0.0500	36.50
0.0666	36.23
0.0833	36.21
0.1000	36.07
0.1166	35.99
0.1333	35.96
0.1500	35.93
0.1666	35.91
0.1833	35.90
0.2000	35.90
0.2166	35.88
0.2333	35.88
0.2500	35.88
0.2666	35.88
0.2833	35.86
0.3000	35.86
0.3166	35.86
0.3333	35.86
0.4167	35.86
0.5000	35.85
0.5833	35.86
0.6667	35.85
0.7500	35.85
0.8333	35.85
0.9167	35.85
1.0000	35.85
1.0833	35.85
1.1667	35.86
1.2500	35.85
1.3333	35.85
1.4166	35.85
1.5000	35.85
1.5833	35.86
1.6667	35.85
1.7500	35.85
1.8333	35.85
1.9167	35.85
2.0000	35.85
2.5000	35.85
3.0000	35.85
3.5000	35.85
4.0000	35.85
4.5000	35.85
5.0000	35.85
5.5000	35.85
6.0000	35.85
6.5000	35.85
7.0000	35.85
7.5000	35.85
8.0000	35.85
8.5000	35.85
9.0000	53.95
9.5000	53.95
10.0000	53.95

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W51

@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	10.000 FEET
WELL PENETRATION DEPTH	=	10.000 FEET
AQUIFER THICKNESS	=	29.200 FEET
STATIC WATER LEVEL	=	35.850 FEET
AQUIFER CONDUCTIVITY IS	=	.103E-01 CM/SEC
	OR	.218E+03 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.914E+01 CM*CM/SEC
	OR	.636E+04 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .120E+02 SECONDS

SE1000B
Environmental Logger
11/05 12:57

Unit# 00168 Test# 4

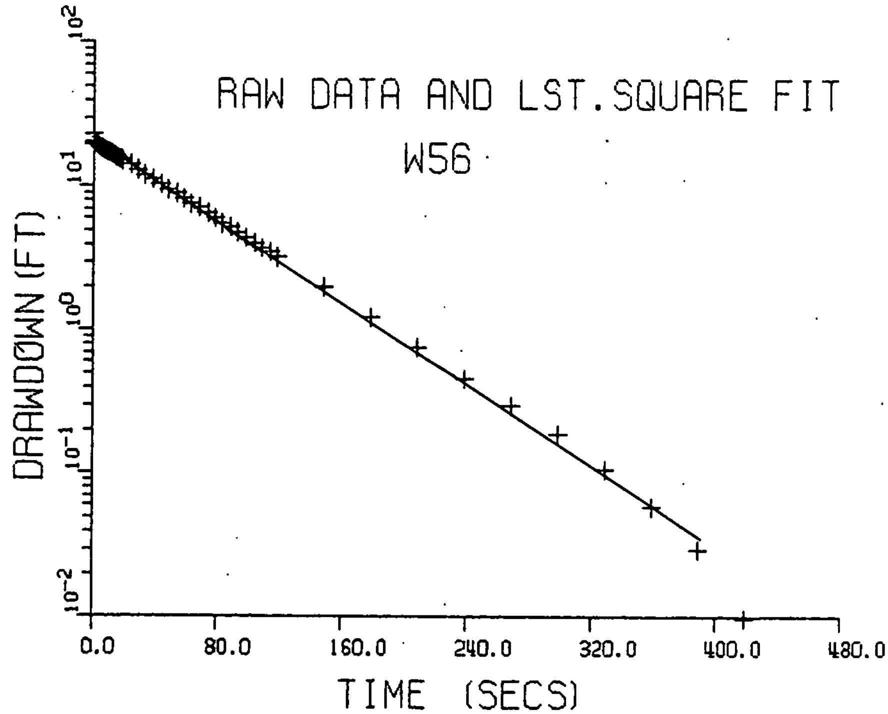
INPUT 1: Level (F) TOC

Reference 16.75
Scale factor 50.48
Offset 0.00

Step# 0 11/04 17:09

Elapsed Time	Value
0.0000	14.19
0.0033	14.19
0.0066	14.26
0.0099	40.06
0.0133	36.73
0.0166	37.35
0.0200	37.40
0.0233	36.96
0.0266	37.07
0.0300	36.96
0.0333	36.84
0.0500	36.54
0.0666	36.22
0.0833	35.94
0.1000	35.65
0.1166	35.36
0.1333	35.09
0.1500	34.82
0.1666	34.55
0.1833	34.29
0.2000	34.04
0.2166	33.78
0.2333	33.53
0.2500	33.29
0.2666	33.05
0.2833	32.81
0.3000	32.59
0.3166	32.35
0.3333	32.13
0.4167	31.03
0.5000	30.02
0.5833	29.07
0.6667	28.19
0.7500	27.36
0.8333	26.58
0.9167	25.86
1.0000	25.19
1.0833	24.57
1.1667	24.00
1.2500	23.46
1.3333	22.95
1.4166	22.48
1.5000	22.04
1.5833	21.64
1.6667	21.27
1.7500	20.92
1.8333	20.60
1.9167	20.32
2.0000	20.03
2.5000	18.79
3.0000	18.00
3.5000	17.53
4.0000	17.22
4.5000	17.05
5.0000	16.94
5.5000	16.86
6.0000	16.81
6.5000	16.78
7.0000	16.76
7.5000	16.75
8.0000	16.73
8.5000	16.73
9.0000	16.73
9.5000	16.73
10.0000	16.73

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W56

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.000 FEET

WELL PENETRATION DEPTH = 55.500 FEET

AQUIFER THICKNESS = 55.500 FEET

STATIC WATER LEVEL = 16.750 FEET

AQUIFER CONDUCTIVITY IS = .159E-02 CM/SEC

OR .336E+02 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .268E+01 CM*CM/SEC

OR .187E+04 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .500E+03 SECONDS

SE1000B
Environmental Logger
11/05 12:53

Unit# 00168 Test# 8

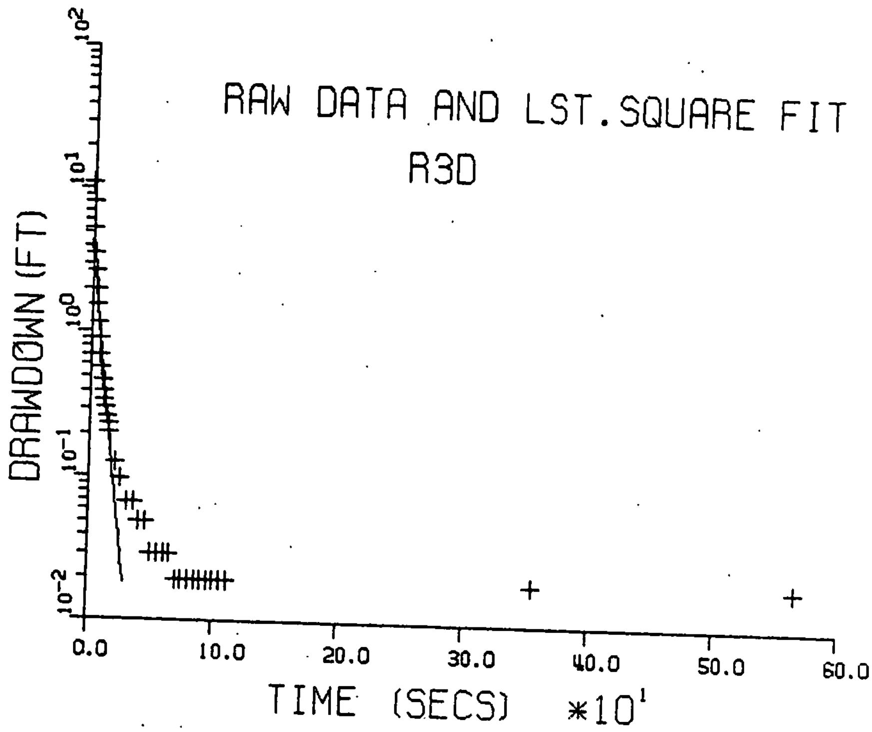
INPUT 1: Level (F) TOC

Reference 29.00
Scale factor 50.48
Offset 0.00

Step# 0 11/05 10:00

Elapsed Time	Value
0.0000	28.12
0.0033	28.12
0.0066	28.12
0.0099	28.39
0.0133	29.68
0.0166	31.21
0.0200	32.79
0.0233	34.35
0.0266	35.86
0.0300	37.30
0.0333	38.38
0.0500	39.28
0.0666	36.41
0.0833	33.55
0.1000	31.78
0.1166	30.88
0.1333	30.24
0.1500	29.76
0.1666	29.38
0.1833	29.11
0.2000	28.90
0.2166	28.76
0.2333	28.66
0.2500	28.58
0.2666	28.53
0.2833	28.49
0.3000	28.45
0.3166	28.42
0.3333	28.39
0.4167	28.31
0.5000	28.28
0.5833	28.25
0.6667	28.25
0.7500	28.23
0.8333	28.23
0.9167	28.21
1.0000	28.21
1.0833	28.21
1.1667	28.21
1.2500	28.20
1.3333	28.20
1.4166	28.20
1.5000	28.20
1.5833	28.20
1.6667	28.20
1.7500	28.20
1.8333	28.20
1.9167	28.20
2.0000	28.18
2.5000	28.18
3.0000	28.18
3.5000	28.18
4.0000	28.18
4.5000	28.18
5.0000	28.18
5.5000	28.18
6.0000	28.20
6.5000	28.18
7.0000	28.18
7.5000	28.18
8.0000	28.18
8.5000	28.18
9.0000	28.18
9.5000	28.20
10.0000	28.18

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR R3D

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 10.000 FEET

WELL PENETRATION DEPTH = 110.000 FEET

AQUIFER THICKNESS = 110.000 FEET

STATIC WATER LEVEL = 28.180 FEET

AQUIFER CONDUCTIVITY IS = .858E-02 CM/SEC

OR .182E+03 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .288E+02 CM*CM/SEC

OR .200E+05 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .300E+01 SECONDS

END TIME IS = .300E+02 SECONDS

SE1000B
Environmental Logger
11/05 12:55

Unit# 00168 Test# 6

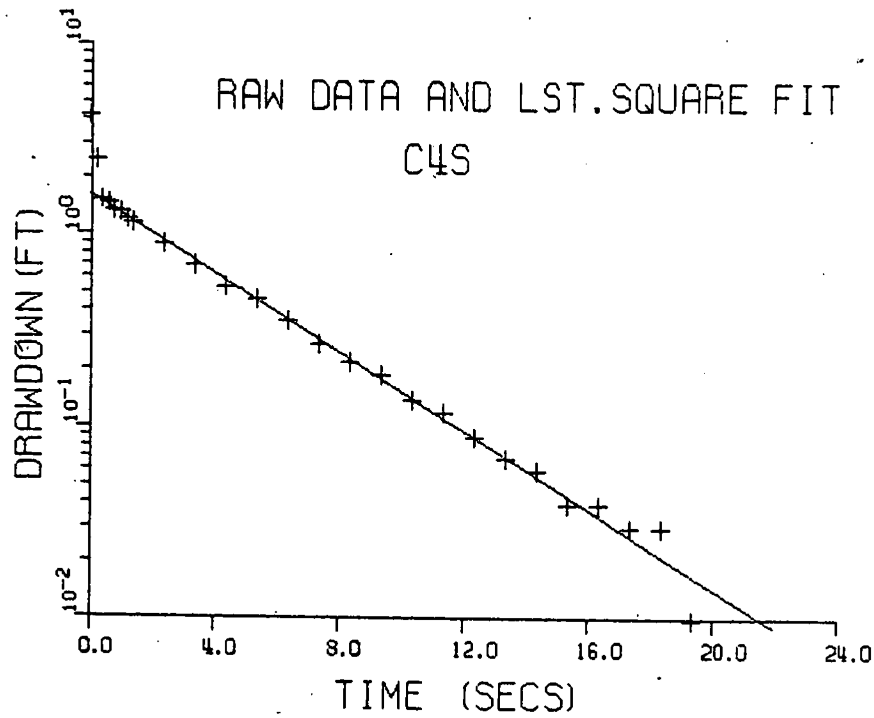
INPUT 1: Level (F) TOC

Reference 30.00
Scale factor 50.48
Offset 0.00

Step# 0 11/05 09:01

Elapsed Time	Value
0.0000	29.98
0.0033	30.00
0.0066	34.09
0.0099	34.27
0.0133	32.48
0.0166	31.54
0.0200	31.48
0.0233	31.35
0.0266	31.32
0.0300	31.21
0.0333	31.16
0.0500	30.89
0.0666	30.70
0.0833	30.54
0.1000	30.46
0.1166	30.36
0.1333	30.27
0.1500	30.22
0.1666	30.19
0.1833	30.14
0.2000	30.12
0.2166	30.09
0.2333	30.07
0.2500	30.06
0.2666	30.04
0.2833	30.04
0.3000	30.03
0.3166	30.03
0.3333	30.01
0.4167	30.00
0.5000	30.00
0.5833	29.98
0.6667	29.98
0.7500	29.98
0.8333	29.98
0.9167	29.98
1.0000	29.98
1.0833	29.98
1.1667	29.98
1.2500	29.98
1.3333	29.96
1.4166	29.98
1.5000	29.98
1.5833	29.98
1.6667	29.98
1.7500	29.98
1.8333	29.98
1.9167	29.98
2.0000	29.98
2.5000	29.96
3.0000	29.96
3.5000	29.96
4.0000	29.96
4.5000	29.96
5.0000	29.96
5.5000	29.96
6.0000	29.96
6.5000	29.96
7.0000	29.96
7.5000	29.96
8.0000	29.96
8.5000	29.96
9.0000	29.96
9.5000	29.96
10.0000	29.96

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR C4S

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 4.740 FEET

WELL PENETRATION DEPTH = 4.740 FEET

AQUIFER THICKNESS = 130.000 FEET

STATIC WATER LEVEL = 30.000 FEET

AQUIFER CONDUCTIVITY IS = .137E-01 CM/SEC

OR .290E+03 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .542E+02 CM*CM/SEC

OR .376E+05 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .600E+00 SECONDS

END TIME IS = .200E+02 SECONDS

SE1000B
Environmental Logger
11/05 12:54

Unit# 00168 Test# 7

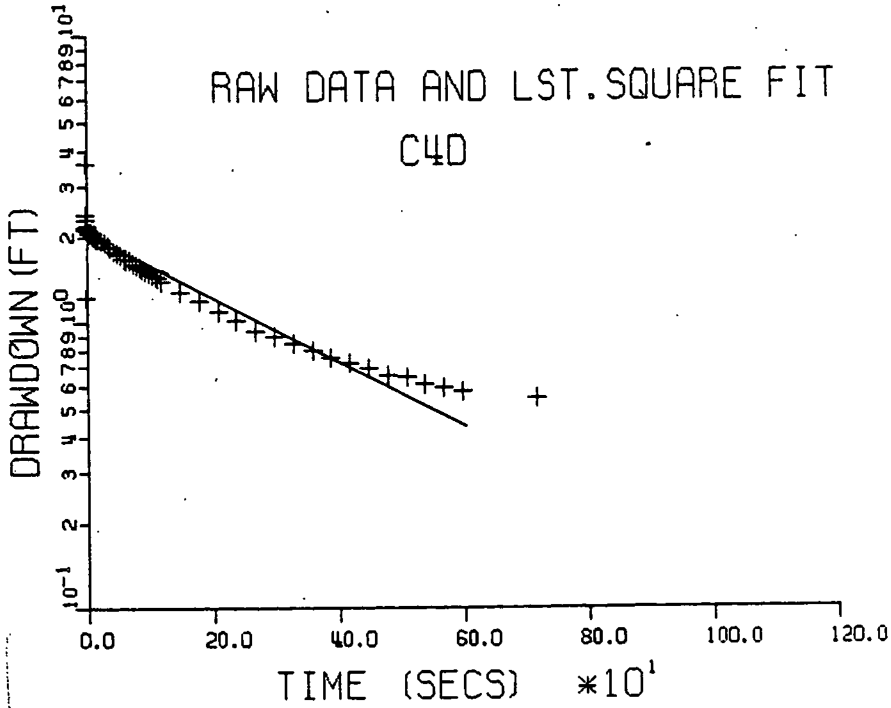
INPUT 1: Level (F) TOC

Reference 39.81
Scale factor 50.48
Offset 0.00

Step# 0 11/05 09:23

Elapsed Time	Value
0.0000	43.44
0.0033	41.05
0.0066	42.21
0.0099	42.12
0.0133	41.94
0.0166	42.00
0.0200	41.97
0.0233	42.00
0.0266	42.02
0.0300	41.99
0.0333	41.97
0.0500	41.97
0.0666	41.94
0.0833	41.88
0.1000	41.89
0.1166	41.89
0.1333	41.88
0.1500	41.88
0.1666	41.86
0.1833	41.86
0.2000	41.85
0.2166	41.83
0.2333	41.83
0.2500	41.81
0.2666	41.81
0.2833	41.80
0.3000	41.80
0.3166	41.80
0.3333	41.78
0.4167	41.75
0.5000	41.72
0.5833	41.67
0.6667	41.64
0.7500	41.61
0.8333	41.57
0.9167	41.54
1.0000	41.51
1.0833	41.49
1.1667	41.48
1.2500	41.43
1.3333	41.41
1.4166	41.38
1.5000	41.37
1.5833	41.34
1.6667	41.32
1.7500	41.30
1.8333	41.27
1.9167	41.26
2.0000	41.22
2.5000	41.11
3.0000	41.02
3.5000	40.92
4.0000	40.84
4.5000	40.76
5.0000	40.71
5.5000	40.67
6.0000	40.62
6.5000	40.57
7.0000	40.54
7.5000	40.51
8.0000	40.47
8.5000	40.46
9.0000	40.43
9.5000	40.41
10.0000	40.39
12.0000	40.36

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N. W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR C4D

@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.000 FEET

WELL PENETRATION DEPTH = 75.000 FEET

AQUIFER THICKNESS = 130.000 FEET

STATIC WATER LEVEL = 39.810 FEET

AQUIFER CONDUCTIVITY IS = .173E-03 CM/SEC

OR .367E+01 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .687E+00 CM*CM/SEC

OR .478E+03 GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .200E+01 SECONDS

END TIME IS = .800E+03 SECONDS

SE1000B
Environmental Logger
11/06 14:35

Unit# 00168 Test# 2

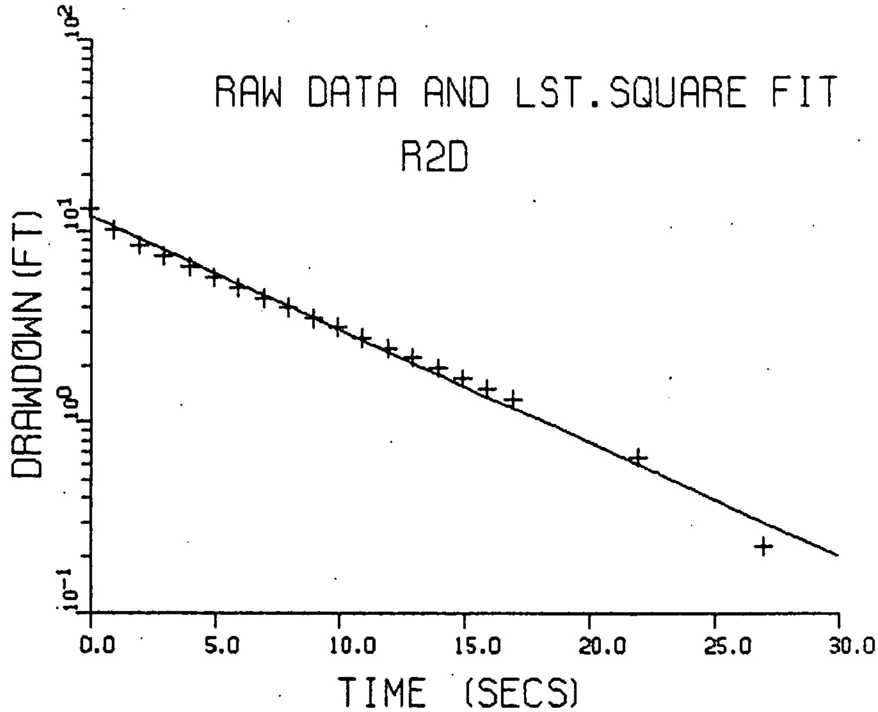
INPUT 1: Level (F) TOC

Reference	23.42
Scale factor	50.48
Offset	0.00

Step# 0 11/06 08:48

Elapsed Time	Value
0.0000	23.53
0.0033	23.53
0.0066	23.53
0.0099	23.53
0.0133	23.53
0.0166	23.53
0.0200	23.53
0.0233	23.56
0.0266	25.50
0.0300	29.23
0.0333	32.64
0.0500	36.92
0.0666	33.95
0.0833	32.10
0.1000	30.95
0.1166	30.05
0.1333	29.28
0.1500	28.60
0.1666	28.01
0.1833	27.48
0.2000	27.03
0.2166	26.62
0.2333	26.25
0.2500	25.93
0.2666	25.65
0.2833	25.38
0.3000	25.15
0.3166	24.96
0.3333	24.77
0.4167	24.08
0.5000	23.65
0.5833	23.38
0.6667	23.22
0.7500	23.14
0.8333	23.10
0.9167	23.06
1.0000	23.05
1.0833	23.05
1.1667	23.03
1.2500	23.03
1.3333	23.03
1.4166	23.02
1.5000	23.02
1.5833	23.03
1.6667	23.02
1.7500	23.03
1.8333	23.02
1.9167	23.02
2.0000	23.02
2.5000	23.02
3.0000	23.02
3.5000	23.02
4.0000	23.02
4.5000	23.02
5.0000	23.02
5.5000	23.02
6.0000	23.00
6.5000	23.02
7.0000	23.02
7.5000	23.02
8.0000	23.00
8.5000	23.02
9.0000	23.00
9.5000	23.02
10.0000	23.02
12.0000	23.02
14.0000	23.02

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR R2D

@@

EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	10.000	FEET
WELL PENETRATION DEPTH	=	113.600	FEET
AQUIFER THICKNESS	=	119.500	FEET
STATIC WATER LEVEL	=	23.420	FEET
AQUIFER CONDUCTIVITY IS	=	.657E-02	CM/SEC
	OR	.139E+03	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.239E+02	CM*CM/SEC
	OR	.166E+05	GAL/FT/DAY

##

CENSORED DATA END POINTS ARE :
START TIME IS = .300E+01 SECONDS

END TIME IS = .300E+02 SECONDS

SE1000B
Environmental Logger
12/03 15:23

Unit# 00168 Test# 2

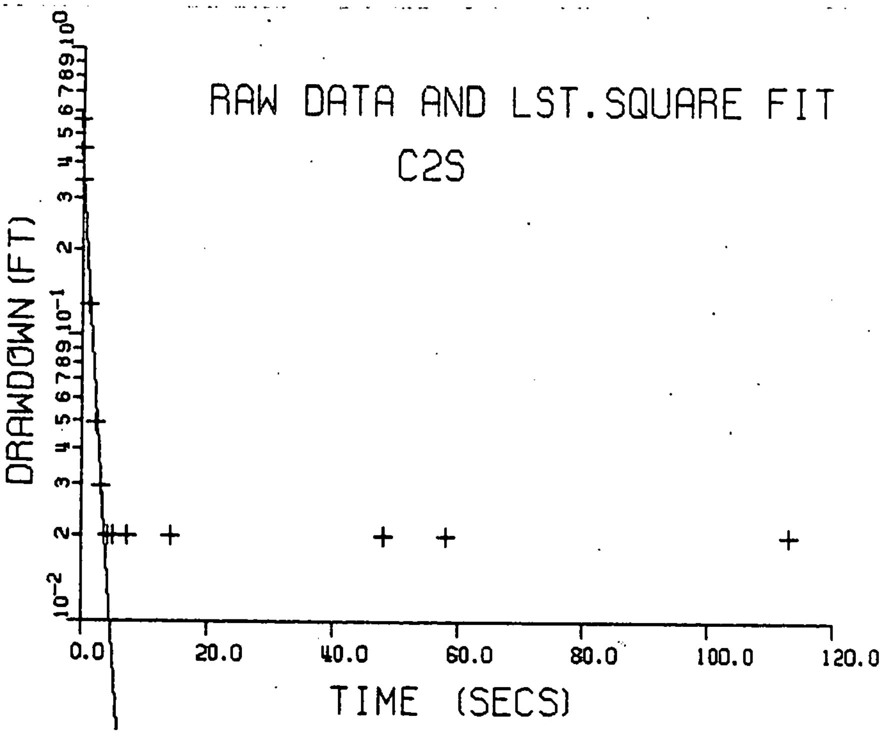
INPUT 1: Level (F) TOC

Reference	32.71
Scale factor	50.48
Offset	0.00

Step# 0 12/03 09:32

Elapsed Time	Value
0.0000	32.69
0.0033	32.71
0.0066	33.10
0.0099	33.07
0.0133	32.88
0.0166	32.69
0.0200	32.93
0.0233	33.22
0.0266	33.26
0.0300	33.14
0.0333	33.04
0.0500	32.82
0.0666	32.74
0.0833	32.72
0.1000	32.71
0.1166	32.71
0.1333	32.69
0.1500	32.71
0.1666	32.69
0.1833	32.69
0.2000	32.69
0.2166	32.69
0.2333	32.69
0.2500	32.69
0.2666	32.71
0.2833	32.69
0.3000	32.69
0.3166	32.69
0.3333	32.69
0.4167	32.69
0.5000	32.69
0.5833	32.69
0.6667	32.69
0.7500	32.69
0.8333	32.71
0.9167	32.69
1.0000	32.71
1.0833	32.69
1.1667	32.69
1.2500	32.69
1.3333	32.69
1.4166	32.69
1.5000	32.69
1.5833	32.69
1.6667	32.69
1.7500	32.69
1.8333	32.69
1.9167	32.71
2.0000	32.69
2.5000	32.69
3.0000	32.69
3.5000	32.69
4.0000	32.69
4.5000	47.59
5.0000	47.59
5.5000	47.59
6.0000	47.59
6.5000	47.59
7.0000	47.59
7.5000	47.59
8.0000	47.59
8.5000	47.59
9.0000	47.59
9.5000	47.59
10.0000	47.59

END



@@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR C2S

@@@

EFFECTIVE WELL DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN DIAMETER = 2.000 INCHES

EFFECTIVE SCREEN LENGTH = 5.200 FEET

WELL PENETRATION DEPTH = 5.200 FEET

AQUIFER THICKNESS = 117.310 FEET

STATIC WATER LEVEL = 32.690 FEET

AQUIFER CONDUCTIVITY IS = .430E-01 CM/SEC

OR .911E+03 GAL/FT/FT/DAY

AQUIFER TRANSMISSIVITY IS = .154E+03 CM*CM/SEC

OR .107E+06 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :
START TIME IS = .000E+00 SECONDS

END TIME IS = .500E+01 SECONDS

SE1000B
Environmental Logger
11/05 13:01

Unit# 00168 Test# 0

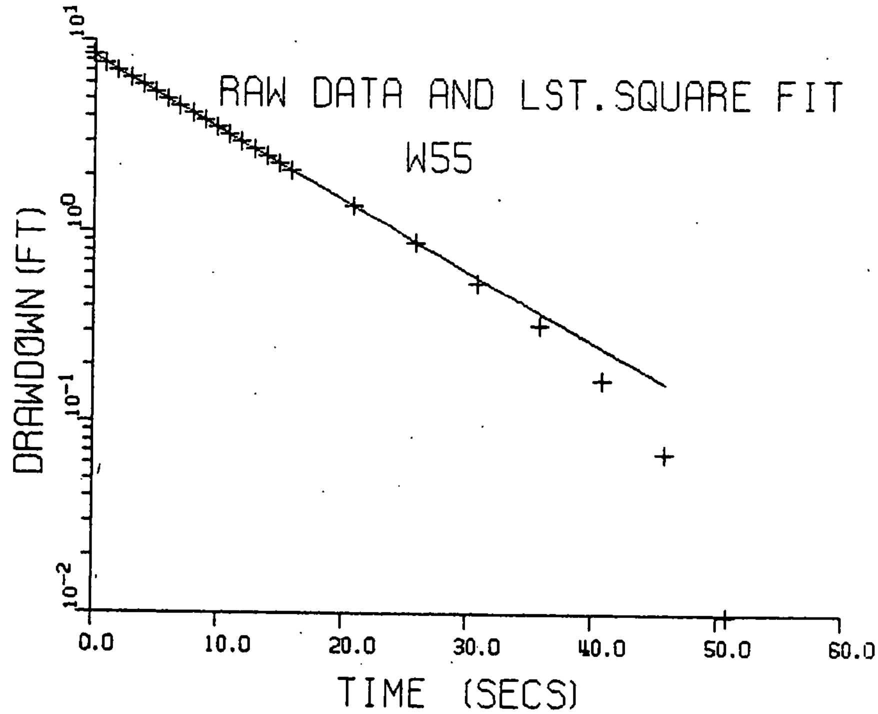
INPUT 1: Level (F) TOC

Reference	32.21
Scale factor	50.48
Offset	0.00

Step# 0 11/04 09:42

Elapsed Time	Value
0.0000	32.91
0.0033	32.81
0.0066	32.72
0.0099	32.62
0.0133	32.54
0.0166	32.46
0.0200	32.36
0.0233	32.28
0.0266	32.19
0.0300	32.09
0.0333	32.00
0.0500	33.27
0.0666	40.76
0.0833	40.01
0.1000	39.35
0.1166	38.77
0.1333	38.21
0.1500	37.72
0.1666	37.27
0.1833	36.86
0.2000	36.48
0.2166	36.14
0.2333	35.82
0.2500	35.52
0.2666	35.27
0.2833	35.01
0.3000	34.79
0.3166	34.56
0.3333	34.37
0.4167	33.61
0.5000	33.10
0.5833	32.76
0.6667	32.54
0.7500	32.38
0.8333	32.28
0.9167	32.22
1.0000	32.17
1.0833	32.14
1.1667	32.13
1.2500	32.11
1.3333	32.09
1.4166	32.09
1.5000	32.08
1.5833	32.08
1.6667	32.08
1.7500	32.08
1.8333	32.08
1.9167	32.08
2.0000	32.08
2.5000	32.08
3.0000	32.08
3.5000	32.06
4.0000	32.06
4.5000	32.06
5.0000	32.06
5.5000	32.06
6.0000	32.06
6.5000	32.06
7.0000	32.06
7.5000	32.06
8.0000	32.06
8.5000	32.06
9.0000	32.06
9.5000	32.06
10.0000	32.06

END



@@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W55

@@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	5.000 FEET
WELL PENETRATION DEPTH	=	83.300 FEET
AQUIFER THICKNESS	=	97.600 FEET
STATIC WATER LEVEL	=	32.210 FEET
AQUIFER CONDUCTIVITY IS	=	.699E-02 CM/SEC
	OR	.151E+03 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.198E+02 CM*CM/SEC
	OR	.137E+05 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :

START TIME IS	=	.300E+01 SECONDS
END TIME IS	=	.300E+02 SECONDS

SE1000B
Environmental Logger
11/05 13:00

Unit# 00168 Test# 1

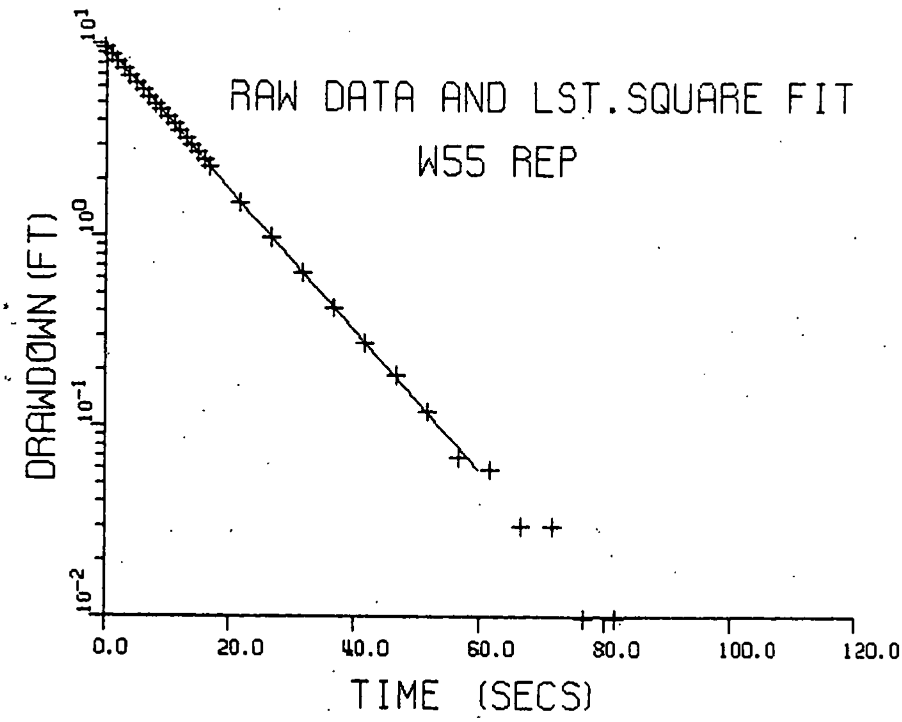
INPUT 1: Level (F) TOC

Reference 32.21
Scale factor 50.48
Offset 0.00

Step# 0 11/04 10:19

Elapsed Time	Value
0.0000	31.17
0.0033	31.17
0.0066	31.17
0.0099	31.18
0.0133	31.18
0.0166	31.20
0.0200	31.18
0.0233	31.18
0.0266	31.18
0.0300	35.97
0.0333	40.91
0.0500	42.09
0.0666	41.24
0.0833	40.51
0.1000	39.82
0.1166	39.20
0.1333	38.63
0.1500	38.12
0.1666	37.64
0.1833	37.21
0.2000	36.81
0.2166	36.44
0.2333	36.09
0.2500	35.79
0.2666	35.50
0.2833	35.23
0.3000	34.98
0.3166	34.76
0.3333	34.55
0.4167	33.75
0.5000	33.21
0.5833	32.86
0.6667	32.64
0.7500	32.49
0.8333	32.40
0.9167	32.33
1.0000	32.28
1.0833	32.27
1.1667	32.24
1.2500	32.24
1.3333	32.22
1.4166	32.22
1.5000	32.21
1.5833	32.21
1.6667	32.21
1.7500	32.21
1.8333	32.21
1.9167	32.21
2.0000	32.21
2.5000	32.21
3.0000	32.21
3.5000	32.21
4.0000	32.21
4.5000	32.21
5.0000	32.19
5.5000	32.21
6.0000	32.21
6.5000	32.21
7.0000	32.21
7.5000	32.21
8.0000	32.21
8.5000	32.21
9.0000	32.21
9.5000	32.21
10.0000	32.21

END



@@

W A R Z Y N E N G I N E E R I N G , I N C.

M A D I S O N, W I S C O N S I N.

B A I L D O W N A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W55 REP

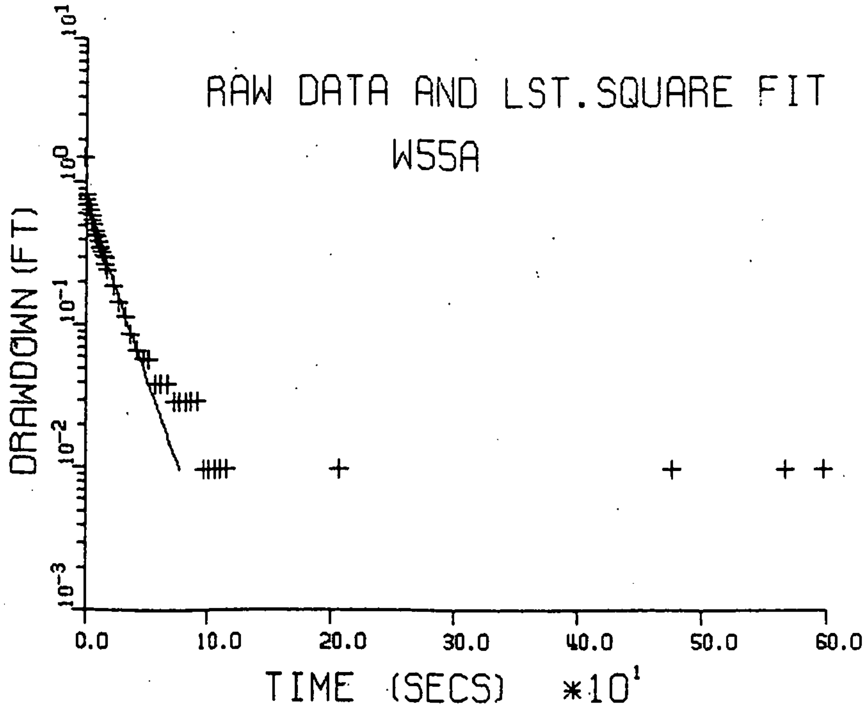
@@

EFFECTIVE WELL DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000	INCHES
EFFECTIVE SCREEN LENGTH	=	5.000	FEET
WELL PENETRATION DEPTH	=	83.300	FEET
AQUIFER THICKNESS	=	97.600	FEET
STATIC WATER LEVEL	=	32.210	FEET
AQUIFER CONDUCTIVITY IS	=	.692E-02	CM/SEC
	OR	.147E+03	GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.206E+02	CM*CM/SEC
	OR	.143E+05	GAL/FT/DAY

\##

CENSORED DATA END POINTS ARE :
START TIME IS = .290E+01 SECONDS

END TIME IS = .600E+02 SECONDS



SE1000B
Environmental Logger
11/06 14:36

Unit# 00168 Test# 0

INPUT 1: Level (F) TOC

Reference	32.40
Scale factor	50.48
Offset	0.00

Step# 0 11/06 07:50

Elapsed Time	Value
0.0000	32.24
0.0033	31.93
0.0066	32.08
0.0099	32.76
0.0133	31.60
0.0166	32.25
0.0200	32.06
0.0233	32.46
0.0266	32.38
0.0300	32.25
0.0333	33.93
0.0500	33.24
0.0666	33.18
0.0833	33.11
0.1000	33.06
0.1166	33.00
0.1333	32.95
0.1500	32.92
0.1666	32.87
0.1833	32.84
0.2000	32.83
0.2166	32.79
0.2333	32.76
0.2500	32.75
0.2666	32.73
0.2833	32.71
0.3000	32.70
0.3166	32.67
0.3333	32.65
0.4167	32.59
0.5000	32.55
0.5833	32.52
0.6667	32.49
0.7500	32.47
0.8333	32.46
0.9167	32.46
1.0000	32.44
1.0833	32.44
1.1667	32.44
1.2500	32.43
1.3333	32.43
1.4166	32.43
1.5000	32.43
1.5833	32.43
1.6667	32.41
1.7500	32.41
1.8333	32.41
1.9167	32.41
2.0000	32.41
2.5000	32.40
3.0000	32.40
3.5000	32.41
4.0000	32.40
4.5000	32.40
5.0000	32.40
5.5000	32.40
6.0000	32.40
6.5000	32.40
7.0000	32.40
7.5000	32.40
8.0000	32.41
8.5000	32.40
9.0000	32.40
9.5000	32.41
10.0000	32.41

END

@@@

W A R Z Y N   E N G I N E E R I N G , I N C.

M A D I S O N,   W I S C O N S I N.

B A I L   D O W N   A N A L Y S I S

DATA OBTAINED BY : CSR

DATA ANALYZED BY : CSR

BAIL DOWN PARAMETERS FOR W55A

@@@

EFFECTIVE WELL DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN DIAMETER	=	2.000 INCHES
EFFECTIVE SCREEN LENGTH	=	10.000 FEET
WELL PENETRATION DEPTH	=	10.000 FEET
AQUIFER THICKNESS	=	97.600 FEET
STATIC WATER LEVEL	=	32.400 FEET
AQUIFER CONDUCTIVITY IS	=	.189E-02 CM/SEC
	OR	.402E+02 GAL/FT/FT/DAY
AQUIFER TRANSMISSIVITY IS	=	.524E+01 CM*CM/SEC
	OR	.365E+04 GAL/FT/DAY

###

CENSORED DATA END POINTS ARE :

START TIME IS = .200E+01 SECONDS

END TIME IS = .500E+02 SECONDS

APPENDIX J

INORGANIC GROUNDWATER ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Inorganic)

J	The associated numerical value is an estimated quantity, because quality control criteria were not met.

Laboratory Qualifiers (Inorganic)

B	The associated numerical value is greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
E	Indicates the value reported is estimated due to the presence of an interference.
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of the spike absorbance.
N	Indicates spike sample recovery is not within control limits.
*	Indicates duplicate analysis is not within control limits.
S	Indicates value was determined by Method of Standard Additions.
+	Indicates the correlation coefficient for Method of Standard Additions is less than 0.995.

APPENDIX J1

ROUND 1 INORGANIC GROUNDWATER ANALYSIS RESULTS

WAUSAU NPL
WEST SIDE
ROUND 1 (SEPT. - OCT. 1987)

Well #	pH	Conductivty at 25°	Odor	Color	Turbidity
C2S	6.25	388	None	Clear	None
C4D	5.84	342	None	Clear	Slight
W1A	9.64	227	None	Clear	Slight
W3A	6.95	140	None	Clear	None
W3B	7.27	146	None	Clear	None
W4A	5.88	347	None	Clear	Slight
W4B	6.43	238	None	Clear	None
W4C	6.17	227	None	Clear	None
W7	6.70	350	None	Clear	None
W9	6.15	285	None	Clear	None
R1S	6.30	271	None	Clear	None
R1D	5.85	283	None	Clear	Slight
R1D dup	5.90	283	None	Clear	Slight
R2S	6.54	171	None	Lt. brown	None
R2D	6.38	277	None	Lt. brown	Slight
R3S	6.26	200	None	Clear	None
R3D	6.46	257	None	Clear	None
R4D	6.05	338	None	Lt. brown	Moderate
GM1S	6.16	157	None	Lt. brown	Slight
GM1S dup	6.23	157	None	Lt. brown	Slight
GM4S	6.12	173	None	Lt. brown	Moderate
GM4D	6.81	185	None	Clear	None
GM4D dup	6.79	188	None	Clear	None
PDTW	6.52	230	None	Clear	None
Pumping Wells					
CW6	6.80	166	None	Clear	None
CW7	7.00	144	None	Clear	None
CW9	6.73	166	None	Clear	None

WAUSAU NPL
EAST WELLS
ROUND 1 (SEPT. - OCT. 1987)

Well #	pH	Conductivty at 25°	Odor	Color	Turbidity
WC1			No sample was obstructed at 5'		
WC2	6.84	220	None	Brown	Moderate
WC3	6.85	301	None	Clear	None
WC3A	7.17	113	Sulfur	Clear	None
WC3B	7.17	159	None	Lt. brown	Slight
WC3C	6.76	116	Sulfur	Clear	None
WC4	6.70	152	Metallic	Clear	Slight
WC4 dup	6.74	155	Metallic	Clear	Slight
WC4A	6.67	170	Musty	Brown	Moderate
WC5	6.79	154	None	Clear	None
WC5A	6.46	197	None	Lt. brown	Slight
WC6	7.02	136	None	Lt. brown	Slight
WC6A	6.89	210	Chemical	Brown	Moderate
WC7	6.95	158	None	Clear	None
WC7A	7.26	223	Sulfur	Brown	Very
MW7A	6.95	171	None	Clear	None
MW10A	6.42	483	None	Clear	Slight
MW10B	7.03	318	None	Clear	None
MW10B dup	7.04	318	None	Clear	None
MW11	6.23	280	None	Clear	None
MW13	6.68	570	None	Clear	None
WW5	5.96	500	None	Lt. brown	Moderate
WW6	6.81	166	None	Lt. gray	Slight
WW7	6.34	320	None	Clear	None
WW7 dup	6.43	320	None	Clear	None
FVD1	6.23	210	Fuel oil	Clear	Slight

WAUSAU NPL
EAST WELLS
ROUND 1 (SEPT. - OCT. 1987)
(Continued)

Well #	pH	Conductivty at 25°	Odor	Color	Turbidity
FVD2	6.16	210	Fuel oil	Dk. brown	Very
FVD5	6.17	256	Fuel oil	Clear	None
FVD7	5.98	246	Musty	Lt. brown	Slight
FVD7 dup	5.98	246			
GM5D	6.47	340	None	Clear	Slight
GM6D	6.72	267	None	Clear	Slight
GM7D	6.52	407	None	Clear	None
GM8D	6.92	145	None	Clear	Moderate
GM9S	6.28	392	None	Clear	None
Pumping Wells					
CW3	6.80	225	None	Clear	None
CW4	---	---	None	Clear	None
Wergin	6.88	151	None	Rusty	Moderate
Blanks					
SB01	6.23	<10	None	Clear	None
SB02	6.93	<10	None	Clear	None
SB03	7.00	<10	None	Clear	None
SB04	6.00	<10	None	Clear	None
SB05	6.95	<10	None	Clear	None
SB06	7.60	<10	None	Clear	None

SGW2/kam/CSR
[kam-400-50c]

WARZYN ENGINEERING INC. • ONE SCIENCE COURT • UNIVERSITY RESEARCH PARK • P.O. BOX 5385 • MADISON, WISCONSIN 53705 • (608) 273-0440

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: CAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GGM4S-01 09/29/87	WE-GGM4D-01 09/29/87	WE-GPDTW-01 09/29/87	WE-GW7-01 09/29/87	WE-GW3B-01 09/29/87	WE-GW3A-01 09/29/87	WE-GW1A-01 09/29/87
CALCIUM	10.32	22.58	23.22	25.74	14.94	16.22	47.29
POTASSIUM	0.48 J	0.46 J	0.57 J	4.86 J	0.44 J	1.14 J	1.40 J
MAGNESIUM	3.32	7.97	9.85	8.06	5.76	2.88	1.25
SODIUM	3.32	3.23	5.97	18.95	3.65	3.63	3.36
IRON	0.13 B	0.05 B	0.18 B	0.09 B	0.08 B	0.09 B	0.05 B
CHLORIDE	4.20	3.60	3.10	79.00	6.00	5.60	5.50
TOTAL ORGANIC CARBON	2.50 J	2.00	2.00 UJ	2.00 UJ	4.40 J	6.00 J	2.00 UJ
TOTAL KJELDAHL NITROGEN	0.10	0.20	0.10 U	0.10	0.20	0.70	0.10
SULFATE	7.70	5.00 U	13.00	21.00	13.00	5.00 U	5.00
ALKALINITY	40.00	92.00	106.00	34.00	54.00	64.00	71.00
NITRATE + NITRITE NITROGEN	0.10 U	0.10 U	1.00	1.70	0.10 U	0.10 U	0.10 U
AMMONIA NITROGEN	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.40	0.10 U

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: CAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-66M1S-01 09/29/87	WE-GW4B-01 09/29/87	WE-GW4C-01 09/29/87	WE-GW4A-01 09/29/87	WE-SB01-01 09/29/87	WE-GC4D-01 09/29/87	WE-66M1S-91 09/29/87
CALCIUM	15.51	20.39	13.95	31.28	0.25	31.75	14.07
POTASSIUM	5.14 J	2.25 J	1.57 J	0.77 J	0.01 J	1.14 J	5.11 J
MAGNESIUM	3.97	5.70	3.33	11.48	0.04	8.19	3.73
SODIUM	3.16	11.99	16.31	11.26	0.28	9.37	3.14
IRON	0.05 B	0.18 B	0.07 B	0.29 B	0.05 B	0.05 B	0.05 B
CHLORIDE	5.30	36.00	48.00	51.00	0.50 U	33.00	5.40
TOTAL ORGANIC CARBON	2.00 UJ	2.00 UJ	2.00 UJ	2.00 UJ	2.00 UJ	2.00 UJ	2.00 UJ
TOTAL KJELDAHL NITROGEN	0.20	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.20
SULFATE	13.00	15.00	10.00	14.00	5.00 U	30.00	14.00
ALKALINITY	40.00	39.00	28.00	88.00	2.30	45.00	39.00
NITRATE + NITRITE NITROGEN	2.50	0.70	0.70	0.20	0.10 U	9.20	2.50
AMMONIA NITROGEN	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: CAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GR1D-01 09/30/87	WE-GR1S-01 09/30/87	WE-GGM5D-01 09/30/87	WE-GGM6D-01 09/30/87	WE-GGM9S-01 09/30/87	WE-GMW11-01 09/30/87	WE-SB03-01 09/30/87
CALCIUM	23.78	19.72	34.73	26.32	20.05	28.19	0.22
POTASSIUM	1.18 J	6.78 J	0.73 J	0.67 J	4.75 J	3.08 J	0.01 UJ
MAGNESIUM	7.45	6.22	13.98	10.57	3.94	7.25	0.03
SODIUM	10.15	13.54	6.82	5.74	46.29	14.61	0.22
IRON	0.05 B	0.05 B	0.10 B	0.06 B	0.05 B	5.23 B	0.05 B
CHLORIDE	25.00	69.00	79.00	54.00	68.00	69.00	0.50 U
TOTAL ORGANIC CARBON	2.00 UJ	2.00 UJ	2.00 UJ	2.00 UJ	2.10 J	2.00 UJ	2.00 UJ
TOTAL KJELDAHL NITROGEN	0.10 J	0.30 J	0.20 J	0.10 UJ	0.30 J	0.30 J	0.10 UJ
SULFATE	29.00	30.00	31.00	23.00	31.00	27.00	5.00 U
ALKALINITY	39.00	47.00	50.00	43.00	45.00	27.00	2.40
NITRATE + NITRITE NITROGEN	6.80	4.20	1.20	0.70	1.90	1.00	0.10 U
AMMONIA NITROGEN	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10	0.10 U

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: PAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GW9-01 09/30/87	WE-GR3D-01 09/30/87	WE-GR3S-01 09/30/87	WE-GGM8D-01 09/30/87	WE-GGM7D-01 09/30/87	WE-GWW7-01 09/30/87	WE-GCW3-01 09/30/87
CALCIUM	16.37	22.06	16.31	13.97	46.29	33.56	20.97
POTASSIUM	1.48 J	0.69 J	2.38 J	0.48 J	0.72 J	2.10 J	1.29 J
MAGNESIUM	6.73	9.18	4.58	4.82	19.60	6.30	5.87
SODIUM	15.08	7.06	9.68	3.43	6.93	13.00	8.42
IRON	15.04 B	0.10 B	2.09 B	0.18 B	0.14 B	0.05 B	1.58 B
CHLORIDE	56.00	33.00	26.00	39.00	49.00	67.00	23.00
TOTAL ORGANIC CARBON	2.00 UJ	2.00 UJ	5.80 J	4.50 J	2.00 UJ	2.00 J	3.30 J
TOTAL KJELDAHL NITROGEN	0.30 J	0.20 J	0.60 J	0.20 J	0.10 J	0.20 J	0.70 J
SULFATE	21.00	24.00	11.00	5.70	53.00	14.00	13.00
ALKALINITY	27.00	36.00	55.00	65.00	126.00	62.00	71.00
NITRATE + NITRITE NITROGEN	0.10 U	0.80	0.10 U	0.10 U	0.10 U	0.20	0.60
AMMONIA NITROGEN	0.10	0.10 U	0.10 U	0.10	0.10	0.10 U	0.40

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: DAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GR1D-91 09/30/87	WE-SB02-01 09/30/87	WE-GCW6-10 09/30/87	WE-GCW7-01 09/30/87	WE-GCW9-10 09/30/87	WE-GMW7A-01 09/30/87	WE-GMW13-01 10/01/87
CALCIUM	23.36	0.21	16.00	14.44	16.04	20.40	47.09
POTASSIUM	1.24 J	0.01 UJ	0.90 J	0.68 J	0.68 J	0.54 J	4.57
MAGNESIUM	7.43	0.03	5.49	4.91	5.53	6.33	10.44
SODIUM	10.59	0.22	5.35	3.75	6.88	3.48	27.44
IRON	0.05 B	0.05 B	1.04 B	0.47 B	0.28 B	0.06 B	9.06
CHLORIDE	41.00	0.50 U	29.00	6.60	8.70	6.90	127.00
TOTAL ORGANIC CARBON	2.00 UJ	2.00 UJ	2.60 J	3.00 J	2.00 UJ	2.00 UJ	2.10
TOTAL KJELDAHL NITROGEN	0.10 J	0.10 UJ	0.30 J	0.30	0.10	0.10	2.30
SULFATE	28.00	5.00 U	7.70	8.00	14.00	11.00	26.00
ALKALINITY	39.00	2.00 U	59.00	59.00	60.00	74.00	87.00
NITRATE + NITRITE NITROGEN	6.40	0.10 U	0.20	0.10 U	0.70	0.10 U	0.10 U
AMMONIA NITROGEN	0.10 U	0.10 U	0.10 U	0.10	0.10 U	0.10 U	2.00

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: BAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GMW13-01 10/01/87	WE-GWW7-91 09/30/87	WE-GMW10A-01 10/01/87	WE-GMW10B-01 10/01/87	WE-GC2S-01 10/01/87	WE-GR4D-01 10/01/87	WE-GR2S-01 10/01/87
CALCIUM	47.09	32.94	49.84	30.91	38.26	23.07	15.70
POTASSIUM	4.57 J	2.14 J	3.61 J	1.44 J	1.30 J	1.48 J	2.16 J
MAGNESIUM	10.44	6.26	10.60	8.61	9.34	14.27	4.82
SODIUM	27.44	13.33	12.88	3.66	14.55	11.58	5.40
IRON	9.06 B	0.08 B	1.79 B	7.77 B	0.09 B	0.07 B	0.21 B
CHLORIDE	127.00	59.00	93.00	46.00	60.00	64.00	15.00
TOTAL ORGANIC CARBON	2.10 J	2.00 UJ	2.00 UJ	5.00 J	2.00 UJ	2.00 UJ	2.00 UJ
TOTAL KJELDAHL NITROGEN	2.30	0.20	0.20	1.00	0.20	0.30	0.20
SULFATE	26.00	15.00	24.00	16.00	22.00	33.00	8.70
ALKALINITY	87.00	64.00	84.00	97.00	48.00	41.00	53.00
NITRATE + NITRITE NITROGEN	0.10 U	0.20	0.80	0.10 U	11.00	2.80	0.20
AMMONIA NITROGEN	2.00	0.10 U	0.10 U	0.80	0.10 U	0.10 U	0.10

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

CK'D: CAW APP'D: CSR
DATE ISSUED: 2-16-88

COMPOUND (MG/L)	WE-GR2D-01 10/01/87	WE-GFVD2-01 10/01/87	WE-GFVD1-01 10/01/87	WE-GMVD5-01 10/01/87	WE-GMW10B-01 10/01/87	WE-SB04-01 10/01/87	WE-GFVD7-01 10/01/87
CALCIUM	23.80	19.02	18.44	21.39	31.65	0.22	27.02
POTASSIUM	0.85 J	2.21 J	1.97 J	1.99 J	1.44 J	0.01 UJ	3.44 J
MAGNESIUM	11.22	3.09	3.69	3.28	8.77	0.04	4.46
SODIUM	6.34	5.37	5.13	5.60	3.63	0.30	9.36
IRON	0.06 B	23.07 B	15.41 B	26.58 B	7.70 B	0.07 B	0.06 B
CHLORIDE	47.00	15.00	16.00	29.00	44.00	0.50 U	11.00
TOTAL ORGANIC CARBON	2.00 UJ	20.00 J	4.10 J	5.60 J	5.00 J	2.00 UJ	3.80 J
TOTAL KJELDAHL NITROGEN	0.10 U	5.10	0.80	0.60	1.10	0.10 U	0.50
SULFATE	33.00	17.00	14.00	23.00	16.00	5.00 U	45.00
ALKALINITY	48.00	46.00	73.00	77.00	96.00	2.00 U	58.00
NITRATE + NITRITE NITROGEN	0.10 U	0.10	0.10	0.10 U	0.10 U	0.10 U	1.40
AMMONIA NITROGEN	0.10 U	0.70	0.30	0.40	0.80	0.10 U	0.10 U

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PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
INORGANIC RESULTS

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COMPOUND (MG/L)	WE-GFVD7-91 10/01/87	WE-SB05-01 10/01/87	WE-GWW6-01 10/01/87	WE-GWERG-01 10/01/87	WE-GWW5-01 10/06/87	WE-GWC4-01 10/06/87	WE-GWC4A-01 10/06/87
CALCIUM	26.66	0.23	16.19	16.77	32.40	14.07	13.93
POTASSIUM	3.45 J	0.01 UJ	1.65 J	0.73 J	1.59 J	0.77 J	1.04 J
MAGNESIUM	4.43	0.03	3.87	4.56	9.03	3.36	5.16
SODIUM	9.18	0.28	3.80	3.16	42.46	4.44	7.93
IRON	0.06 B	0.05 B	0.55 B	0.25 B	0.05 B	8.36 B	7.91 B
CHLORIDE	8.90	0.50 U	6.40	6.40	127.00	10.00	13.00
TOTAL ORGANIC CARBON	4.00 J	2.00 UJ	6.90 J	7.90 J	2.00 UJ	6.60 J	5.00 J
TOTAL KJELDAHL NITROGEN	0.30	0.10 U	0.90	1.00	0.50	1.30	0.50
SULFATE	45.00	5.00 U	8.20	6.70	31.00	11.00	12.00
ALKALINITY	57.00	2.40	67.00	73.00	32.00	61.00	61.00
NITRATE + NITRITE NITROGEN	1.30	0.10 U	0.10 U	0.10 U	6.10	0.10 U	0.10 U
AMMONIA NITROGEN	0.10 U	0.10 U	0.60	0.20	0.10 U	1.00	0.20

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INORGANIC RESULTS

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COMPOUND (MG/L)	WE-GWC7-01 10/06/87	WE-GWC7A-01 10/06/87	WE-GWC3C-01 10/06/87	WE-GWC3-01 10/06/87	WE-GWC3A-01 10/06/87	WE-GWC2-01 10/07/87	WE-GWC5-01 10/07/87
CALCIUM	14.65	32.01	11.33	35.13	11.43	10.13	15.47
POTASSIUM	0.87 J	1.24 J	0.79 J	0.82 J	0.91 J	1.24 J	1.19 J
MAGNESIUM	4.35	4.57	2.80	13.68	2.45	2.78	3.16
SODIUM	3.86	8.26	3.56	12.23	3.15	9.00	4.03
IRON	9.43 B	3.04 B	5.88 B	0.17 B	6.14 B	18.87 B	3.96 B
CHLORIDE	11.00	17.00	4.70	46.00	4.00	12.00	6.40
TOTAL ORGANIC CARBON	7.00 J	8.50 J	6.00 J	2.00 UJ	6.60 J	12.00 J	7.20 J
TOTAL KJELDAHL NITROGEN	1.60	2.10	1.10	0.10	1.10	1.90	1.20
SULFATE	11.00	5.00 U	11.00	35.00	9.40	6.30	6.80
ALKALINITY	61.00	136.00	46.00	106.00	52.00	61.00	69.00
NITRATE + NITRITE NITROGEN	0.10 U	0.10 U	0.10 U	0.50	0.10 U	0.20	0.10 U
AMMONIA NITROGEN	1.00	1.10	0.80	0.10 U	0.90	1.00	1.20

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COMPOUND (MG/L)	WE-GWC5A-01 10/07/87	WE-GWC3B-01 10/07/87	WE-GWC6-01 10/07/87	WE-GWC6A-01 10/07/87	WE-GWC4-91 10/07/87	WE-SB06-01 10/07/87
CALCIUM	12.76	10.39	10.09	16.04	14.14	0.19
POTASSIUM	1.02 J	0.91 J	0.70 J	1.89 J	0.78 J	0.01 UJ
MAGNESIUM	4.57	2.44	1.97	3.23	3.38	0.03
SODIUM	4.72	4.40	3.57	7.76	4.38	0.17
IRON	16.02 B	9.02 B	7.66 B	16.72 B	8.60 B	0.11 B
CHLORIDE	9.20	6.60	5.90	9.70	10.00	0.50 U
TOTAL ORGANIC CARBON	9.50 J	10.00 J	9.40 J	12.00 J	6.00 J	2.00 UJ
TOTAL KJELDAHL NITROGEN	1.50	1.90	1.20	1.10	1.20	0.10 U
SULFATE	15.00	13.00	13.00	13.00	11.00	5.00 U
ALKALINITY	62.00	48.00	43.00	72.00	60.00	2.00 U
NITRATE + NITRITE NITROGEN	0.10	0.10	0.10 U	0.10 U	0.10 U	0.10 U
AMMONIA NITROGEN	0.90	0.90	1.00	0.60	1.10	0.10 U

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APPENDIX J2

ROUND 2 INORGANIC ANALYSIS RESULTS

WAUSAU NPL SITE
WEST WELL FIELD
ROUND 2 (NOV-DEC, 1987)

Well	pH	Conductivity at 25°C (umhos/cm)
West Wells		
GM4S	6.61	167
GM4D	7.20	196
MW3B	7.33	161
MW3A	6.91	138
GM2S	6.36	106
W57	6.60	303
MW9	6.35	309
R1D	5.79	265
W51	5.84	575
R1S	6.21	243
W50	6.35	242
MW4B	6.12	245
MW4B	6.12	245
R3S	6.38	169
R3D	6.36	250
R5S	6.34	541
W51	5.91	566
R5S Dup	6.29	540
C6S	6.12	507
C7S	5.77	368
R4D	5.90	363
C2S	6.11	351
C4S	6.34	972
C4S Dup	6.34	902
C3S	6.43	882
C3S Dup	6.43	857
MW4C	6.28	266
MW4B	6.12	245
MW4A	6.41	329
PLDRTW	6.82	253
GM3S	6.21	77
MW7	6.28	333
MW8	6.50	126
MW7 Dup	6.16	330
MW5	6.66	132
GM1S	6.08	146
W56A	6.69	411
W56	6.53	330
C4D	6.06	333
R2D	6.30	287
R2D Dup	6.32	280
R2S	6.54	237
W53A	6.24	521
W53	6.43	698
W52	6.39	324
W52A	6.38	217
W55A	7.33	368
W55	6.93	263
W54	5.89	500

Well	pH	Conductivity at 25°C (umhos/cm)
Pumping Wells		
CW4	5.79	201
CW6	6.74	169
CW9	6.50	172
CW3	6.73	223
CW3 Dup	6.73	222
CW7	7.00	144
Werg	6.79	159
Surface Water		
SW01	7.04	159
SW02	7.14	148
SW03	6.90	113
SW04	7.05	125
SW05	6.83	281
SW06	6.89	250
SW05	6.90	281
SW07	6.90	323

[jlv-400-13]

PH AND SPECIFIC CONDUCTANCE

WAUSAU NPL SITE
WEST WELL FIELD
ROUND 2 (NOV-DEC, 1987) continued

Well	pH	Conductivity at 25°C (umhos/cm)	Well	pH	Conductivity at 25°C (umhos/cm)
East Wells					
E21A	6.67	180	GM8D	7.12	135
E21	6.82	289	E24A	6.48	352
MW1A	11.43	535	E24	7.57	82
E22	7.14	114	FVD1	6.26	116
E22A	6.22	183	FVD2	6.19	263
WC7A	6.78	179	FVD5	6.18	274
WC7	7.22	256	MW10B	6.74	397
MW9A	6.75	216	MW10A	6.35	487
E25A	6.97	451	MW8	6.45	193
GE25	6.56	459	E23A	6.00	710
MW11	6.21	385	E37	6.14	275
MW13	6.82	452	GM9S	6.34	218
TCT41	6.98	139	MW14	6.54	184
TCT42	6.42	208	HURD	7.42	167
E25	6.54	460	WC6	6.80	139
TCT43	6.69	159	WC6A	6.71	179
TCT44	6.78	204	WC4A	6.57	196
FVD7 Dup	6.01	208	WC4	6.71	171
FVD7 Dup	6.03	195	WC5	6.79	150
E30	7.00	216	WC5A	6.53	200
E30 Dup	7.03	223	WC3A	5.97	113
E31	6.69	396	WC3A Dup	6.97	113
WW2	6.54	176	WC3	6.65	460
GM5D	6.39	310	WC2	6.37	157
E30 Dup	7.04	217	WC3B	6.66	118
E2902	6.30	500	WC3B	6.76	118
WW3	6.62	139	WC3C	6.86	111
WW5	5.97	531	WCEXW5	6.76	162
TCT40	7.23	143	WCEXW4	6.74	142
E28	6.27	460	WCEXW7	6.68	176
E26	7.89	155	WCEXW15	6.41	184
GM7D	6.45	441	WEXW6	6.53	153
WW6	6.75	166	WCIN	6.55	167
WW4	6.69	319	WC OUT	7.10	147
E26A	6.46	166	E27	6.01	438
E26	7.89	160			
GM6D	6.65	222			
WW1	6.71	173			
E20	6.67	207			
MW7A	6.95	184			
WW7	6.37	320			

[jlv-400-13]

WAUSAU NPL RI/FS-ROUND 2
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C#: 13076.30

CK'D: BJC APP'D: CSR
DATE ISSUED: 5/15/89

SAMPLE DESCRIPTION	R1D-02	R2D-02	R2D-92	R3D-02	R4D-02	CW6-02	CW7-02	CW9-02
CRL NUMBER	882W03S28	882W03S88	882W03D88	882W03S37	882W03S31	882W03S05	88ZW03S11	88ZW03S04
DATE SAMPLED	12/02/87	12/08/87	12/08/87	12/02/87	12/02/87	11/30/87	12/01/87	11/30/87
UG/L								
CALCIUM	26100	26300	26300	24100	28300	17900	14600	17900
MAGNESIUM	8120	12900	12900	9780	16400	5950	5230	6050
IRON	53 J/	27 J/B	17 J/B	31 J/	20 J/B	700	331	220 J/
SODIUM	12400 J/	7760	7730 J/	8530 J/	14800 J/	6930 J/	4740 J/	9330 J/
POTASSIUM	1750	994	1050	996	2210	1350	900	1170
MG/L								
ALKALINITY	36	37	45	35	33	56	56	60
TOTAL ORGANIC CARBON					1.2 J/	3.9 J/	4.9 J/	1.5 J/
TOTAL KJELDAHL NITROGEN	0.3 J/	0.38 J/	0.22 J/	0.22 J/	0.75 J/	0.4 J/	0.32 J/	0.25 J/
NITRATE NITROGEN	6.4		0.06	3.8 J/	3.3	0.25	0.06	0.8
SULFATE	22	30	32	19	23	8.9	7.6	11
AMMONIA NITROGEN						0.09	0.1	
CHLORIDE	2.5	39	39	32	61	12	62	7.8

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SAMPLE DESCRIPTION	C2S-02	C3S-02	C4S-02	C6S-02	C7S-02	WC2-02	WC3-02	WC3A-92
CRL NUMBER	88ZW03S32	88ZW03S42	88ZW03S43	88ZW03S40	88ZW03S41	88ZW04S13	88ZW04S08	88ZW04D11
DATE SAMPLED	12/02/87	12/02/87	12/02/87	12/02/87	12/02/87	12/10/87	12/09/87	12/09/87
UG/L								
CALCIUM	38300	96000	91100	41700	38600	11100	49900	11600
MAGNESIUM	9040	37000	30300	9260	8600	3050	18500	2480
IRON	25 J/B	20 J/B	117 J/	897	32 J/	10100	128 J/	5460
SODIUM	15100 J/	39600 J/	65000 J/	45300 J/	16800 J/	9860 J/	16300 J/	3170 J/
POTASSIUM	1690	18800	10900	2880	2470	1570	1290	1090
MG/L								
ALKALINITY	42	200	210	39	26	39	120	35
TOTAL ORGANIC CARBON	1.7 J/	4.0 J/	7.7 J/			7.5 J/	1.7 J/	6.8 J/
TOTAL KJELDAHL NITROGEN	0.2 J/	0.62 J/	1.1 J/	0.48 J/	0.55	1.6 J/	0.2 J/	1.4 J/
NITRATE NITROGEN	11	11	10	6	4.3	1	0.6	
SULFATE	16	120	160	27	11	16	76 J/	16
AMMONIA NITROGEN			0.29	0.01		1	0.01	0.86
CHLORIDE	44	74	33	105	67	9.5	44	4.0

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SAMPLE DESCRIPTION	WC3B-02	WC3B-92	WC4-02	MW1A-02	MW3A-02	MW3B-02	MW4A-02	MW4B-02
CRL NUMBER	88ZW04S15	88ZW04D15	88ZW04S06	88ZW03S25	88ZW03S08	88ZW03S09	88ZW03S12	88ZW03S13
DATE SAMPLED	12/10/87	12/10/87	12/09/87	12/01/87	11/30/87	11/30/87	12/01/87	12/01/87
UG/L								
CALCIUM	11000	11000	18300	52800	15500	15500	31900	19500
MAGNESIUM	2690	2720	4260	238	2760	6300	12400	6000
IRON	8490	8550	10200	20 J/B	143 J/	34 J/	286	322
SODIUM	5170 J/	4910 J/	4980 J/	3840 J/	4420 J/	4990 J/	13400 J/	15000 J/
POTASSIUM	876	851	1460	2440	1530	638	1190	3390
MG/L								
ALKALINITY	41	40	70	280		50	87	37
TOTAL ORGANIC CARBON	7.5 J/	7.4 J/	8.5 J/	4.9 J/	19 J/	4.9 J/	5.4 J/	
TOTAL KJELDAHL NITROGEN	1.6 J/	1.1 J/	1.4 J/	0.52 J/	16 J/	6.8 J/	0.92 J/	0.28 J/
NITRATE NITROGEN							0.12	0.12
SULFATE	15	15	22	1.7	390	14	12	12
AMMONIA NITROGEN	0.93	0.91	1.2	0.06	0.38	0.04	0.29	
CHLORIDE	5.0	4.8	10	6.0	5.2	6.8	42	41

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SAMPLE DESCRIPTION	MW4C-02	MW7-02	MW9-02	GM1S-02	GM2S-02	GM3S-02	MW11-02	MW13-02
CRL NUMBER	88ZW03S14	88ZW03S21	88ZW03S35	88ZW03S24	88ZW03S07	88ZW03S10	88ZW03S51	88ZW03S52
DATE SAMPLED	12/01/87	12/01/87	12/02/87	12/01/87	11/30/87	12/01/87	12/03/87	12/03/87
UG/L								
CALCIUM	14600	25400	18600	16100	9470	7550	32800	36900
MAGNESIUM	3940	8710	7380	4210	2690	1920	9280	8330
IRON	30 J/	153 J/	16400	19 J/B	1590	477	45 J/	6450
SODIUM	22100 J/	222000 J/	19100 J/	4370 J/	5720 J/	5350 J/	19300 J/	23500 J/
POTASSIUM	2600	5920	2080	5334	1020	811	3730	3940
MG/L								
ALKALINITY	27	33	26	40	35	24	49	96
TOTAL ORGANIC CARBON	1.2 J/	1.3 J/	2.3 J/	2.7 J/	4.3 J/	2.4 J/	1.7 J/	3.3 J/
TOTAL KJELDAHL NITROGEN	0.35 J/	0.3 J/	0.38 J/	0.38 J/	0.52 J/	0.73 J/	0.30 J/	1.0 J/
NITRATE NITROGEN	0.74	1.2		2.5		0.54	0.50	
SULFATE	8.3	17	17	11	7.7	7.3	17	14
AMMONIA NITROGEN			0.16		0.30	0.04		1.9
CHLORIDE	46	63	49	3.3	8.6	5.3	64	60

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SAMPLE DESCRIPTION	MW14-02	TCT40-02	TCT41-02	TCT42-02	TCT43-02	TCT44-02	FVD7-02	FVD7-92
CRL NUMBER	88ZW03S94	88ZW03S67	88ZW03S46	88ZW03S45	88ZW03S53	88ZW03S54	88ZW03S47	88ZW03D47
DATE SAMPLED	12/08/87	12/04/87	12/03/87	12/03/87	12/03/87	12/03/87	12/03/87	12/03/87
UG/L								
CALCIUM	19900	16400	15900	21700	19500	13800	25300	25500
MAGNESIUM	4680	2790	4610	4140	3800	2470	4050	4050
IRON	5220	829	111 J/	97 J/	60 J/	23 J/B	71 J/	16 J/B
SODIUM	4830 J/	4040 J/	5440 J/	13700 J/	5430 J/	18900 J/	8200 J/	7550 J/
POTASSIUM	1890	1620	964	2700	1320	7050	3480	3520
MG/L								
ALKALINITY	72	57	60	70	49	62	44	44
TOTAL ORGANIC CARBON	7.9 J/	6.9 J/	6.5 J/	4.3 J/	5.1 J/	9.4 J/	2.9 J/	2.8 J/
TOTAL KJELDAHL NITROGEN	1.9 J/	1.3 J/	0.25 J/	0.92 J/		0.42 J/	0.35 J/	0.28 J/
NITRATE NITROGEN				0.62			0.84	1.5
SULFATE	12	8.2	5.7	7.8	10	8.1	25	24
AMMONIA NITROGEN	1.6	1.3	0.03		0.14	0.53		
CHLORIDE	11	4.5	6.0	16	9.5	12	10	10

WAUSAU NPL RI/FS-ROUND 2
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SAMPLE DESCRIPTION	GM5D-02	GM6D-02	GM7D-02	GM8D-02	GM9S-02	FVD2-02	FVD2-0D1-02	FVD5-02
CRL NUMBER	88ZW03S55	88ZW03S65	88ZW03S59	88ZW03S75	88ZW03S95	88ZW03S76	88ZW03S77	88ZS03S78
DATE SAMPLED	12/03/87	12/04/87	12/04/87	12/04/87	12/08/87	12/07/87	12/07/87	12/07/87
UG/L								
CALCIUM	34600	24800	48500	13600	12000	24200	20800	22700
MAGNESIUM	13400	9760	20000	4580	2170	4690	3400	3200
IRON	31 J/	60 J/	132 J/	110 J/	53 J/	18500	24700	32400
SODIUM	8180 J/	7590 J/	8370 J/	4260 J/	28100 J/	6900 J/	6520 J/	6220 J/
POTASSIUM	892	714	713	483	3960	3020	2850	2700
MG/L								
ALKALINITY	86	76	120	54	66	91	72	87
TOTAL ORGANIC CARBON	1.3 J/	2.3 J/	1.8 J/	5.5 J/	3.9 J/	6.9 J/	9.4 J/	14 J/
TOTAL KJELDAHL NITROGEN	0.20 J/	0.24 J/	0.18 J/	0.18 J/	0.70 J/	1.4 J/	0.70 J/	0.70 J/
NITRATE NITROGEN	1.2	0.42			0.63			
SULFATE	16	14	52	8.4	18	12	8.1	9.0
AMMONIA NITROGEN			0.01		0.01	0.29	0.55	0.41
CHLORIDE	28	14	36	4.7	17	10	9.5	14

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SAMPLE DESCRIPTION	WERG-02	CW3-02	CW4-02	WC5-02	WC5A-02	WC6-02	WC6A-02	WC7-02
CRL NUMBER	88ZW03S70	88W03S06	88ZW03S03	88ZW04S09	88ZW04S10	88ZW04S05	88ZW04S03	88ZW03S34
DATE SAMPLED	12/04/87	11/30/87	11/30/87	12/09/87	12/09/87	12/09/87	12/09/87	12/03/87
UG/L								
CALCIUM	19600	22400	20900	17100	14700	13100	17200	34700
MAGNESIUM	5100	6220	5640	3540	5190	2600	3650	4780
IRON	126 J/	1400	5770	3900	16200	9730	19900	525
SODIUM	4500 J/	10500 J/	7970 J/	4740 J/	5680 J/	5240 J/	7330 J/	9260 J/
POTASSIUM	906	1920	1650	1530	1560	1090	2700	1260
MG/L								
ALKALINITY	66	70	67	66	64	42	47	110
TOTAL ORGANIC CARBON	6.4 J/	4.8 J/	6.7 J/	7.2 J/	9.5 J/	6.5 J/	8.4 J/	9.8 J/
TOTAL KJELDAHL NITROGEN	0.30 J/	0.46 J/	0.84 J/	1.2 J/	13 J/	1.3 J/	1.0 J/	1.4 J/
NITRATE NITROGEN		0.60			0.06			
SULFATE	5.1	13	14	13	17	18	19	9.6
AMMONIA NITROGEN	0.08	0.40	0.81	1.1	0.89	1.1	0.48	0.82
CHLORIDE	5.7	18	13	5.5	10	8	10	13

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SAMPLE DESCRIPTION	WC7A-02	WW1-02	WW2-02	WW3-02	WW4-02	WW5-02	WW6-02	WW7-02
CRL NUMBER	88ZW03S33	88ZW03S74	88ZW03S62	88ZW03S63	88ZW03S69	88ZW03S57	88ZW03S64	88ZW0SS72
DATE SAMPLED	12/03/87	12/04/87	12/03/87	12/03/87	12/04/87	12/04/87	12/04/87	12/04/87
UG/L								
CALCIUM	14800	17200	11900	15000	39300	36000	18100	35400
MAGNESIUM	4230	3250	3710	3590	6620	9440	4220	5880
IRON	9000	7530	19500	111 J/	21 J/B	162 J/	441	45 J/
SODIUM	6680 J/	4810 J/	5100 J/	5480 J/	18700 J/	49600 J/	4820 J/	16300 J/
POTASSIUM	1200	1390	993	960	2110	1910	2270	2970
MG/L								
ALKALINITY	62	58	44	100	110	32	66	64
TOTAL ORGANIC CARBON	10 J/	8.5 J/	9.2 J/	6.1 J/	4.4 J/	1.1 J/	7.4 J/	4.3 J/
TOTAL KJELDAHL NITROGEN	1.3 J/	1.6 J/	0.30 J/	0.15 J/	0.34 J/	0.30 J/	0.92 J/	0.68 J/
NITRATE NITROGEN					0.08	6.4		0.38
SULFATE	16	15	20	8.9	13	25	8.5	13
AMMONIA NITROGEN	1.1	1.7	0.71	0.21			0.62	
CHLORIDE	10	9.5	10	6.7	21	110	8.7	47

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SAMPLE DESCRIPTION	MW7A-02	MW8-02	MW9A-02	MW10A-02	MW10B-02	R5S-92	W51-02	R1S-02
CRL NUMBER	88ZW03S71	88ZW03S87	88ZW03S44	88ZW03S85	88ZW03S84	88ZW03D30	88ZW03S27	88ZW03S29
DATE SAMPLED	12/04/87	12/07/87	12/03/87	12/07/87	12/07/87	12/02/87	12/12/87	12/02/87
UG/L								
CALCIUM	23300	18500	17400	54000	41900	63700	37600	20500
MAGNESIUM	6990	4630	4820	11100	11400	9780	11900	6270
IRON	54 J/	7370	421	673	9140	29 J/B	23 J/B	74 J/
SODIUM	4550 J/	8500 J/	18200 J/	15200 J/	4520 J/	29000 J/	48200 J/	14800 J/
POTASSIUM	797	1940	1390	4470	2010	10500	10700	6920
MG/L								
ALKALINITY	69	62	74	66	100	110	26	41
TOTAL ORGANIC CARBON	3.6 J/	11 J/	5.2 J/	2.5 J/	5.3 J/	2.8 J/	1.3 J/	1.4 J/
TOTAL KJELDAHL NITROGEN	0.14 J/	1.1 J/	0.72 J/	1.0 J/	1.4 J/	0.52 J/	0.50 J/	0.30 J/
NITRATE NITROGEN		0.13				4.8	7.6	6.4
SULFATE	7.8	13	8.3	16	18	13	22	22
AMMONIA NITROGEN		0.20	0.61	0.03	0.98			
CHLORIDE	6.0	12	17	82	46	80	120	18

WAUSAU NPL RI/FS-ROUND 2
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SAMPLE DESCHIPTION	B5S-02	MW5-02	R2S-02	W52-02	W52A-02	WC3A-02	CW3-92	R3S-02
CRL NUMBER	88ZW03S30	88ZW03S23	88ZW03S81	88ZW03S92	88ZW03S93	88ZW04S11	88ZW03D06	88ZW03S38
DATE SAMPLED	12/02/87	12/01/87	12/08/87	12/08/87	12/08/87	12/09/87	11/30/87	12/02/87
UG/L								
CALCIUM	62000	16100	23900	24500	23700	11500	22400	18700
MAGNESIUM	10700	4640	7540	9850	6460	2480	6240	5160
IRON	29 J/B	21 J/B	67 J/	135 J/	121 J/	5450	1420	1910
SODIUM	30000 J/	4350 J/	8450 J/	26200 J/	12900 J/	3100 J/	10400 J/	11000 J/
POTASSIUM	12000	1690	2690	2030	1310	1140	1940	3580
MG/L								
ALKALINITY	110	53	59	70	78	39	70	60
TOTAL ORGANIC CARBON	2.7 J/	3.5 J/	7.9 J/	3.7 J/	9.2 J/	7.1 J/	4.6 J/	12 J/
TOTAL KJELDAHL NITROGEN	0.57 J/	0.40 J/	2.2 J/	0.3 J/	14 J/	1.6 J/	0.62 J/	0.95 J/
NITRATE NITROGEN	4.8	0.30	0.23		0.31		0.60	
SULFATE	13	4.1	9.6	37	14	16	13	7.5
AMMONIA NITROGEN		0.08	0.15	0.12	0.17	0.86	0.40	0.28
CHLORIDE	82	5.2	30	36	17	4.0	18	16

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SAMPLE DESCRIPTION	C4D-02	GM4D-02	C4S-92	GM4S-02	W54-02	WC4A-02	WCEXW4-02	WCEXW5-02
CRL NUMBER	88ZW03S48	88ZW03S02	88ZW03D43	88ZW03S01	88ZW04S22	88ZW04S07	88ZW04S12	88ZW04S14
DATE SAMPLED	12/03/87	11/30/87	12/02/87	11/30/87	12/10/87	12/09/87	12/09/87	12/10/87
UG/L								
CALCIUM	36400	23400	89900	10000	49900	17300	13000	17400
MAGNESIUM	9540	8830	29700	3320	11900	6510	3250	4100
IRON	50 J/	189 J/	134 J/	159 J/	44 J/	8060	6850	6740
SODIUM	10800 J/	4190 J/	63600 J/	4550 J/	38900 J/	9060 J/	6100 J/	5600 J/
POTASSIUM	1630	716	10100	930	2830	1260	1230	1280
MG/L								
ALKALINITY	43	92	220	40	72	52	44	55
TOTAL ORGANIC CARBON	6.3 J/	2.5 J/	8.4 J/	4.7 J/	3.2 J/	5.1 J/	7.8 J/	8 J/
TOTAL KJELDAHL NITROGEN	0.2 J/	3.1 J/	1.3 J/	1.0 J/	0.43 J/	0.5 J/	1.3 J/	1.3 J/
NITRATE NITROGEN	10		8.8		8.4		0.08	0.06
SULFATE	19	4.8	160	13	71	19	16	15
AMMONIA NITROGEN			0.3	0.11	0.11	0.22	1.2	1.2
CHLORIDE	34	3.8	34	6.5	54	13	8.2	9.5

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SAMPLE DESCRIPTION	WCEXW6-02	W56A-02	WCEXW7-02	MW7-92	MW8-02	WCEXW15-02	E20-02	E21-02
CRL NUMBER	88ZW04S19	88ZW03S26	88ZW04S17	88ZW03D21	88ZW03S22	88ZW04S18	88ZW03S73	88ZW03S16
DATE SAMPLED	12/10/87	12/01/87	12/10/87	12/01/87	12/01/87	12/10/87	12/04/87	12/01/87
UG/L								
CALCIUM	15600	39500	18100	25200	15200	16300	6240	26100
MAGNESIUM	3300	12400	4830	8510	4300	4920	1650	10500
IRON	3160	178 J/	11500		80 J/	6920	132 J/	107 J/
SODIUM	5420 J/	19800 J/	6270 J/	21800 J/	6270 J/	9050 J/	41100 J/	17900 J/
POTASSIUM	1360	3330	1360	5890	1570	1280	1910	1160
MG/L								
ALKALINITY	45	73	60	33	51	47	80	92
TOTAL ORGANIC CARBON	6.8 J/	6.1 J/	8.7 J/	1.2 J/	1.3 J/	7.8 J/	9.2 J/	4.7 J/
TOTAL KJELDAHL NITROGEN	1.3 J/	4.5 J/	1.5 J/	0.27 J/	0.39 J/	0.60 J/	0.52 J/	0.35 J/
NITRATE NITROGEN	1.2	1.1		1.2	0.82			0.26
SULFATE	11	22	16	18	5.3	15	16	27
AMMONIA NITROGEN	0.99	0.02	1.4				0.36	0.02
CHLORIDE	7.0	61	13	63	5.5	14	4.5	14

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SAMPLE DESCRIPTION	E21A-02	E22A-02	E22-02	E23A-02	E24A-02	E24-02	E24A-92	E25A-02
CRL NUMBER	88ZW03S17	88ZW03S18	88ZW03S19	88ZW03S79	88ZW03S83	88ZW03S82	88ZW03D83	88ZW03S49
DATE SAMPLED	12/01/87	12/01/87	12/01/87	12/07/87	12/07/87	12/07/87	12/04/87	12/03/87
UG/L								
CALCIUM	11400	24600	16400	75700	33300	16200	33000	44300
MAGNESIUM	3890	3960	3070	15800	8580	4230	8450	11200
IRON	14200	1140	167 J/		18 J/B	97 J/	28 J/B	56 J/
SODIUM	7740 J/	6400 J/	4000 J/	21000 J/	13900 J/	5400 J/	13800 J/	30000 J/
POTASSIUM	873	3110	858	6520	7540	1320	7400	6380
MG/L								
ALKALINITY	52	52	42	62	104	67	110	88
TOTAL ORGANIC CARBON	9.4 J/	4.8 J/	7.1 J/	5.1 J/	2.7 J/	7.9 J/	2.5 J/	3.6 J/
TOTAL KJELDAHL NITROGEN	3.2 J/	2.1 J/	0.48 J/	0.88 J/	0.5 J/	0.68 J/	0.55 J/	0.45 J/
NITRATE NITROGEN		0.46		0.26			0.06	2.9
SULFATE	10	12	4.8	38 J/	19	9.0	20	18
AMMONIA NITROGEN	1.2	0.14	0.11	0.37	0.07	0.21	0.07	0.01
CHLORIDE	12	18	4.3	160	28	4.4	28	53

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	E25-02	E26-02	E26A-02	E27-02	E28-02	E29A-02	E30-02	E30-92
CRL NUMBER	88ZW03S50	88ZW03S66	88ZW03S68	88ZW04S23	88ZW03S58	88ZW03S56	88ZW03S60	88ZW03D60
DATE SAMPLED	12/03/87	12/04/87	12/04/87	12/12/87	12/04/87	12/03/87	12/03/87	12/03/87
UG/L								
CALCIUM	52700	15900	14100	35900	21100	35200	26900	27000
MAGNESIUM	16700	4580	4330	14000	7250	8740	5880	5750
IRON	801	221 J/	6040	190 J/	932	127 J/	144 J/	124 J/
SODIUM	9920 J/	13400 J/	5700 J/	22900 J/	53600 J/	40000 J/	6140 J/	6810 J/
POTASSIUM	1720	3130	784	1960	9070	2720	1880	1840
MG/L								
ALKALINITY	78	64	62	82	39	52	95	97
TOTAL ORGANIC CARBON	3.0 J/	5.1 J/	11 J/	2.2 J/	4.6 J/	3.6 J/	6.3 J/	6.2 J/
TOTAL KJELDAHL NITROGEN	0.48 J/	0.28 J/	2.0 J/	0.45 J/	1.3 J/	2.9 J/	0.12 J/	0.17 J/
NITRATE NITROGEN				0.80	5.0	6.0		
SULFATE	12	6.9	11	28	24	22	5.7	6.4
AMMONIA NITROGEN	0.05	0.5	1.2	0.22		0.01	0.38	0.38
CHLORIDE	59	5.0	7.8	59	85	75	7.5	7.5

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	E31-02	E37-02
CRL NUMBER	88ZW03D61	88ZW03S80
DATE SAMPLED	12/03/87	12/07/87
UG/L		
CALCIUM	33700	43600
MAGNESIUM	14600	9960
IRON		28 J/B
SODIUM	21100 J/	15800 J/
POTASSIUM	1220	4060
MG/L		
ALKALINITY	88	57
TOTAL ORGANIC CARBON	2.0 J/	4.4 J/
TOTAL KJELDAHL NITROGEN	0.12 J/	1.3 J/
NITRATE NITROGEN	3.5	0.13
SULFATE	72	19
AMMONIA NITROGEN	0.01	0.63
CHLORIDE	29	91

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	W50-02	W53A-02	W53-02	W55-02	W55A-02	W56-02	W57-02	WC3C-02
CRL NUMBER	88ZW03S39	88ZW03S91	88ZW03S86	88ZW03S89	88ZW03S90	88ZW03S20	88ZW03S36	88ZW04S16
DATE SAMPLED	12/02/87	12/08/87	12/08/87	12/08/87	12/08/87	12/01/87	12/02/87	12/10/87
UG/L								
CALCIUM	19100	46000	44600	26900	5280	20100	16500	12300
MAGNESIUM	5780	14300	13000	10400	2110	7300	5380	3010
IRON	1160	48 J/	202 J/	77 J/	4340	10400	41 J/	4900
SODIUM	15900 J/	35700 J/	75300 J/	11700 J/	90700 J/	27100 J/	35000 J/	3840 J/
POTASSIUM	4630	3700	3680	1330	2660	2670	1880	1020
MG/L								
ALKALINITY	40	100	98	68	210	50	70	40
TOTAL ORGANIC CARBON	2.4 J/	3.3 J/	10 J/	1.2 J/	7.7 J/	2.3 J/	9.3 J/	7.8 J/
TOTAL KJELDAHL NITROGEN	0.67 J/	1.9 J/	1.2 J/	2.4 J/	4.5 J/	0.55 J/	0.28 J/	0.98 J/
NITRATE NITROGEN		0.66	2.5		0.56			
SULFATE	15	68	40	22	100	18	21	14
AMMONIA NITROGEN	0.02	0.2	0.05	0.04	0.29	0.17	0.06	0.88
CHLORIDE	37	45	120	31	20	48	38	4.2

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	WCIN-02	WCOUT-02	PLDRTW-02	HURD-02
CRL NUMBER	88ZW04S20	88ZW04S21	88ZW03S15	88ZW04S04
DATE SAMPLED	12/10/87	12/10/87	12/01/87	12/09/87
UG/L				
CALCIUM	16500	15900	27400	17400
MAGNESIUM	4140	4020	13000	7300
IRON	9570	1300	233 J/	1300
SODIUM	6050 J/	6000 J/	7480 J/	4330 J/
POTASSIUM	1230	1170	737	465
MG/L				
ALKALINITY	48	49	120	67
TOTAL ORGANIC CARBON	7.4 J/	6.8 J/		4.9 J/
TOTAL KJELDAHL NITROGEN	1.4 J/	1.4 J/	0.25 J/	0.24 J/
NITRATE NITROGEN	0.06	0.16	1.5	
SULFATE	12	9	12	8.8
AMMONIA NITROGEN	1.3	1.1		0.02
CHLORIDE	10	10	3.3	5.5

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	SB01-02	SB02-02	SB03-02	SB04-02	SB05-02	SB06-02	SB07-02	SB08-02
CRL NUMBER	88ZW04R37	88ZW04R39	88ZW04R38	88ZW04R30	88ZW04R41	88ZW04R42	88ZW04R43	88ZW04R44
DATE SAMPLED	12/01/87	12/02/87	12/02/87	12/03/87	12/03/87	12/04/87	12/07/87	12/08/87
UG/L								
CALCIUM	174 J/	131 J/	156 J/	57 J/	218 J/	75 J/	67 J/	230 J/
MAGNESIUM								
IRON	30 J/	16 J/B	15 J/	16 J/	35 J/	15 J/	45 J/	
SODIUM	271 J/	2940 J/	212 J/	129 J/	519 J/	530 J/	272 J/	159 J/
POTASSIUM								
MG/L								
ALKALINITY	1.4	29	3.4					
TOTAL ORGANIC CARBON					1.6 J/			
TOTAL KJELDAHL NITROGEN					0.25 J/		0.11 J/	0.12 J/
NITRATE NITROGEN				2.5	0.06			
SULFATE		1	1		1			1.5
AMMONIA NITROGEN								
CHLORIDE		0.5						

WAUSAU NPL RI/FS-ROUND 2
WATER INORGANIC ANALYSIS
CONCENTRATION
C#: 13076.30

SAMPLE DESCRIPTION	SB09-02	SB10-02	SB11-02
CRL NUMBER	88ZW04R45	88ZW04R46	88ZW04R47
DATE SAMPLED	12/08/87	12/09/87	12/10/87
UG/L			
CALCIUM	47 J/	41 J/	117 J/
MAGNESIUM			
IRON	27 J/		28 J/
SODIUM	324 J/	184 J/	331 J/
POTASSIUM		437	
MG/L			
ALKALINITY			
TOTAL ORGANIC CARBON			
TOTAL KJELDAHL NITROGEN			
NITRATE NITROGEN			
SULFATE	0.8		
AMMONIA NITROGEN			
CHLORIDE			

ROUND 2 METALS AND CYANIDES ANALYSIS RESULTS

PH AND SPECIFIC CONDUCTANCE

WAUSAU NPL
ROUND 3 (MAY 1988)

Well	pH	Conductivity at 25°C (umhos/cm)
West Wells		
R7S	6.20	274
W51A	5.92	542
R5S	6.35	412
W50	6.06	221
R3S	6.19	222
R3D	6.32	236
R3D Dup	6.31	247
W56	6.30	300
W56A	6.47	337
W57	5.99	231
MW7	6.49	338
W55	6.91	250
W55A	7.30	256
R2S	6.84	192
R2D	6.50	263
C4S	6.05	900
C4D	6.14	291
C6S	6.13	436
W52	6.55	305
W52A	6.82	187
W53	6.61	814
W53A	6.25	732
C3S	6.18	844
C7S	6.05	213
R6S	6.05	88
W53 Dup	6.57	814
E37A	6.38	408
E23A	6.39	451
WC6	6.68	181
WC6A	6.80	227
E30	6.85	197
C2S	6.03	390
R4D	5.92	359
W54	6.06	343

Well	pH	Conductivity at 25°C (umhos/cm)
Pumping Wells		
CW9	6.45	164
CW6	6.76	168
CW7	6.95	146
Wergin	7.15	145
CW9 Dup	6.50	164
CW3	6.55	217
CW4	6.60	192
Surface Water		
SW01	6.66	375
SW02	6.74	171
SW03	7.82	174
SW04	7.86	148

Well	pH	Conductivity at 25°C (umhos/cm)
East Wells		
E37A Dup	6.45	357
C7S Dup	6.09	213
WC6A Dup	6.87	224
EXW 2	6.65	159
EXW 3	6.62	170
EXW 8	6.44	194
EXW 13	6.33	198
EXW 15	6.29	340
Influent to WC Stripper	6.56	162
Influent to WC Stripper Dup	6.58	162
Effluent from WC Striper	6.91	152
Effluent from WC Striper Dup	6.95	168
E28A	6.06	557
E25	6.85	445
E25A	6.57	370
E25A Dup	6.72	386
MW13	6.80	378
MW11	6.30	386
MW10A	6.50	480
MW10B	6.82	316
E24	7.50	137
E24A	6.82	246
GM5D	6.49	309
E29A	6.33	452
MW7A	6.49	186
GM6D	6.63	203
MW14	6.48	171
E20	7.71	171
GM8D	6.90	151
E22	7.26	139
E22A	6.02	209
E26	7.53	146
E26A	6.67	212
E21	6.70	257
E21A	6.72	171
E27	6.34	426
GM9S	6.17	396
FVD7	6.18	257
FVD2	6.16	430
WC5	6.94	158
WC5A	6.61	216
WC3	6.64	473
WC3A	6.98	155
WC3B	6.71	188
WC3C	6.85	184
WC2	6.69	231
FVD5	6.10	405
E22 Dup	7.29	142
E29A Dup	6.35	458
E27 Dup	6.37	432

[jlv-400-14]

WAUSAU NPL RI/FS
WATER INORGANIC ANALYSIS
CONCENTRATION (UG/L)
C#: 13076.30

CK'D: BJ APP'D: CSR
DATE ISSUED: 5/15/89

SAMPLE DESCRIPTION	E24A-02	E24A-92	E23A-02	E37-02	SB08-02	W53A-02	W53-02
DATE SAMPLED	12/07/87	12/07/87	12/07/87	12/07/87	12/08/87	12/08/87	12/08/87
ALUMINUM	29 \B	27.7 \B	258	31.6 \B			89.3 \B
ANTIMONY							
ARSENIC							
BARIUM	108 \B	123 \B	108 \B	91.8 \B		111 \B	145 \B
BERYLLIUM							
CADMIUM							
CALCIUM	36500	37000	82000	47200	185 \B	47700	45700
CHROMIUM							
COBALT							
COPPER	18.9 \B	14.8 \B	13.7 \B	12.5 \B			10.7 \B
IRON		32.3 \B	229				307
LEAD							
MAGNESIUM	9020	9130	16300	10300		14100	13200
MANGANESE	676	628	5740	7110		476	582
MERCURY							
NICKEL	17.1 \B	17.6 \B	9.6 \B			138	
POTASSIUM	8490 \E	8720 \E	7170 \E	4410 \BE		3840 \BE	3800 \BE
SELENIUM							
SILVER							
SODIUM	14600	15000	21500	16200		35000	76100
THALLIUM							
VANADIUM							
ZINC	1170 \E	2750 \E	23.1 \E	464 \E		2860	383 \E
CYANIDE							

WAUSAU NPL RI/FS
WATER INORGANIC ANALYSIS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCRIPTION	W55-02		GM9S-02		WC6A-02		WC6-02		WC3-02		WC3B-02		WC2-02	
DATE SAMPLED	12/08/87		12/08/87		12/09/87		12/09		12/09/87		12/10/87		12/10/87	
ALUMINUM			33.2	\B	44.7	\B	20.1	\B	23.9	\B	44.1	\B	31.7	\B
ANTIMONY														
ARSENIC														
BARIUM	42.1	\B	20.4	\B	31	\B	20.1	\B	49.7	\B	11.6	\B	18.7	\B
BERYLLIUM														
CADMIUM														
CALCIUM	28200		14500		17900		12800		50300		11400		11000	
CHROMIUM														
COBALT														
COPPER			13.7	\B									14	\B
IRON	70	\B			16100		8740		117		8110		9610	
LEAD											1.1	\BW		
MAGNESIUM	10600		2570	\B	3630	\B	2430	\B	18100		2650	\B	2860	\B
MANGANESE	521		184		1020		887		185		730		1430	
MERCURY														
NICKEL					12	\B								
POTASSIUM	1660	\BE	4180	\BE	2730	\BE	1160	\BE	1370	\BE	1000	\BE	1650	\BE
SELENIUM														
SILVER														
SODIUM	10500		30000		6810		5330		15700		4550	\B	9430	
THALLIUM														
VANADIUM							4.6	\B			5.3	\B	4.8	\B
ZINC	142		143	\E	425		1460	\E	1030	\E	23	\E	282	\E

WAUSAU NPL RI/FS
WATER INORGANIC ANALYSIS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCHIPTION	MW9-02	SB03-02	R4D-02	C2S-02	C3S-02	C4S-02	C4D-02
DATE SAMPLED	12/02/87	12/02/87	12/02/87	12/02/87	12/02/87	12/02/87	12/03/87
ALUMINUM				116 /B		1550	
ANTIMONY							
ARSENIC							
BARIUM	66 /B		76 /B	22 /B	195 /B	65 /B	49 /B
BERYLLIUM							
CADMIUM							
CALCIUM	18800		29800	38800	92300	90900	36300
CHROMIUM					594	28	
COBALT							
COPPER					17 /B	28	
IRON	15800		12 /B	43 /B	18 /B	2100	21 /B
LEAD							
MAGNESIUM	8010		16400	9610	36500	30900	9740
MANGANESE	340		621		611	6100	480
MERCURY							
NICKEL						28 /B	
POTASSIUM	1690 /B		1660 /B	2640 /B	18400	9720	1320 /B
SELENIUM							
SILVER							
SODIUM	22200		14700	17700	43300	72200	12500
THALLIUM							
VANADIUM							
ZINC	21		26	32	121	48	23

WAUSAU NPL RI/FS
WATER INORGANIC ANALYSIS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCRIPTION	FVD7-92		FVD7-02		W54-02	
DATE SAMPLED	12/03/87		12/03/87		12/10/87	
ALUMINUM						
ANTIMONY						
ARSENIC						
BARIUM	84	/B	71	/B	58.2	\B
BERYLLIUM						
CADMIUM						
CALCIUM	24500		25000		50600	
CHROMIUM						
COBALT						
COPPER						
IRON	10	/B	32	/B		
LEAD					1.2	J\BW
MAGNESIUM	4210	/B	4280	/B	11800	
MANGANESE	18		9.0	/B	971	
MERCURY						
NICKEL						
POTASSIUM	3760	/B	3990	/B	3100	\BE
SELENIUM						
SILVER						
SODIUM	9810		9180		35300	
THALLIUM						
VANADIUM						
ZINC	47		46		280	\E

APPENDIX J3

ROUND 3 METALS AND CYANIDES ANALYSIS RESULTS

ROUND 3 RAS GROUNDWATER ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE
UNITS - UG/L

CK'D: BC APP'D: CSR
DATE ISSUED: 5/15/89

SAMPLE DESCRIPTION	FB10-03	FB11-03	C2S-03	C3S-03	C4S-03	C7S-03
CONTRACT LAB	JTC	JTC	JTC	JTC	JTC	JTC
CRL NUMBER	MEP710	MEP727	MEP718	MEP721	MEP717	MEP722
DATE SAMPLED	05/25/88	05/27/88	05/26/88	05/26/88	05/26/88	05/26/88
ALUMINUM				149 /B		
ANTIMONY	100.0	66.5		97.9 J/	116.0 /J	55.1 J/B
ARSENIC						
BARIUM			29.6 /B	85.8 /B	48.4 /B	28 /B
BERYLLIUM						
CADMIUM						
CALCIUM			43600	78400	78600	19800
CHROMIUM				166		
COBALT						
COPPER						
IRON	111.0 /J		49.1 /B	169 J/N*	61.9 /B	98.1 J/BN*
LEAD		1.1 /B				
MAGNESIUM			9080	30400	23400	4130
MANGANESE			9.7 /B	622	4260	19
MERCURY						
NICKEL			43.4	22.7 /B		
POTASSIUM			1650 /B	18200	6270	685
SELENIUM						
SILVER						
SODIUM			18300 /*J	30400	57200 /*J	9280
THALLIUM						
VANADIUM						
ZINC	15.5 /B		19.7 /B	86 J/*	118	60 J/*

ROUND 3 RAS GROUNDWATER ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE
UNITS - UG/L

SAMPLE DESCRIPTION	E27-03		E27-93		E37A-03		FVD2-03		FVD7-03		GM9S-03	
CONTRACT LAB	JTC		JTC		JTC		JTC		JTC		JTC	
CRL NUMBER	MEP707		MEP706		MEP702		MEP701		MEP708		MEP700	
DATE SAMPLED	05/25/88		05/25/88		05/25/88		05/25/88		05/25/88		05/25/88	
ALUMINUM												
ANTIMONY	84.3		104.0	/J	105.0	/J					68.5	
ARSENIC												
BARIUM	43.7	/B	47.6	/B	325.0		70.8	/B	28.2	/B	35.3	/B
BERYLLIUM												
CADMIUM												
CALCIUM	41700		41200		33100		39300		30500		40800	
CHROMIUM												
COBALT												
COPPER												
IRON	235.0	/J	314.0	/J	137.0	/J	46400		93.9	/B	194.0	/J
LEAD			1.4	/B			3.4	J/BW			0.95	J/BW
MAGNESIUM	14100		14000		5330		5630		5480		6620	
MANGANESE	4850		4800		3660		4220		68.7		396	
MERCURY												
NICKEL												
POTASSIUM	1950.0	/B	1750	/B	1950.0	/B	2630.0	/B	3620.0	/B	4210.0	/B
SELENIUM												
SILVER												
SODIUM	12300	/*J	16400	/*J	18500	/*	14600	/*	5760	/*J	28500	/*
THALLIUM												
VANADIUM												
ZINC	151		151		932		41.9				21.9	

ROUND 3 RAS GROUNDWATER ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE
UNITS - UG/L

SAMPLE DESCRIPTION	MW14-03	R2D-03	R4D-03	R6S-03	R7S-03	WC2-03
CONTRACT LAB	JTC	JTC	JTC	JTC	JTC	JTC
CRL NUMBER	MEP713	MEP711	MEP719	MEP723	MEP704	MEP725
DATE SAMPLED	05/26/88	05/26/88	05/26/88	05/27/88	05/25/88	05/26/88
ALUMINUM						
ANTIMONY	73.5	112.0 /J	77.5	96.5 J/	97.5	72.5 J/
ARSENIC	5.7 /BJ					
BARIUM	10.3 /B	63.2 /B	76.7 /B	11.4 /B	262.0	21.6 /B
BERYLLIUM						
CADMIUM						
CALCIUM	17900	28800	27300	9830	17500	18700
CHROMIUM		27.5				
COBALT						
COPPER						
IRON	6540.0	148.0 /J	179.0 /J	44.4 J/BN*	194.0 /J	17500 J/N*
LEAD				1.0 J/BW		
MAGNESIUM	3460 /B	12900	13700	2080 /B	4780 /B	3290 /B
MANGANESE	2270	69.5	412.0		11.1 /B	1630
MERCURY						
NICKEL						
POTASSIUM	1850.0 /BJ	962.0 /B	1750 /B		4400.0 /B	431
SELENIUM						
SILVER						
SODIUM	4100 /*BJ	8140 /*	13900 /*		25300 /*	5290
THALLIUM						
VANADIUM						
ZINC		13.7 /B	49.3 /B	24 J/*	115	987 J/*
CYANIDE						29.1 J/

ROUND 3 RAS GROUNDWATER ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE
UNITS - UG/L

SAMPLE DESCRIPTION	WC3B-03	WC5A-03	W53-03	W53-93	W53A-03	W54-03
CONTRACT LAB	JTC	JTC	JTC	JTC	JTC	JTC
CRL NUMBER	MEP728	MEP726	MEP712	MEP720	MEP716	MEP724
DATE SAMPLED	05/27/88	05/27/88	05/26/88	05/26/88	05/26/88	05/26/88
ALUMINUM						
ANTIMONY				61.3 J/	58.1 /B	
ARSENIC						
BARIUM	18.2 /B	23.4 /B	85.4 /B	88.2 /B	206.0	35.6 /B
BERYLLIUM				2.0 J/B		
CADMIUM					4.3 /B	
CALCIUM	16300	13400	64300	64900	66000	24600
CHROMIUM						
COBALT						
COPPER						
IRON	5580 J/N*	18100 J/N*	269 /J	147 /J	142 /J	
LEAD		1.1 J/BW				2.2 J/BW
MAGNESIUM	2970 /B	3940 /B	16000	15200	16700	4210 /B
MANGANESE	1140	1200	628	656	63.3	306
MERCURY						
NICKEL					196.0	
POTASSIUM	431 /B	838 /B	3420 /B	3620 /B	4990 /B	2670 /B
SELENIUM						
SILVER						
SODIUM	4550	5760	60800 /*J	57200 /*J	48100 /*J	27400
THALLIUM						
VANADIUM						
ZINC	140 J/*	179 J/*	1040 J/J	410 J/J	3240	287 J/*

ROUND 3 RAS GROUNDWATER ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE
UNITS - UG/L

SAMPLE DESCRIPTION	W55-03		CW3-03		CW4-03		CW6-03	
CONTRACT LAB	JTC		JTC		JTC		JTC	
CRL NUMBER	MEP703		MEP714		MEP715		MEP705	
DATE SAMPLED	05/25/88		05/26/88		05/26/88		05/25/88	
ALUMINUM							157.0	/B
ANTIMONY			50.1	/B	108.0	/J	50.1	/B
ARSENIC								
BARIUM	40.7	/B	28.7	/B	20.4	/B	29.4	/B
BERYLLIUM							2.6	/B
CADMIUM								
CALCIUM	30900		21800		19400		18500	
CHROMIUM								
COBALT								
COPPER								
IRON	460	/J	1860		5300		957	
LEAD								
MAGNESIUM	12400		5290		4800	/B	5960	
MANGANESE	173		2920		1610		2000	
MERCURY								
NICKEL								
POTASSIUM			1360	/B	1060	/B	372	/B
SELENIUM								
SILVER								
SODIUM	4680	/B	6980	/*J	5020	/*J	3700	/*J
THALLIUM								
VANADIUM								
ZINC							19.6	/B

APPENDIX K

ORGANIC GROUNDWATER ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Organic)

F Indicates compound was also detected in the Field Blank.

J The associated numerical value is an estimated quantity.

*** Indicates that sample designation shown in Appendix K1 may be incorrect based on duplicate analysis results and/or comparison to historical concentrations. Refer to Appendix K3 for additional analysis results.

Laboratory Qualifiers (Organic)

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mas spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

D This flag identifies all compounds quantitated in an analysis at a secondary dilution factor.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed. If The dilution of the extract causes any compounds identified in the first analysis to be below the calibration range of the second analysis, thene the results of both analyses are reported by the laboratory.

X This flag is applied to data which were calculated manually (as opposed to computer generated) by the laboratory.

A This flag indicates that a tentatively identified compound (TIC) is a suspected aldol condensation product.

B This flag is used when the analyte is found in the associated blank at less than 5 times the contract-required quantitation limit as well as in the sample. It indicates possible blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

M Analyte does not meet EPA spectral matching protocols but is present in expert opinion of the analyst.

SAS VOLATILE LIST
QUANTITATION LIMITS

Compound (ug/L)	ENCOTECH	NANCO	VERSAR
Chloromethane	10	10	2
Bromomethane	10	10	2
Vinyl chloride	10	10	2
Chloroethane	1.5	2	2
Methylene chloride	1	1	1
Acetone	10	10	1
Carbon disulfide	3	3	1
1,1-Dichloroethene	1.5	2	1
1,1-Dichloroethane	1.5	2	1
Total-1,2-Dichloroethene	1.5	2	1
Chloroform	1.5	2	1
1,2-Dichloroethane	1.5	2	1
2-Butanone	10	10	2
1,1,1-Trichloroethane	1.5	2	1
Carbon tetrachloride	1.5	2	1
Vinyl acetate	10	10	2
Bromodichloromethane	1.5	2	1
1,2-Dichloropropane	1.5	2	1
cis-1,3-Dichloropropene	2	2	1
Trichloroethene	1.5	2	1
Dibromochloromethane	1.5	2	1
1,1,2-Trichloroethane	1.5	2	1
Benzene	1.5	2	1
trans-1,3-Dichloropropene	1	1	1
Bromoform	1.5	2	1
4-Methyl-2-pentanone	3	3	2
2-Hexanone	10	10	2
Tetrachloroethene	1.5	2	1
1,1,2,2-Tetrachloroethane	1.5	2	1
Toluene	1.5	2	1
Chlorobenzene	1.5	2	1
Ethyl benzene	1.5	2	1
Styrene	1	1	1
Total xylenes	2	3	
Acrolein	100	100	100
Acrylonitrile	50	50	50
2-Chloroethylvinylether	1.5		2
m-Xylene			2
o,p-Xylene			3

APPENDIX K1

HISTORICAL SUMMARY OF SAS VOC ANALYSIS RESULTS

CK'D: BJC APP'D: CSR
DATE ISSUED: 5/15/89

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	CWDS	C2S			C3S	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	CWDS-01	GC2S-01	GC2S-02	GC2S-03	GC3S-02	GC3S-03
DATE SAMPLED	10/10/87	10/01/87	12/02/87	5/26/88	12/02/87	5/26/88
DILUTION		200	50	***	10	
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE					10 F/	
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)				600 J/E		1 J/J
CHLOROFORM	56 J/			1 J/J	46	
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE					66	28 J/
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE	4					
TRICHLOROETHENE		1370 F/	1900 F/J	620 FJ/E		7 FJ/
1,1,2-TRICHLOROETHANE				2 J/		
BENZENE						
4-METHYL-2-PENTANONE					3 /J	
TETRACHLOROETHENE				6 FJ/		0.7 FJ/J
TOLUENE	1 F/					
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	1370	1900	1226	0	8.7
TOTAL VOCS	61	1370	1900	1229	125	36.7
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	C4D			C4S		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GC4D-01	GC4D-02	GC4D-03	GC4S-02	GC4S-92	GC4S-03
DATE SAMPLED	09/29/87	12/03/87	5/24/88	12/02/87	12/02/87	5/26/88
DILUTION						****
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE			27 FJ/			
ACETONE						16 J/
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)	9	7	12 J/	6		360 J/E
CHLOROFORM						2 J/
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	34	32	28 J/	1 J/	2 F/	970 FJ/E
1,1,2-TRICHLOROETHANE						2 J/
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE				4	4	9 J/
TOLUENE	1 F/					
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	43	39	40	11	6	1339
TOTAL VOCS	44	39	67	11	6	1359
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						2 J/
UNKNOWN						
UNKNOWN						
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER			1 J/			
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	C6S		C7S		
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GC6S-02	GC6S-03	GC7S-02	GC7S-03	GC7S-93
DATE SAMPLED	12/02/87	5/24/88	12/02/87	5/26/88	5/26/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE			16	8	8
CARBON TETRACHLORIDE					1 /J
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE			16 F/	11 F/	9 F/
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	16	11	9
TOTAL VOCS	0	0	32	19	18
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					2 J/
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	CW3				CW4	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GCW3-01	GCW3-02	GCW3-92	GCW3-02	GCW4-02	GCW4-03
DATE SAMPLED	09/30/87	11/30/87	11/30/87	5/26/88	11/30/87	5/26/88
DILUTION		4	10			***
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE			13			
ACETONE	16 J/					
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)	6			6 J/	1 /J	
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	69 J/	84	70	53 EJ/		83 E/
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE	10 E/	12		10 /J	7	
TOLUENE	4 E/					
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	85	96	70	69	8	83
TOTAL VOCS	105	96	83	69	8	83
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	CW6			CW7		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GCW6-01	GCW6-02	GCW6-03	GCW7-01	GCW7-02	GCW7-03
DATE SAMPLED	09/30/87	11/30/87	5/25/88	09/30/87	12/01/87	5/26/88
DILUTION		10				
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE						13 F/
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	116 J/	150 /J	120 J/E			
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE	2 F/					
CHLOROBENZENE		15 /J				
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	116	150	120	0	0	0
TOTAL VOCS	118	165	120	0	0	13
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN		54 /J				
UNKNOWN						
UNKNOWN						
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	CW9			
LAB	ENCOTEC	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GCW9-01	GCW9-02	GCW9-03	GCW9-93
DATE SAMPLED	09/30/87	11/30/87	5/23/88	5/23/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1 DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE				
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE				
TOLUENE	5 F/			
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	0	0	0	0
TOTAL VOCS	5	0	0	0
TENTATIVELY IDENTIFIED VOLATILES				
UNKNOWN				
UNKNOWN				
UNKNOWN				
UNKNOWN HYDROCARBON				
UNKNOWN METHYL PENTANE ISOMER				
PENTANE 2,4-DIMETHYL				
PENTANE 2,3-DIMETHYL				
2-METHYL BUTANE				
CYCLOHEXANE				
1,1,3-TRIMETHYLCYCLOPENTANE				
3,3-DIMETHYLHEXANE				
TRIMETHYLCYCLOHEXANE ISOMER				
CYCLOPENTANE				
DIMETHYL CYCLOPROPANE ISOMER				
DIMETHYL CYCLOPROPANE ISOMER				
2-METHYL PROPANE				
CYCLOHEXANE				
3-METHYL PENTADIENE ISOMER				
METHYL CYCLOHEXANE ISOMER				
2-ETHYL FURAN				

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	CITY OF WAUSAU AIR STRIPPER 1(CW4)		CITY OF WAUSAU AIR STRIPPER 2(CW3)	
	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT
LAB	VERSAR	VERSAR	VERSAR	VERSAR
SAMPLE DESCRIPTION	COW-ST01-E04	COW-ST01-IN04	COW-ST02-E04	COW-ST02-IN04
DATE SAMPLED	7/7/88	7/7/88	7/7/88	7/7/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE	1 /J	2		3 /J
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1 DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)		2		7
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE		2	1	71
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	1	14		11
TOLUENE				/J
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	1	18	1	89
TOTAL VOCS	2	20	1	92
TENTATIVELY IDENTIFIED VOLATILES				
UNKNOWN		1 /J	1 /J	
UNKNOWN				
UNKNOWN				
UNKNOWN HYDROCARBON				
UNKNOWN METHYL PENTANE ISOMER				
PENTANE 2,4-DIMETHYL				
PENTANE 2,3-DIMETHYL				
2-METHYL BUTANE				
CYCLOHEXANE				
1,1,3-TRIMETHYLCYCLOPENTANE				
3,3-DIMETHYLHEXANE				
TRIMETHYLCYCLOHEXANE ISOMER				
CYCLOPENTANE				
DIMETHYL CYCLOPROPANE ISOMER				
DIMETHYL CYCLOPROPANE ISOMER				
2-METHYL PROPANE				
CYCLOHEXANE				
3-METHYL PENTADIENE ISOMER				
METHYL CYCLOHEXANE ISOMER				
2-ETHYL FURAN				

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E20		E21A		E21	
LAB	88ZW03S73	NANCO	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GE20-02	GE20-03	GE21A-02	GE21A-03	GE21-02	GE21-03
DATE SAMPLED	12/04/87	5/24/88	12/01/87	5/24/88	12/01/87	5/24/88
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE				0.9 F/J		1 F/
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						2
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE					19	18
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE					2 /J	
TETRACHLOROETHENE						
TOLUENE						
CHLOROBENZENE					1 /J	
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	19	20
TOTAL VOCS	0	0	0	0.9	22	21
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE.ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E22A		E22		
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GE22A-02	GE22A-03	GE22-02	GE22-03	GE22-93
DATE SAMPLED	12/01/87	5/24/88	12/01/87	5/24/88	5/24/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE				1 F/	
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE		1 /J			
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE	39 /J	130 J/E			
TOLUENE					
CHLOROBENZENE			2		
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	39	130	0	0	0
TOTAL VOCS	39	131	2	1	0
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E23A		E24A			E24	
LAB	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GE23A-02	GE23A-03	GE24A-02	GE24A-92	GE24A-03	GE24-02	GE24-03
DATE SAMPLED	12/07/87	5/25/88	12/07/87	12/04/87	5/23/88	12/07/87	5/23/88
DILUTION				10			
UNITS (UG/L)							
VINYL CHLORIDE					3 /J		
METHYLENE CHLORIDE							
ACETONE				30 J/	18		
CARBON DISULFIDE							
1,1-DICHLOROETHENE					6		
1,1 DICHLOROETHANE							
1,2-DICHLOROETHENE (TOTAL)			5		25		
CHLOROFORM							
2-BUTANONE							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
TRANS-1,3-DICHLOROPROPENE							
BROMODICHLOROMETHANE							
TRICHLOROETHENE		3	17	13 /J	59		
1,1,2-TRICHLOROETHANE							
BENZENE							
4-METHYL-2-PENTANONE							
TETRACHLOROETHENE	14	52	84	94 J/	200 J/E		
TOLUENE							
CHLOROBENZENE							
ETHYLBENZENE							
TOTAL XYLENES							
TOTAL ETHENES	14	55	106	107	290	0	0
TOTAL VOCS	14	55	106	137	311	0	0
TENTATIVELY IDENTIFIED VOLATILES							
UNKNOWN							
UNKNOWN							
UNKNOWN							
UNKNOWN HYDROCARBON							
UNKNOWN METHYL PENTANE ISOMER							
PENTANE 2,4-DIMETHYL							
PENTANE 2,3-DIMETHYL							
2-METHYL BUTANE							
CYCLOHEXANE							
1,1,3-TRIMETHYLCYCLOPENTANE							
3,3-DIMETHYLHEXANE							
TRIMETHYLCYCLOHEXANE ISOMER							
CYCLOPENTANE							
DIMETHYL CYCLOPROPANE ISOMER							
DIMETHYL CYCLOPROPANE ISOMER							
2-METHYL PROPANE							
CYCLOHEXANE							
3-METHYL PENTADIENE ISOMER							
METHYL CYCLOHEXANE ISOMER							
2-ETHYL FURAN							

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E25A			E25	
LAB	ENCOTEC	NANCO	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GE25A-02	GE25A-03	GE25A-93	GE25-02	GE25-03
DATE SAMPLED	12/03/87	5/23/88	5/23/88	12/03/87	5/23/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					11 F/
CARBON DISULFIDE		4 /J			
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	0	4	0	0	11
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E26A		E26		E27	
LAB	88ZW03S68	NANCO	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GE26A-02	GE26A-03	GE26-02	GE26-03	GE27-02	GE27-03
DATE SAMPLED	12/04/87	5/24/88	12/04/87	5/24/88	12/12/87	5/25/88
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE					2 /J	
CARBON DISULFIDE						
1,1-DICHLOROETHENE						1 /J
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)					120 /J	280 J/E
CHLOROFORM					2	
2-BUTANONE						
1,1,1-TRICHLOROETHANE						2
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE					660 /J	700 J/E
1,1,2-TRICHLOROETHANE						3
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						23
TOLUENE			2 E/			
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	780	1004
TOTAL VOCS	0	0	2	0	784	1009
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN		2 /J	9			
UNKNOWN			16			
UNKNOWN						
UNKNOWN HYDROCARBON		6 /J	16			
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL		3 /J				
PENTANE 2,3-DIMETHYL		3 /J				
2-METHYL BUTANE						
CYCLOHEXANE						
1,1,3-TRIMETHYLCYCLOPENTANE						
3,3-DIMETHYLHEXANE						
TRIMETHYLCYCLOHEXANE ISOMER						
CYCLOPENTANE						
DIMETHYL CYCLOPROPANE ISOMER						
DIMETHYL CYCLOPROPANE ISOMER						
2-METHYL PROPANE						
CYCLOHEXANE						
3-METHYL PENTADIENE ISOMER						
METHYL CYCLOHEXANE ISOMER						
2-ETHYL FURAN						

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E28A		E29A		
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GE28A-02	GE28A-03	GE29A-02	GE29A-03	GE29A-93
DATE SAMPLED	12/04/87	5/24/88	12/03/87	5/24/88	5/24/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					1 F/J
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM			2 F/	2	
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	0	0	2	2	1
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E30			E31
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC
SAMPLE DESCRIPTION	GE30-02	GE30-92	GE30-03	GE31-02
DATE SAMPLED	12/03/87	12/03/87	5/24/88	12/03/87
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1 DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)			2	
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE	7	7	8	1 /J
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE				
TOLUENE		1 F/J		
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	7	7	10	1
TOTAL VOCS	7	8	10	1
TENTATIVELY IDENTIFIED VOLATILES				
UNKNOWN				
UNKNOWN				
UNKNOWN				
UNKNOWN HYDROCARBON				
UNKNOWN METHYL PENTANE ISOMER				
PENTANE 2,4-DIMETHYL				
PENTANE 2,3-DIMETHYL				
2-METHYL BUTANE				
CYCLOHEXANE				
1,1,3-TRIMETHYLCYCLOPENTANE				
3,3-DIMETHYLHEXANE				
TRIMETHYLCYCLOHEXANE ISOMER				
CYCLOPENTANE				
DIMETHYL CYCLOPROPANE ISOMER				
DIMETHYL CYCLOPROPANE ISOMER				
2-METHYL PROPANE				
CYCLOHEXANE				
3-METHYL PENTADIENE ISOMER				
METHYL CYCLOHEXANE ISOMER				
2-ETHYL FURAN				

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	E37A			FVD1	
LAB	ENCOTEC	NANCO	NANCO	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GE37A-02	GE37A-03	GE37A-93	GFVD1-01	GFVD1-02
DATE SAMPLED	12/07/87	5/25/88	5/25/88	10/01/87	12/07/87
DILUTION					10
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					140 J/
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE	1 /J	6 J/	3	2 F/	
1,1,2-TRICHLOROETHANE					
BENZENE				18	
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE	9	73 J/	39	23 J/	190
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES				16	
TOTAL ETHENES	10	79	42	25	190
TOTAL VOCS	10	79	42	59	330
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	FVD2			FVD5		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GFVD2-01	GFVD2-02	GFVD2-03	GFVD5-01	GFVD5-02	GFVD5-02
DATE SAMPLED	10/01/87	12/07/87	5/25/88	10/01/87	12/07/87	5/26/88
DILUTION	100		2			***
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE			7 FJ/		65	120 J/BD
ACETONE		2 /J		3070 J/	310 /J	19 J/BD
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1 DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)					3	630 J/D
CHLOROFORM						
2-BUTANONE		5 /J				
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE			5 J/			560 FJ/D
1,1,2-TRICHLOROETHANE						
BENZENE	250				310	
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE		20	140 J/	19	23	
TOLUENE					140 F/	
CHLOROBENZENE						
ETHYLBENZENE					3	
TOTAL XYLENES	790			319 J/	140	
TOTAL ETHENES	0	20	145	19	26	1190
TOTAL VOCS	1040	27	152	3408	994	1329
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN			2 /J		42	
UNKNOWN					150	
UNKNOWN					52	
UNKNOWN HYDROCARBON						
UNKNOWN METHYL PENTANE ISOMER						
PENTANE 2,4-DIMETHYL						
PENTANE 2,3-DIMETHYL						
2-METHYL BUTANE		3				
CYCLOHEXANE		7				
1,1,3-TRIMETHYLCYCLOPENTANE		3				
3,3-DIMETHYLHEXANE		3				
TRIMETHYLCYCLOHEXANE ISOMER		3				
CYCLOPENTANE					21	
DIMETHYL CYCLOPROPANE ISOMER					28	
DIMETHYL CYCLOPROPANE ISOMER					18	
2-METHYL PROPANE					21	
CYCLOHEXANE					7	
3-METHYL PENTADIENE ISOMER					23	
METHYL CYCLOHEXANE ISOMER					10	
2-ETHYL FURAN					10	

GROUNDWATER VOC ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

			FVD7		
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GFVD7-01	GFVD7-91	GFVD7-02	GFVD7-92	GFVD7-03
DATE SAMPLED	10/01/87	10/01/87	12/03/87	12/03/87	5/25/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1 DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					2
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE	3	3	2	2	3
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE	19 F/	18 F/	4	6	7
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE	94 J/	90 J/	80	100	190 J/E
TOLUENE	3 F/				
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	113	108	84	106	199
TOTAL VOCS	119	111	86	108	202
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN METHYL PENTANE ISOMER					
PENTANE 2,4-DIMETHYL					
PENTANE 2,3-DIMETHYL					
2-METHYL BUTANE					
CYCLOHEXANE					
1,1,3-TRIMETHYLCYCLOPENTANE					
3,3-DIMETHYLHEXANE					
TRIMETHYLCYCLOHEXANE ISOMER					
CYCLOPENTANE					
DIMETHYL CYCLOPROPANE ISOMER					
DIMETHYL CYCLOPROPANE ISOMER					
2-METHYL PROPANE					
CYCLOHEXANE					
3-METHYL PENTADIENE ISOMER					
METHYL CYCLOHEXANE ISOMER					
2-ETHYL FURAN					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	GM1S			GMW1A		GM3S
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GGM1S-01	GGM1S-91	GGM1S-02	GMW1A-01	GMW1A-02	GGM3S-02
DATE SAMPLED	09/29/87	09/29/87	12/01/87	09/29/87	12/01/87	12/01/87
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE						
1,1,2-THICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE			1 F/J	2 F/	5 F/	
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	0	0
TOTAL VOCS	0	0	1	2	5	0
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	GM4D		GM4S	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GGM4D-01	GGM4D-02	GGM4S-01	GGM4S-02
DATE SAMPLED	09/29/87	11/30/87	09/29/87	11/30/87
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE				
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE				
TOLUENE				
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	0	0	0	0
TOTAL VOCS	0	0	0	0
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	GM5D			GM6D		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GGM5D-01	GGM5D-02	GGM5D-03	GGM6D-01	GGM6D-02	GGM6D-03
DATE SAMPLED	09/30/87	12/03/87	5/24/88	09/30/87	12/04/87	5/24/88
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE			1 F/			1 F/J
ACETONE				6 J/		13 F/
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)				1 J/		1 /J
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE	10	10	14	2		2
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE					2 F/	
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	10	10	14	3	0	3
TOTAL VOCS	10	10	15	9	2	17
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	GM7D		GM8D		
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GGM7D-01	GGM7D-02	GGM8D-01	GGM8D-02	GGM8D-03
DATE SAMPLED	09/30/87	12/04/87	09/30/87	12/04/87	5/24/88
DILUTION					
UNITS (UG/L)					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)	5				
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROETHANE					
TRICHLOROETHENE	5	8			
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE	2 F/				
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	12	8	0	0	0
TOTAL VOCS	12	8	0	0	0
TENTATIVE IDENTIFIED VOLATILES					
UNKNOWN HYDROCARBON					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	GM9S			HURD
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC
SAMPLE DESCRIPTION	GGM9S-01	GGM9S-02	GGM9S-03	GHURD-02
DATE SAMPLED	09/30/87	12/08/87	5/25/88	12/09/87
DILUTION	100	200		
UNITS (UG/L)				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE			3	
1,2-DICHLOROETHENE (TOTAL)			1 /J	
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE			13	
CARBON TETRACHLORIDE			2	
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE			47	
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	2440 EJ/	600	1000 J/E	
TOLUENE				2 E/
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	2440	600	1048	0
TOTAL VOCS	2440	600	1066	2
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW10A		
LAB	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GMW10A-01	GMW10A-02	GMW10A-03
DATE SAMPLED	10/01/87	12/07/87	5/23/88
DILUTION			
UNITS (UG/L)			
UNITS (UG/L)			
VINYL CHLORIDE			
METHYLENE CHLORIDE			
ACETONE		2 /J	
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,1-DICHLOROETHANE			
1,2-DICHLOROETHENE (TOTAL)			
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
TRANS-1,3-DICHLOROPROPENE			
BROMODICHLOROETHANE			
TRICHLOROETHENE			
1,1,2-TRICHLOROETHANE			
BENZENE			
4-METHYL-2-PENTANONE			
TETRACHLOROETHENE	2		
TOLUENE	4 F/		
CHLOROBENZENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	2	0	0
TOTAL VOCS	6	2	0
TENTATIVE IDENTIFIED VOLATILES			
UNKNOWN HYDROCARBON			

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW10B			
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GMW10B-01	GMW10B-91	GMW10B-02	GMW10B-03
DATE SAMPLED	10/01/87	10/01/87	12/07/87	5/23/88
DILUTION				
UNITS (UG/L)				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)	96	86 J/	96	3
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE	10 F/	14 F/	6	2
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	33 J/	40 J/	10	
TOLUENE	3 F/	3 F/		
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	139	140	112	5
TOTAL VOCS	142	143	112	5
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW11			MW13		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GMW11-01	GMW11-02	GMW11-03	GMW13-01	GMW13-02	GMW13-03
DATE SAMPLED	09/30/87	12/03/87	5/23/88	10/01/87	12/03/87	5/23/88
DILUTION						
UNITS (UG/L)						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE						7 /J
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE	1 J/	1 /J		1 F/		
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE	16 F/	2	3	4	3	2
TOLUENE	5 F/			1 F/		
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	17	3	3	5	3	2
TOTAL VOCS	22	3	3	6	3	9
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW14		MW3A	
LAB	ENCOTEC	NANCO	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GMW14-02	GMW14-03	GMW3A-01	GMW3A-02
DATE SAMPLED	12/08/87	5/26/88	09/29/87	11/30/87
DILUTION				
UNITS (UG/L)				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE		2 F/		
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE	3			
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	4			
TOLUENE				1 F/J
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	7	0	0	0
TOTAL VOCS	7	2	0	1
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON		4 /J		

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW3B		MW4A		MW4B	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GMW3B-01	GMW3B-02	GMW4A-01	GMW4A-02	GMW4B-01	GMW4B-02
DATE SAMPLED	09/29/87	11/30/87	09/29/87	12/01/87	09/29/87	12/01/87
DILUTION						
UNITS (UG/L)						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE			2		2	
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE					1 J/	
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE			1 F/		3 F/	1 F/J
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	1	0
TOTAL VOCS	0	0	3	0	6	1
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW4C		MW5
LAB	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GMW4C-01	GMW4C-02	GMW5-02
DATE SAMPLED	09/29/87	12/01/87	12/01/87
DILUTION			
UNITS (UG/L)			
UNITS (UG/L)			
VINYL CHLORIDE			
METHYLENE CHLORIDE			
ACETONE			
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,1-DICHLOROETHANE			
1,2-DICHLOROETHENE (TOTAL)			
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
TRANS-1,3-DICHLOROPROPENE			
BROMODICHLOROETHANE			
TRICHLOROETHENE			
1,1,2-TRICHLOROETHANE			
BENZENE			
4-METHYL-2-PENTANONE			
TETRACHLOROETHENE			
TOLUENE	1 F/		
CHLOROBENZENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	0	0	0
TOTAL VOCS	1	0	0
TENTATIVE IDENTIFIED VOLATILES			
UNKNOWN HYDROCARBON			

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW7				MW7A	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GMW7-01	GMW7-02	GMW7-92	GMW7-03	GMW7A-02	GMW7A-03
DATE SAMPLED	09/29/87	12/01/87	12/01/87	5/26/88	12/04/87	5/25/88
DILUTION						
UNITS (UG/L)						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE		4 F/J		1 F/	1	
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						2
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE		1 /J	1 /J			2
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						2
TOLUENE					1 F/	
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	1	1	0	0	6
TOTAL VOCS	0	5	1	1	2	6
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW8	MW9		MW9A	PDTW	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTECC	ENCOTEC
SAMPLE DESCRIPTION	GMW8-02	GMW9-01	GMW9-02	GMW9A-02	GPDTW-01	GPDTW-02
DATE SAMPLED	12/01/87	09/30/87	12/02/87	12/03/87	09/29/87	12/01/87
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE				4 F/		
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE						
BROMODICHLOROETHANE						
TRICHLOROETHENE						
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE						
CHLOROBENZENE						10
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	0	0
TOTAL VOCS	0	0	0	4	0	10
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

CK'D: APP'D:
DATE ISSUED:

	TCT40	TCT41	TCT42	TCT43	TCT44
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GTCT40-02	GTCT41-02	GTCT42-02	GTCT43-02	GTCT44-02
DATE SAMPLED	12/04/87	12/03/87	12/03/87	12/03/87	12/03/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
2-HEXANONE					
TETRACHLOROETHENE					
TOLUENE	2 F/				
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	2	0	0	0	0
TENTATIVELY IDENTIFIED COMPOUNDS					
UNKNOWN					
UNKNOWN					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	W50		W51A		W52A	
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GW50-02	GW50-03	GW51A-02	GW51A-03	GW52A-02	GW52A-03
DATE SAMPLED	12/02/87	5/23/88	12/02/87	5/23/88	12/08/87	5/24/88
DILUTION						
UNITS (UG/L)						
VINYL CHLOHIDE						
METHYLENE CHLORIDE	1					
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM				3	6	7
2-BUTANONE						
1,1,1-TRICHLOROETRANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE						
1,1,2-TRICHLOROETHANE						
BENZENE						
2-HEXANONE						3 /J
TETRACHLOROETHENE						
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	0	0	0	0
TOTAL VOCS	1	0	0	3	6	10
TENTATIVELY IDENTIFIED COMPOUNDS						
UNKNOWN						
UNKNOWN						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	W52		W53A	
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GW52-02	GW52-03	GW53A-02	GW53A-03
DATE SAMPLED	12/08/87	5/24/88	12/08/87	5/26/88
DILUTION			5	
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE		6 /J		
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)		3		15
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE	180	410 J/E	50	8 E/
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE				3
TOLUENE	1 E/J			
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	180	413	50	26
TOTAL VOCS	181	419	50	26
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				
UNKNOWN				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	W53			W54	
LAB	ENCOTEC	NANCO	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GW53-02	GW53-03	GW53-93	GW54-02	GW54-03
DATE SAMPLED	12/08/87	5/26/88	5/26/88	12/10/87	5/26/88
DILUTION	***		***	20	
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE	1 F/	1 F/			
ACETONE	2 /J		5 F/J		16 F/
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)		620 J/E			47
CHLOROFORM			44		
2-BUTANONE					
1,1,1-TRICHLOROETHANE					1 /J
CARBON TETRACHLORIDE			52		
BROMODICHLOROMETHANE					
TRICHLOROETHENE		570 FJ/E	3 F/	460	200 FJ/E
1,1,2-TRICHLOROETHANE		3			
BENZENE					
2-HEXANONE					
TETRACHLOROETHENE		8			22
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	1198	3	460	269
TOTAL VOCS	3	1202	104	460	286
TENTATIVELY IDENTIFIED COMPOUNDS					
UNKNOWN					
UNKNOWN					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	W55A		W55		W56A	
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GW55A-02	GW55A-03	GW55-02	GW55-03	GW56A-02	GW56A-03
DATE SAMPLED	12/08/87	5/25/88	12/08/87	5/25/88	12/01/87	5/23/88
DILUTION				30		
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE				39 J		5 F/
ACETONE	9 /J					6 /J
CARBON DISULFIDE						
1,1-DICHLOROETHENE			1 /J			
1,2-DICHLOROETHENE (TOTAL)	3		54 /J	50 J/		
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	32 /J	24	4200	2100 J/		
1,1,2-TRICHLOROETHANE			2			
BENZENE						
2-HEXANONE						
TETRACHLOROETHENE				36 J/		
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	35	24	4255	2186	0	0
TOTAL VOCS	44	24	4257	2225	0	11
TENTATIVELY IDENTIFIED COMPOUNDS						
UNKNOWN						
UNKNOWN						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	W56		W57	
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GW56-02	GW56-03	GW57-02	GW57-03
DATE SAMPLED	12/01/87	5/23/88	12/02/87	5/23/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE		5		
ACETONE		14		
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE				
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE				
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	0	0	0	0
TOTAL VOCS	0	19	0	0
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				
UNKNOWN				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC2		
LAB	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWC2-01	GWC2-02	GWC2-03
DATE SAMPLED	10/07/87	12/10/87	5/26/88
DILUTION	100	50	
UNITS (UG/L)			
VINYL CHLORIDE			3 /J
METHYLENE CHLORIDE			
ACETONE			4 F/J
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,2-DICHLOROETHENE (TOTAL)	384	190 F/	120 J/E
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			2
CARBON TETRACHLORIDE			
BROMODICHLOROMETHANE			
TRICHLOROETHENE	180	150 F/	43 F/
1,1,2-TRICHLOROETHANE			
BENZENE			
2-HEXANONE			
TETRACHLOROETHENE	226	390	360 J/E
TOLUENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	790	730	523
TOTAL VOCS	790	730	532
TENTATIVELY IDENTIFIED COMPOUNDS			
UNKNOWN			
UNKNOWN			

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC3A			
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWC3A-01	GWC3A-02	GWC3A-92	GWC3A-03
DATE SAMPLED	10/06/87	12/09/87	12/09/87	5/27/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE				
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE				
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	0	0	0	0
TOTAL VOCS	0	0	0	0
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				
UNKNOWN				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC3B			
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWC3B-01	GWC3B-02	GWC3B-92	GWC3B-03
DATE SAMPLED	10/07/87	12/10/87	12/10/87	5/27/88
DILUTION		10	25	
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)	4			
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE	4			
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE	19	33	130	
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	27	33	130	0
TOTAL VOCS	27	33	130	0
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				
UNKNOWN				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC3C		
LAB	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWC3C-01	GWC3C-02	GWC3C-03
DATE SAMPLED	10/06/87	12/10/87	5/27/88
DILUTION			
UNITS (UG/L)			
VINYL CHLORIDE			
METHYLENE CHLORIDE			
ACETONE			
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,2-DICHLOROETHENE (TOTAL)			
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
BROMODICHLOROMETHANE			
TRICHLOROETHENE			
1,1,2-TRICHLOROETHANE			
BENZENE			
2-HEXANONE			
TETRACHLOROETHENE			
TOLUENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	0	0	0
TOTAL VOCS	0	0	0
TENTATIVELY IDENTIFIED COMPOUNDS			
UNKNOWN			1 /J
UNKNOWN			

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MC3			
LAB	ENCOTEC	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GWC3-01	GWC3-02	GWC3-03	GWC3-93
DATE SAMPLED	10/06/87	12/09/87	5/27/88	5/27/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)				
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE				
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE				
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	0	0	0	0
TOTAL VOCS	0	0	0	0
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				
UNKNOWN				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC4A		WC4		
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GWC4A-01	GWC4A-02	GWC4-01	GWC4-91	GWC4-02
DATE SAMPLED	10/01/87	12/09/87	10/06/87	10/01/87	12/09/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOHOETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
2-HEXANONE					
TETRACHLOROETHENE					
TOLUENE				1 F/	2
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	0	0	0	1	2
TENTATIVELY IDENTIFIED COMPOUNDS					
UNKNOWN					
UNKNOWN					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC5A			WC5		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWC5A-01	GWC5A-02	GWC5A-03	GWC5-01	GWC5-02	GWC5-03
DATE SAMPLED	10/07/87	12/09/87	5/27/88	10/07/87	12/09/87	5/27/88
DILUTION	10	10				
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE						4 FJ/J
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)			13			
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE			10			
1,1,2-TRICHLOROETHANE						
BENZENE						
2-HEXANONE						
TETRACHLOROETHENE	191	200	130 FJ/E			
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	191	200	153	0	0	0
TOTAL VOCS	191	200	153	0	0	4
TENTATIVELY IDENTIFIED COMPOUNDS						
UNKNOWN						
UNKNOWN						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MC6A			
LAB	ENCOTEC	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GWC6A-01	GWC6A-02	GWC6A-03	GWC6A-93
DATE SAMPLED	10/07/87	12/09/87	5/27/88	5/27/88
DILUTION			10	
UNITS (UG/L)				
VINYL CHLORIDE	4 J/	3 /J		
METHYLENE CHLORIDE			580 J/	
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)	40	5		7
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE	9	1 /J		2
1,1,2-TRICHLOROETHANE				
BENZENE				
2-HEXANONE				
TETRACHLOROETHENE	3	2		3 F/
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	52	8	0	12
TOTAL VOCS	56	11	580	12
TENTATIVELY IDENTIFIED COMPOUNDS				
UNKNOWN				1 /J
UNKNOWN				1 /J

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WC6			WC7A	
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GWC6-01	GWC6-02	GWC6-03	GWC7A-01	GWC7A-02
DATE SAMPLED	10/07/87	12/09/87	5/27/88	10/06/87	12/03/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE			9 F/J		
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
2-HEXANONE					
TETRACHLOROETHENE					
TOLUENE		1 F/		1 F/	
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	0	1	9	1	0
TENTATIVELY IDENTIFIED COMPOUNDS					
UNKNOWN					
UNKNOWN					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

CK'D: APP'D:
DATE ISSUED:

	WCEXW1	WCEXW13	WCEXW15		WCEXW2	WCEXW4
LAB	NANCO	NANCO	ENCOTEC	NANCO	NANCO	ENCOTEC
SAMPLE DESCRIPTION	GWCEXW1-03	GWCEXW13-03	GWCEXW15-02	GWCEXW15-03	GWCEXW2-03	GWCEXW4-02
DATE SAMPLED	5/27/88	5/27/88	12/10/87	5/27/88	5/27/88	12/09/87
DILUTION	2		5			30
UNITS (UG/L)						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE				190 J/BE		
ACETONE		12 F/				
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)	27	10	7 F/J	15	250 J/E	77
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE		1 /J		1 /J	3 J/	
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	24	30	9	20	120 J/E	49
DIBRONOCHLOROMETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE	88 F	26 F/	99	99 F/	210 FJ/E	440
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	139	66	115	134	580	566
TOTAL VOCS	139	79	115	325	583	566
TENTATIVELY IDENTIFIED COMPOUNDS						
ETHANE, 1,1,2-TRICHLORO 1,2		30 /J				
UNKNOWN						
UNKNOWN HYDROCARBON						
HEXAMETHYL CYCLOTRISILOXANE						120 /J

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WCEXW5	WCEXW6	WCEXW7	WCEXW8
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GWCEXW5-02	GWCEXW6-02	GWCEXW7-02	GWCEXW8-03
DATE SAMPLED	12/10/87	12/10/87	12/10/87	5/27/88
DILUTION	50		50	
UNITS (UG/L)				
VINYL CHLORIDE				6 /J
CHLOROETHANE				4
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)		7 F/	110 F/	1100 J/E
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE		1 /J		9
CARBON TETRACHLORIDE				1 /J
BROMODICHLOROMETHANE				
TRICHLOROETHENE	80 F/	12	130 F/	260 J/E
DIBROMOCHLOROMETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	970	760	2400 J/	230 FJ/E
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	1050	779	2640	1590
TOTAL VOCS	1050	780	2640	1610
TENTATIVELY IDENTIFIED COMPOUNDS				
ETHANE, 1,1,2-TRICHLORO 1,2				
UNKNOWN				
UNKNOWN HYDROCARBON				
HEXAMETHYL CYCLOTRISILOXANE				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WAUSAU CHEMICAL EFFLUENT			
LAB	ENCOTEC	NANCO	NANCO	VERSAR
SAMPLE DESCRIPTION	GWCOUT-02	GWCOUT-03	GWCOUT-93	WC-ST01-E04
DATE SAMPLED	12/10/87	5/27/88	5/27/88	7/7/88
DILUTION	8			
UNITS (UG/L)				
VINYL CHLORIDE				
CHLOROETHANE				
METHYLENE CHLORIDE				2
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)		22	21	36
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE		8	7	9
DIBROMOCHLOROMETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	86	17 F/	13 F/	20
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	86	47	41	65
TOTAL VOCS	86	47	41	67
TENTATIVELY IDENTIFIED COMPOUNDS				
ETHANE, 1,1,2-TRICHLORO 1,2				
UNKNOWN				
UNKNOWN HYDROCARBON				
HEXAMETHYL CYCLOTRISILOXANE				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WERGIN			WW1	WW2
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GWERG-01	GWERG-02	GWERG-03	GWW1-02	GWW2-02
DATE SAMPLED	10/01/87	12/04/87	5/25/88	12/04/87	12/03/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE					
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)			1 /J	4	
CHLOROFORM					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE			2	6	
DIBROMOCHLOROMETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE			2	18	
TOLUENE			1 /J		
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	5	28	0
TOTAL VOCS	0	0	6	28	0
TENTATIVELY IDENTIFIED COMPOUNDS					
ETHANE, 1,1,2-TRICHLORO 1,2					
UNKNOWN					
UNKNOWN HYDROCARBON					
HEXAMETHYL CYCLOTRISILOXANE					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	WW3	WW4	WW5		WW6	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GWW3-02	GWW4-02	GWW5-01	GWW5-02	GWW6-01	GWW6-02
DATE SAMPLED	12/03/87	12/04/87	10/01/87	12/04/87	10/01/87	12/04/87
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE						
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)					1 J/	
CHLOROFORM			6 F/	6		
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE			1 F/	2	1 F/	2
DIBROMOCHLOROMETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE					2	2
TOLUENE			1 F/		2 F/	2 F/
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	1	2	4	4
TOTAL VOCS	0	0	8	8	6	6
TENTATIVELY IDENTIFIED COMPOUNDS						
ETHANE, 1,1,2-TRICHLORO 1,2						
UNKNOWN						
UNKNOWN HYDROCARBON						
HEXAMETHYL CYCLOTRISILOXANE						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	MW7			MW8
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GWW7-01	GWW7-91	GWW7-02	GWW8-02
DATE SAMPLED	09/30/87	09/30/87	12/04/87	12/07/87
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
CHLOROETHANE				
METHYLENE CHLORIDE			1	
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,2-DICHLOROETHENE (TOTAL)	3	3	3	
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
BROMODICHLOROMETHANE				
TRICHLOROETHENE	5 F/	6 F/	3	
DIBROMOCHLOROMETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE	55 F/	37 J/	38	
TOLUENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	63	46	44	0
TOTAL VOCS	63	46	45	0
TENTATIVELY IDENTIFIED COMPOUNDS				
ETHANE, 1,1,2-TRICHLORO 1,2				
UNKNOWN				
UNKNOWN HYDROCARBON				
HEXAMETHYL CYCLOTRISILOXANE				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	SAMPLE BLANKS				
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	SB01-01	SB01-02	SB01-03	SB02-01	SB02-02
DATE SAMPLED	09/29/87	12/1/87	5/24/88	09/30/87	12/2/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE		2			3
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM	1 J/			25 J/	
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE					
DIBROMOCHLOROMETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE	1 J/			1 J/	
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	2	2	0	26	3
TENTATIVELY IDENTIFIED COMPOUNDS					
ETHANE, 1,1,2-TRICHLORO 1,2					
UNKNOWN					
UNKNOWN HYDROCARBON					
HEXAMETHYL CYCLOTRISILOXANE					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	SAMPLE BLANKS				
LAB	NANCO	ENCOTEC	ENCOTEC	NANCO	ENCOTEC
SAMPLE DESCRIPTION	SB02-03	SB03-01	SB03-02	SB03-03	SB04-01
DATE SAMPLED	5/24/88	09/30/87	12/02/87	5/24/88	10/01/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE	1 /J		2		
ACETONE	15				
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM		16			22 J/
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE			3		2
DIBROMOCHLOROMETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE		2			
TOLUENE		2			1 J/
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	2	3	0	2
TOTAL VOCS	16	20	5	0	25
TENTATIVELY IDENTIFIED COMPOUNDS					
ETHANE, 1,1,2-TRICHLORO 1,2					
UNKNOWN					
UNKNOWN HYDROCARBON					
HEXAMETHYL CYCLOTRISILOXANE					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	SAMPLE BLANKS				
LAB	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	SB04-02	SB04-03	SB05-01	SB05-02	SB05-03
DATE SAMPLED	12/03/87	5/25/88	10/01/87	12/03/87	5/26/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE	2	2		4	2
ACETONE		16			-12
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM			19	1 /J	
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE			1 J/		
TRICHLOROETHENE					
DIBROMOCHLOROMETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE			3	2 /J	
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	2	18	23	7	14
TENTATIVELY IDENTIFIED COMPOUNDS					
ETHANE, 1,1,2-TRICHLORO 1,2					
UNKNOWN					
UNKNOWN HYDROCARBON					
HEXAMETHYL CYCLOTRISILOXANE					

BOS CREEK AT BURNS STREET, WAUSAU, WI 6/20/88
V = 1.00*R (pygmy)
Measured flow 50' D/S from bridge & below well discharge

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
10.1	-0.45	0	0	0	0	0	0.0000
9.2	-0.65	0.4	9	21.28	0.4229	-0.26	-0.1100
8.8	-0.4	0.59	7	20.33	0.3443	-0.236	-0.0813
8.4	-0.4	0.83	9	21.99	0.4093	-0.332	-0.1359
8	-0.4	0.8	9	21.81	0.4127	-0.32	-0.1320
7.6	-0.4	0.85	8	21.06	0.3799	-0.34	-0.1292
7.2	-0.4	0.91	9	20.57	0.4375	-0.364	-0.1593
6.8	-0.4	0.8	8	20.85	0.3837	-0.32	-0.1228
6.4	-0.4	0.98	7	20.3	0.3448	-0.392	-0.1352
6	-0.4	1.03	5	24.52	0.2039	-0.412	-0.0840
5.6	-0.4	1	7	20.49	0.3416	-0.4	-0.1367
5.2	-0.4	0.95	7	20.23	0.346	-0.38	-0.1315
4.8	-0.4	1.01	5	23.16	0.2159	-0.404	-0.0872
4.4	-0.4	1.02	3	21.27	0.141	-0.408	-0.0575
4	-0.4	1.07	3	22.74	0.1319	-0.428	-0.0565
3.6	-0.4	0.95	3	23.05	0.1302	-0.38	-0.0495
3.2	-0.5	0.9	1	30	0.0333	-0.45	-0.0150
2.6	-0.6	0.91	0	20	0	-0.546	0.0000
2	-1.15	0.48	0	20	0	-0.552	0.0000
0.3	-0.85	0	0	20	0	0	0.0000
TOTALS	-9.8					-6.924	-1.6234

MEAN VELOCITY = 0.2345 FEET/SEC
FLOW = 1.62 CFS

BOS CREEK AT RANDOLPH STREET,WAUSAU 6/20/88
V = 2.180R + 0.02 (feet/sec) V = 1.00*R (pygmy)
Measured flow 2' D/S from culvert

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow	
0.4	0.7	0	0	20	0	0	0.0000	PRICE METER
1.8	1	0.3	1	29.55	0.0938	0.3	0.0281	" "
2.4	0.6	0.75	2	53.93	0.1008	0.45	0.0454	" "
3	0.6	1	2	39.53	0.1303	0.6	0.0782	" "
3.6	0.6	1.27	1	20.71	0.1253	0.762	0.0955	" "
4.2	0.6	1.46	1	53	0.0611	0.876	0.0536	" "
4.8	0.5	1.6	1	46	0.0674	0.8	0.0539	" "
5.2	0.4	1.69	1	29.87	0.0930	0.676	0.0629	" "
5.6	0.4	1.63	1	29.24	0.0946	0.652	0.0617	" "
6	0.4	1.51	1	25.6	0.1052	0.604	0.0635	" "
6.4	0.4	1.48	1	18	0.1411	0.592	0.0835	" "
6.8	0.4	1.23	1	29.7	0.0934	0.492	0.0460	" "
7.2	0.4	1.16	1	30	0.0927	0.464	0.0430	PRICE METER
7.6	0.3	1.1	0	20	0.0000	0.33	0.0000	
7.8	0.45	1.1	0	20	0	0.495	0	CULVERT "WEB"
8.5	0.4	0.7	0	20	0	0.28	0	CULVERT "WEB"
8.6	0.25	0.69	0	20	0.0000	0.1725	0.0000	PYGMY METER
9	0.4	0.68	5	23.96	0.2087	0.272	0.0568	" "
9.4	0.4	0.71	5	22.2	0.2252	0.284	0.0640	" "
9.8	0.4	0.7	5	24.57	0.2035	0.28	0.0570	" "
10.2	0.4	0.69	7	22.56	0.3103	0.276	0.0856	" "
10.6	0.4	0.68	7	23.18	0.3020	0.272	0.0821	" "
11	0.4	0.68	6	20.97	0.2861	0.272	0.0778	" "
11.4	0.4	0.6	5	23.96	0.2087	0.24	0.0501	" "
11.8	0.4	0.52	3	20.69	0.1450	0.208	0.0302	" "
12.2	0.4	0.48	7	22.33	0.3135	0.192	0.0602	" "
12.6	0.4	0.32	7	21.58	0.3244	0.128	0.0415	" "
13	0.6	0.38	6	22.49	0.2668	0.228	0.0608	" "
13.8	0.4	0	0	20	0.0000	0	0.0000	PYGMY METER
TOTALS	13.4					11.1975	1.3812	

MEAN VELOCITY = 0.1233
FLOW = 1.38 CFS

RANDOLPH2

BOS CREEK AT RANDOLPH STREET,WAUSAU 6/21/88
V = 2.180R + 0.02 (feet/sec)
Measured flow 2' D/S from culvert

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow	
0	0.55	0	0	20	0	0	0.0000	
1.1	0.8	0.48	1	25.9	0.1042	0.384	0.0400	
1.6	0.55	0.68	1	24.6	0.1086	0.374	0.0406	
2.2	0.6	0.95	1	22.85	0.1154	0.57	0.0658	
2.8	0.6	1.22	1	22.5	0.1169	0.732	0.0856	
3.4	0.5	1.43	1	27.7	0.0987	0.715	0.0706	
3.8	0.4	1.55	1	23.1	0.1144	0.62	0.0709	
4.2	0.5	1.61	1	31.7	0.0888	0.805	0.0715	
4.8	0.6	1.55	1	30	0.0927	0.93	0.0862	
5.4	0.5	1.42	1	29.2	0.0947	0.71	0.0672	
5.8	0.4	1.3	1	28.9	0.0954	0.52	0.0496	
6.2	0.5	1.08	1	24	0.1108	0.54	0.0599	
6.8	0.35	0.92	1	40.6	0.0737	0.322	0.0237	0.7315 = FLOW IN LEFT CULVERT
6.9	0.4	0.9	0	20	0.0000	0.36	0.0000	CULVERT "WEB"
7.6	0.55	0.6	0	20	0.0000	0.33	0.0000	CULVERT "WEB"
8	0.4	0.6	5	25.5	0.4475	0.24	0.1074	
8.4	0.5	0.61	5	28.1	0.4079	0.305	0.1244	
9	0.5	0.64	5	25.2	0.4525	0.32	0.1448	
9.4	0.4	0.63	4	23.3	0.3942	0.252	0.0994	
9.8	0.4	0.6	5	23.6	0.4819	0.24	0.1156	
10.2	0.4	0.57	5	29.9	0.3845	0.228	0.0877	
10.6	0.4	0.5	5	26.8	0.4267	0.2	0.0853	
11	0.4	0.41	5	28.4	0.4038	0.164	0.0662	
11.4	0.5	0.25	5	26.8	0.4267	0.125	0.0533	
12	0.8	0.25	0	20	0	0.2	0.0000	
13	0.5	0	0	20	0	0	0.0000	0.88419 = FLOW IN RIGHT CULVERT
TOTALS	13					10.186	1.6157	

MEAN VELOCITY = 0.1586
FLOW = 1.62 CFS

RANDOLPH3

BOS CREEK AT BURNS STREET, WAUSAU, WI 6/21/88
V = 1.00*R (pygmy)
Measured flow 50' D/S from bridge (below well discharge)

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
0	0.3	0	0	20	0	0	0.0000
0.6	0.5	0.3	0	30	0.0000	0.15	0.0000
1	0.5	0.44	0	30	0	0.22	0.0000
1.6	0.5	0.52	2	18	0.1111	0.26	0.0289
2	0.4	0.64	2	24.9	0.0803	0.256	0.0206
2.4	0.4	0.72	3	31.7	0.0946	0.288	0.0273
2.8	0.4	0.81	5	29.2	0.1712	0.324	0.0555
3.2	0.4	0.9	5	22.6	0.2212	0.36	0.0796
3.6	0.4	0.94	5	21.6	0.2315	0.376	0.0870
4	0.4	1.01	5	22.3	0.2242	0.404	0.0906
4.4	0.4	1.01	8	21.5	0.3721	0.404	0.1503
4.8	0.4	0.89	8	28.1	0.2847	0.356	0.1014
5.2	0.4	0.95	6	22	0.2727	0.38	0.1036
5.6	0.4	0.95	5	20.9	0.2392	0.38	0.0909
6	0.5	0.9	9	24.4	0.3689	0.45	0.1660
6.6	0.6	0.8	8	21.8	0.367	0.48	0.1761
7.2	0.5	0.68	8	20.15	0.397	0.34	0.1350
7.6	0.4	0.57	8	22	0.3636	0.228	0.0829
8	0.5	0.42	8	20.07	0.3986	0.21	0.0837
8.6	0.8	0.24	6	20.76	0.289	0.192	0.0555
9.6	0.5	0	0	20	0	0	0.0000
TOTALS	9.6					6.058	1.5349

MEAN VELOCITY = 0.2534 FEET/SEC
FLOW = 1.53 CFS

BURNS3

BOS CREEK AT RANDOLPH STREET,WAUSAU 6/28/88
V = 2.180R + 0.02 (feet/sec)
Measured flow near D/S end culvert (CSR)

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow	
0.8	0.3	0.3	0	20	0	0	0.0000	
1.4	0.6	0.42	1	19.45	0.1321	0.252	0.0333	
2	0.5	0.5	1	35.67	0.0811	0.25	0.0203	
2.4	0.4	0.94	1	29.12	0.0949	0.376	0.0357	
2.8	0.4	0.98	1	22.74	0.1159	0.392	0.0454	
3.2	0.4	1.21	1	36.18	0.0803	0.484	0.0388	
3.6	0.4	1.4	1	24.73	0.1082	0.56	0.0606	
4	0.5	1.5	1	28.94	0.0953	0.75	0.0715	
4.6	0.5	1.75	1	27.73	0.0986	0.875	0.0863	
5	0.5	1.83	1	35.99	0.0806	0.915	0.0737	
5.6	0.5	1.85	1	120.14	0.0381	0.925	0.0353	
6	0.5	1.79	1	32.54	0.0870	0.895	0.0779	
6.6	0.5	1.55	1	44.05	0.0695	0.775	0.0539	
7	0.45	1.42	1	43.37	0.0703	0.639	0.0449	
7.5	0.5	1.25	1	43.17	0.0705	0.625	0.0441	0.72153 = FLOW IN LEFT CULVERT
8	0.25	1.01	0	0	0	0.2525	0.0000	CULVERT "WEB"
8.5	0.25	0.91	0	0	0	0.2275	0.0000	CULVERT "WEB"
9	0.5	0.85	3	38.09	0.1917	0.425	0.0815	
9.5	0.5	0.88	2	22.82	0.2111	0.44	0.0929	
10	0.5	0.88	2	37.7	0.1356	0.44	0.0597	
10.5	0.5	0.9	1	14.58	0.1695	0.45	0.0763	
11	0.5	0.86	2	24.52	0.1978	0.43	0.0851	
11.5	0.5	0.76	1	18.93	0.1352	0.38	0.0514	
12	0.5	0.68	1	16.39	0.1530	0.34	0.0520	
12.5	0.5	0.55	1	16.27	0.1540	0.275	0.0423	
13	0.5	0.46	1	13.11	0.1863	0.23	0.0428	
13.5	0.5	0.34	1	20.24	0.1277	0.17	0.0217	
14	0.25	0.25	1	22.75	0.1158	0.0625	0.0072	0.61289 = FLOW IN RIGHT CULVERT
TOTALS	12.7					12.8355	1.3344	

MEAN VELOCITY = 0.1040
FLOW = 1.33 CFS

RANDOLPH4

BOS CREEK AT BURNS STREET, WAUSAU, WI 6/28/88 @ 06:30
V = 2.180R + 0.02 (feet/sec) (Price meter)
cw6 pumping to waste

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
0	0.3	0					
0.6	0.5	0.3	0	50	0	0.15	0.0000
1	0.5	0.45	1	45.68	0.0677	0.225	0.0152
1.6	0.5	0.48	1	35.67	0.0811	0.24	0.0195
2	0.4	0.62	1	25.67	0.1049	0.248	0.0260
2.4	0.4	0.73	2	28.2	0.1746	0.292	0.0510
2.8	0.4	0.8	2	47.7	0.1114	0.32	0.0356
3.2	0.5	0.85	1	22.4	0.1173	0.425	0.0499
3.8	0.5	0.81	3	24.63	0.2855	0.405	0.1156
4.2	0.4	0.75	4	26.7	0.3466	0.3	0.1040
4.6	0.4	0.83	5	32.6	0.3544	0.332	0.1176
5	0.5	0.84	5	29.68	0.3873	0.42	0.1626
5.6	0.5	0.83	5	24.89	0.4579	0.415	0.1900
6	0.4	0.75	5	22.52	0.5040	0.3	0.1512
6.4	0.4	0.72	6	24.88	0.5457	0.288	0.1572
6.8	0.4	0.7	6	23.46	0.5775	0.28	0.1617
7.2	0.4	0.65	5	24.6	0.4631	0.26	0.1204
7.6	0.4	0.53	4	21	0.4352	0.212	0.0923
8	0.4	0.4	6	25.82	0.5266	0.16	0.0843
8.4	0.5	0.31	4	22.45	0.4084	0.155	0.0633
9	0.3	0.15	0			0.045	0.0000
TOTALS	9					5.472	1.7175

MEAN VELOCITY = 0.3139 FEET/SEC
FLOW = 1.72 CFS

BURNS4

BOS CREEK AT BURNS STREET, WAUSAU, WI 6/29/88
V = 1.00*R (pygmy)

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
1.2	0.2	0.04	0		0	0	0.0000
1.6	0.4	0.1	0		0	0.04	0.0000
2	0.4	0.2	4	27.7	0.1444	0.08	0.0116
2.4	0.4	0.25	5	24.31	0.2057	0.1	0.0206
2.8	0.4	0.18	3	28.06	0.1069	0.072	0.0077
3.2	0.4	0.14	4	24.8	0.1613	0.056	0.0090
3.6	0.4	0.08	0		0	0.032	0.0000
4	0.2	0.05	0		0	0.01	0.0000
TOTALS	2.8					0.39	0.0489

MEAN VELOCITY = 0.1253 FEET/SEC
FLOW = 0.05 CFS

BURNS5

BOS CREEK AT BURNS STREET, WAUSAU, WI 7/8/88 @ 07:15
V = 2.180R + 0.02 (feet/sec) (Price meter)

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow
3	0.2	0.3	0			0.06	0.0000
3.4	0.5	0.4	0		0	0.2	0.0000
4	0.5	0.44	1	20	0.1290	0.22	0.0284
4.4	0.4	0.53	2	32.49	0.1542	0.212	0.0327
4.8	0.4	0.68	2	30.19	0.1644	0.272	0.0447
5.2	0.4	0.75	1	30.98	0.0904	0.3	0.0271
5.6	0.4	0.82	2	26.32	0.1857	0.328	0.0609
6	0.4	0.82	2	25.38	0.1918	0.328	0.0629
6.4	0.4	0.82	2	21.75	0.2205	0.328	0.0723
6.8	0.4	0.82	4	28.14	0.3299	0.328	0.1082
7.2	0.4	0.76	3	24.11	0.2913	0.304	0.0885
7.6	0.4	0.8	4	21.46	0.4263	0.32	0.1364
8	0.4	0.75	8	21.66	0.8252	0.3	0.2476
8.4	0.4	0.73	7	24.54	0.6418	0.292	0.1874
8.8	0.4	0.7	7	21.47	0.7308	0.28	0.2046
9.2	0.4	0.65	7	20.52	0.7637	0.26	0.1986
9.6	0.4	0.6	6	20.59	0.6553	0.24	0.1573
10	0.4	0.5	7	21.99	0.7140	0.2	0.1428
10.4	0.5	0.38	6	22.3	0.6065	0.19	0.1152
11	0.3	0.2	5	8.14	1.3591	0.06	0.0815
TOTALS	8.0000					5.0220	1.9972

MEAN VELOCITY = 0.3977 FEET/SEC
FLOW = 2.00 CFS

BOS CREEK AT RANDOLPH STREET,WAUSAU 7/8/88
V = 2.180R + 0.02 (feet/sec)
Measured flow near D/S end culvert (CSR)

Dist.	Width	Depth	Rev	Time	Veloci	Area	Flow	
1	0.2	0.19	0		0	0	0.0000	
1.4	0.4	0.25	0		0	0.1	0.0000	
1.8	0.4	0.32	0	30	0	0.128	0.0000	
2.2	0.4	0.6	2	43.17	0.1210	0.24	0.0290	
2.6	0.4	0.68	2	41.68	0.1246	0.272	0.0339	
3	0.4	1	2	45.89	0.1150	0.4	0.0460	
3.4	0.4	1.15	2	43.21	0.1209	0.46	0.0556	
3.8	0.4	1.32	2	40.73	0.1270	0.528	0.0671	
4.2	0.4	1.4	2	47.17	0.1124	0.56	0.0630	
4.6	0.4	1.57	2	37.32	0.1368	0.628	0.0859	
5	0.4	1.65	2	50.52	0.1063	0.66	0.0702	
5.4	0.4	1.62	2	54.05	0.1007	0.648	0.0652	
5.8	0.4	1.62	2	49.88	0.1074	0.648	0.0696	
6.2	0.4	1.55	2	47.88	0.1111	0.62	0.0689	
6.6	0.4	1.4	2	54.84	0.0995	0.56	0.0557	
7	0.4	1.32	2	48.47	0.1100	0.528	0.0581	
7.4	0.4	1.2	2	51.35	0.1049	0.48	0.0504	
7.8	0.4	1.05	1	50.2	0.0634	0.42	0.0266	0.84514 = FLOW IN LEFT CULVERT
8.2	0.2	0.9	0	0	0	0.18	0.0000	CULVERT "WEB"
8.6	0.2	0.8	0	0	0	0.16	0.0000	CULVERT "WEB"
9	0.4	0.75	2	24.97	0.1946	0.3	0.0584	
9.4	0.4	0.75	3	28.33	0.2509	0.3	0.0753	
9.8	0.4	0.75	3	24.63	0.2855	0.3	0.0857	
10.2	0.4	0.75	3	33.51	0.2152	0.3	0.0645	
10.6	0.4	0.75	2	32.86	0.1527	0.3	0.0458	
11	0.4	0.75	3	31.19	0.2297	0.3	0.0689	
11.4	0.4	0.7	2	31.81	0.1571	0.28	0.0440	
11.8	0.4	0.6	2	26.83	0.1825	0.24	0.0438	
12.2	0.4	0.55	3	27.38	0.2589	0.22	0.0569	
12.6	0.4	0.45	3	31.19	0.2297	0.18	0.0413	
13	0.4	0.36	3	33.27	0.2166	0.144	0.0312	
13.4	0.4	0.3	2	26.34	0.1855	0.12	0.0223	
13.8	0.4	0.2	0	0	0	0.08	0.0000	
14.2	0.2	0.05	0	0	0	0.01	0.0000	0.63808 = FLOW IN RIGHT CULVERT
TOTALS	12.8					11.294	1.4832	

MEAN VELOCITY = 0.1313
FLOW = 1.48 CFS

RANDOLPH5

BOS CREEK AT BURNS STREET, WAUSAU, WI 7/20/88
measured by timing flow of object

Dist.	Width	Depth	Dist	Time	Veloci	Area	Flow
0	0.5	0	0			0	0.0000
1	0.75	0.05	0		0	0.0375	0.0000
1.5	0.5	0.1	2	14	0.1429	0.05	0.0071
2	0.5	0.18	2	12.98	0.1541	0.09	0.0139
2.5	0.5	0.22	2	16.79	0.1191	0.11	0.0131
3	0.5	0.18	1	7.23	0.1383	0.09	0.0124
3.5	0.5	0.12	0.5	4.23	0.1182	0.06	0.0071
4	0.4	0.05	0.5	6.29	0.0795	0.02	0.0016
4.3	0.15	0	0			0	0.0000
TOTALS	4.3000					0.4575	0.0552

MEAN VELOCITY = 0.1208 FEET/SEC
FLOW = 0.06 CFS

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	SAMPLE BLANKS					
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	NANCO	ENCOTEC
SAMPLE DESCRIPTION	SB06-01	SB06-02	SB06-03	SB07-02	SB07-03	SB08-02
DATE SAMPLED	10/07/87	12/04/87	5/26/88	12/07/87	5/27/88	12/08/87
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
CHLOROETHANE		2				
METHYLENE CHLORIDE			2			
ACETONE			43		33	
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM	15					
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE			3			
DIBROMOCHLOROMETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE						
TOLUENE	1 J/	2		1 /J		2
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	3	0	0	0
TOTAL VOCS	16	4	48	1	33	2
TENTATIVELY IDENTIFIED COMPOUNDS						
ETHANE, 1,1,2-TRICHLORO 1,2						
UNKNOWN						
UNKNOWN HYDROCARBON						
HEXAMETHYL CYCLOTRISILOXANE						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	SAMPLE BLANKS					
LAB	NANCO	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	SB08-03	SB09-02	SB09-03	SB10-02	SB11-02	SB12-03
DATE SAMPLED	5/27/88	12/08/87	5/27/88	12/09/87	12/10/87	5/24/88
DILUTION						
UNITS (UG/L)						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE		1				
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)					1 /J	
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE					2	
DIBROMOCHLOROMETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE			2			
TOLUENE		2		2		
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	0	0	2	0	3	0
TOTAL VOCS	0	3	2	2	3	0
TENTATIVELY IDENTIFIED COMPOUNDS						
ETHANE, 1,1,2-TRICHLORO 1,2						
UNKNOWN						
UNKNOWN HYDROCARBON						
HEXAMETHYL CYCLOTRISILOXANE						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	TRIP BLANKS				
LAB	ENCOTEC	NANCO	ENCOTEC	NANCO	ENCOTEC
SAMPLE DESCRIPTION	TB01-01	TB01-03	TB02-01	TB02-03	TB03-01
DATE SAMPLED	09/29/87	5/25/88	09/30/87	5/26/88	10/01/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE		11		13	
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM	7		28 J/		24 J/
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE			1 J/		1 J/
TRICHLOROETHENE					
DIBROMOCHLOROMETHANE		1 /J			
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE	2		2	2 J/	2
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	9	12	31	15	27
TENTATIVELY IDENTIFIED COMPOUNDS					
ETHANE, 1,1,2-TRICHLORO 1,2					
UNKNOWN					
UNKNOWN HYDROCARBON				5 /J	
HEXAMETHYL CYCLOTRISILOXANE					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	TRIP BLANKS	
LAB	NANCO	ENCOTEC
SAMPLE DESCRIPTION	TB03-03	TB04-01
DATE SAMPLED	5/27/88	10/10/87
DILUTION		
UNITS (UG/L)		
VINYL CHLORIDE		
CHLOROETHANE		
METHYLENE CHLORIDE		
ACETONE		
CARBON DISULFIDE		
1,1-DICHLOROETHENE		
1,2-DICHLOROETHENE (TOTAL)		
CHLOROFORM	0.5 J/J	
2-BUTANONE		
1,1,1-TRICHLOROETHANE		
CARBON TETRACHLORIDE		
BROMODICHLOROMETHANE		
TRICHLOROETHENE		
DIBROMOCHLOROMETHANE		
BENZENE		
4-METHYL-2-PENTANONE		
TETRACHLOROETHENE		
TOLUENE		
ETHYLBENZENE		
TOTAL XYLENES		
TOTAL ETHENES	0	0
TOTAL VOCS	0.5	0
TENTATIVELY IDENTIFIED COMPOUNDS		
ETHANE, 1,1,2-TRICHLORO 1,2		
UNKNOWN		
UNKNOWN HYDROCARBON		
HEXAMETHYL CYCLOTRISILOXANE		

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R1D			R1S	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC
SAMPLE DESCRIPTION	GR1D-01	GR1D-91	GR1D-02	GR1S-01	GR1S-02
DATE SAMPLED	09/30/87	09/30/87	12/02/87	09/30/87	12/02/87
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE				7 J/	
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM		1 F/			
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROETHANE					
TRICHLOROETHENE					
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE		3 F/		4 F/	
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	0
TOTAL VOCS	0	4	0	11	0
TENTATIVE IDENTIFIED VOLATILES					
UNKNOWN HYDROCARBON					

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R2D			
LAB	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GR2D-01	GR2D-02	GR2D-92	GR2D-03
DATE SAMPLED	10/01/87	12/08/87	12/08/87	5/26/88
DILUTION	100			
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				2
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)		15	16	35
CHLOROFORM				
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE	1020 F/	400	590	640 FJ/E
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE		1 /J		
TOLUENE			1 F/J	
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	1020	416	606	675
TOTAL VOCS	1020	416	607	677
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R2S		
LAB	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GR2S-01	GR2S-02	GR2S-03
DATE SAMPLED	10/01/87	12/08/87	5/26/88
DILUTION			
UNITS (UG/L)			
VINYL CHLORIDE			
METHYLENE CHLORIDE			
ACETONE			
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,1-DICHLOROETHANE			
1,2-DICHLOROETHENE (TOTAL)	1 J/	19	
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
TRANS-1,3-DICHLOROPROPENE			
BROMODICHLOROETHANE			
TRICHLOROETHENE	54 FJ/	3	39 F/
1,1,2-TRICHLOROETHANE			
BENZENE			
4-METHYL-2-PENTANONE			
TETRACHLOROETHENE			
TOLUENE	1 F/		
CHLOROBENZENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	55	22	39
TOTAL VOCS	56	22	39
TENTATIVE IDENTIFIED VOLATILES			
UNKNOWN HYDROCARBON			

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R3D			
LAB	ENCOTEC	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	GR3D-01	GR3D-02	GR3D-03	GR3D-93
DATE SAMPLED	09/30/87	12/02/87	5/23/88	5/23/88
DILUTION				
UNITS (UG/L)				
VINYL CHLORIDE				
METHYLENE CHLORIDE				
ACETONE				
CARBON DISULFIDE				
1,1-DICHLOROETHENE				
1,1-DICHLOROETHANE				
1,2-DICHLOROETHENE (TOTAL)			1 /J	1 /J
CHLOROFORM			1 /J	1 /J
2-BUTANONE				
1,1,1-TRICHLOROETHANE				
CARBON TETRACHLORIDE				
TRANS-1,3-DICHLOROPROPENE				
BROMODICHLOROETHANE				
TRICHLOROETHENE	7	9 F/	10	11
1,1,2-TRICHLOROETHANE				
BENZENE				
4-METHYL-2-PENTANONE				
TETRACHLOROETHENE				
TOLUENE				
CHLOROBENZENE				
ETHYLBENZENE				
TOTAL XYLENES				
TOTAL ETHENES	7	9	11	12
TOTAL VOCS	7	9	12	13
TENTATIVE IDENTIFIED VOLATILES				
UNKNOWN HYDROCARBON				

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R3S			R4D		
LAB	ENCOTEC	ENCOTEC	NANCO	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	GR3S-01	GR3S-02	GR3S-03	GR4D-01	GR4D-02	GR4D-03
DATE SAMPLED	09/30/87	12/02/87	5/23/88	10/01/87	12/02/87	5/26/88
DILUTION					200	
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)	2	11	3	198		1200 J/E
CHLOROFORM				1 F/		
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRANS-1,3-DICHLOROPROPENE				870		
BROMODICHLOROETHANE						
TRICHLOROETHENE	33 J/	9 F/	8		2900 F/	2000 FJ/E
1,1,2-TRICHLOROETHANE						
BENZENE						
4-METHYL-2-PENTANONE						
TETRACHLOROETHENE				5 F/		32 J/
TOLUENE						
CHLOROBENZENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	35	20	11	203	2900	3232
TOTAL VOCS	35	20	11	1074	2900	3232
TENTATIVE IDENTIFIED VOLATILES						
UNKNOWN HYDROCARBON						

GROUNDWATER VOC ANALYSES (SAS)
WAUSAU WATER SUPPLY NPL SITE

	R5S			R6S	R7S
LAB	ENCOTEC	ENCOTEC	NANCO	NANCO	NANCO
SAMPLE DESCRIPTION	GR5S-02	GR5S-92	GH5S-03	GR6S-03	GR7S-03
DATE SAMPLED	12/02/87	12/02/87	5/23/88	5/27/88	5/25/88
DILUTION					
UNITS (UG/L)					
VINYL CHLORIDE					
METHYLENE CHLORIDE					
ACETONE			2 /J		
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					16
2-BUTANONE					
1,1,1-TRICHLOROETHANE				4 J/	
CARBON TETRACHLORIDE					
TRANS-1,3-DICHLOROPROPENE					
BROMODICHLOROETHANE					
TRICHLOROETHENE				3 J/	
1,1,2-TRICHLOROETHANE					
BENZENE					
4-METHYL-2-PENTANONE					
TETRACHLOROETHENE					
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
TOTAL XYLENES					2 J/J
TOTAL ETHENES	0	0	0	3	0
TOTAL VOCS	0	0	2	7	18
TENTATIVE IDENTIFIED VOLATILES					
UNKNOWN HYDROCARBON					

APPENDIX K2

ROUND 2 GROUNDWATER RAS ORGANIC COMPOUND ANALYSIS RESULTS

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Water(ug/L)
Volatiles	
Chloromethane	10
Bromomethane	10
Vinyl chloride	10
Chloroethane	10
Methylene chloride	5
Acetone	10
Carbon disulfide	5
1,1-Dichloroethene	5
1,1-Dichloroethane	5
Total-1,2-Dichloroethene	5
Chloroform	5
1,2-Dichloroethane	5
2-Butanone	10
1,1,1-Trichloroethane	5
Carbon tetrachloride	5
Vinyl acetate	10
Bromodichloromethane	5
1,2-Dichloropropane	5
cis-1,3-Dichloropropene	5
Trichloroethene	5
Dibromochloromethane	5
1,1,2-Trichloroethane	5
Benzene	5
trans-1,3-Dichloropropene	5
Bromoform	5
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	5
1,1,2,2-Tetrachloroethane	5
Toluene	5
Chlorobenzene	5
Ethyl benzene	5
Styrene	5
Total xylenes	5
Semi-volatiles	
Phenol	10
bis(2-Chloroethyl)ether	10
2-Chlorophenol	10
1,3-Dichlorobenzene	10
1,4-Dichlorobenzene	10
Benzyl alcohol	10
1,2-Dichlorobenzene	10
2-Methylphenol	10

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Water(ug/L)
bis(2-Chloroisopropyl)ether	10
4-Methylphenol	10
N-Nitroso-dipropylamine	10
Hexachloroethane	10
Nitrobenzene	10
Isophorone	10
2-Nitrophenol	10
2,4-Dimethylphenol	10
Benzoic acid	50
bis(2-Chloroethoxy)methane	10
2,4-Dichlorophenol	10
1,2,4-Trichlorobenzene	10
Naphthalene	10
4-Chloroaniline	10
Hexachlorobutadiene	10
4-Chloro-3-methylphenol	10
2-Methylnaphthalene	10
Hexachlorocyclopentadiene	10
2,4,6-Trichlorophenol	10
2,4,5-Trichlorophenol	50
2-Chloronaphthalene	10
2-Nitroaniline	50
Dimethyl phthalate	10
Acenaphthylene	10
3-Nitroaniline	50
Acenaphthene	10
2,4-Dinitrophenol	50
4-Nitrophenol	50
Dibenzofuran	10
2,4-Dinitrotoluene	10
2,6-Dinitrotoluene	10
Diethylphthalate	10
4-Chlorophenyl phenyl ether	10
Fluorene	10
4-Nitroaniline	50
4,6-Dinitro-2-methylphenol	50
N-nitrosodiphenylamine	10
4-Bromophenyl phenyl ether	10
Hexachlorobenzene	10
Pentachlorophenol	50
Phenanthrene	10
Anthracene	10
Di-n-butylphthalate	10
Fluoranthene	10
Pyrene	10
Butyl benzyl phthalate	10
3,3'-Dichlorobenzidine	20

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Water(ug/L)
Benzo(a)anthracene	10
bis(2-ethylhexyl)phthalate	10
Chrysene	10
Di-n-octyl phthalate	10
Benzo(b)fluoranthene	10
Benzo(k)fluoranthene	10
Benzo(a)pyrene	10
Ideno(1,2,3-cd)pyrene	10
Dibenz(a,h)anthracene	10
Benzo(g,h,i)perylene	10
Pesticides/PCBs	
alpha-BHC	0.05
beta-BHC	0.05
delta-BHC	0.05
gamma-BHC (Lindane)	0.05
Heptachlor	0.05
Aldrin	0.05
Heptachlor epoxide	0.05
Endosulfan I	0.05
Dieldrin	0.10
4,4'-DDE	0.10
Endrin	0.10
Endosulfan II	0.10
4,4'-DDD	0.10
Endosulfan sulfate	0.10
4,4'-DDT	0.10
Endrin ketone	0.10
Methoxychlor	0.5
Alpha Chlordane	0.5
Gamma Chlordane	0.5
Toxaphene	1.0
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	1.0
Aroclor-1260	1.0

WAUSAU NPL RI/FS-ROUND 2
RAS WATER ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/L)
C#: 13076.30

CK'D: DX APP'D: CSR
DATE ISSUED: 5/15/89

SAMPLE DESCRIPTION	R4D-02	C2S-02	MW9-02	C3S-02	C4S-02	FVD7-02	C4D-02
LAB NAME	CENREF	CENREF	CENREF	CENREF	CENREF	CENREF	CENREF
DATE SAMPLED	12/02/87	12/02/87	12/02/87	12/02/87	12/02/87	12/02/87	12/03/87
DILUTION FACTOR	1:10	1:10					
VOLATILE ORGANIC COMPOUNDS (UG/L)							
CHLOROMETHANE							
VINYL CHLORIDE					4 /J		
ACETONE		55 /J		29			
1,1-DICHLOROETHENE							
TRANS-1,2-DICHLOROETHENE	490				7		10
CHLOROFORM							
1,1,1-TRICHLOROETHANE	52	46 /J				3 /J	
CARBON TETRACHLORIDE				120			
1,2-DICHLOROPROPANE							
TRICHLOROETHENE	1700	1100		4 /J		10	34
BENZENE							
4-METHYL-2-PENTANONE	160	140	33	42	3 /J	5 /J	
TETRACHLOROETHENE					7	200	
TOLUENE							
ETHYLBENZENE							
TOTAL XYLENES							
TOTAL ETHENES	2190	1100	0	4	14	210	44
TOTAL VOCS	2402	1341	33	195	21	218	44
TENTATIVELY IDENTIFIED VOCs							
1,1,2-TRICHLORO-1,1,2TRIFLUOROETHANE		510 /J			11 /J		
UNKNOWN			10 /J				
UNKNOWN			7 /J				
UNKNOWN			5 /J				
UNKNOWN			12 /J	10 /J			
ETHANOL				11 /J			
SEMIVOLATILE COMPOUNDS (UG/L)							
4-NITROPHENOL							
BIS(2-ETHYLHEXYL)PHTHALATE							
PCBs (UG/L)							
AROCLOR-1016							
TENTATIVELY IDENTIFIED SEMIVOLATILES							
UNKNOWN					10 /J		
UNKNOWN							
ALDOL CONDENSATION PRODUCT							
2-BUTOXY ETHANOL							

WAUSAU NPL RI/FS-ROUND 2
RAS WATER ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCRIPTION	E23A-02	E37-02	E24A-02	E24A-92	W53-02	W55-02	W53A-02
LAB NAME	SWRI	SWRI	SWRI	SWRI	SWRI	SWRI	SWRI
DATE SAMPLED	12/07/87	12/07/87	12/07/87	12/07/87	12/08/87	12/08/87	12/08/87
DILUTION FACTOR							
VOLATILE ORGANIC COMPOUNDS (UG/L)							
CHLOROMETHANE							
VINYL CHLORIDE							
ACETONE							
1,1-DICHLOROETHENE							
TRANS-1,2-DICHLOROETHENE			7	7	610		
CHLOROFORM							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
1,2-DICHLOROPROPANE							
TRICHLOROETHENE	3 /J	2 /J	25	25	1200	4100	33
BENZENE	3 /J	3 /J					
4-METHYL-2-PENTANONE							
TETRACHLOROETHENE	23	14	150	150			
TOLUENE							
ETHYLBENZENE							
TOTAL XYLENES							
TOTAL ETHENES	26	16	182	182	1810	4100	33
TOTAL VOCS	29	19	182	182	1810	4100	33
TENTATIVELY IDENTIFIED VOCs							
1,1,2-TRICHLORO-1,1,2TRIFLUOROETHANE							
UNKNOWN							
UNKNOWN							
UNKNOWN							
UNKNOWN							
ETHANOL							
SEMIVOLATILE COMPOUNDS (UG/L)							
4-NITROPHENOL		90 J/					
BIS(2-ETHYLHEXYL)PHTHALATE			13	13			
PCBs (UG/L)							
AROCLOR-1016	0.52	0.52					
TENTATIVELY IDENTIFIED SEMIVOLATILES							
UNKNOWN							
UNKNOWN							30 /J
ALDOL CONDENSATION PRODUCT							
2-BUTOXY ETHANOL							

WAUSAU NPL RI/FS-ROUND 2
RAS WATER ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCRIPTION	GW9S-02	WC6A-02	WC6-02	WC3-02	WC2-02	WC3B-02	W54-02
LAB NAME	SWRI	SWRI	SWRI	SWRI	SWRI	SWRI	SWRI
DATE SAMPLED	12/08/87	12/09/87	12/09/87	12/09/87	12/10/87	12/10/87	12/10/87
DILUTION FACTOR	10				5		2.5
VOLATILE ORGANIC COMPOUNDS (UG/L)							
CHLOROMETHANE							
VINYL CHLORIDE							
ACETONE							
1,1-DICHLOROETHENE							
TRANS-1,2-DICHLOROETHENE		5			350	20	21
CHLOROFORM							5
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
1,2-DICHLOROPROPANE							
TRICHLOROETHENE	17 /J	2 /J			200	15	370
BENZENE							
4-METHYL-2-PENTANONE							
TETRACHLOROETHENE	1800	2 /J			580	130	17
TOLUENE			2 /J	2 /J			
ETHYLBENZENE							
TOTAL XYLENES							
TOTAL ETHENES	1817	9	0	0	1130	165	408
TOTAL VOCS	1817	9	2	2	1130	165	413
TENTATIVELY IDENTIFIED VOCs							
1,1,2-TRICHLORO-1,1,2TRIFLUOROETHANE							
UNKNOWN							
UNKNOWN							
UNKNOWN							
UNKNOWN							
ETHANOL							
SEMIVOLATILE COMPOUNDS (UG/L)							
4-NITROPHENOL							
BIS(2-ETHYLHEXYL)PHTHALATE							
PCBs (UG/L)							
AROCLOR-1016							
TENTATIVELY IDENTIFIED SEMIVOLATILES							
UNKNOWN							
UNKNOWN							
ALDOL CONDENSATION PRODUCT		40 /J		60./J	40 /J		
2-BUTOXY ETHANOL							

WAUSAU NPL RI/FS-ROUND 2
RAS WATER ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/L)
C#: 13076.30

SAMPLE DESCRIPTION	FVD7-92	SB03-02	SB08-02
LAB NAME	CENREF	CENREF	SWRI
DATE SAMPLED	12/03/87	12/02/87	12/08/87
DILUTION FACTOR			
VOLATILE ORGANIC COMPOUNDS (UG/L)			
CHLOROMETHANE			
VINYL CHLORIDE			
ACETONE			
1,1-DICHLOROETHENE			
TRANS-1,2-DICHLOROETHENE			
CHLOROFORM			
1,1,1-TRICHLOROETHANE	2 /J	10	
CARBON TETRACHLORIDE			
1,2-DICHLOROPROPANE			
TRICHLOROETHENE	25		
BENZENE			
4-METHYL-2-PENTANONE		25	
TETRACHLOROETHENE	220		
TOLUENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	245	0	0
TOTAL VOCS	247	35	0
TENTATIVELY IDENTIFIED VOCs			
1,1,2-TRICHLORO-1,1,2TRIFLUOROETHANE			
UNKNOWN			
UNKNOWN			
UNKNOWN			
UNKNOWN			
ETHANOL			
SEMIVOLATILE COMPOUNDS (UG/L)			
4-NITROPHENOL			
BIS(2-ETHYLHEXYL)PHTHALATE			
PCBs (UG/L)			
AROCLOR-1016			
TENTATIVELY IDENTIFIED SEMIVOLATILES			
UNKNOWN			
UNKNOWN			
ALDOL CONDENSATION PRODUCT			
2-BUTOXY ETHANOL		12 /J	

APPENDIX K3

ROUND 3 GROUNDWATER RAS ORGANIC COMPOUND ANALYSIS RESULTS

CK'D: BSC APP'D: CSR

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	W55-03	CW6-03	CW3-03	CW4-03	SB01-03
LAB	GULF	GULF	GULF	GULF	AQUAI
CRL NUMBER	ER460	ER462	ER325	ER326	EP895
DATE SAMPLED	05/25/88	05/25/88	05/26/88	05/26/88	08/25/88
DILUTION					
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE	2 /J				
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)	66		20	3 /J	
CHLOROFORM					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRICHLOROETHENE	4200 J/DE	130	93		
BENZENE					
TETRACHLOROETHENE	10		13	14	
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	4278	130	126	17	0
TOTAL VOCS	4278	130	126	17	0
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL					
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE					
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-					
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR					
SULFUR					
SULFUR, MOL.					
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

			ISLAND WELLS		
SAMPLE DESCRIPTION	FB10-03	FB11-03	IWD-03	IWD-93	IWM-03
LAB	GULF	GULF	AQUAI	AQUAI	AQUAI
CRL NUMBER	EH467	EP889	EP893	EP894	EP892
DATE SAMPLED	05/25/88	05/27/88	08/25/88	08/25/88	08/25/88
DILUTION					
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)			49	47	
CHLOROFORM					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRICHLOROETHENE	6 J/	2 /J	260	250	
BENZENE					
TETRACHLOROETHENE					
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	6	2	309	297	0
TOTAL VOCS	6	2	309	297	0
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL					
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE					
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-					
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)		3.9 /J			
SULFUR					
SULFUR					
SULFUR, MOL.					
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

		WEST BANK WELL			
SAMPLE DESCRIPTION	IWS-03	WSWD-03	WSWS-03	C2S-03	C3S-03
LAB	AQUAI	AQUAI	AQUAI	GULF	GULF
CRL NUMBER	EP891	EP897	EP896	EQ746	EQ749
DATE SAMPLED	08/25/88	08/25/88	09/25/88	05/26/88	05/26/88
DILUTION				10	
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM		25			54
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					69
TRICHLOROETHENE		460 J/E		1300 /D	3 /J
BENZENE					
TETRACHLOROETHENE					
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	0	460	0	1300	3
TOTAL VOCS	0	485	0	1300	126
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL					
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE					
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN					3.9 /J
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-					
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR					
SULFUR					
SULFUR, MOL.					
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	C4S-03	C7S-03	E27-03	E27-93	E37A-03
LAB	GULF	GULF	GULF	GULF	GULF
CRL NUMBER	EN723	EP884	ER464	ER463	ER459
DATE SAMPLED	05/26/88	05/26/88	05/25/88	05/25/88	05/25/88
DILUTION					
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)	11		380 /D	370 /D	
CHLOROFORM					
1,1,1-TRICHLOROETHANE		8			
CARBON TETRACHLORIDE					
TRICHLOROETHENE	3 /J	11	1400 /D	1300 /D	4 /J
BENZENE					
TETRACHLOROETHENE	4 /J		20 J/	20 J/	26
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	18	11	1800	1690	30
TOTAL VOCS	18	19	1800	1690	30
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL	6 J/J				
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE	3 J/J				12
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN	5.8 J/J		11 J/J	13 J/J	8.9 /J
UNKNOWN	3.2 J/J				11 /J
UNKNOWN	3.4 J/J				4.5 /J
UNKNOWN HYDROCARBON	4.8 J/J				
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					4.3 /J
ETHANE, 1,1,2,2-TETRACHLORO-	5.4 /J				4.8 /J
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR					
SULFUR					
SULFUR, MOL.					
PESTICIDES & PCBs					
HEPTACHLOR					0.58

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	FVD2-03	FVD7-03	GM9S-03	MW14-03	R2D-03
LAB	GULF	GULF	GULF	GULF	GULF
CRL NUMBER	ER458	ER465	ER457	ER324	ER468
DATE SAMPLED	05/25/88	05/25/88	05/25/88	05/26/88	05/26/88
DILUTION	5				
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE	7 /DJ				
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					39
CHLOROFORM					
1,1,1-TRICHLOROETHANE			11		
CARBON TETRACHLORIDE					
TRICHLOROETHENE			53		930 /D
BENZENE	92 /D				
TETRACHLOROETHENE	100 /D	150	2000 J/DE		
1,1,2,2-TETRACHLOROETHANE		4 /J			
TOLUENE	11 /DJ				
ETHYLBENZENE	30 /D				
TOTAL XYLENES	170 /D				
TOTAL ETHENES	100	150	2053	0	969
TOTAL VOCS	410	154	2064	0	969
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE	22 J/				
2-METHYLNAPHTHALENE	23 J/				
FLUORENE	4 J/J				
PENTACHLOROPHENOL					
PHENANTHRENE	4 J/J				
BIS(2-ETHYLHEXYL)PHTHALATE	5 J/J				
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN			4.5 /J	4.7 J/J	
UNKNOWN				2.8 J/J	
UNKNOWN					
UNKNOWN HYDROCARBON					
UNKNOWN CARBOXYLIC ACID				6.2 J/J	
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-		5.4 /J			
ETHANOL, 2-BUTOXY-,PHOSPHATE			5.3 /J		
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR				4.6 /J	
SULFUR					
SULFUR, MOL.				11 /J	
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	R4D-03	R6S-03	R7S-03	WC2-03	WC3B-03
LAB	GULF	GULF	GULF	GULF	GULF
CRL NUMBER	EQ747	EP885	ER461	EP887	EP890
DATE SAMPLED	05/26/88	05/27/88	05/25/88	05/26/88	05/27/88
DILUTION	10				
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)	370 /D			100 /D	
CHLOROFORM			11		
1,1,1-TRICHLOROETHANE		4 /J			
CARBON TETRACHLORIDE					
TRICHLOROETHENE	1400 /D	4 /J	2 /J	34 /D	
BENZENE					
TETRACHLOROETHENE				320 /D	
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	1770	4	2	454	0
TOTAL VOCS	1770	8	13	454	0
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL					
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE					8 /J
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN HYDROCARBON				3.4 /J	
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-					
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH					
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR				4.7 /J	4.6 /J
SULFUR					
SULFUR, MOL.				11 /J	11 /J
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	MC5A-03	M53-03	M53-93	M53A-03	M54-03
LAB	GULF	GULF	GULF	GULF	GULF
CRL NUMBER	EP888	ER469	EQ748	ER327	EP886
DATE SAMPLED	05/27/88	05/26/88	05/26/88	05/26/88	05/26/88
DILUTION			10		
VOLATILE ORGANIC COMPOUNDS (UG/L)					
CHLOROMETHANE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)	15	890 J/E	780 /D		49
CHLOROFORM					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
TRICHLOROETHENE	13	1000 J/DE	1100 /D	100	230 J/E
BENZENE					
TETRACHLOROETHENE	180	8			25
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	208	1898	1880	100	304
TOTAL VOCS	208	1898	1880	100	304
SEMIVOLATILE COMPOUNDS					
PHENOL					
NAPHTHALENE					
2-METHYLNAPHTHALENE					
FLUORENE					
PENTACHLOROPHENOL					
PHENANTHRENE					
BIS(2-ETHYLHEXYL)PHTHALATE	19	12			
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
UNKNOWN				5.2 /J	
UNKNOWN				6.6 /J	
UNKNOWN				3.2 /J	
UNKNOWN HYDROCARBON					
UNKNOWN CARBOXYLIC ACID					
ATRAZINE					
ETHANE, 1,1,2,2-TETRACHLORO-				9.1 /J	
ETHANOL, 2-BUTOXY-,PHOSPHATE					
HEXANOIC ACID, 3,5,5-TRIMETH		6.9 /J		7.3 /J	
PHENOL, 2,6-BIS(1,1-DIMETHYL)					
SULFUR	7.7 /J				
SULFUR	6.1 /J				
SULFUR, MOL.	44 /J				
PESTICIDES & PCBs					
HEPTACHLOR					

GROUNDWATER VOC ANALYSIS ROUND 3 (RAS)
WAUSAU WATER SUPPLY NPL SITE

	WEST BANK WELL	
SAMPLE DESCRIPTION	WSWD-03	WSWS-03
LAB	AQUAI	AQUAI
CRL NUMBER	EP897	EP896
DATE SAMPLED	08/25/88	09/25/88
DILUTION		
VOLATILE ORGANIC COMPOUNDS (UG/L)		
CHLOROMETHANE		
1,1-DICHLOROETHENE		
1,1-DICHLOROETHANE		
1,2-DICHLOROETHENE (TOTAL)		
CHLOROFORM	25	
1,1,1-TRICHLOROETHANE		
CARBON TETRACHLORIDE		
TRICHLOROETHENE	460 J/E	
BENZENE		
TETRACHLOROETHENE		
1,1,2,2-TETRACHLOROETHANE		
TOLUENE		
ETHYLBENZENE		
TOTAL XYLENES		
TOTAL ETHENES	460	0
TOTAL VOCS	485	0
SEMIVOLATILE COMPOUNDS		
PHENOL		
NAPHTHALENE		
2-METHYLNAPHTHALENE		
FLUORENE		
PENTACHLOROPHENOL		
PHENANTHRENE		
BIS(2-ETHYLHEXYL)PHTHALATE		
TENTATIVELY IDENTIFIED SEMI-VOLATILES		
UNKNOWN		
UNKNOWN		
UNKNOWN		
UNKNOWN HYDROCARBON		
UNKNOWN CARBOXYLIC ACID		
ATRAZINE		
ETHANE, 1,1,2,2-TETRACHLORO-		
ETHANOL, 2-BUTOXY-,PHOSPHATE		
HEXANOIC ACID, 3,5,5-TRIMETH		
PHENOL, 2,6-BIS(1,1-DIMETHYL)		
SULFUR		
SULFUR		
SULFUR, MOL.		
PESTICIDES & PCBs		
HEPTACHLOR		

K.4

ON-SITE GC ANALYSIS OF GROUNDWATER

PHASE I

GROUNDWATER SAMPLES OBTAINED WHILE DRILLING

WAUSAU NPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

WELL #	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L	1,1 DCE UG/L	1,2-DCE UG/L	TCE UG/L	PCE UG/L	BENZENE UG/L	ETH-BENZENE UG/L	MECL2 UG/L	1,1DCA UG/L	CHCL3 UG/L	1,2DCA UG/L	1,1,1TCA UG/L	BRCL2CH UG/L	CL2BR2CH UG/L	BROMOFORM UG/L
DETECTION LIMIT				1.0	1.0	1.0	1.0	1.0	2.0	2.0	5.0	2.0	2.0	5.0	1.0	5.0	25.0	50.0
E20		21	10-26-87	BMDL(B)		1.75	7.39	42.8										
E20		35	10-26-87	BMDL(B)		BMDL	3.41	7.88							BMDL			
E20		51	10-27-87	BMDL(B)														
E20 DUP		51	10-27-87	BMDL(B)														
E20		66	10-27-87	BMDL(B)														
E20		COMPLETED	11-3-87	BMDL(B)														
E21		91	11-12-87	BMDL(B)				1.05 (I)										
E21		107	11-12-87					BMDL (I)										
E21		122	11-13-87	BMDL(B)														
E21 DUP		122	11-13-87	BMDL(B)														
E21		132	11-13-87	BMDL(B)			1.98	BMDL										
E21		COMPLETED	12-2-87			BMDL	23.7											
E22(2)		20	10-15-87	12.0(B)	BMDL(B)		BMDL	11.7			BMDL(B)							
E22(2) DUP		20	10-13-87	12.8(B)	BMDL(B)		BMDL	12.2										
E22		36	10-13-87	BMDL(B)	BMDL(B)						BMDL(B)							
E22		50	10-13-87	BMDL(B)														
E22		65	10-14-87	BMDL(B)														
E22		79	10-13-87	BMDL(B)														
E22		COMPLETED	10-16-87	2.16(B)									2.08*					
E23A(2)		COMPLETED	10-30-87	BMDL(B)			3.53	37.6	3.9									
E24A		25-35	10-15-87	BMDL(B)	1.93	13.7	75.5*	293*							BMDL			
E24A DUP		25-35	10-15-87	BMDL(B)	2.42	15.6	78.1*	304*							BMDL			
E24		40	10-15-87	BMDL(B)		1.43	BMDL	BMDL										
E24		55	10-15-87	BMDL(B)			1.25	BMDL										
E24		73	10-15-87	BMDL(B)			BMDL	BMDL										
E24		COMPLETED	11-4-87	BMDL(B)			BMDL	BMDL										
E25		32	10-13-87	BMDL(B)				BMDL										
E25		45	10-13-87	BMDL(B)			BMDL											
E25		60	10-13-87	BMDL(B)														
E25		75	10-13-87	BMDL(B)														
E25		90	10-14-87	BMDL(B)														
E25		105	10-14-87	BMDL(B)														
E25 DUP		105	10-14-87	BMDL(B)														
E25		120	10-15-87	BMDL(B)			BMDL						4.78(B)					
E25		135	10-16-87	1.97(B)			BMDL											
E25		154	10-20-87	BMDL(B)			BMDL	BMDL										
E25		COMPLETED	11-3-87															
E25A		COMPLETED	10-26-87	BMDL(B)			BMDL	BMDL										
E26A		COMPLETED	11-9-87	12.2(B)														

WAUSAU NPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L	1,1 DCE UG/L	1,2-DCE UG/L	TCE UG/L	PCE UG/L	BENZENE UG/L	ETH-BENZENE UG/L	MECL2 UG/L	1,1DCA UG/L	CHCL3 UG/L	1,2DCA UG/L	1,1,1TCA UG/L	BRCL2CH UG/L	CLBR2CH UG/L	BROMOFORM UG/L
DETECTION LIMIT				1.0	1.0	1.0	1.0	1.0	2.0	2.0	5.0	2.0	2.0	5.0	1.0	5.0	25.0	50.0
E26A DUP		COMPLETED	11-9-87	28.1(B)														
E26A		COMPLETED	11-12-87	17.2(B)														
E26		35	11-9-87	BMDL(B)														
E26		50	11-9-87															
E26		65	11-10-87	BMDL(B)														
E26		80	11-10-87	1.10(B)														
E26		COMPLETED	11-12-87	BMDL(B)														
E27		90	12-2-87	BMDL									6.19					
E27		115	12-2-87	BMDL			BMDL	BMDL					63.9*					
E27		125	12-2-87	1.92			BMDL		BMDL	BMDL			48.7					
E27 (4)		COMPLETED	12-12-87	BMDL		90.7	440	1.49			BMDL		BMDL		BMDL			
E28		COMPLETED	10-16-87	2.22(B)									BMLD					
E28DUP		COMPLETED	10-16-87	BMDL(B)				BMDL										
E29A		COMPLETED	11-12-87	BMDL(B)														
E29A DUP		COMPLETED	11-12-87	BMDL(B)														
E30		26	10-28-87	9.10(B)			BMDL		BMDL(B)	7.58								
E30		41	10-28-87	BMDL(B)														
E30		56	10-28-87	BMDL(B)														
E30		71	10-29-87	BMDL(B)														
E30		81	10-29-87	BMDL(B)														
E30		91	10-29-87	BMDL(B)			BMDL											
E30		101	10-29-87	BMDL(B)														
E30		111	10-29-87	BMDL(B)			BMDL								BMDL			
E30		121	10-30-87	BMDL(B)														
E30 DUP		121	10-30-87	BMDL(B)														
E30		COMPLETED 132	11-2-87	BMDL(B)			5.34											
E30 DUP		132	11-2-87	BMDL(B)			5.51											
E30		COMPLETED	11-4-87	BMDL(B)			6.51											
E30 DUP		COMPLETED	11-4-87	BMDL(B)			6.62											
E31		28	11-2-87	BMDL(B)														
E31		40	11-2-87	BMDL(B)														
E31		55	11-3-87	BMDL(B)														
E31		70	11-3-87	BMDL(B)														
E31		80	11-3-87	BMDL(B)														
E31		90	11-4-87	BMDL(B)														
E31		100	11-4-87	BMDL(B)														
E31		110	11-4-87	BMDL(B)														
E31		120	11-4-87	BMDL(B)														
E31 DUP		120	11-4-87	BMDL(B)														
E31		130	11-4-87	BMDL(B)														

MAUSAU NPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

DETECTION LIMIT	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L 1.0	1,1 DCE UG/L 1.0	1,2-DCE UG/L 1.0	TCE UG/L 1.0	PCE UG/L 1.0	BENZENE UG/L 2.0	ETH-BENZENE UG/L 2.0	MECL2 UG/L 5.0	1,1DCA UG/L 2.0	CHCL3 UG/L 2.0	1,2DCA UG/L 5.0	1,1,1TCA UG/L 1.0	BRCL2CH UG/L 5.0	CLBR2CH UG/L 25.0	BROMOFORM UG/L 50.0
E31		COMPLETED	11-10-87	BMDL(B)		BMDL	3.87	1.35										
E31 DUP		COMPLETED	11-10-87	BMDL(B)			2.28	1.28										
E32		14	11-12-87		1.49	164*	292*	506*							2.21			
E33	200	14	11-12-87															
E33		14	11-12-87	BMDL(B)		1.3	2.87	376*										
E34	100	14	11-12-87															
E34		14	11-12-87	4.43(B)			BMDL	73.5										
E35	40	18	11-12-87	BMDL(B)			BMDL	8200*										
E36		16	11-13-87	BMDL(B)			1.68	19.2							BMDL			
E37		COMPLETED	11-13-87	BMDL(B)			2.94	17.8	13.8									
E38	40	18	11-13-87	BMDL(B)				BMDL										
W50		35	10-27-87	BMDL(B)		2.21	48.6											
W50		45	10-27-87	BMDL(B)		9.63	29											
W50		55	10-27-87	BMDL(B)		11	18.3											
W50		65	10-28-87	BMDL(B)			BMDL											
W50		65DUP	10-28-87	BMDL(B)			BMDL											
W50		75	10-28-87	BMDL(B)			BMDL											
W50		85	10-28-87	BMDL(B)														
W50		COMPLETED	11-4-87	<1.0			BMDL											
W51A		COMPLETED	10-16-87	BMDL(B)									6.66					
W52		41	11-3-87	<1.0														
W52		52	11-4-87	<1.0														
W52		61	11-4-87	BMDL(B)														
W52		71	11-4-87	<1.0			BMDL											
W52		81	11-5-87	<1.0			BMDL											
W52		81 DUP	11-5-87	<1.0			BMDL											
W52		91	11-5-87	<1.0			BMDL											
W52		101	11-5-87	<1.0			30											
W52	40	111	11-6-87	BMDL(B)			71.8											
W52	40	121	11-9-87	BMDL(B)			653											
W52	40	131	11-9-87	BMDL(B)			BMDL											
W52		131	11-9-87	BMDL(B)			30.4											
W53A		COMPLETED	11-2-87	BMDL(B)			47.8											
W53A DUP		COMPLETED	11-2-87	BMDL(B)			50.2											
W53		35	11-3-87	BMDL(B)		1.74	31.7					3.02			3.02			

WAUSAU MPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L	1,1 DCE UG/L	1,2-DCE UG/L	TCE UG/L	PCE UG/L	BENZENE UG/L	ETH-BENZENE UG/L	MECL2 UG/L	1,1DCA UG/L	CHCL3 UG/L	1,2DCA UG/L	1,1,1TCA UG/L	BRCL2CH UG/L	CLBR2CH UG/L	BROMOFORM UG/L
DETECTION LIMIT				1.0	1.0	1.0	1.0	1.0	2.0	2.0	5.0	2.0	2.0	5.0	1.0	5.0	25.0	50.0
M53		55	11-3-87		6.18	102*	33.6	BMDL			BMDL	51.5		BMDL	134			
M53		65	11-3-87		BMDL	56.5*	732*	1.63				13.5			19.3			
M53	40	75	11-4-87	BMDL(B)		52.3	1480											
M53	40	85	11-4-87	BMDL(B)			1320											
M53	40	95	11-4-87	BMDL(B)		156	1960	BMDL										
M53		105	11-4-87	COULD NOT RECOVER SAMPLE, DENSE FINE SAND														
M53	40	115	11-4-87	BMDL(B)		430	1850	BMDL										
M53	40	125	11-5-87	BMDL(B)		338	1700	BMDL										
M53	40	135	11-5-87	BMDL(B)			BMDL											
M53		135	11-5-87	BMDL(B)		8.82	52.1	BMDL										
M53		145	11-5-87	BMDL(B)		69.7*	323*	BMDL							BMDL			
M53		155	11-6-87	BMDL(B)		13.3	99.1*	BMDL										
M53	COMPLETED	125	11-13-87	BMDL(B)	<40	223	1220	BMDL	<80	<80	<200	<80	<80					
M54		35	11-11-87			3.09	365*	20.1							1.23			
M54 DUP		35	11-11-87			8.76	375*	20.2							1.55			
M54	40	45	11-12-87	BMDL(B)			313	BMDL										
M54	40	55	11-12-87	BMDL(B)			48.9	BMDL										
M54		65	11-12-87			6.49	193*	28.8							1.11			
M54	40	75	11-12-87	BMDL(B)			75.6	56.7										
M54		85	11-12-87		BMDL	12.8	31.7*	23.1*				BMDL			5.94			
M55A	COMPLETED		10-15-87	BMDL(B)		1.68	28.3											
M55		50	10-20-87	BMDL(B)		BMDL	35.9											
M55		60	10-20-87	BMDL(B)			BMDL	1.36										
M55		70	10-21-87	BMDL(B)														
M55		80	10-21-87	BMDL(B)														
M55		90	10-22-87	BMDL(B)			BMDL											
M55		100	10-22-87	6.90(B)		5.29	69.6*											
M55		100DUP	10-22-87	1.00(B)		3.98	70.0*											
M55	40	110	10-26-87	BMDL(B)			3980	BMDL										
M55		120	10-27-87		1.42	18.6	600*	BMDL										
M55	40	COMPLETED	10-29-87	BMDL(B)			4320*											
M56A	COMPLETED		10-16-87	BMDL(B)			1.58											
M56		31.5	10-19-87	3.77(B)			5.38											
M56		40	10-19-87	TIGHT SAND, NO SAMPLE OBTAINED														
M56		50	10-20-87	BMDL(B)				BMDL(1)										
M56		60	10-20-87	BMDL(B)														
M56	COMPLETED		10-28-87	BMDL(B)														
M57		21	10-21-87	BMDL(B)														
M57		32	10-21-87	BMDL(B)														
M57 DUP		32	10-21-87	BMDL(B)														
M57		41	10-21-87	BMDL(B)			BMDL											
M57 DUP		41	10-21-87	BMDL(B)			BMDL											

WAUSAU KPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L	1,1 DCE UG/L	1,2-DCE UG/L	TCE UG/L	PCE UG/L	BENZENE UG/L	ETH-BENZENE UG/L	MECL2 UG/L	1,1DCA UG/L	CHCL3 UG/L	1,2DCA UG/L	1,1,1TCA UG/L	BRCL2CH UG/L	CLBR2CH UG/L	BROMOFORM UG/L
DETECTION LIMIT				1.0	1.0	1.0	1.0	1.0	2.0	2.0	5.0	2.0	2.0	5.0	1.0	5.0	25.0	50.0
MW7		51	10-22-87	BMDL(B)			BMDL											
MW7		61	10-22-87	BMDL(B)														
MW7		71	10-22-87	BMDL(B)														
MW7		COMPLETED	10-30-87	BMDL(B)				BMDL(3)										
BLK H20			10-13-87	1.53	BMDL						2.3		3.1					
WATER TRUCK 1			10-13-87	BMDL(B)			BMDL	BMDL					52.9(B)			BMDL		
WATER TRUCK 2			10-13-87	BMDL(B)			BMDL						51.5(B)			BMDL		
SW01			10-14-87	BMDL(B)														
SW02			10-15-87	BMDL(B)		BMDL	108e	2.91										
SW03			10-15-87	BMDL(B)		BMDL	79.2e	1.33										
SW04			10-15-87	BMDL(B)			BMDL						BMDL(B)					
SW05			10-15-87	BMDL(B)			160e											
SW06			10-19-87	BMDL(B)			108e											
SW07(2)			10-20-87	3.01(B)					BMDL				20.3					
SW08			10-26-87	BMDL(B)				BMDL										
SW09			10-28-87	2.67(B)			152e											
SW10			10-28-87	BMDL(B)			87.1e											
SW10DUP			10-28-87	BMDL(B)			85.4e											
SW11			10-29-87	BMDL(B)														
CITY WATER SYSTEM			10-14-87	2.5(B)			BMDL						15.8					
BLK WATER			10-14-87	2									50.8(B)			BMDL		
BLK WATER			10-15-87	BMDL									3.5					
BLK WATER			10-19-87	BMDL									BMDL					
BLK WATER			10-20-87	BMDL														
BLANK WATER			11-2-87	BMDL														
BLANK WATER			11-3-87	BMDL														
BLANK WATER			11-4-87	BMDL														
BLANK WATER			11-5-87	BMDL	BMDL													
BLANK WATER			11-6-87	BMDL														
BLANK WATER			11-9-87	BMDL														
BLANK WATER			11-10-87	BMDL		BMDL												
BLANK WATER			11-11-87	BMDL											BMDL			
BLANK WATER			11-12-87	BMDL											BMDL			
BLANK WATER			11-13-87	BMDL														
S. BLANK1 KECK			10-29-87	BMDL(B)			2.58											
S. BLANK2 KECK			10-30-87	BMDL(B)														
S. BLANK3 KECK			11-4-87	BMDL(B)														
S. BLANK4 KECK			11-9-87	BMDL(B)			BMDL											
S. BLANK5 KECK			11-13-87	BMDL(B)														
S. BLANK6 KECK (4)			12-12-87	BMDL(B)		BMDL	BMDL	BMDL			BMDL							
WATER TRUCK			10-22-87	BMDL(B)														
WATER TRUCK			10-23-87	BMDL(B)														
WATER TRUCK DUP			10-23-87	BMDL(B)														
WATER TRUCK			10-28-87	BMDL(B)														
WATER TRUCK			11-2-87	BMDL(B)														

MAUSAU NPL SITE
WATER SAMPLING AND
VOC ANALYSIS DURING DRILLING

	DILUTION FACTOR	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG/L	1,1 DCE UG/L	1,2-DCE UG/L	TCE UG/L	PCE UG/L	BENZENE UG/L	ETH-BENZENE UG/L	MECL2 UG/L	1,1DCA UG/L	CHCL3 UG/L	1,2DCA UG/L	1,1,1TCA UG/L	BRCL2CH UG/L	CLBR2CH UG/L	BROMOFORM UG/L
DETECTION LIMIT				1.0	1.0	1.0	1.0	1.0	2.0	2.0	5.0	2.0	2.0	5.0	1.0	5.0	25.0	50.0
CW10			10-16-87							BMDL								
MW7A			10-19-87	BMDL(B)			BMDL	1.09										
MW7ADUP			10-19-87	BMDL(B)			BMDL	1.15										
CW4			10-30-87			BMDL	1.42	13.8										
WILSON HURD			10-30-87	BMDL														
BOT. H2O "CLEAR"			10-16-87	BMDL			BMDL						22.4					

NOTES
* DENOTES ESTIMATED VALUE
BMDL-DETECTED BUT BELOW MINIMUM REPORTABLE DETECTION LIMIT
COMPLETED-WELL INSTALLED, SEE APPENDIX C FOR CONSTRUCTION DETAIL (DEPTH, ETC.)
B-FOUND IN BLANK
(1) POSSIBLE CARRY OVER ERROR
(2) CONTAINED UNIDENTIFIED PEAKS IN CHROMATOGRAM
(3) POSSIBLE SAMPLING DEVICE CONTAMINATION
(4) ANALYZED BY WARZYN LAB IN MADISON

PHASE II

GROUNDWATER WHILE DRILLING

WAUSAU NPL SITE - PHASE 2 INVESTIGATION

GROUNDWATER VOC ANALYSIS DURING DRILLING

LOCATIONS	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG /L	1,1 DCE UG /L	1,2 DCE UG /L	TCE UG /L	PCE UG /L	BENZENE UG /L	ETH-BENZENE UG /L
DETECTION LIMIT			1.0	1.0	1.0	1.0	1.0	2.0	2.0
GD-B3	33'	6-28-88	< 1.0	< 1.0	3.1	81.7	< 1.0	< 2.0	< 2.0
GD-B5+	33'	6-30-88	4.8	< 1.0	BMDL	3.3	BMDL	124	494
GD-B5	33'	7-7-88	< 10.0	< 10.0	< 10.0	3.9	BMDL	< 20.0	< 20.0
GD-B7	33'	6-28-88	< 1.0	< 1.0	BMDL	17.8	BMDL	< 2.0	< 2.0
GD-B7-DUP	33'	6-28-88	< 1.0	< 1.0	2.6	35	< 1.0	< 2.0	< 2.0
GD-B13	30'	6-30-88	< 1.0	< 1.0	8.0	382*	3.0	< 2.0	< 2.0
GD-B13	30'	7-7-88	< 10.0	< 10.0	BMDL	1180	10.0	< 20.0	< 20.0
GD-B14	31	7-6-88	< 1.0	4.7	15.1	67.8	5.6	-	-
GD-B15	34'	7-7-88	< 1.0	< 1.0	< 1.0	6.6	BMDL	< 2.0	< 2.0
GD-B16	35'	6-30-88	< 1.0	< 1.0	< 1.0	23.6	< 1.0	< 2.0	9.7
GD-B19	15'	7-7-88	<10.0	14.0	<10.0	7.0	173	< 20.0	< 20.0
GD-B20	15'	7-6-88	< 1.0	< 1.0	< 1.0	4.5	15.5	-	-
GD-B21	15'	7-6-88	291	< 1.0	64.6	39.6	65.2	-	-
GD-B23	13'	7-7-88	1430	<100	860	1830	1590	< 200.0	< 200.0
GD-B27	15'	7-7-88	< 50	< 50	< 50	20.0 *	589	< 2.0	< 2.0
GB-B29	15'	7-6-88	57.9	< 1.0	1.3	1.3	5.5	-	NQ
CW4	COMPLETED	6-28-88	< 1.0	< 1.0	< 1.0	1.5	5.0	< 2.0	< 2.0

EXPLANATION

REFER TO DRAWING 13076-B50 AND 13076-B51 FOR BORING LOCATION

* ESTIMATED CONCENTRATION

BMDL BELOW MINIMUM REPORTABLE DETECTION LIMITS

\- ANALYZED BUT NOT DETECTED (NO STANDARDS RUN)

NQ DETECTED, BUT CONCENTRATION CANNOT BE QUANTIFIED (NO STANDARDS RUN)

\+ FLOATING PRODUCT SHEEN OBSERVED AT SURFACE OF SAMPLE

WAUSAU NPL SITE - PHASE 2 INVESTIGATION

GROUNDWATER VOC ANALYSIS DURING DRILLING

DETECTION LIMIT	MECL2 UG /L 5.0	1,1 DCA UG /L 2.0	CHCL3 UG /L 2.0	1,2 DCA UG /L 5.0	1,1,1 TCA UG /L 1.0	BRCL2CH UG /L 5.0	CLBR2CH UG /L 25.0	BROMOFORM UG /L 50.0	TOTAL CHLOR ETHENES UG /L	TOTAL VOC'S UG /L
LOCATIONS										
GD-B3	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	84.8	84.8
GD-B5+	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	3.3	626.1
GD-B5	< 50.0	< 20.0	< 20.0	< 50.0	< 10.0	< 50.0	< 250	< 500	3.9	3.9
GD-B7	< 5.0	< 2.0	5.0	< 5.0	< 1.0	< 5.0	< 25	< 50	17.8	22.8
GD-B7-DUP	< 5.0	< 2.0	5.1	< 5.0	< 1.0	< 5.0	< 25	< 50	37.6	42.7
GD-B13	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	393	393
GD-B13	< 50.0	< 20.0	< 20.0	< 50.0	< 10.0	< 50.0	< 250	< 500	1190	1190
GD-B14	-	-	-	-	NQ	-	-	-	93.2	93.2
GD-B15	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	6.6	6.6
GD-B16	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	23.6	33.3
GD-B19	< 50.0	< 20.0	< 20.0	< 50.0	< 10.0	< 50.0	< 250	< 500	194	194
GD-B20	-	-	-	-	-	-	-	-	20	20
GD-B21	-	-	-	-	-	-	-	-	169.4	460.4
GD-B23	< 500.0	< 200.0	< 200.0	< 500.0	< 100.0	< 500.0	< 2500	<5000	4280	5710
GD-B27	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	609	609
GB-B29	-	-	-	-	-	-	-	-	8.1	66
CW4	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	6.5	6.5

EXPLANATION

REFER TO DRAWING 13076-B50 AND 13076-B51 FOR BORING LOCATION

* ESTIMATED CONCENTRATION

BMDL BELOW MINIMUM REPORTABLE DETECTION LIMITS

\- ANALYZED BUT NOT DETECTED (NO STANDARDS RUN)

NQ DETECTED, BUT CONCENTRATION CANNOT BE QUANTIFIED (NO STANDARDS RUN)

\+ FLOATING PRODUCT SHEEN OBSERVED AT SURFACE OF SAMPLE

APPENDIX K5

SAS VOC ANALYSIS OF GROUNDWATER SAMPLES COLLECTED WHILE DRILLING

PHASE 1 SAS VOC ANALYSIS OF GROUNDWATER SAMPLES
COLLECTED WHILE DRILLING

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

CK'D: CAW APP'D: KDF
DATE ISSUED: 2-16-88

COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	SW LAB WE-GE21-133 11/13/87	SW LAB WE-GE21-133-9 11/13/87	SW LAB WE-GE24-40 10/15/87	SW LAB WE-GE25-120 10/15/87	SW LAB WE-GE25-120-9 10/15/87
CHLOROMETHANE	1.0	5.0					
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0			18.0		
CHLOROETHANE	1.0	1.0					
METHYLENE CHLORIDE	1.0	5.0			0.6 /J		0.5 /J
ACETONE	1.0	10.0		30.0			
CARBON DISULFIDE	1.0	1.0					
1,1-DICHLOROETHENE	1.0	1.0					
1,1-DICHLOROETHANE	1.0	1.0					
TRANS-1, 2-DICHLOROETHENE	1.0	1.0			3.8		
CHLOROFORM	1.0	1.0	0.7 B/UJ	0.7 B/UJ		6.4	5.0
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0					
1,1,1-TRICHLOROETHANE	1.0	1.0					
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0					
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0	3.0	2.0		0.7 /J	0.6 /J
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0					
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0					
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0	3.0	3.0	2.0	1.4	1.6
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0	0.9 J/J	2.0 J/			
CHLORINATED ETHENES TOTAL:			3.0	2.0	3.8	0.7	0.6

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

CK'D: DAW APP'D: KOF
DATE ISSUED: 2-16-88

COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	ENSECO WE-GE25-154 10/20/87	ENSECO WE-GE30-100 10/28/87	SW LAB WE-GE30-133 11/04/87	SW LAB WE-GE32-14 11/12/87	SW LAB WE-GE33-14 11/12/87
CHLOROMETHANE	1.0	5.0	5.0 J				
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0	5.0 J				
CHLOROETHANE	1.0	1.0	1.0 J				
METHYLENE CHLORIDE	1.0	5.0	1.0 J/J		1.0		
ACETONE	1.0	10.0	10.0 J	10.0 B			
CARBON DISULFIDE	1.0	1.0	1.0 J				
1,1-DICHLOROETHENE	1.0	1.0					
1,1-DICHLOROETHANE	1.0	1.0					
TRANS-1, 2-DICHLOROETHENE	1.0	1.0				330.0	
CHLOROFORM	1.0	1.0				20.0 B/UJ	10.0 B/UJ
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0					
1,1,1-TRICHLOROETHANE	1.0	1.0					
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0					
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0			7.6	270.0	
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0					
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0				850.0	470.0
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0	2.0	3.0	2.4		
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0					
CHLORINATED ETHENES TOTAL:					7.6	1450.0	470.0

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

CK'D: CAW APP'D: KDF
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COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	SW LAB WE-GE34-14 11/12/87	SW LAB WE-GW35-18 11/12/87	SW LAB WE-GE36-16 11/12/87	SW LAB WE-GE38-18 11/13/87	SW LAB WE-GW52-100 11/05/87
CHLOROMETHANE	1.0	5.0					
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0					
CHLOROETHANE	1.0	1.0					
METHYLENE CHLORIDE	1.0	5.0		130.0 /UJ			0.6 /J
ACETONE	1.0	10.0					
CARBON DISULFIDE	1.0	1.0					
1,1-DICHLOROETHENE	1.0	1.0					
1,1-DICHLOROETHANE	1.0	1.0					
TRANS-1, 2-DICHLOROETHENE	1.0	1.0					2.7
CHLOROFORM	1.0	1.0	0.6 B/UJ	210.0 B/UJ	0.4 B/UJ	0.3 B/UJ	
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0					
1,1,1-TRICHLOROETHANE	1.0	1.0	2.0		2.0	0.5	
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0					
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0	0.6 /J		2.0		32.0
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0					
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0	60.0	5700.0	20.0	30.0	
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0			1.0		0.7
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0					
CHLORINATED ETHENES TOTAL:			60.6	5700.0	22.0	30.0	34.7

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

CK'D: BAW APP'D: KOF
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COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	SW LAB WE-GW53-75 11/03/87	SW LAB WE-GW53-125 11/05/87	SW LAB WE-GE54-85 11/12/87	ENSECO WE-GW55-60 10/20/87	ENSECO WE-GW55-70 10/20/87
CHLOROMETHANE	1.0	5.0				5.0 J	5.0 J
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0				5.0 J	5.0 J
CHLOROETHANE	1.0	1.0				1.0 J	1.0 J
METHYLENE CHLORIDE	1.0	5.0		0.7 /J		5.0 J	2.0 J
ACETONE	1.0	10.0				10.0 J	10.0 J
CARBON DISULFIDE	1.0	1.0				1.0 J	1.0 J
1,1-DICHLOROETHENE	1.0	1.0	0.8 /J				
1,1-DICHLOROETHANE	1.0	1.0	6.3				
TRANS-1, 2-DICHLOROETHENE	1.0	1.0	76.0	641.0 /D	30.0		
CHLOROFORM	1.0	1.0	0.8 /J	2.2	0.2 B/UJ		
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0					5.0 R/J
1,1,1-TRICHLOROETHANE	1.0	1.0	14.0				
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0					
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0	1256.0	1330.0 /D	30.0		
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0		4.6			
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0	3.1	8.0	20.0		
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0	3.7	0.8 /J	5.0	4.0	5.0
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0	1.2			2.0	3.0
CHLORINATED ETHENES TOTAL:			1335.9	1979.0	80.0		

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

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COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	ENSECO WE-GW55-80 10/20/87	ENSECO WE-GW55-115 10/29/87	SW LAB WE-GW55A-43 10/15/87	ENSECO WE-GW56-50 10/20/87	ENSECO WE-GW57-21 10/20/87
CHLOROMETHANE	1.0	5.0	5.0 J			5.0 J	5.0 J
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0	5.0 J			5.0 J	5.0 J
CHLOROETHANE	1.0	1.0	1.0 J			1.0 J	1.0 J
METHYLENE CHLORIDE	1.0	5.0	5.0 J			5.0 J	5.0 J
ACETONE	1.0	10.0	9.0 J/J	150.0 B/		10.0 J	10.0 J
CARBON DISULFIDE	1.0	1.0	1.0 J			1.0 J	1.0 J
1,1-DICHLOROETHENE	1.0	1.0					
1,1-DICHLOROETHANE	1.0	1.0					
TRANS-1, 2-DICHLOROETHENE	1.0	1.0			5.4		
CHLOROFORM	1.0	1.0					
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0	2.0 R/J			2.0 R/J	1.0 R/J
1,1,1-TRICHLOROETHANE	1.0	1.0					
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0					
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0		3200.0	27.0		
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0					
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0					
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0	4.0		0.8 /J		2.0
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0					
CHLORINATED ETHENES TOTAL:				3200.0	32.4	1.0	

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

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COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	ENSECO WE-SB01 10/29/87	SW LAB WE-SB02 11/04/87	SW LAB WE-SB03 11/12/87	ENSECO WE-SW09 10/28/87	ENSECO WE-SW10 10/28/87
CHLOROMETHANE	1.0	5.0					
BROMOMETHANE	1.0	5.0					
VINYL CHLORIDE	1.0	5.0					
CHLOROETHANE	1.0	1.0					
METHYLENE CHLORIDE	1.0	5.0			0.6		
ACETONE	1.0	10.0	6.0 B/J			20.0 B	20.0 B
CARBON DISULFIDE	1.0	1.0					
1,1-DICHLOROETHENE	1.0	1.0					
1,1-DICHLOROETHANE	1.0	1.0					
TRANS-1, 2-DICHLOROETHENE	1.0	1.0					
CHLOROFORM	1.0	1.0			0.2 U/J		
1,2-DICHLOROETHANE	1.0	1.0					
2-BUTANONE	1.0	10.0	3.0 R/J			2.0 R/J	20.0 R/U
1,1,1-TRICHLOROETHANE	1.0	1.0					
CARBON TETRACHLORIDE	1.0	1.0					
VINYL ACETATE	1.0	10.0					
BROMODICHLOROMETHANE	1.0	1.0					
1,2-DICHLOROPROPANE	1.0	1.0			3.0		
TRANS-1,3-DICHLOROPROPENE	1.0	1.0					
TRICHLOROETHENE	1.0	1.0	3.0		3.0	82.0	70.0
DIBROMOCHLOROMETHANE	1.0	1.0					
1,1,2-TRICHLOROETHANE	1.0	1.0					
BENZENE	1.0	1.0					
cis-1,3-DICHLOROPROPENE	1.0	1.0					
2-CHLOROETHYLVINYLETHER	1.0	10.0					
BROMOFORM	1.0	1.0					
4-METHYL-2-PENTANONE	1.0	10.0					
2-HEXANONE	1.0	10.0					
TETRACHLOROETHENE	1.0	1.0			2.0		
1,1,2,2-TETRACHLOROETHANE	1.0	1.0					
TOLUENE	1.0	1.0	3.0	3.2	3.0	2.0	
CHLOROBENZENE	1.0	1.0					
ETHYLBENZENE	1.0	1.0					
STYRENE	1.0	1.0					
TOTAL XYLENES	1.0	1.0					
CHLORINATED ETHENES TOTAL:			3.0		5.0	82.0	70.0

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

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COMPOUND	SW LAB DETECTION LIMIT (UG/L)	ENSECO DETECTION LIMIT (UG/L)	SW LAB WE-6CW4-130 10/15/87	ENSECO W55-01 10/29/87
CHLOROMETHANE	1.0	5.0		
BROMOMETHANE	1.0	5.0		
VINYL CHLORIDE	1.0	5.0		
CHLOROETHANE	1.0	1.0		
METHYLENE CHLORIDE	1.0	5.0		
ACETONE	1.0	10.0		150.0 B
CARBON DISULFIDE	1.0	1.0		
1,1-DICHLOROETHENE	1.0	1.0		
1,1-DICHLOROETHANE	1.0	1.0		
TRANS-1, 2-DICHLOROETHENE	1.0	1.0	3.4	
CHLOROFORM	1.0	1.0		
1,2-DICHLOROETHANE	1.0	1.0		
2-BUTANONE	1.0	10.0		1000.0 R
1,1,1-TRICHLOROETHANE	1.0	1.0		
CARBON TETRACHLORIDE	1.0	1.0		
VINYL ACETATE	1.0	10.0		
BROMODICHLOROMETHANE	1.0	1.0		
1,2-DICHLOROPROPANE	1.0	1.0		
TRANS-1,3-DICHLOROPROPENE	1.0	1.0		
TRICHLOROETHENE	1.0	1.0	14.0	
DIBROMOCHLOROMETHANE	1.0	1.0		
1,1,2-TRICHLOROETHANE	1.0	1.0		3200.0
BENZENE	1.0	1.0		
cis-1,3-DICHLOROPROPENE	1.0	1.0		
2-CHLOROETHYLVINYLETHER	1.0	10.0		
BROMOFORM	1.0	1.0		
4-METHYL-2-PENTANONE	1.0	10.0		
2-HEXANONE	1.0	10.0		
TETRACHLOROETHENE	1.0	1.0	0.8 J/	
1,1,2,2-TETRACHLOROETHANE	1.0	1.0		
TOLUENE	1.0	1.0	1.5	
CHLOROBENZENE	1.0	1.0		
ETHYLBENZENE	1.0	1.0		
STYRENE	1.0	1.0		
TOTAL XYLENES	1.0	1.0		
CHLORINATED ETHENES TOTAL:			18.2	

PROJECT: WAUSAU NPL
LOCATION: WAUSAU, WISCONSIN
C#: 13076.30
ORGANIC RESULTS

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QUALIFIER INFORMATION:

U = ANALYZED, BUT NOT DETECTED.
J = ESTIMATED VALUE.
B = COMPOUND ALSO DETECTED IN BLANK.
R = UNUSUABLE DATA .
D = SAMPLE WAS DILUTED.
__/__: WARZYN DATA VALIDATION QUALIFIER / LABORATORY QUALIFIER

PHASE 2 SAS VOC ANALYSIS OF GROUNDWATER SAMPLES COLLECTED WHILE DRILLING

SAS VOC ANALYSIS OF GROUNDWATER SAMPLES
COLLECTED DURING PHASE II DRILLING
WAUSAU WATER SUPPLY NPL SITE

CK'D: BJC APP'D: CSR

SAMPLE DESCRIPTION	GDB3-33	GDB5-33	GDB13-34	GDB13-34D	GDB14-31.0	GDB15-34.0
LAB	VERSAR	VERSAR	VERSAR	VERSAR	VERSAR	VERSAR
CRL NUMBER	ECD11	ECD14	ECD12	ECD13	ECD64	ECD72
DATE SAMPLED	06/28/88	06/28/88	06/29/88	06/29/88	07/06/88	07/07/88
DILUTION	25		250	200	5	
VINYL CHLORIDE						
METHYLENE CHLORIDE				220		
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)					15	
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE					53	
CARBON TETRACHLORIDE						
BROMODICHLOROMETHANE						
TRICHLOROETHENE	170		1900 J/J	3900	18	1.4
1,1,2-TRICHLOROETHANE						
BENZENE		160 J/J				
TETRACHLOROETHENE					6	
TOLUENE						
ETHYLBENZENE		440 J/J				
TOTAL XYLENES		2000 J/J				
TOTAL ETHENES	170	0	1900	3900	39	1.4
TOTAL VOCS	170	2600	1900	4120	92	1.4
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN		24 J/J				
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN CYCLIC HYDROCARBON						
2-BUTENE, 2-METHYL						
BUTANE						
BUTANE, 2-METHYL						
ACETALDEHYDE						
ETHANE, 1,1,2-TRICHLORO-1,2				340 J/J		
PENTANE						

SAS VOC ANALYSIS OF GROUNDWATER SAMPLES
COLLECTED DURING PHASE II DRILLING
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	GDB16-35	GDB17-15	GDB18-15	GDB19-15	GDB20-15.0
LAB	VERSAR	VERSAR	VERSAR	VERSAR	VERSAR
CRL NUMBER	ECD19	ECD42	ECD31	ECD43	ECD62
DATE SAMPLED	06/30/88	07/01/88	06/30/88	07/01/88	07/06/88
DILUTION	10	100	100	25	5
VINYL CHLORIDE					
METHYLENE CHLORIDE	10		43		
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)		69			
CHLOROFORM					
1,2-DICHLOROETHANE					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE	80	84			
1,1,2-TRICHLOROETHANE					
BENZENE					
TETRACHLOROETHENE		1600	580	200 J/	50
TOLUENE					
ETHYLBENZENE					
TOTAL XYLENES					
TOTAL ETHENES	80	1753	580	200	50
TOTAL VOCS	90	1753	623	200	50
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN CYCLIC HYDROCARBON					
2-BUTENE, 2-METHYL					
BUTANE					
BUTANE, 2-METRYL					
ACETALDEHYDE					
ETHANE, 1,1,2-TRICHLORO-1,2					
PENTANE					

SAS VOC ANALYSIS OF GROUNDWATER SAMPLES
COLLECTED DURING PHASE II DRILLING
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	GDB21-15.0	GDB23-18	GDB27-14	GDB29-15.0	SB01
LAB	VERSAR	VERSAR	VERSAR	VERSAR	VERSAR
CRL NUMBER	ECD63	ECD41	ECD20	ECD61	ECD15
DATE SAMPLED	07/06/88	07/01/88	06/30/88	07/05/88	06/29/88
DILUTION	50	100	10	100	
VINYL CHLORIDE					
METHYLENE CHLORIDE			10		
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,2-DICHLOROETHENE (TOTAL)	160	1300			
CHLOROFORM					
1,2-DICHLOROETHANE					
2-BUTANONE					
1,1,1-TRICHLOROETHANE		20			
CARBON TETRACHLORIDE					
BROMODICHLOROMETHANE					
TRICHLOROETHENE	90	1900			
1,1,2-TRICHLOROETHANE					
BENZENE				140	
TETRACHLOROETHENE	250	1700	140	30 J/JX	
TOLUENE		890 J/		78 /J	
ETHYLBENZENE				200	
TOTAL XYLENES		820 J/		940	
TOTAL ETHENES	500	4900	140	30	
TOTAL VOCS	500	6630	150	1388	
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN				210 /J	
UNKNOWN				11 /J	
UNKNOWN				39 /J	
UNKNOWN					
UNKNOWN CYCLIC HYDROCARBON				64 /J	
2-BUTENE, 2-METHYL				64 /J	
BUTANE				63 /J	
BUTANE, 2-METHYL				80 /J	
ACETALDEHYDE					
ETHANE, 1,1,2-TRICHLORO-1,2					
PENTANE				29 /J	

SAS VOC ANALYSIS OF GROUNDWATER SAMPLES
COLLECTED DURING PHASE II DRILLING
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	TB01
LAB	VERSAR
CRL NUMBER	ECD16
DATE SAMPLED	06/29/8
DILUTION	
==========	=======
VINYL CHLORIDE	
METHYLENE CHLORIDE	2.7
ACETONE	
CARBON DISULFIDE	
1,1-DICHLOROETHENE	
1,2-DICHLOROETHENE (TOTAL)	
CHLOROFORM	
1,2-DICHLOROETHANE	
2-BUTANONE	
1,1,1-TRICHLOROETHANE	
CARBON TETRACHLORIDE	
BROMODICHLOROMETHANE	
TRICHLOROETHENE	
1,1,2-TRICHLOROETHANE	
BENZENE	
TETRACHLOROETHENE	
TOLUENE	
ETHYLBENZENE	
TOTAL XYLENES	
TOTAL ETHENES	
TOTAL VOCS	
TENTATIVELY IDENTIFIED VOLATILES	
UNKNOWN	
UNKNOWN	
UNKNOWN	
UNKNOWN	
UNKNOWN CYCLIC HYDROCARBON	
2-BUTENE, 2-METHYL	
BUTANE	
BUTANE, 2-METHYL	
ACETALDEHYDE	2
ETHANE, 1,1,2-TRICHLORO-1,2	
PENTANE	

APPENDIX L

SURFACE WATER AND SEDIMENT ANALYSIS RESULTS

APPENDIX L1

ROUND 2 SURFACE WATER INORGANIC ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Inorganic)

J	The associated numerical value is an estimated quantity, because quality control criteria were not met.

Laboratory Qualifiers (Inorganic)

B	The associated numerical value is greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
E	Indicates the value reported is estimated due to the presence of an interference.
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of the spike absorbance.
N	Indicates spike sample recovery is not within control limits.
*	Indicates duplicate analysis is not within control limits.
S	Indicates value was determined by Method of Standard Additions.
+	Indicates the correlation coefficient for Method of Standard Additions is less than 0.995.

WAUSAU NPL RI/FS-ROUND 2
SURFACE WATER INORGANIC A
C#: 13076.30

CK'D:RK APP'D:CSR
5/15/89

SAMPLE DESCRIPTION	SW01-02	SW02-02	SW03-02	SW04-02	SW05-02	SW05-92
CRL NUMBER	882W03S96	882W03S97	882W03S98	882W03S99	882W03S00	882W04D00
DATE SAMPLED	12/09/87	12/09/87	12/09/87	12/09/87	12/09/87	12/09/87
(UG/L)						
CALCIUM	15000	14200	12300	13400	28300	23300
MAGNESIUM	4610	4650	3910	4390	9320	7500
IRON	1380	645	1610	367	1150	769
SODIUM	10200 J/	9420 J/	6620 J/	7540 J/	22900 J/	18700 J/
POTASSIUM	1580	1310	1360	1280	3650	3190
(MG/L)						
ALKALINITY	36	40	33	36	45	46
TOTAL ORGANIC CARBON	7.9 J/	8.7 J/	6.8 J/	8.0 J/	4.0 J/	3.5 J/
TOTAL KJELDAHL NITROGEN	0.68 J/	0.55 J/	0.85 J/	0.67 J/	0.52 J/	1.2 J/
NITRATE NITROGEN	0.21	0.23	0.23	0.23	0.23	0.05 /U
SULFATE	12	14	10	11	15	16
AMMONIA NITROGEN	0.18	0.21	0.07	0.03	0.06	0.05
CHLORIDE	14	11	10	8.5	46	46

WAUSAU NPL RI/FS-ROUND 2
SURFACE WATER INORGANIC A
C#: 13076.30

SAMPLE DESCRIPTION	SW06-02	SW07-02
CRL NUMBER	882W04S01	882W04S02
DATE SAMPLED	12/09/87	12/09/87
(UG/L)		
CALCIUM	17200	25300
MAGNESIUM	5540	7970
IRON	979	1170
SODIUM	11300 J/	24400 J/
POTASSIUM	2200	4460
(MG/L)		
ALKALINITY	37	36
TOTAL ORGANIC CARBON	4.0 J/	3.6 J/
TOTAL KJELDAHL NITROGEN	0.56 J/	0.58 J/
NITRATE NITROGEN	0.96	0.06
SULFATE	11	20
AMMONIA NITROGEN	0.07	0.06
CHLORIDE	11	59

APPENDIX L2

HISTORICAL SUMMARY
SURFACE WATER SAS VOC ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Organic)

F — Indicates compound was also detected in the Field Blank.

J — The associated numerical value is an estimated quantity.

*** — Indicates that sample designation shown in Appendix K1 may be incorrect based on duplicate analysis results and/or comparison to historical concentrations. Refer to Appendix K3 for additional analysis results.

Laboratory Qualifiers (Organic)

J — Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mas spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

D — This flag identifies all compounds quantitated in an analysis at a secondary dilution factor.

E — This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed. If The dilution of the extract causes any compounds identified in the first analysis to be below the calibration range of the second analysis, thene the results of both analyses are reported by the laboratory.

X — This flag is applied to data which were calculated manually (as opposed to computer generated) by the laboratory.

A — This flag indicates that a tentatively identified compound (TIC) is a suspected aldol condensation product.

B — This flag is used when the analyte is found in the associated blank at less than 5 times the contract-required quantitation limit as well as in the sample. It indicates possible blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

M — Analyte does not meet EPA spectral matching protocols but is present in expert opinion of the analyst.

SURFACE WATER VOCS ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

CK'D: BK APP'D: CSR
5/15/89

	WISCONSIN RIVER				BOS CREEK DOWNSTREAM OF RANDOLPH	
LAB	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	ENCOTEC	NANCO
SAMPLE DESCRIPTION	SW01-02	SW02-02	SW03-02	SW04-02	SW06-02	SW04-03
DATE SAMPLED	12/09/87	12/09/87	12/09/87	12/09/87	12/09/87	5/24/88
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE						
ACETONE		3 /J				8 /J
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)	1 /J					
CHLOROFORM	2	4		1 /J		
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRICHLOROETHENE					26	31 J/
1,1,2-TRICHLOROETHANE						
BENZENE						
2-HEXANONE						
TETRACHLOROETHENE	6					
1,1,2,2-TETRACHLOROETHANE						
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	7	0	0	0	26	31
TOTAL VOCS	9	7	0	1	26	39
TENTATIVELY IDENTIFIED COMPOUNDS						
UNKNOWN						

SURFACE WATER VOCS ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

	BOS CREEK POND				BOS CREEK AT CW6 DISCHARGE	
LAB	ENSECO	ENCOTEC	ENCOTEC	NANCO	ENSECO	NANCO
SAMPLE DESCRIPTION	SW10-01	SW05-02	SW05-92	SW03-03	SW09-01	SW02-03
DATE SAMPLED	10/28/88	12/09/87	12/09/87	5/24/88	10/27/87	5/24/88
UNITS (UG/L)						
VINYL CHLORIDE						
METHYLENE CHLORIDE				1 /J	20.0 /B	1 /J
ACETONE	20.0 B/					
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
TRICHLOROETHENE	70.0	35 /J	36 /J	68	82.0	98
1,1,2-TRICHLOROETHANE						
BENZENE						
2-HEXANONE						
TETRACHLOROETHENE						
1,1,2,2-TETRACHLOROETHANE						
TOLUENE						
ETHYLBENZENE						
TOTAL XYLENES						
TOTAL ETHENES	70	35	36	68	82	98
TOTAL VOCS	90	35	36	69	102	99
TENTATIVELY IDENTIFIED COMPOUNDS						
UNKNOWN						

SURFACE WATER VOCS ANALYSIS (SAS)
WAUSAU WATER SUPPLY NPL SITE

		BOS CREEK UPSTREAM OF CW6 DISCHARGE	
LAB	ENCOTEC	NANCO	NANCO
SAMPLE DESCRIPTION	SW07-02	SW01-03	SW01-93
DATE SAMPLED	12/09/87	5/24/88	5/24/88
UNITS (UG/L)			
VINYL CHLORIDE			
METHYLENE CHLORIDE		1 /J	1 /J
ACETONE			
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,2-DICHLOROETHENE (TOTAL)			
CHLOROFORM			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
TRICHLOROETHENE			
1,1,2-TRICHLOROETHANE			
BENZENE			
2-HEXANONE			
TETRACHLOROETHENE			
1,1,2,2-TETRACHLOROETHANE			
TOLUENE			
ETHYLBENZENE			
TOTAL XYLENES			
TOTAL ETHENES	0	0	0
TOTAL VOCS	0	1	1
TENTATIVELY IDENTIFIED COMPOUNDS			
UNKNOWN		1 /J	

APPENDIX L3

SEDIMENT ORGANIC COMPOUND ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Organic)

F	Indicates compound was also detected in the Field Blank.
J	The associated numerical value is an estimated quantity.
***	Indicates that sample designation shown in Appendix K1 may be incorrect based on duplicate analysis results and/or comparison to historical concentrations. Refer to Appendix K3 for additional analysis results.

Laboratory Qualifiers (Organic)

J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mas spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
D	This flag identifies all compounds quantitated in an analysis at a secondary dilution factor.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed. If The dilution of the extract causes any compounds identified in the first analysis to be below the calibration range of the second analysis, thene the results of both analyses are reported by the laboratory.
X	This flag is applied to data which were calculated manually (as opposed to computer generated) by the laboratory.
A	This flag indicates that a tentatively identified compound (TIC) is a suspected aldol condensation product.
B	This flag is used when the analyte is found in the associated blank at less than 5 times the contract-required quantitation limit as well as in the sample. It indicates possible blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.
M	Analyte does not meet EPA spectral matching protocols but is present in expert opinion of the analyst.

SEDIMENT VOC ANALYSIS RESULTS (RAS)
WAUSAU WATER SUPPLY NPL SITE

CK'D: BJC APP'D: CSR

	WISCONSIN RIVER				BOS CREEK POND		
UNITS - UG/KG							
LAB NAME	SWRI	SWRI	SWRI	SWRI	SWRI	SWRI	JTC
SAMPLE DESCRIPTION	SD01-02	SD02-02	SD03-02	SD04-02	SD05-02	SD05-92	SD03-03
DATE SAMPLED	12/09/87	12/09/87	12/09/87	12/09/87	12/09/87	12/09/87	05/24/88
DILUTION							
CHLOROMETHANE							
BROMOMETHANE							
VINYL CHLORIDE							
CHLOROETHANE							
METHYLENE CHLORIDE							
ACETONE							190 J/
CARBON DISULFIDE							
1,1-DICHLOROETHENE							
1,1-DICHLOROETHANE							
1,2-DICHLOROETHENE (TOTAL)					87	110	200
CHLOROFORM							
1,2-DICHLOROETHANE							
2-BUTANONE							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
VINYL ACETATE							
BROMODICHLOROMETHANE							
1,2-DICHLOROPROPANE							
TRANS-1,3-DICHLOROPROPENE							
TRICHLOROETHENE						10 /J	
DIBROMOCHLOROMETHANE							
1,1,2-TRICHLOROETHANE							
BENZENE							
CIS-1,3-DICHLOROPROPENE							
BROMOFORM							
4-METHYL-2-PENTANONE							
2-HEXANONE							
TETRACHLOROETHENE							
1,1,2,2-TETRACHLOROETHANE							
TOLUENE							
CHLOROBENZENE							
ETHYLBENZENE							
STYRENE							
TOTAL XYLENES							
TENTATIVELY IDENTIFIED VOLATILES							
METHANE, THIOBIS-							
PENTANE, 3-METHYL-							19 /JX
TOTAL ETHENES	0	0	0	0	87	120	200
TOTAL VOCS	0	0	0	0	87	120	390
SEMI-VOLATILES							

SEDIMENT VOC ANALYSIS RESULTS (RAS)
WAUSAU WATER SUPPLY NPL SITE

	BOS CREEK DOWNSTREAM FROM RANDOLPH		BOS CREEK UPSTREAM FROM BURNS			BOS CREEK DOWNSTREAM OF CW6 DISCHARGE
UNITS - UG/KG						
LAB NAME	SWRI	JTC	SWRI	JTC	JTC	JTC
SAMPLE DESCRIPTION	SD06-02	SD04-03	SD07-02	SD01-03	SD01-93	SD02-03
DATE SAMPLED	12/09/87	05/24/88	12/09/87	05/24/88	05/24/88	05/24/88
DILUTION						
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE						
ACETONE				59	33	
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)		6				6
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE	17	7				11
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE						
1,1,2,2-TETRACHLOROETHANE						
TOLUENE						
CHLOROBENZENE						
ETHYLBENZENE				7		
STYRENE						
TOTAL XYLENES						
TENTATIVELY IDENTIFIED VOLATILES						
METHANE, THIOBIS-				70 /JX	21 /JX	
PENTANE, 3-METHYL-						
TOTAL ETHENES	17	13	0	0	0	17
TOTAL VOCS	17	13	0	66	33	17
SEMI-VOLATILES						

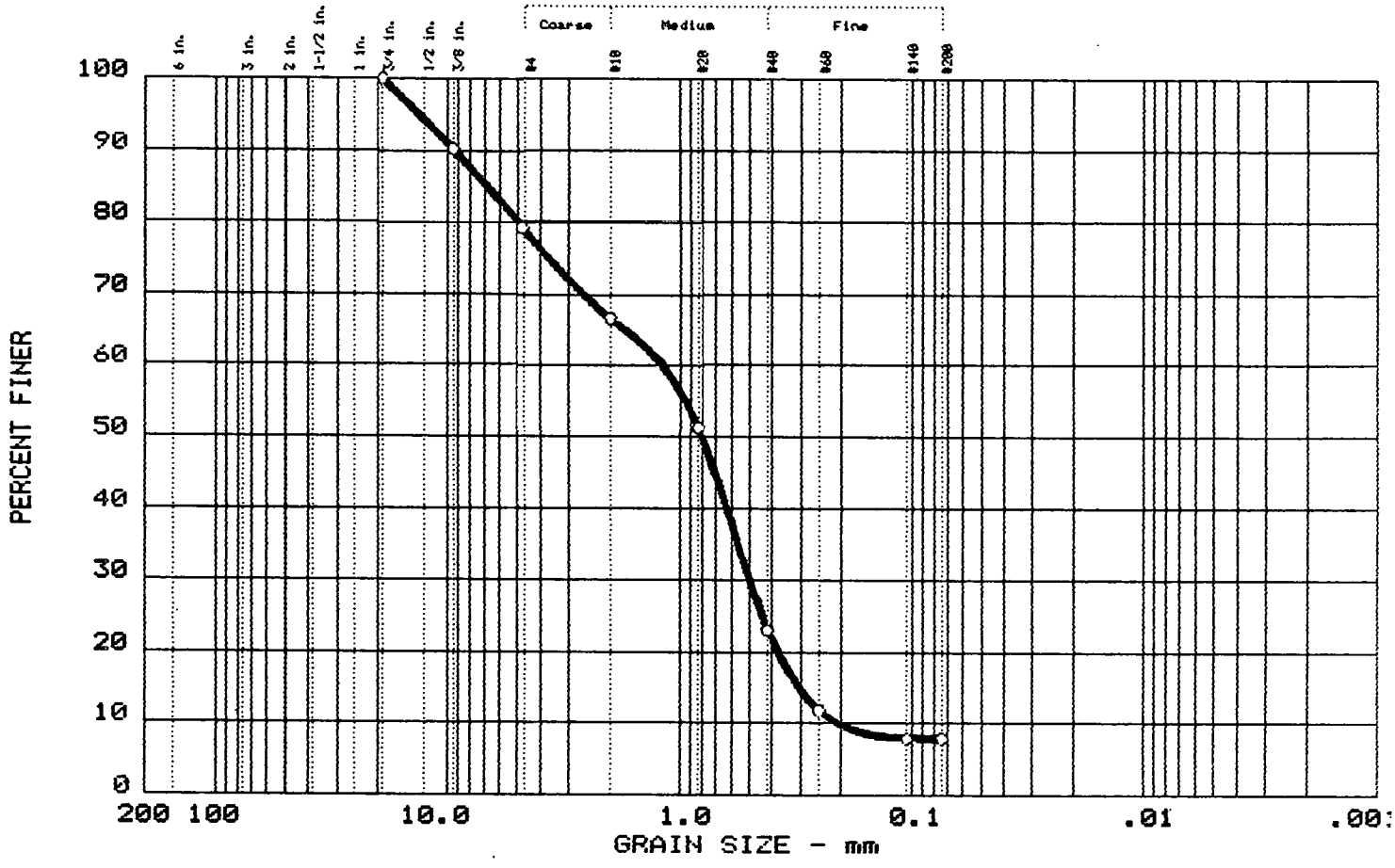
APPENDIX M

SOIL/RESIDUE ANALYSIS RESULTS

APPENDIX M1

SOIL GRAIN SIZE AND TOTAL ORGANIC CARBON ANALYSIS RESULTS

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	20.8	79.2	0.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	6.76	1.19	0.81	0.502	0.3062	0.2070	1.03	5.7

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-04/CAS LAB 70059
SS01

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

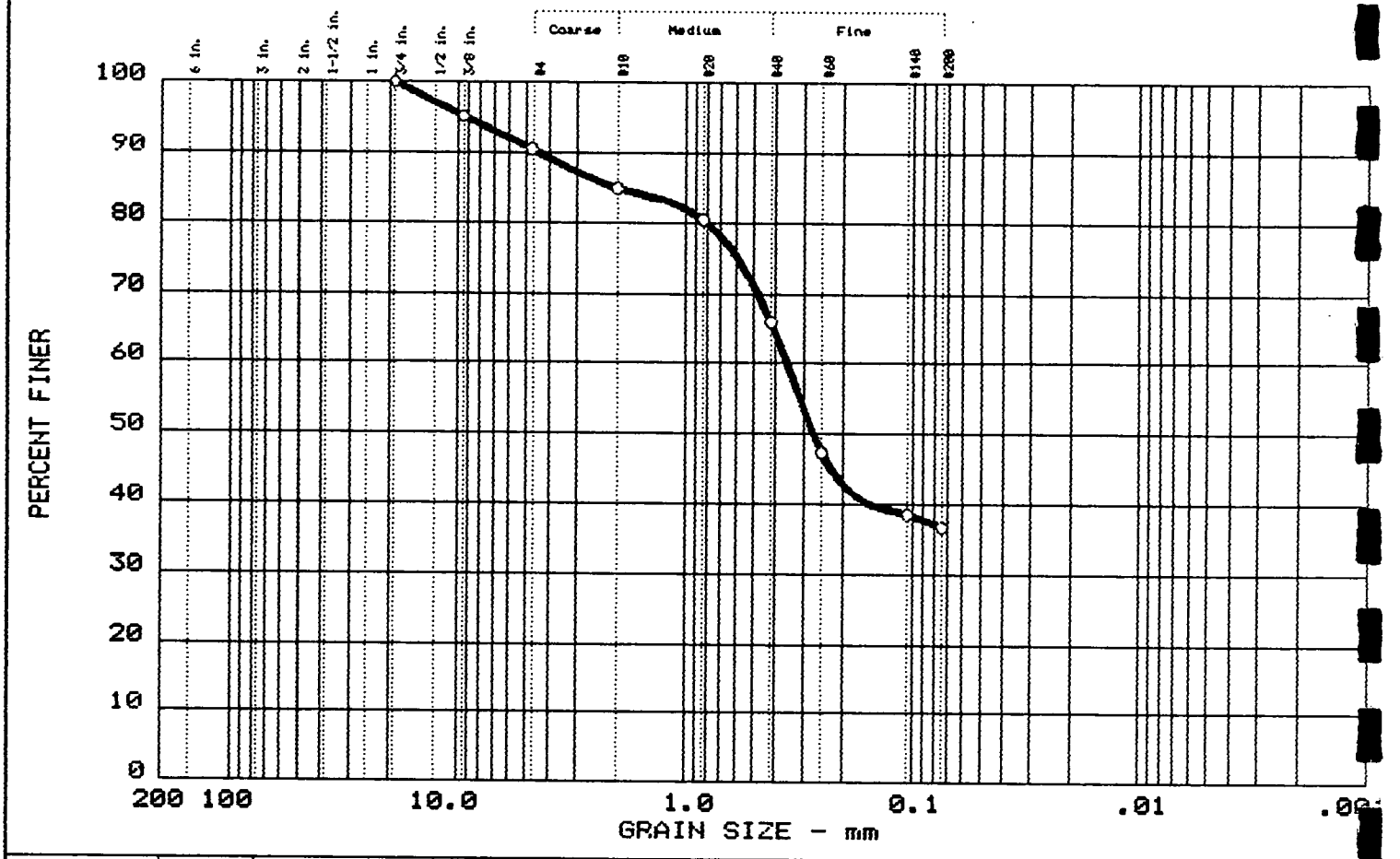
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DMR

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	9.5	53.8	36.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	2.02	0.36	0.27					

MATERIAL DESCRIPTION	USCS
○ Brown Silty Fine-Coarse SAND, Little Gravel	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-05/CAS LAB 70060
SS02

Date: 01-20-89

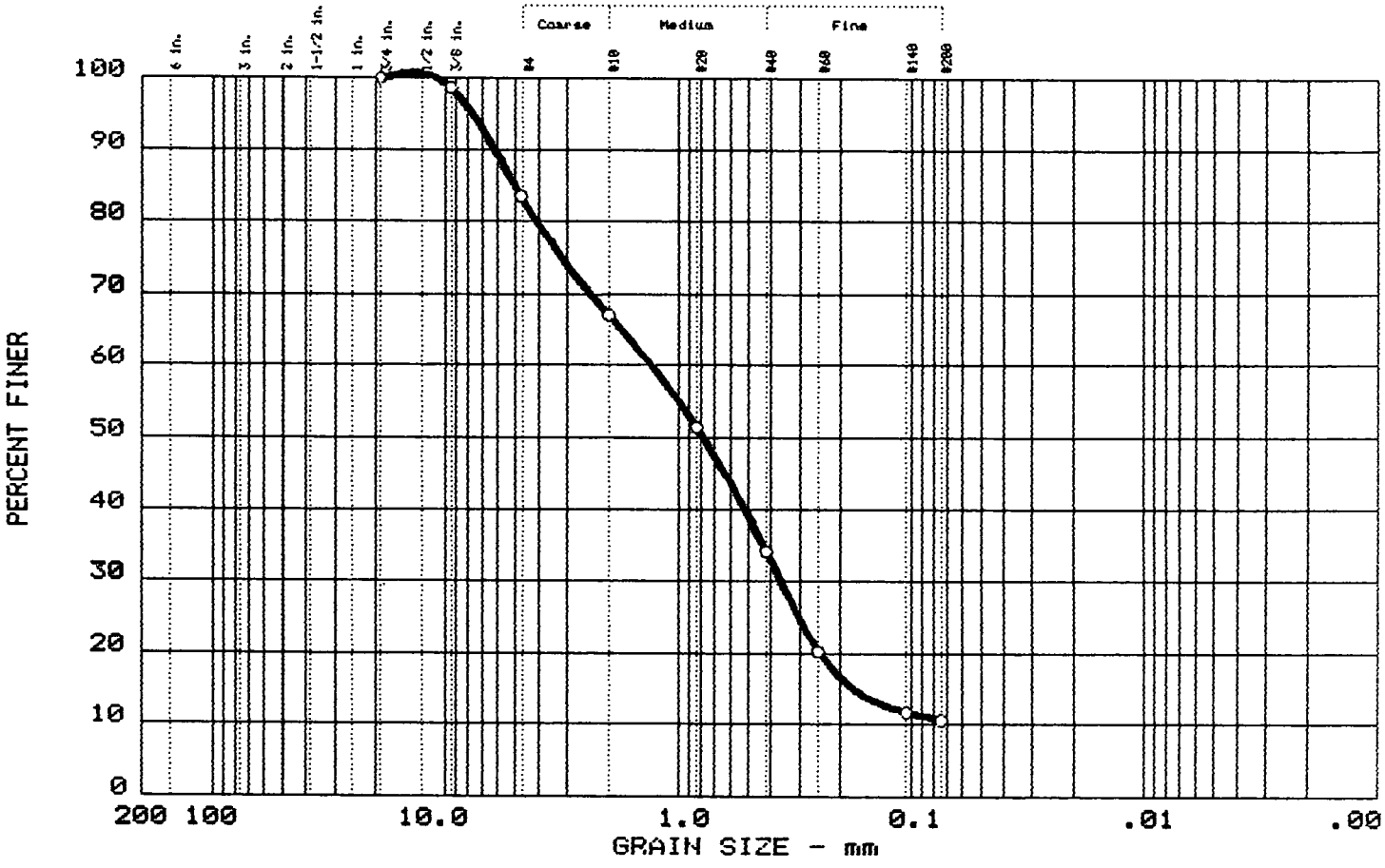
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY:

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	16.5	72.9	10.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	5.07	1.30	0.78	0.362	0.1754	0.07	1.44	18.6

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt	SW-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-06/CAS LAB 70061
SS03

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

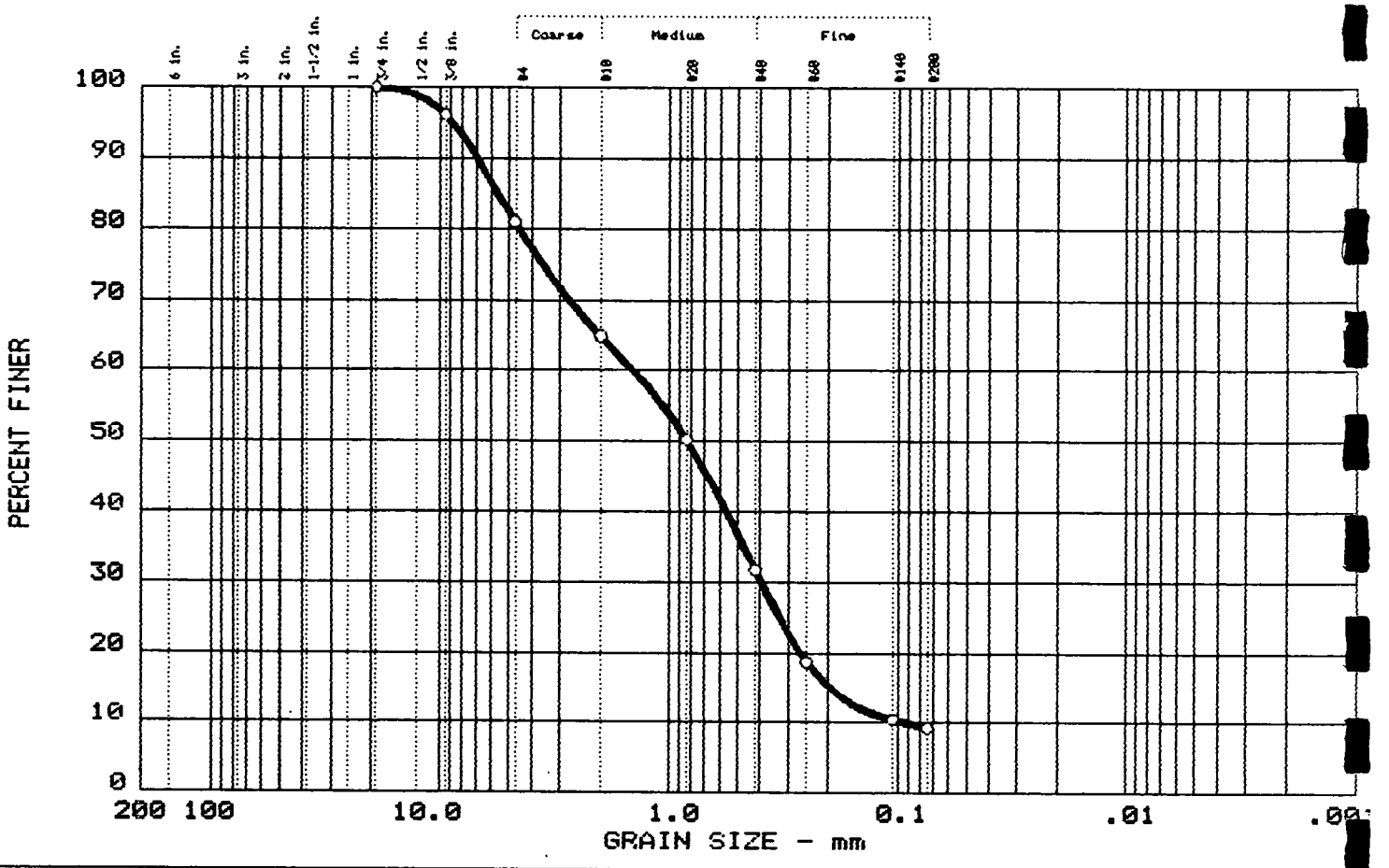
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DJN

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	19.0	71.8	9.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	5.61	1.44	0.83	0.393	0.1968	0.0920	1.16	15.7

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt	SW-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-07/CAS LAB 70062
SS03 Dup

Date: 01-20-89

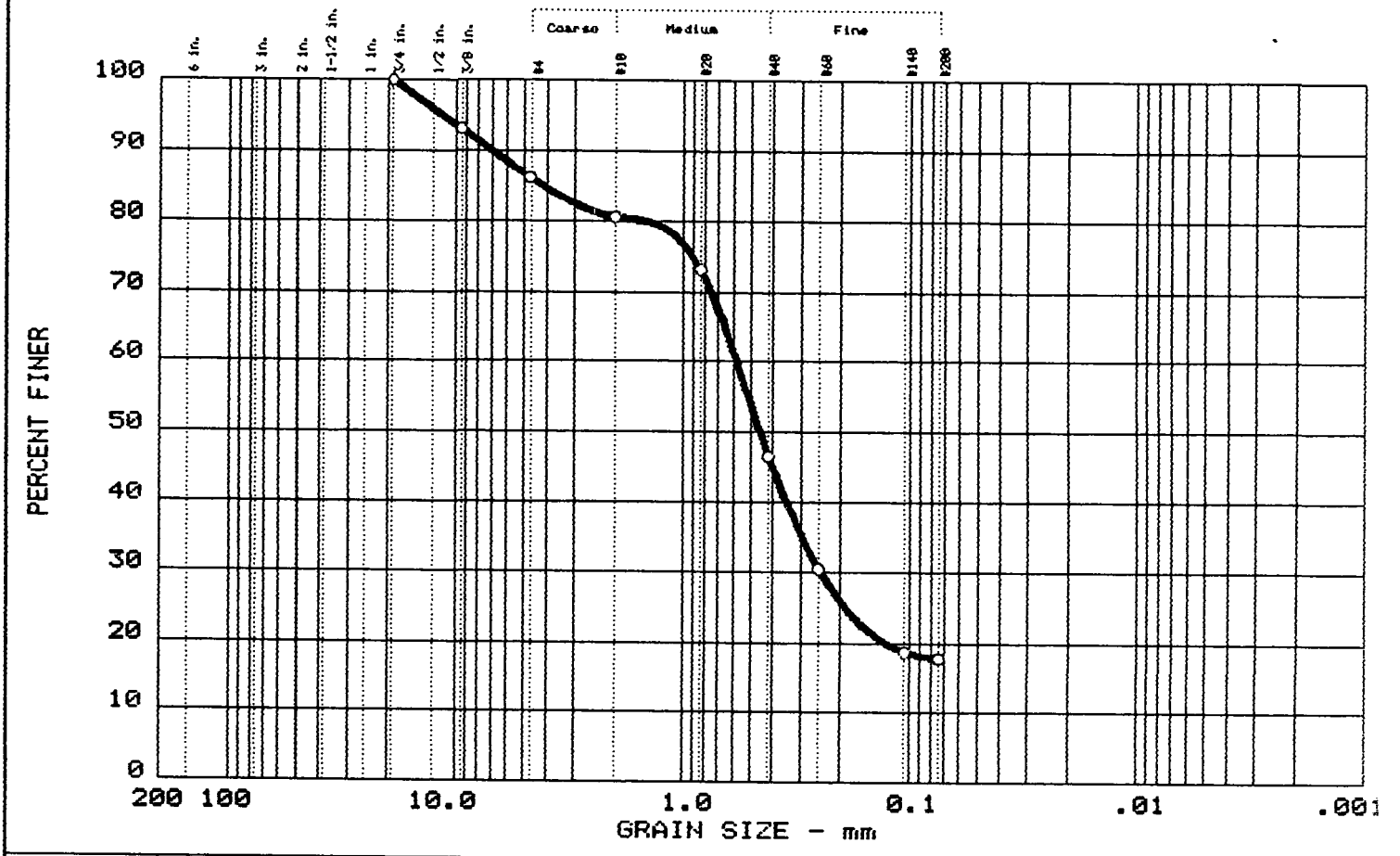
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DJN

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	13.8	68.5	17.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	4.12	0.58	0.46	0.245				

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel & Silt Total Organic Content = 13100 mg/kg	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-11/CAS LAB 70067
SS04

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

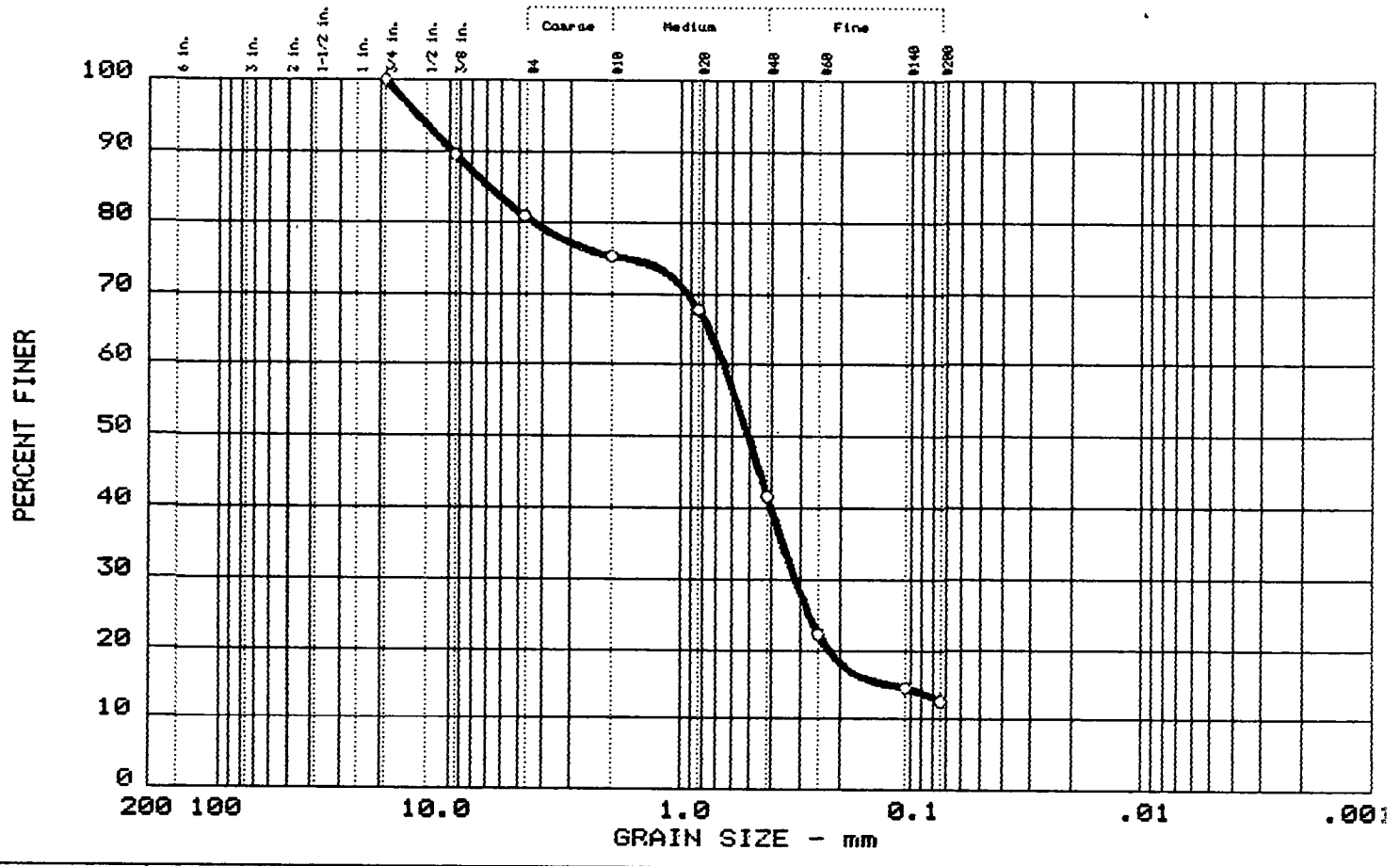
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DWM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	19.0	68.3	12.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	6.68	0.65	0.51	0.316	0.1202			

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel & Silt	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-12/CAS LAB 70068
SS05

Date: 01-20-89

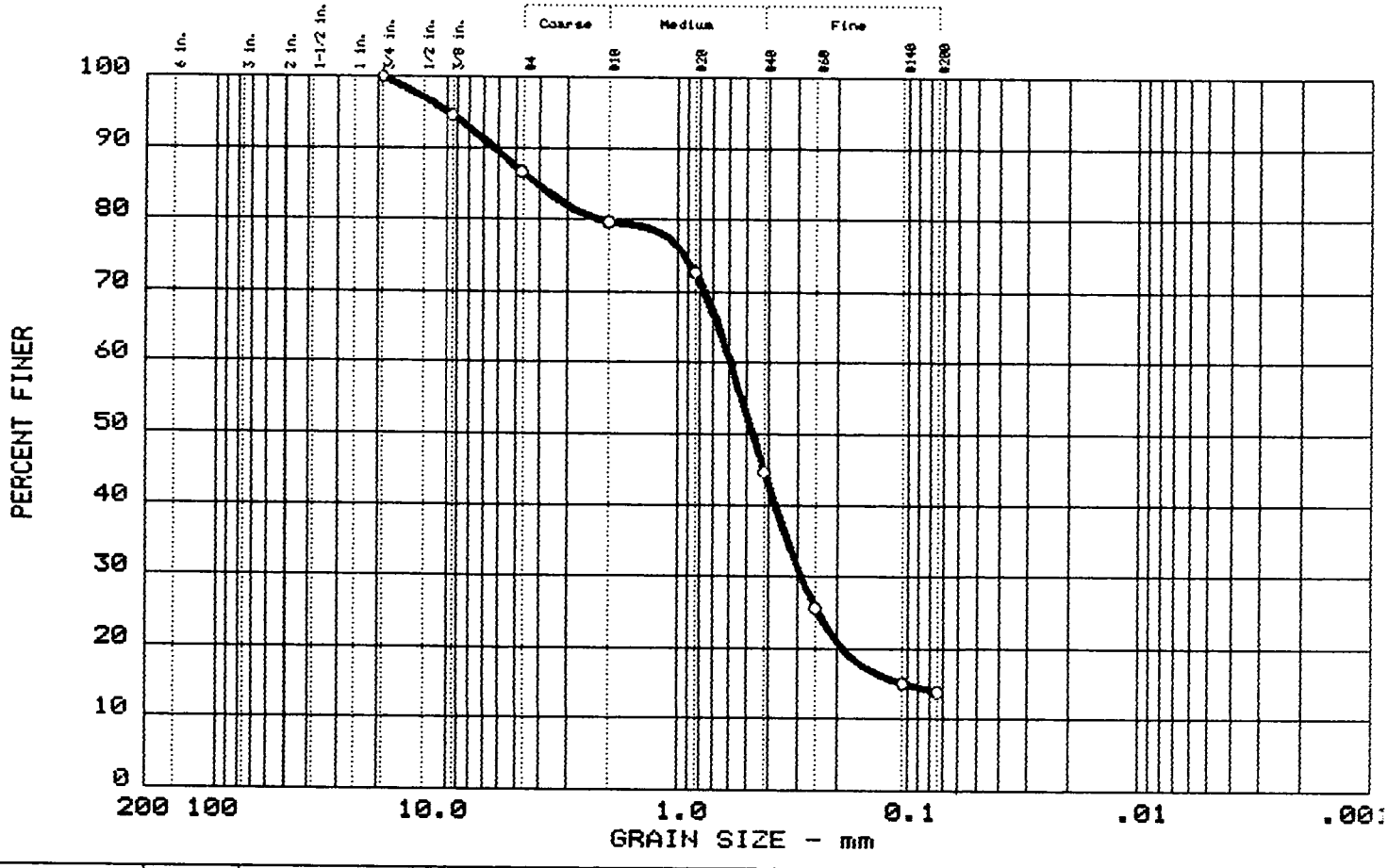
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DJM

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WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	13.3	72.9	13.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	4.07	0.59	0.47	0.288	0.1022			

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel & Silt	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-13/CAS LAB 70069
SS05 Dup

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

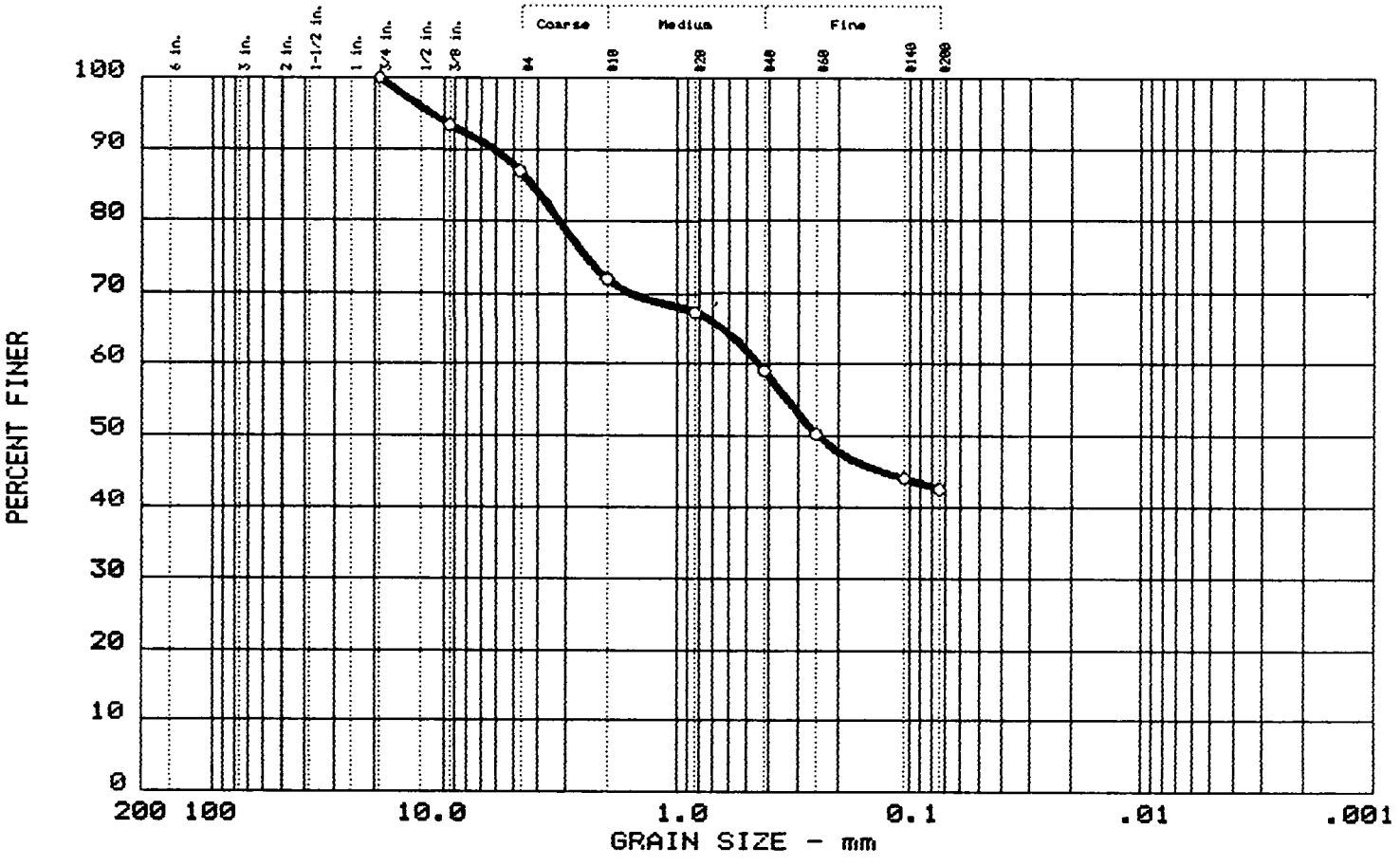
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DWN

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	12.9	44.5	42.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	4.17	0.44	0.25					

MATERIAL DESCRIPTION	USCS
○ Black Silty Fine-Coarse SAND, Some Gravel Total Organic Content = 54300 mg/kg	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-15/CAS LAB 70071
SS06

Date: 01-20-89

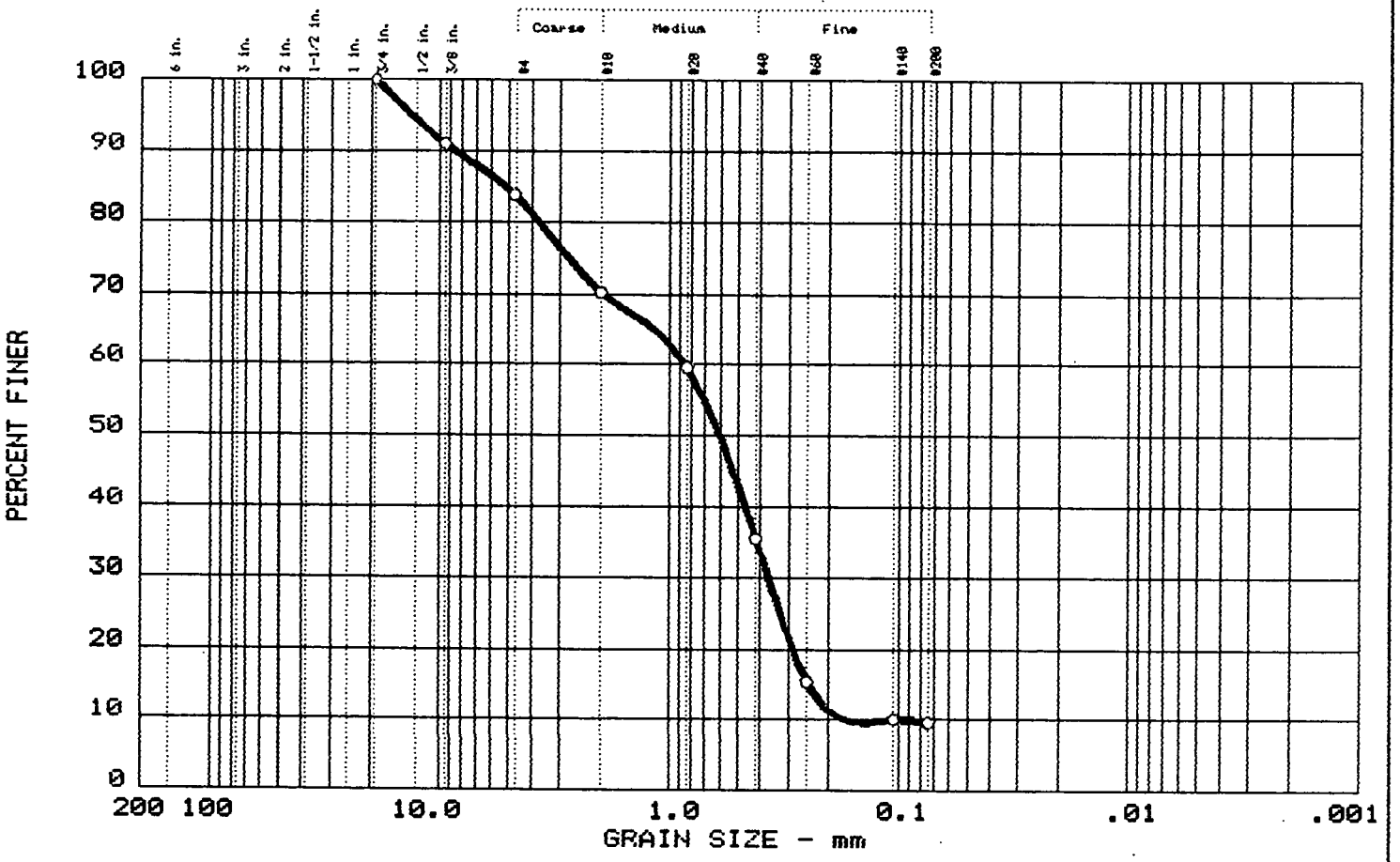
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DJM

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	16.2	74.2	9.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	5.19	0.85	0.60	0.370	0.2463	0.1704	0.94	5.0

MATERIAL DESCRIPTION	USCS
○ Black Fine-Coarse SAND, Some Gravel, Little Silt Total Organic Content = 9050 mg/kg	SP-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-16/CAS LAB 70072
SS07

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.

ENTERED BY: WEI/MML

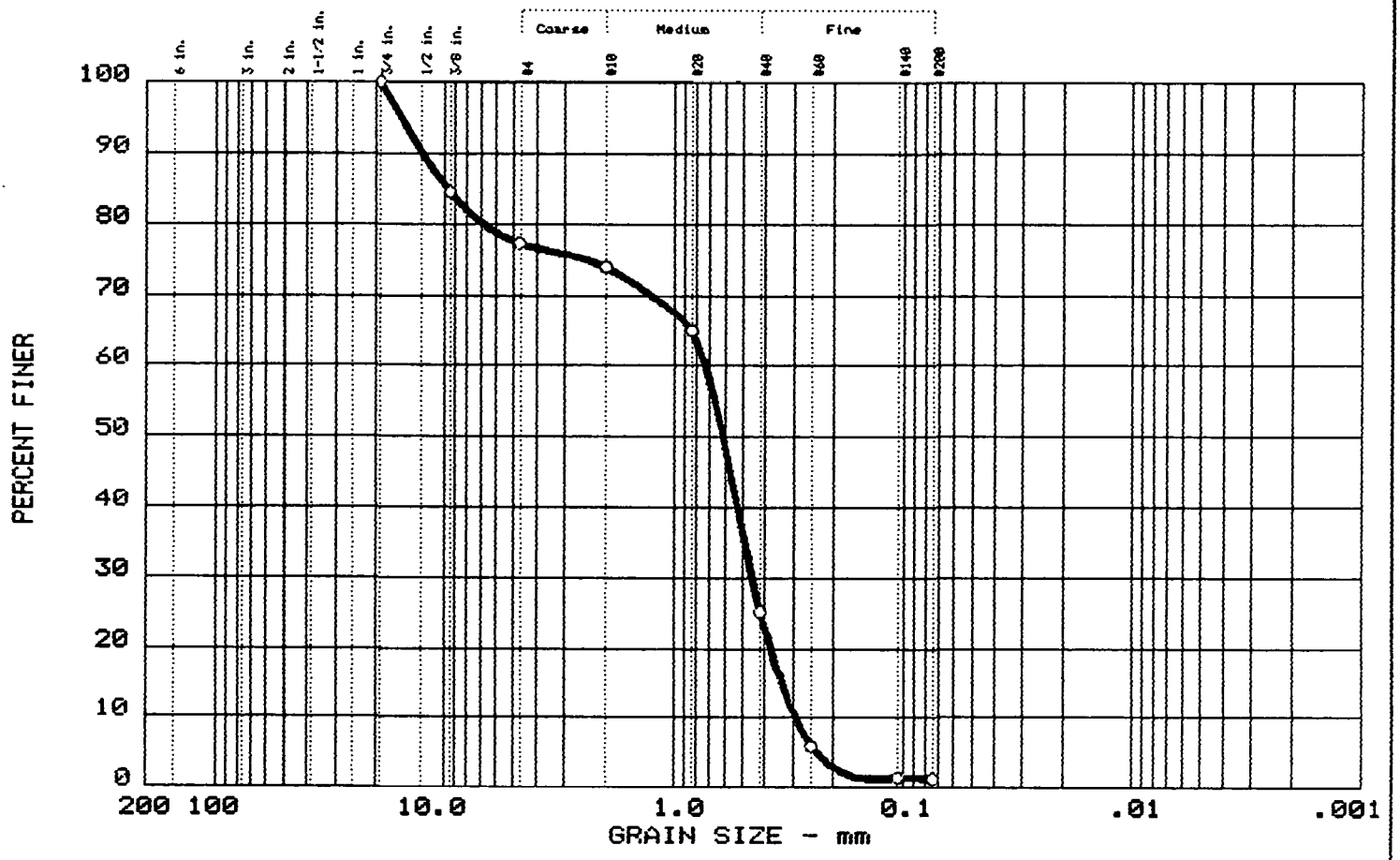
CHECKED BY: VJR

APPROVED BY: BJM

Sheet No.

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	22.6	76.1	1.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	9.66	0.73	0.61	0.454	0.3400	0.2948	0.95	2.5

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 464 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-21/CAS LAB 70077
E21 @ 31 FT

Date: 01-20-89

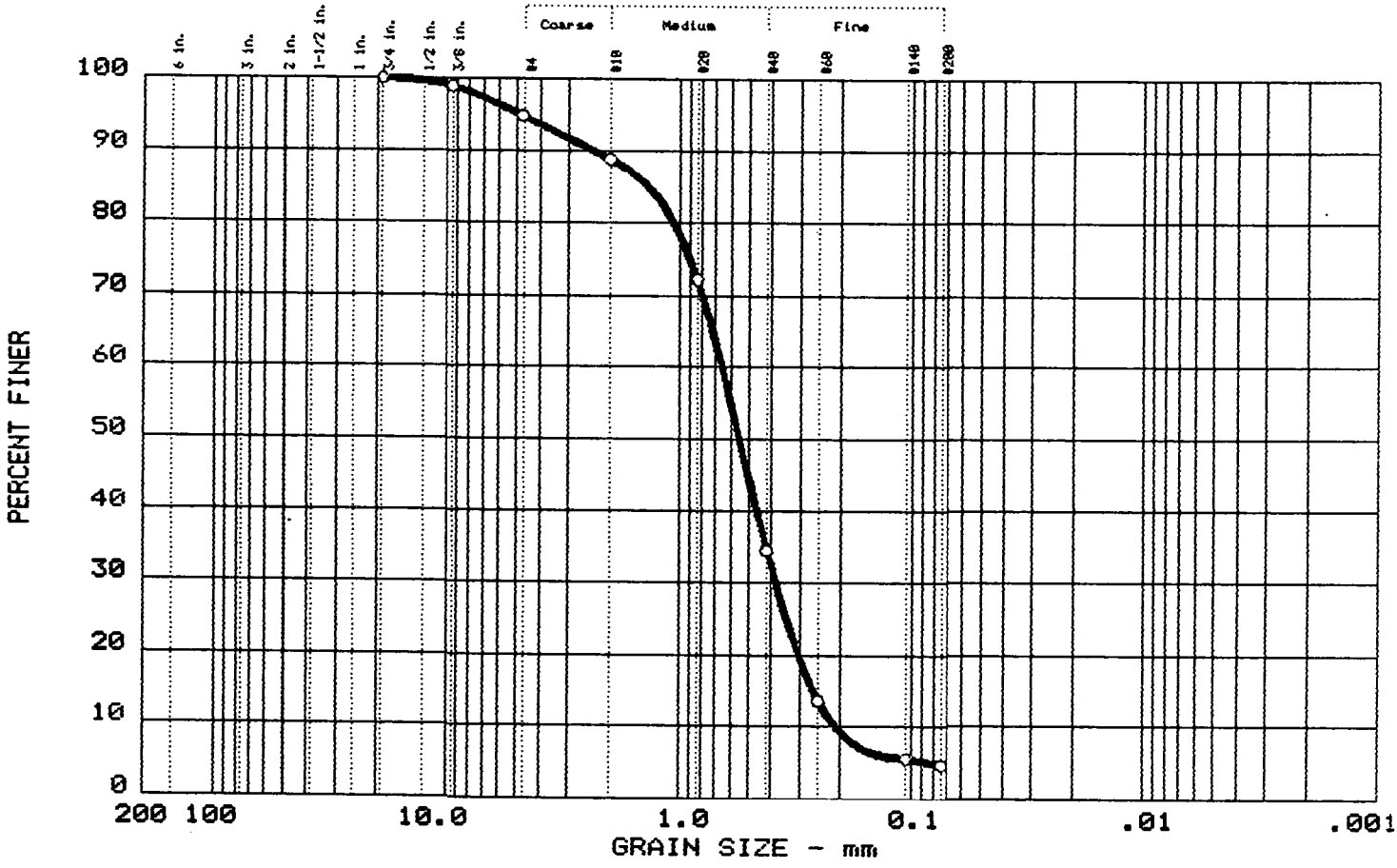
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
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WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	5.1	90.1	4.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	1.36	0.66	0.55	0.385	0.2630	0.2089	1.08	3.1

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Little Gravel, Trace Silt Total Organic Content = 304 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-02/CAS LAB 70057
E24 @ 24 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.

ENTERED BY: WEI/MML

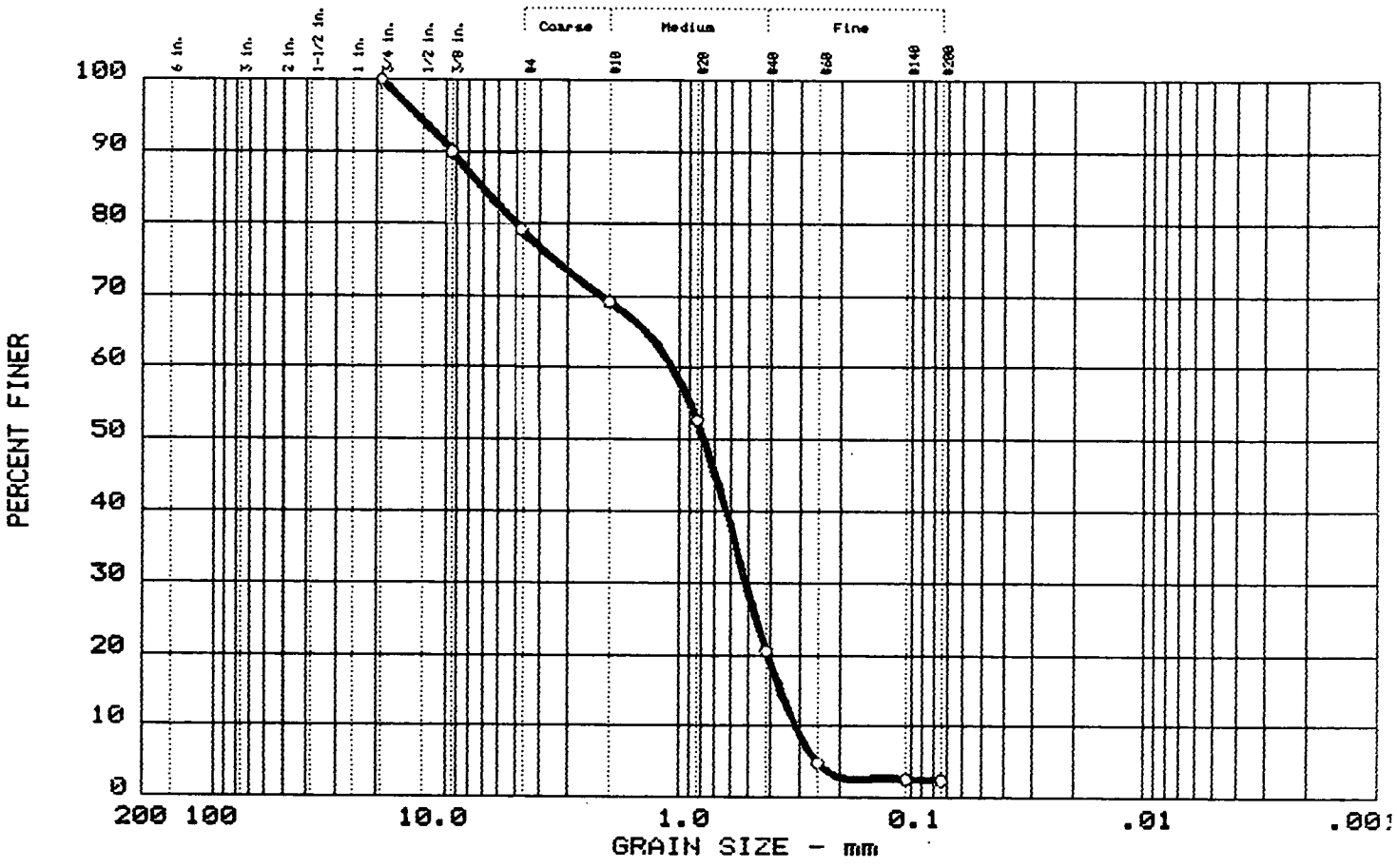
CHECKED BY: VJR

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	20.8	76.8	2.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	6.92	1.07	0.78	0.512	0.3656	0.3144	0.78	3.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 3270 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-14/CAS LAB 70070
E26A @ 14 FT

Date: 01-20-89

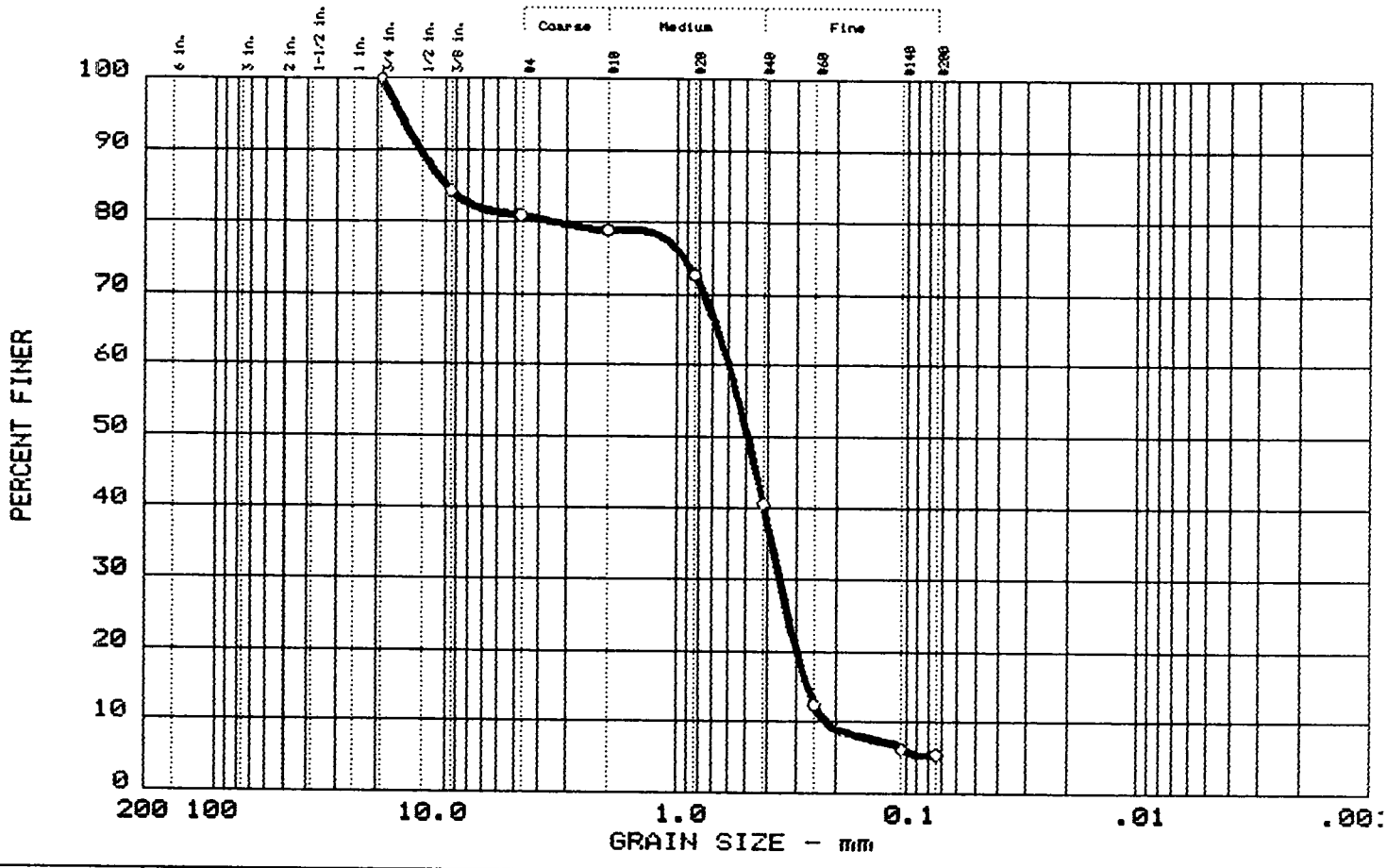
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DWM

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	19.1	75.4	5.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	10.00	0.60	0.49	0.355	0.2685	0.2234	0.95	2.7

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt	SP-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-29/CAS LAB 70063
E31 @ 25 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

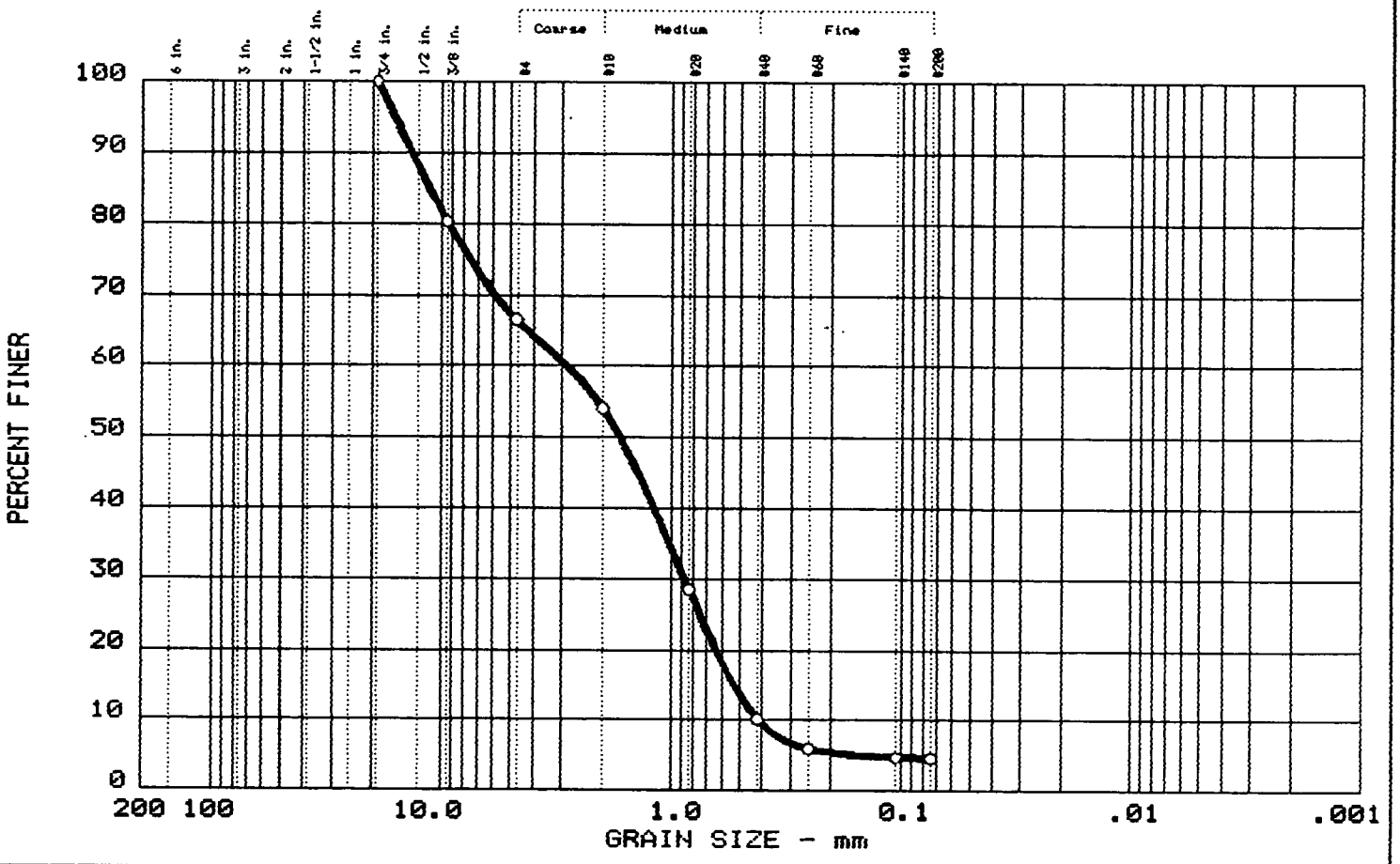
Remarks:

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	33.5	61.9	4.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	11.35	2.85	1.68	0.877	0.5284	0.4150	0.65	6.9

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 736 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-22/CAS LAB 70078
E32 @ 14 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.

ENTERED BY: WEI/MML

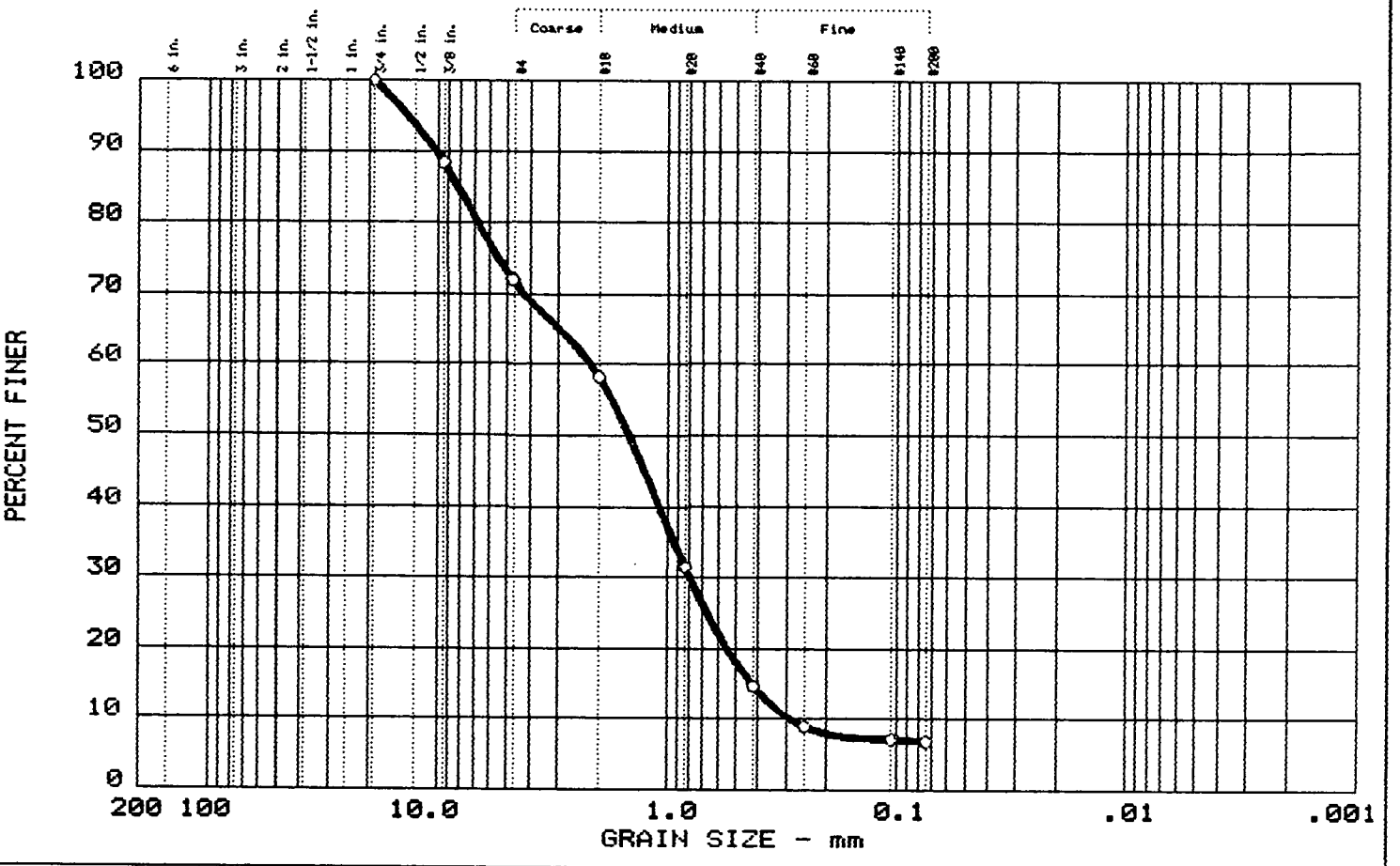
CHECKED BY: VJR

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Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	28.0	65.1	6.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	8.22	2.16	1.48	0.799	0.4241	0.2867	1.03	7.5

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt Total Organic Content = 936 mg/kg	SW-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-23/CAS LAB 70079
E33 @ 14 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

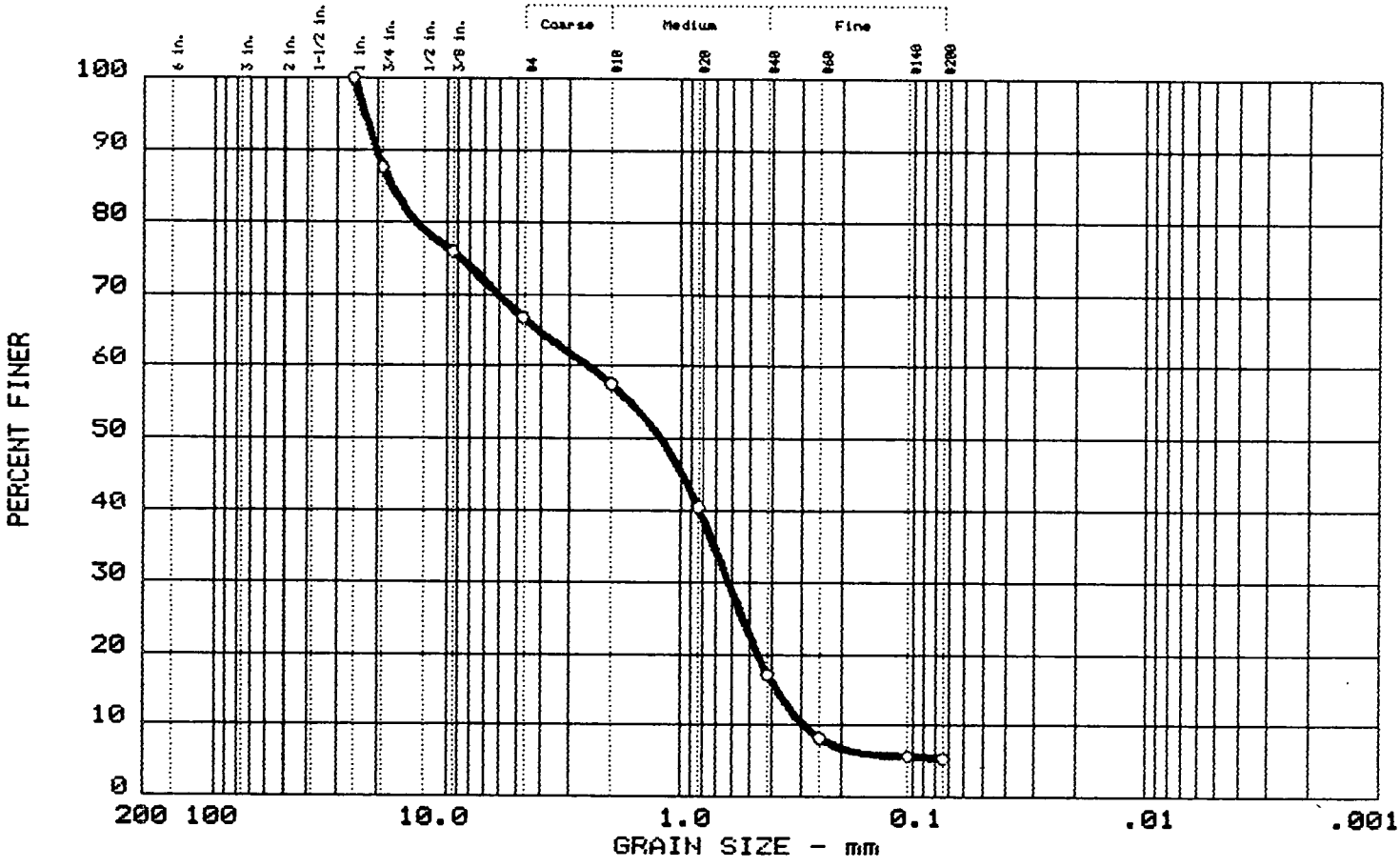
Remarks:

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	33.3	61.3	5.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	17.50	2.50	1.22	0.620	0.3859	0.2894	0.53	8.6

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt Total Organic Content = 4620 mg/kg	SP-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-24/CAS LAB 70080
E34 @ 14 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

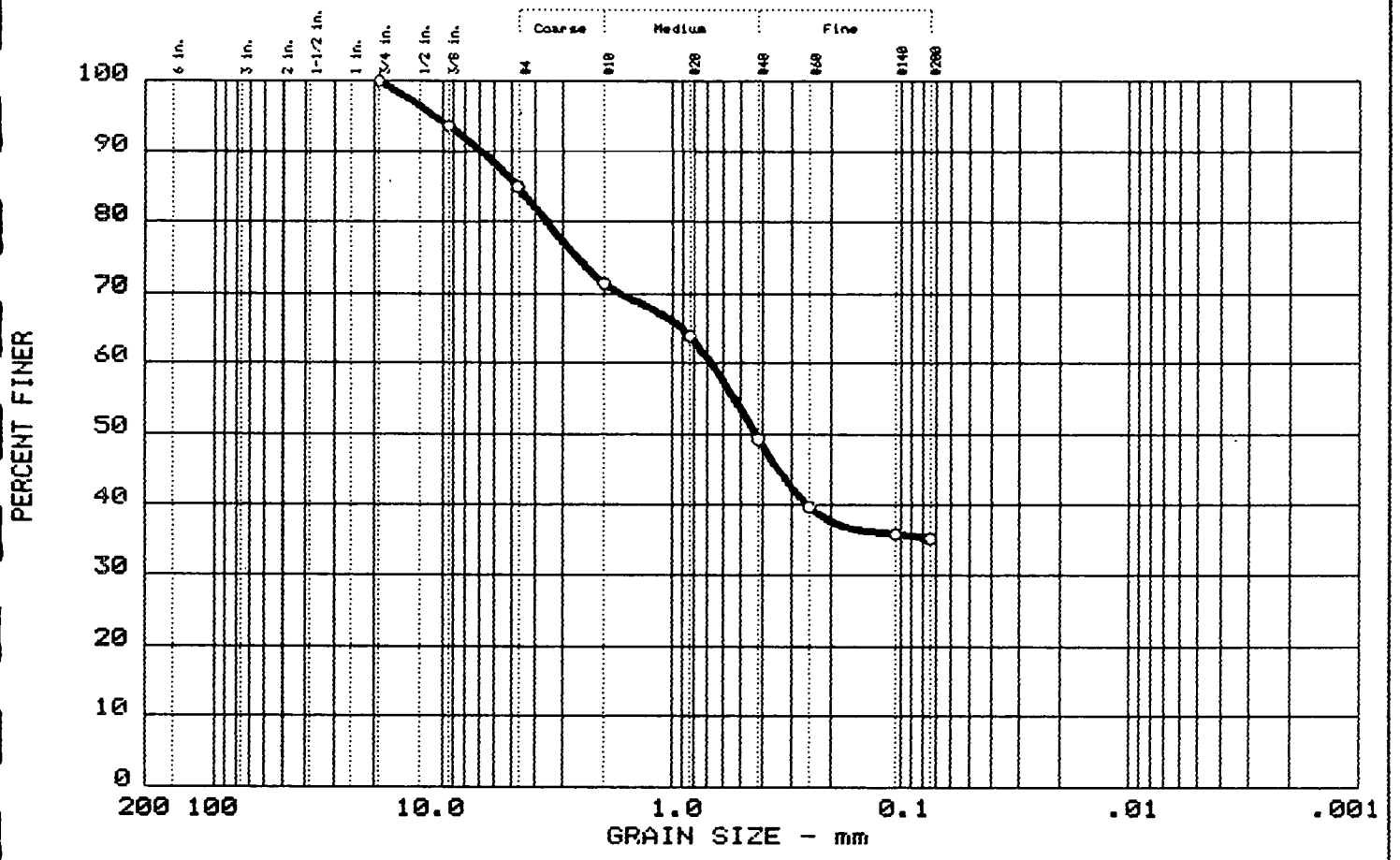
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
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APPROVED BY: DJM

Sheet No.

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	15.1	49.7	35.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	4.79	0.67	0.43					

MATERIAL DESCRIPTION	USCS
○ Brown Silty Fine-Coarse SAND, Some Gravel Total Organic Content = 4300 mg/kg	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-30/CAS LAB 70084
E35 @ 16 FT

Date: 01-20-89

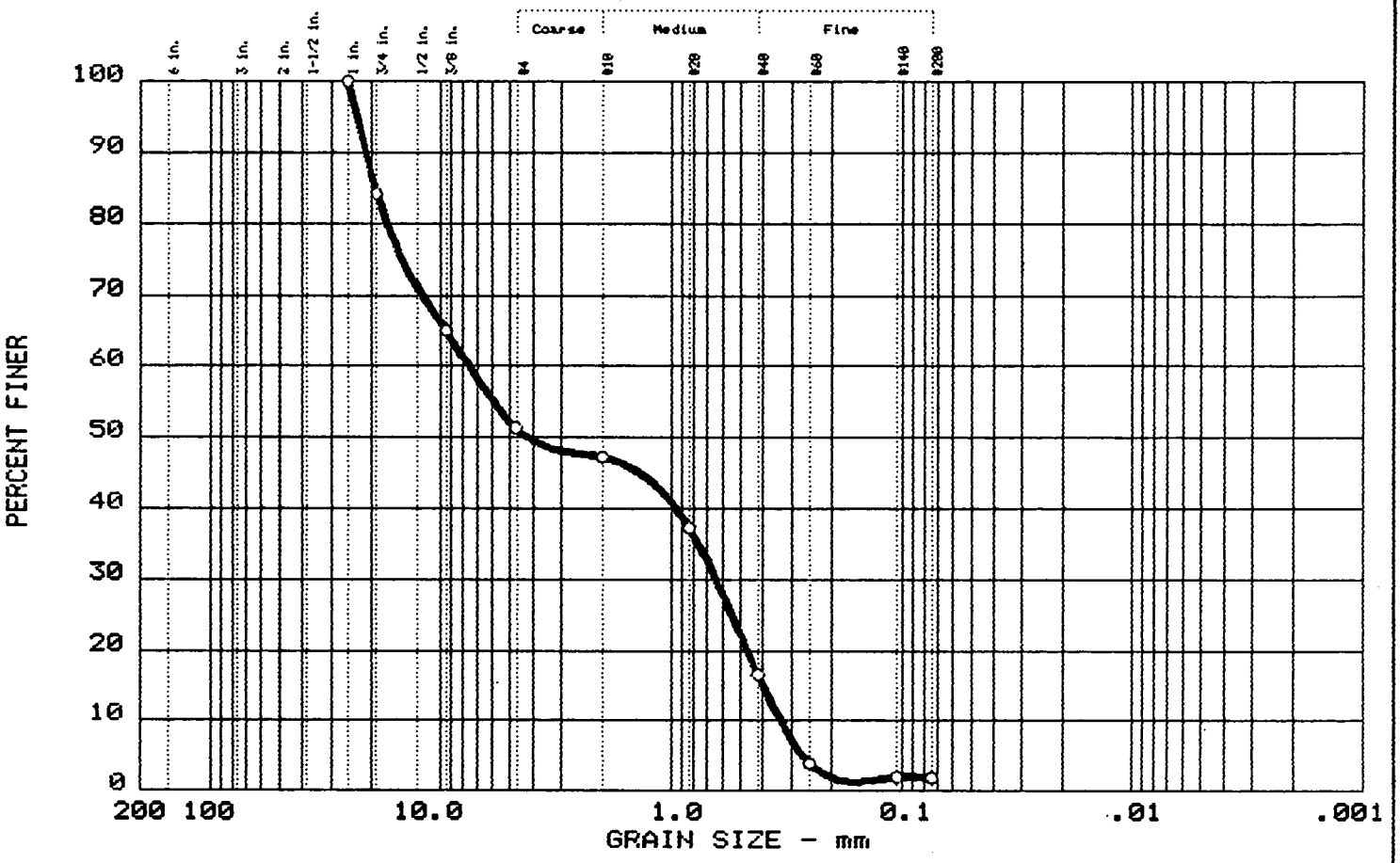
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DYM

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	48.6	49.6	1.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○	--	--	19.28	7.50	4.17	0.638	0.3981	0.3346	0.16	22.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND & GRAVEL, Trace Silt Total Organic Content = 653 mg/kg	SP/GP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-25/CAS LAB 70081
E36 @ 16 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT

WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.

ENTERED BY: WEI/MML

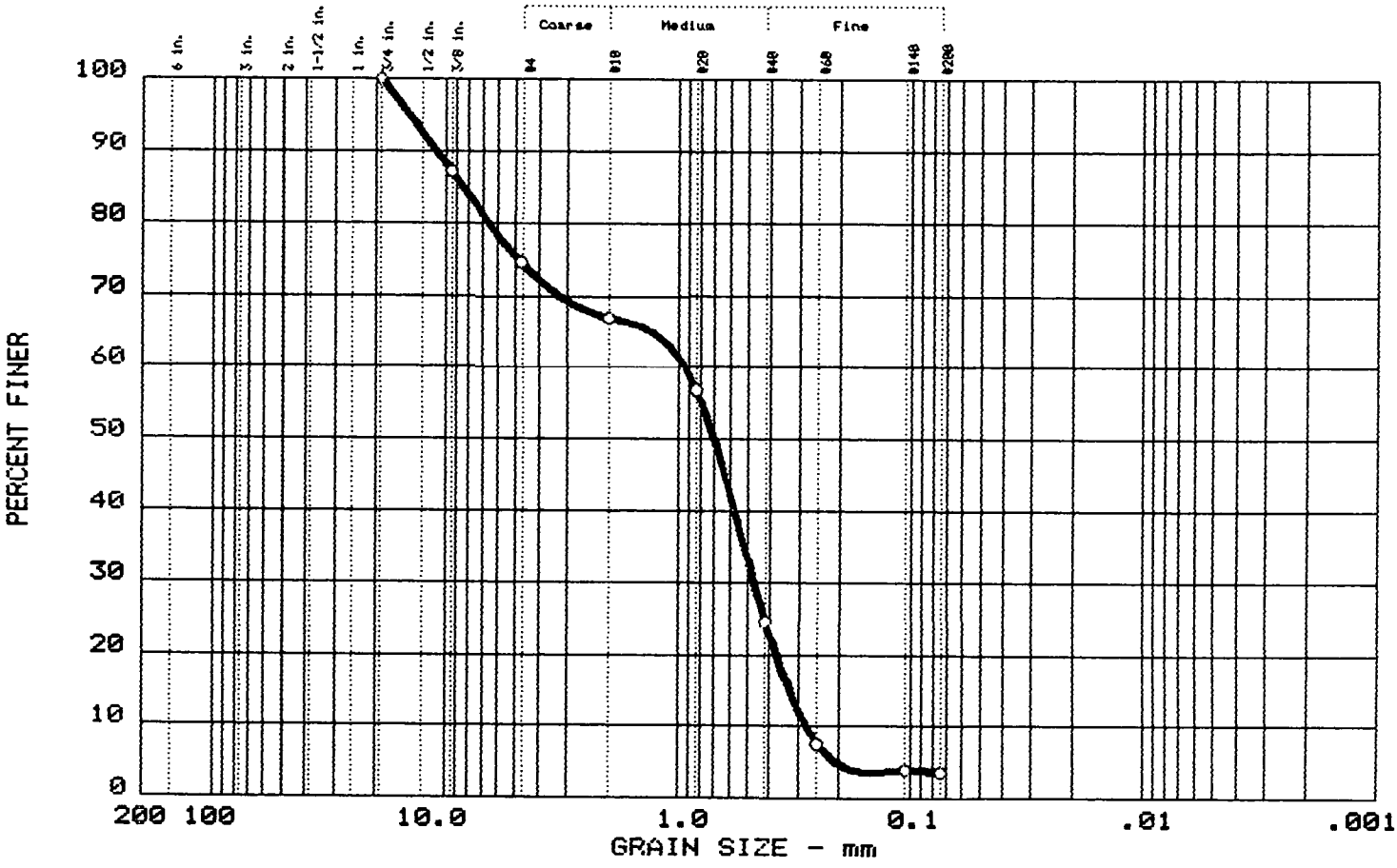
CHECKED BY: KJR

APPROVED BY: DLN

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	25.3	71.0	3.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	8.41	0.93	0.71	0.470	0.3292	0.2770	0.86	3.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 970 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-26/CAS LAB 70082
E37 @ 16 FT

Date: 01-20-89

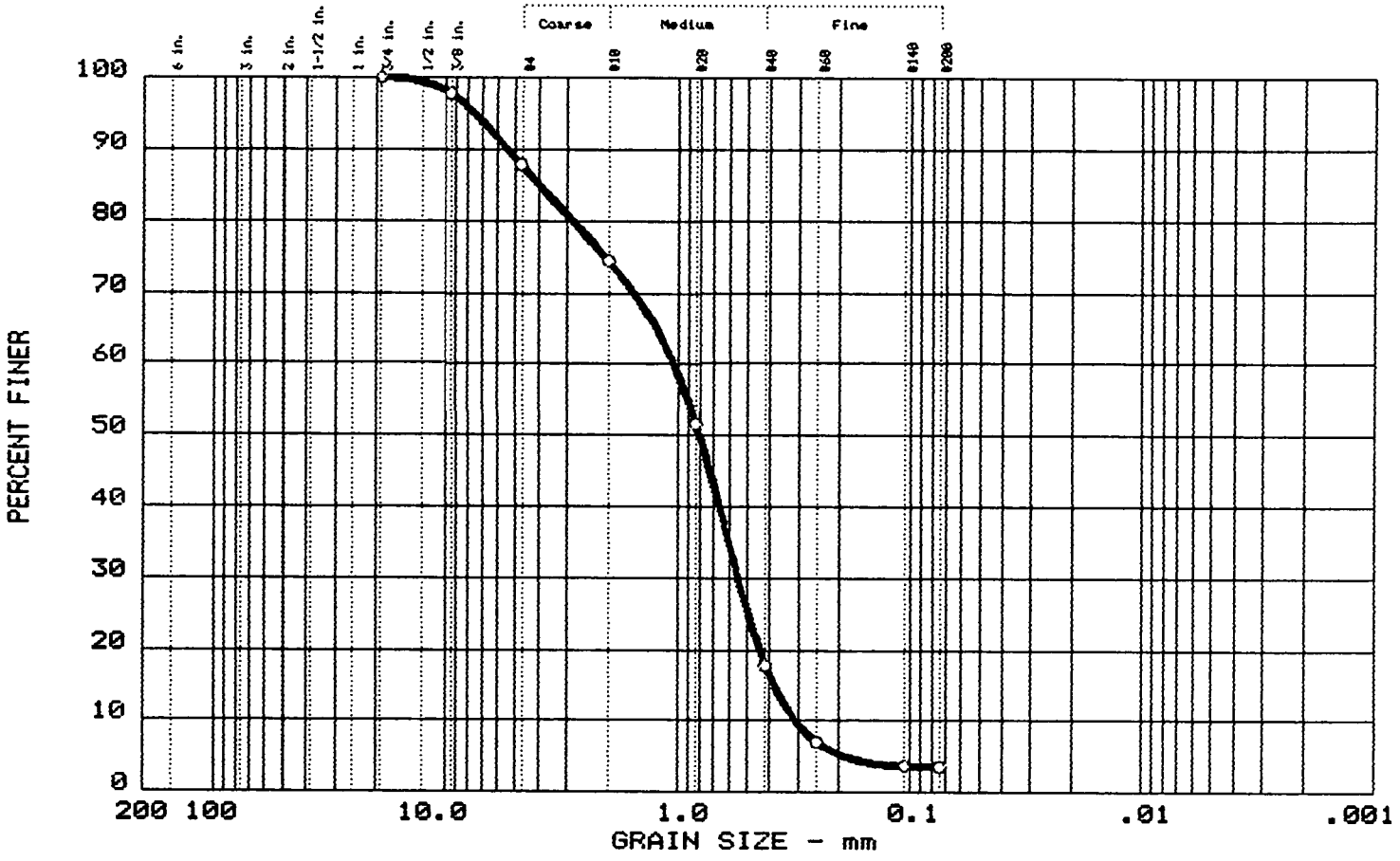
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: [signature]

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	12.1	84.4	3.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	3.94	1.05	0.81	0.548	0.3837	0.3083	0.93	3.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 731 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-27/CAS LAB 70083
E38 @ 16 FT

Date: 01-20-89

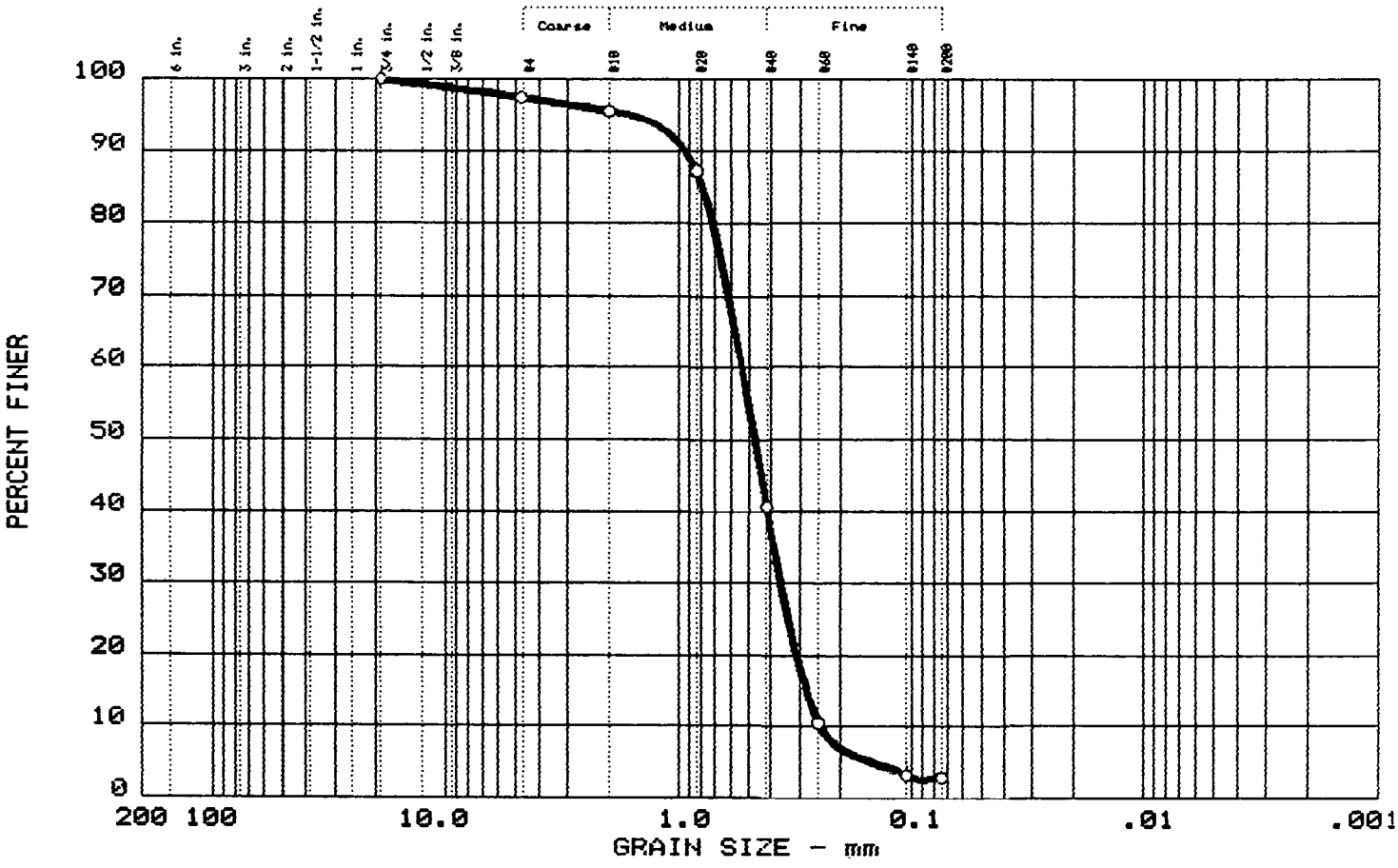
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	2.5	94.5	2.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	0.79	0.53	0.47	0.362	0.2812	0.2449	1.00	2.2

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Medium SAND, Trace Gravel & Silt Total Organic Content = 358 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-10/CAS LAB 70066
W52 @ 32 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.

ENTERED BY: WEI/MML

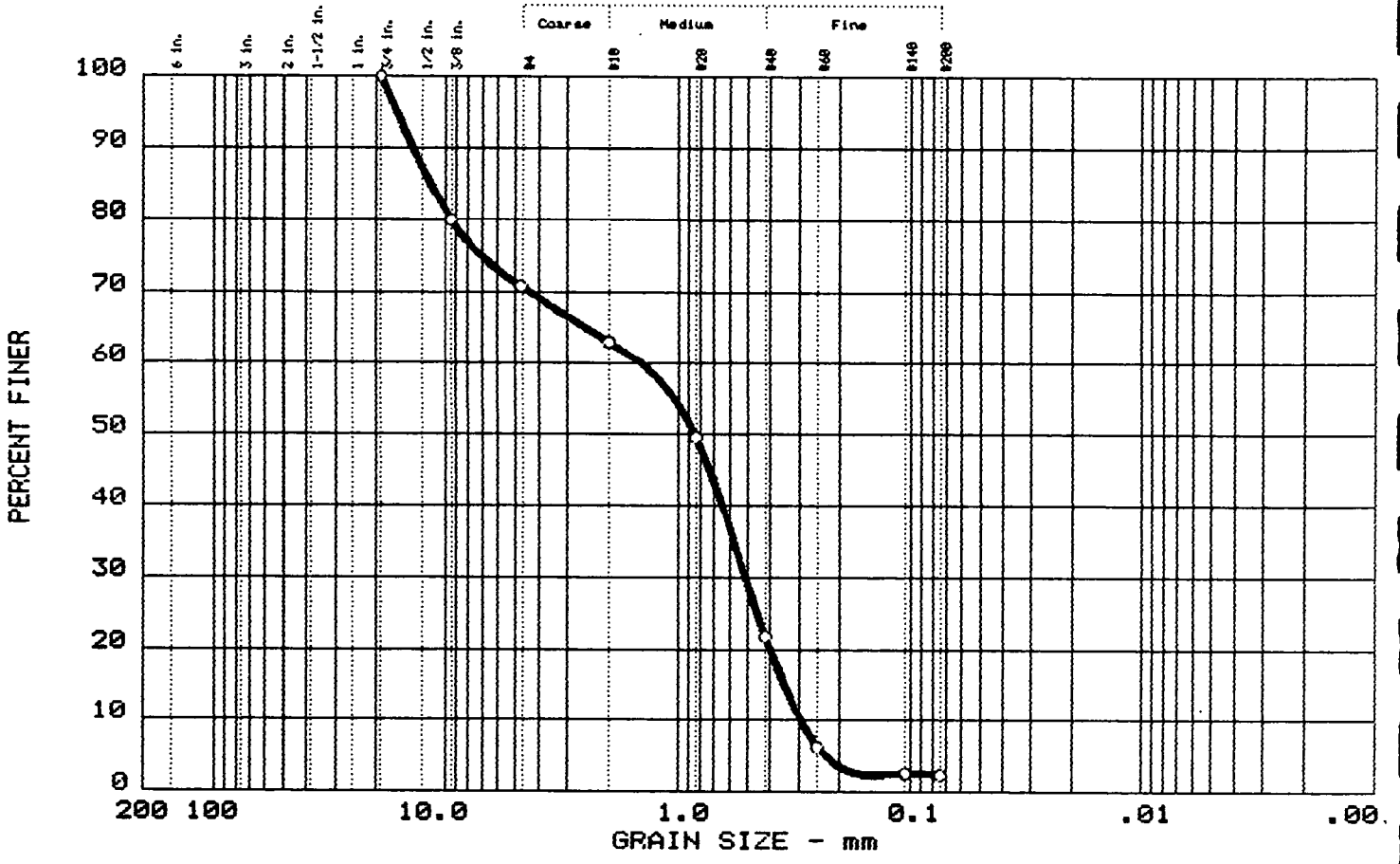
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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	29.2	68.5	2.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	11.72	1.44	0.85	0.512	0.3491	0.2938	0.62	4.9

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 759 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-08/CAS LAB 70064
W53A @ 20 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

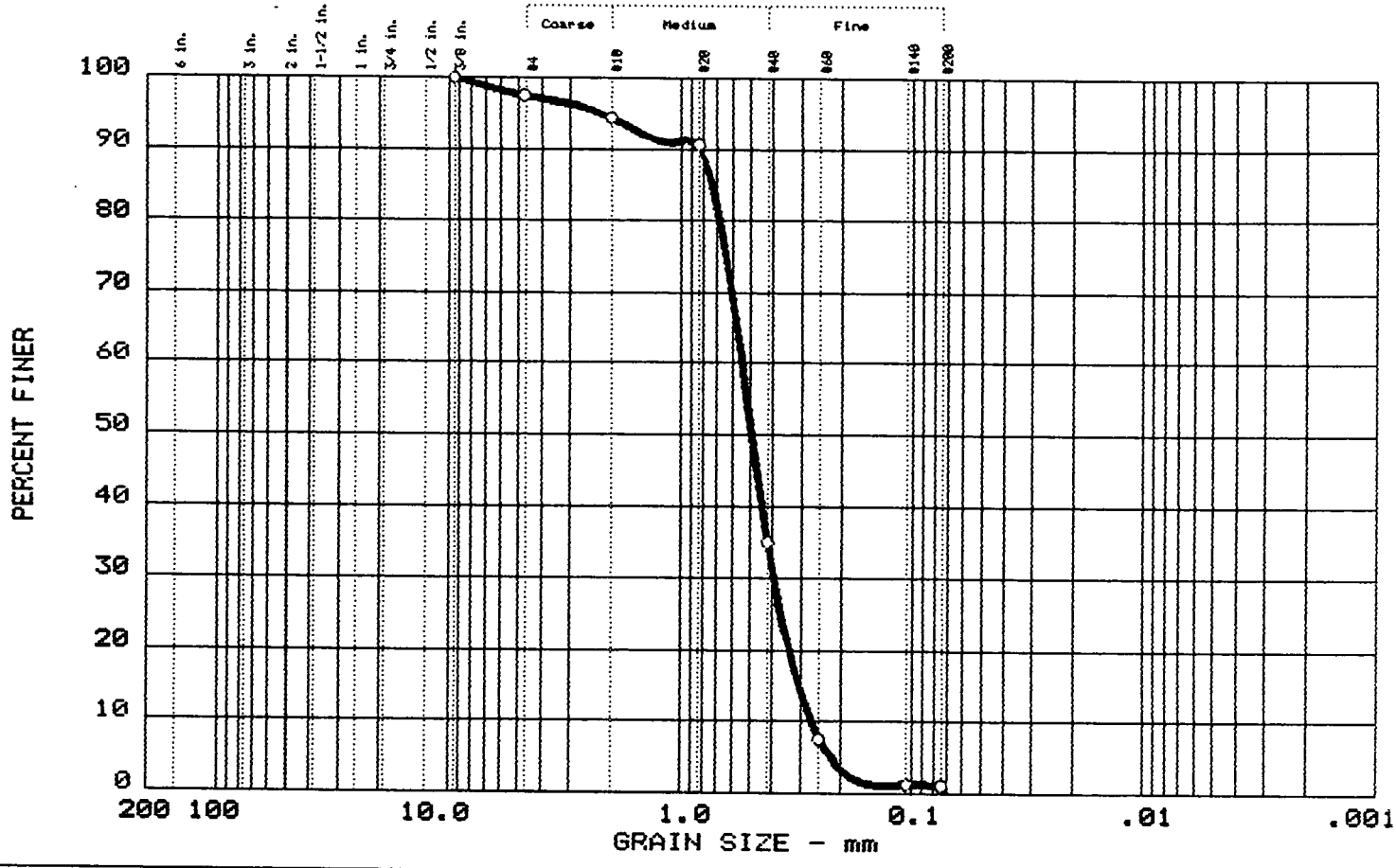
Remarks:

TESTED BY: CAS, INC.
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APPROVED BY: DJM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	2.5	96.5	1.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	0.73	0.54	0.49	0.394	0.3076	0.2710	1.05	2.0

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Trace Gravel & Silt Total Organic Content = 214 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-09/CAS LAB 70065
W53A @ 40 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

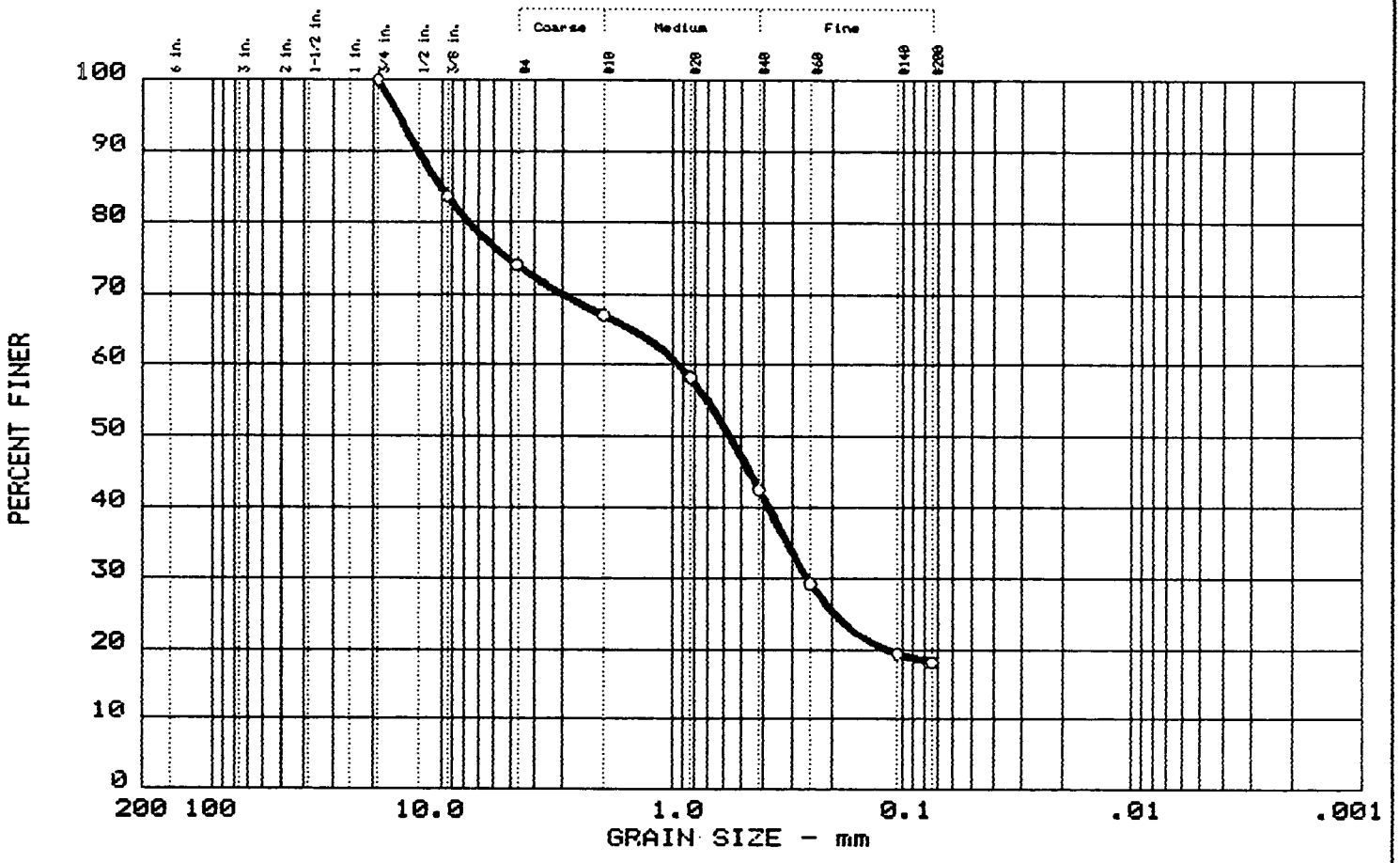
Remarks:

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APPROVED BY: AJM

Sheet No.

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GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	26.0	55.9	18.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	10.12	0.93	0.56	0.257				

MATERIAL DESCRIPTION	USCS
○ **Brown Fine-Coarse SAND, Some Gravel & Silt** Total Organic Content = 41200 mg/kg	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-19/CAS LAB 70075
W54 @ 5 FT

Date: 01-20-89

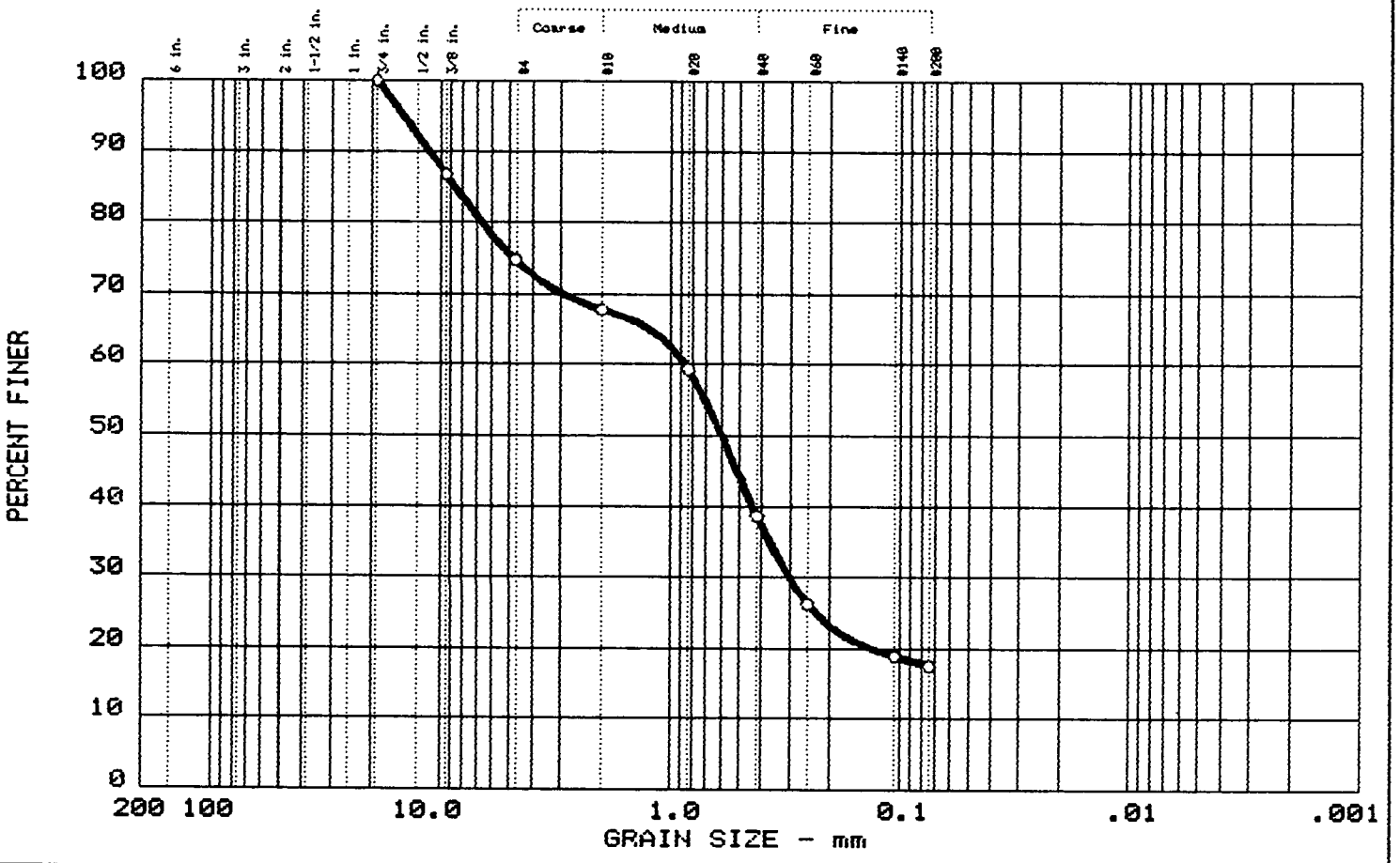
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DMM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	25.2	57.3	17.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	8.61	0.86	0.60	0.303				

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel & Silt Total Organic Content = 22800 mg/kg	SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-20/CAS LAB 70076
W54 @ 5 FT Dup

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

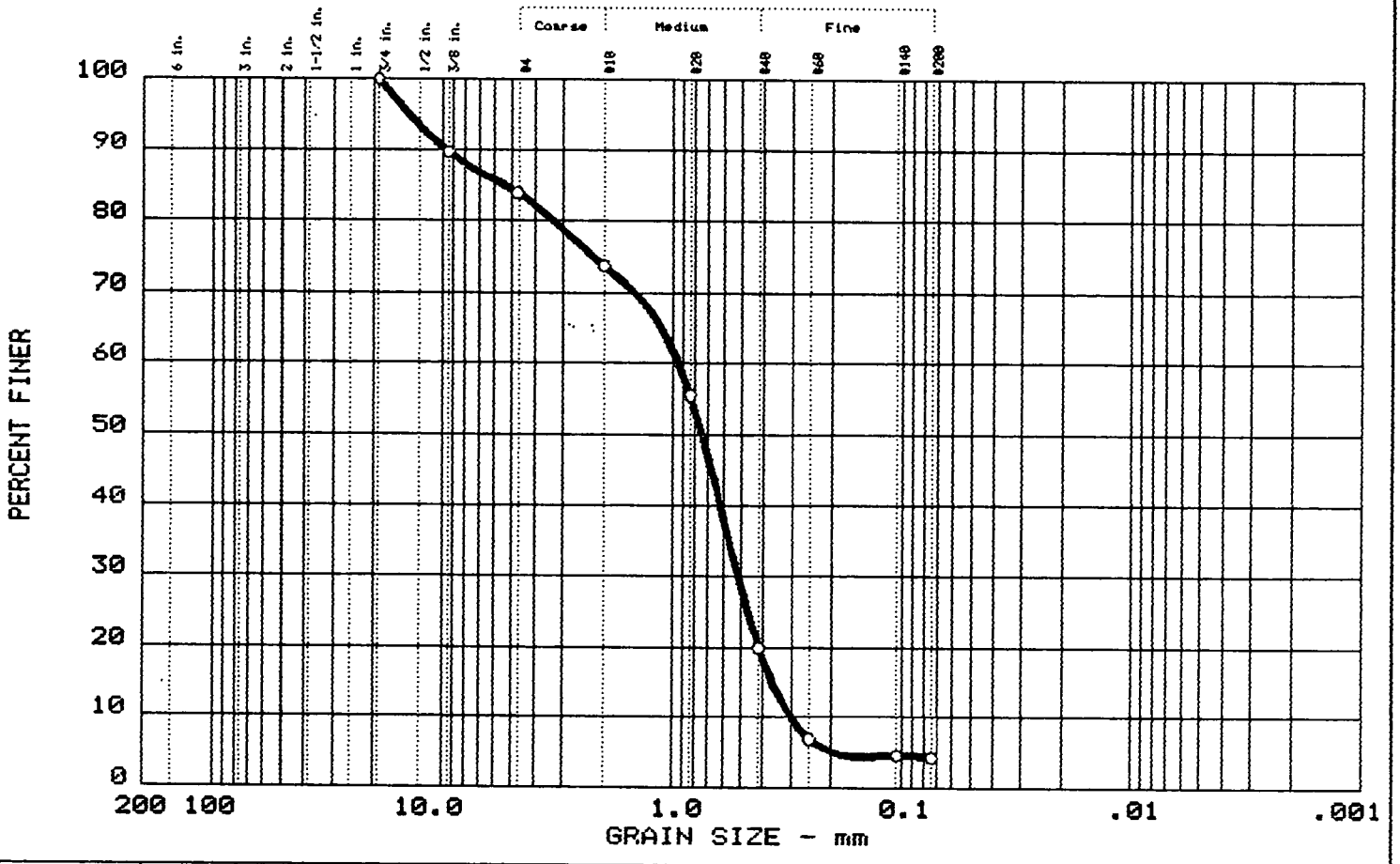
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DMM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	16.1	79.7	4.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	5.31	0.94	0.75	0.516	0.3673	0.3020	0.93	3.1

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Trace Silt Total Organic Content = 511 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-17/CAS LAB 70073
W54 @ 20 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

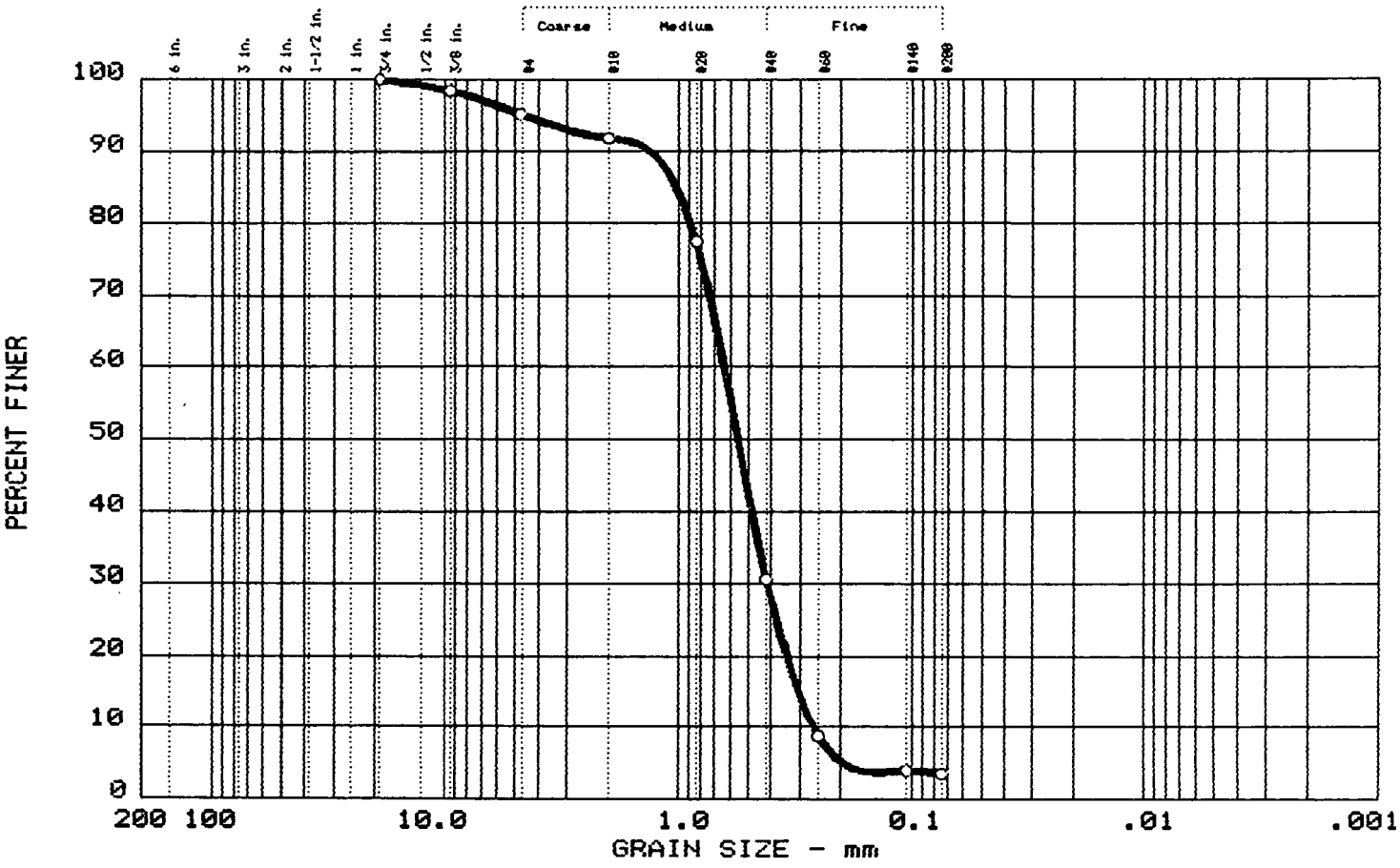
Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DLM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	4.9	91.6	3.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	1.02	0.64	0.55	0.415	0.3069	0.2612	1.04	2.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Medium SAND, Trace Gravel & Silt Total Organic Content = 926 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-18/CAS LAB 70074
W54 @ 30 FT

Date: 01-20-89

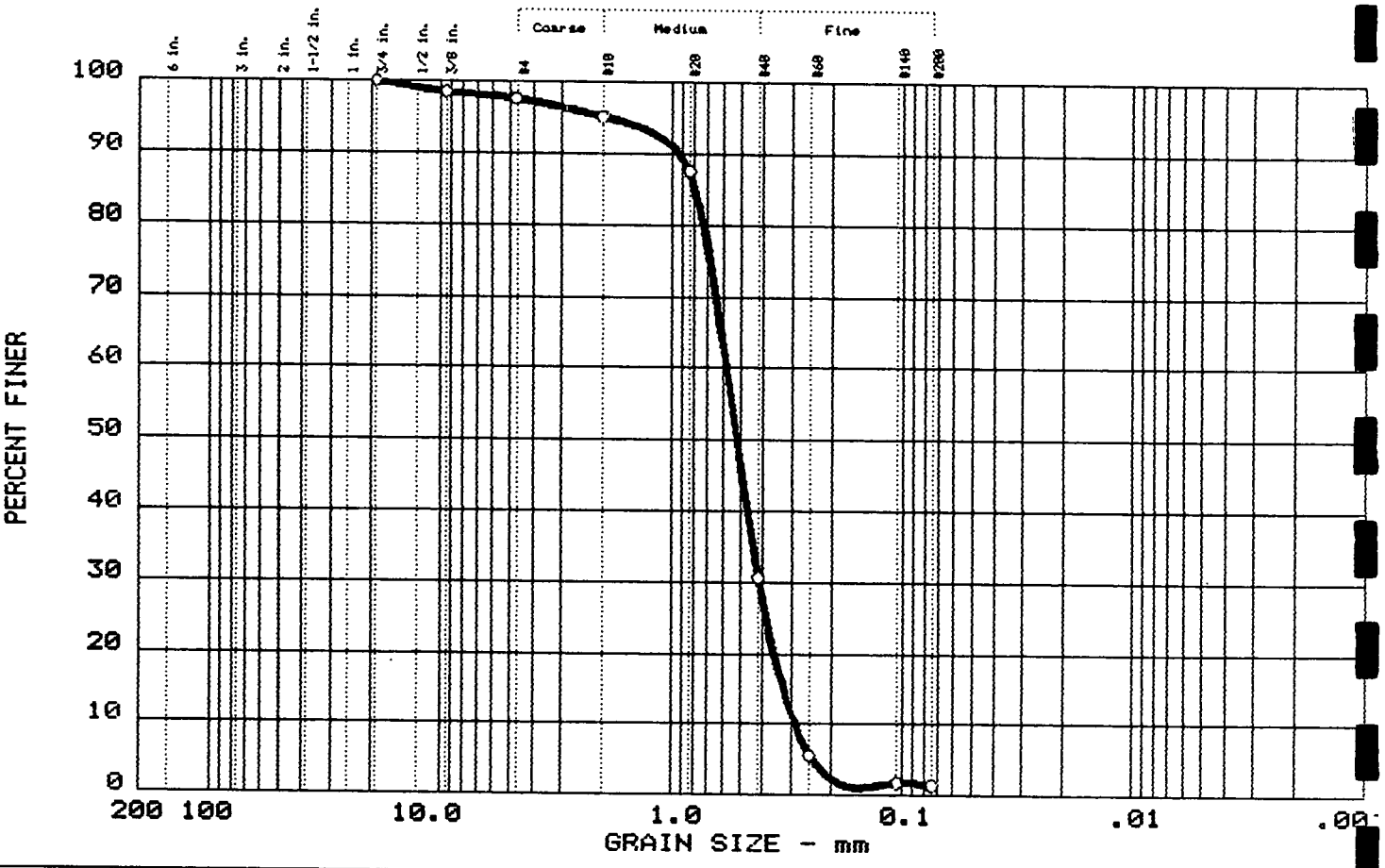
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: WR
APPROVED BY: DHM

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	2.3	96.3	1.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	0.79	0.58	0.52	0.416	0.3266	0.2907	1.03	2.0

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Medium SAND, Trace Gravel & Silt Total Organic Content = 228 mg/kg	SP

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-01/CAS LAB 70056
W55A @ 35 FT

Date: 01-20-89

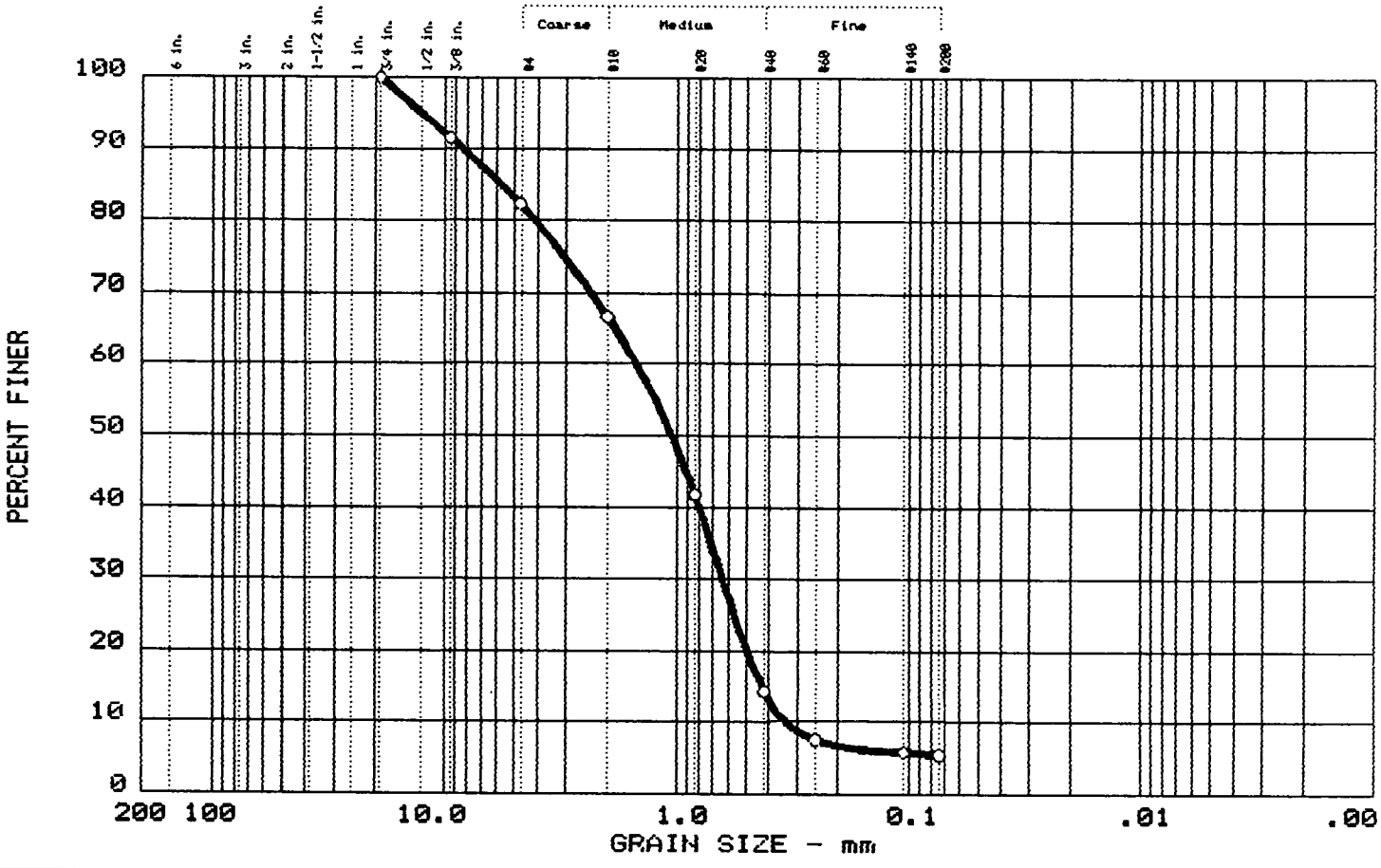
GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:
TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DLN

Sheet No.

WARZYN

GRAIN SIZE DISTRIBUTION TEST REPORT



Symbol	%+3"	% GRAVEL	% SAND	% SILT	% CLAY
○	0.0	17.7	76.9	5.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	--	--	5.69	1.50	1.05	0.638	0.4315	0.3388	0.80	4.4

MATERIAL DESCRIPTION	USCS
○ Brown Fine-Coarse SAND, Some Gravel, Little Silt Total Organic Content = 640 mg/kg	SP-SM

Project No.: 13076.40
Project: WAUSAU NPL RI/FS
○ Sample: EPA-3477E-03/CAS LAB 70058
W57 @ 10 FT

Date: 01-20-89

GRAIN SIZE DISTRIBUTION TEST REPORT
WARZYN ENGINEERING INC.

Remarks:

TESTED BY: CAS, INC.
ENTERED BY: WEI/MML
CHECKED BY: VJR
APPROVED BY: DMR

Sheet No.

WARZYN

APPENDIX M2

SOIL INORGANIC ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Inorganic)

J	The associated numerical value is an estimated quantity, because quality control criteria were not met.

Laboratory Qualifiers (Inorganic)

B	The associated numerical value is greater than or equal to the instrument detection limit, but less than the contract-required detection limit.
E	Indicates the value reported is estimated due to the presence of an interference.
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of the spike absorbance.
N	Indicates spike sample recovery is not within control limits.
*	Indicates duplicate analysis is not within control limits.
S	Indicates value was determined by Method of Standard Additions.
+	Indicates the correlation coefficient for Method of Standard Additions is less than 0.995.

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

CK'D: BX APP'D: CSR

SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	WILSON	WILSON	WILSON	WILSON	WILSON	WILSON
CRL NUMBER	MEN986	MEN997	MEN994	MEN987	MEN995	MEN989
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
UNITS (UG/KG)						
ALUMINUM	5250	7220	9960	6920	5130	6210
ANTIMONY						
ARSENIC		1.7 /BW	5.1	1.9 /B		3.5
BARIUM	25.8 /B	90.3	199	43.2	21.3 /B	122
BERYLLIUM		0.75 /B	1.0 /B			
CADMIUM		1.8	1.6	1.1	1.2	5.2
CALCIUM	1470	2530	13800	8140	1190	5710
CHROMIUM	10.4	10.1	22.1	11.3	14.8	56.9
COBALT		2.5 /B	4.3 /B	2.9 /B	3.0 /B	4.3 /B
COPPER	10.9	14.9	107	14	7.5	197
IRON	7390	19300	31600	10700	15600	29000
LEAD	2 J/N	72.4 J/NS	120 J/NS	9.3 J/N	2.7 J/N	268 J/N
MAGNESIUM	2580	1610	3200	2580	1870	1860
MANGANESE	122 J/N*	258 J/N*	1490 J/N*	487 J/N*	219 J/N*	1910 J/N*
MERCURY			1.4			1.9
NICKEL	4.4 /B			4.7 /B		18
POTASSIUM		1700	1920		583	570 /B
SELENIUM						
SILVER						
SODIUM						
THALLIUM						
VANADIUM	14	13.5	16.0	20.3	19.8	18.3
ZINC	12.9	337	323	21.2	31.7	1100
CYANIDE						
TOTAL SOLIDS (%)	97.1		82.8	96.0	95.7	91.0

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	SSB12-2.5	SSB15-20.0	SSB16-2.5	SSB16-2.5D	SSB17-.5-2	SSB18-2.5
CONTRACT LABORATORY	WILSON	WILSON	WILSON	WILSON	WILSON	WILSON
CRL NUMBER	MEN996	MEQ289	MEN998	MEN999	MEP911	MEN992
DATE SAMPLED	06/29/88	07/07/88	06/30/88	06/30/88	06/30/88	06/30/88
UNITS (UG/KG)						
ALUMINUM	5580	2030 J/E	8610	8910	7410	6750
ANTIMONY						
ARSENIC	76.1			1.5 /B	1.9 /B	
BARIUM	71.9	10.2 /B	51.6	72.5	46.3	73.0
BERYLLIUM			0.52 /B	0.66 /B		
CADMIUM	14.6		1.3	1.7	1.7	1.8
CALCIUM	10900	803 /B	843	980 /B	1350	2350
CHROMIUM	1130	7.1	12.6	11.1	11.9	10.5
COBALT	6.8 /B	3.0 /B			4.4 /B	2.6 /B
COPPER	1000		3.5 /B	5.6	4.4 /B	16.9
IRON	315000	4030 /*	13000	16200	12400	14400
LEAD	131 J/NS	2 J/NS*	8.6 J/N	7.9 J/N	17.7 J/N	66.3 J/NS
MAGNESIUM	2110	1100	1900	1860	3520	1840
MANGANESE	3510 J/N*	73.6	200 J/N*	260 J/N*	251 J/N*	300 J/N*
MERCURY						
NICKEL	242				10.2	
POTASSIUM			946 /B	1270		788 /B
SELENIUM						
SILVER						
SODIUM						
THALLIUM						
VANADIUM	77.2	7.8 /B	18.3	20.6	19.0	18.0
ZINC	131	8.5	26.1	38.7	40.6	143
CYANIDE						
TOTAL SOLIDS (%)	86.7		92.4	93.2	94.4	91.0

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	SSB19-12.5	SSB19-12.5D	SSB20-7.5	SSB21-7.0	SSB22-12	SSB23-10
CONTRACT LABORATORY	WILSON	WILSON	WILSON	WILSON	WILSON	WILSON
CRL NUMBER	MEQ282	MEQ283	MEQ286	MEQ287	MEP915	MEP914
DATE SAMPLED	07/01/88	07/01/88	07/06/88	07/06/88	07/01/88	07/01/88
UNITS (UG/KG)						
ALUMINUM	3810 J/E	2500 J/E	4260 J/E	4540 J/E	4860	7230
ANTIMONY						
ARSENIC						
BARIUM	18.3 /B	15.3 /B	20.0 /B	28.1 /B	25.9 /B	22.2 /B
BERYLLIUM						
CADMIUM			1.1			
CALCIUM	1760	1100 /B	1690	1840	1890	2900
CHROMIUM	8.3	8.4	7.1	14.2	13.2	11.7
COBALT	4.9 /B	2.7 /B	4.2 /B	6.4 /B	4.6 /B	5.5 /B
COPPER	6.3 /*	3.6 /B*			8.3	12.3
IRON	7410 /*	5640 /*	8190 /*	9030 /*	10100	13900
LEAD	19.7 J/*S	2.2 J/N*	7.5 J/NS*	2.5 J/NS*	1.7 J/N	4.2 J/NS
MAGNESIUM	2460	1320	2260	2800	3070	4100
MANGANESE	157	110	145	161	139 J/N*	226 J/N*
MERCURY	0.09					
NICKEL	6.4 /B		10.1	11.3	7 /B	8.4
POTASSIUM						
SELENIUM						
SILVER						
SODIUM						
THALLIUM						
VANADIUM	13.6	13.7	16.0	14.8	20.6	25.9
ZINC	16.0	9.0	27.1	17.3	19.3	22.0
CYANIDE						
TOTAL SOLIDS (%)	96.1	89.8	96.6	97.2	96.7	95.6

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	WILSON	WILSON	WILSON	WILSON	WILSON	WILSON
CRL NUMBER	MEP913	MEP912	MEN990	MEN991	MEQ281	MEQ284
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
UNITS (UG/KG)						
ALUMINUM	3810	2830	6100	8310	7460	5750 J/E
ANTIMONY						
ARSENIC			13.3	14.5 /S		
BARIUM	9.6 /B	19.1 /B	76.4	69.1	27.0 /B	42.8
BERYLLIUM					0.6 /B	
CADMIUM			6.8	2.5		1.3
CALCIUM	1610	1030 /B	26300	26900	2300	2790
CHROMIUM	7.5	9.1	148	44.9	17.0	13.3
COBALT	3.0 /B		7.4 /B	4.4 /B	5.3 /B	6.2 /B
COPPER	7.2	9.6	481	412	9.8	5.7 /*
IRON	7720	6700	114000	59600	15200	11400 /*
LEAD	2.6 J/N	2.4 J/NS	142 J/N	776 J/N	5.6 J/N	4.4 J/N*
MAGNESIUM	2010	1630	1490	1660	5160	3250
MANGANESE	129 J/N*	97 J/N*	4420 J/N*	1730 J/N*	239 J/N*	193
MERCURY				1.5		
NICKEL			71.6	27.3	3.9 /B	16.2
POTASSIUM			577 /B	800 /B		
SELENIUM						
SILVER						
SODIUM			247 /B	294 /B		
THALLIUM						
VANADIUM	17.4	11.6	39.8	21.9	29.4	22.4
ZINC	13.8	10.2	3260	460	23.9	18.8
CYANIDE						
TOTAL SOLIDS (%)	93.8	92.1	90.2	92.5	97.5	96.4

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	SSB30-10.0	SSB31-3	SSB32-03	TP1-3.5	TP2-3.0	TP2-4.5
CONTRACT LABORATORY	WILSON	WILSON	WILSON	PBS & J	PBS & J	PBS & J
CRL NUMBER	MEQ285	MEN988	MEN993	MES353	MES355	MES354
DATE SAMPLED	07/05/88	06/29/88	06/28/88	07/07/88	07/06/88	07/06/88
UNITS (UG/KG)						
ALUMINUM	6520 J/E	6460	6590	10300	5970	5140
ANTIMONY						
ARSENIC		5.2	1.5 /B	8.6 J/N	4.8 J/N	2.7 J/N
BARIUM	39.2 /B	324	46.9	191	56.0	52.0
BERYLLIUM						
CADMIUM	1.1	3.3		27.0 /N	11.0 /N	3.5 /N
CALCIUM	3270	3790	6680	7640	5910	9470
CHROMIUM	15.2	534	16.3	40.0	26.0	23.0
COBALT	7.0 /B	8.2 /B	2.8 /B	7.9 /B	3.2 /B	2.1 /B
COPPER		107	9.1	636	113	74.0
IRON	11300 /*	61300	11300	24800 /*	35000 /*	28700 /*
LEAD	4.9 J/NS*	182 J/N	10.4 J/N	761 J/*E	312 J/*E	80.0 J/*E
MAGNESIUM	3080	1530	2370	1600	693 /B	855 /B
MANGANESE	132	873 J/N*	290 J/N*	1620	751	414
MERCURY				1.1 J/N*	0.74 J/N*	0.82 J/N*
NICKEL	13.8	197	4.8 /B	19	23	16
POTASSIUM		1090		723 /B	665 /B	
SELENIUM						
SILVER						
SODIUM						
THALLIUM						
VANADIUM	28.6	23.8	22.8	19.0	14.0	11.0
ZINC	21.8	195	28.6	1020 J/	107 J/	105 J/
CYANIDE				0.6 J/B	1.3 J/	
TOTAL SOLIDS (%)	95.2	92.9	94.2	87.1	92.7	89.3

PHASE II RAS SOIL ANALYSES
METALS AND CYANIDE
WAUSAU WATER SUPPLY NPL SITE

SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PBS & J	PBS & J	PBS & J	PBS & J	PBS & J
CRL NUMBER	MES357	MES358	MES352	MES351	MES356
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
UNITS (UG/KG)					
ALUMINUM	4640	4280	4580	3960	7210
ANTIMONY					20 J/+
ARSENIC	3.2 J/N	2.3 J/N	4.8 J/N		8.4 J/SN
BARIUM	105	90.0	274	224	331
BERYLLIUM					0.7 /B
CADMIUM	1.3 /BN	1.7 /N	3.5 /N	3.3 /N	24.0 /N
CALCIUM	6820	6000	29200	18300	16200
CHROMIUM	11.0	9.3	20.0	21.0	55.0
COBALT	3.9 /B	2.4 /B	3.1 /B	3.20	8.1 /B
COPPER	75.0	66.0	451	89.0	1410
IRON	10000 /*	9190 /*	15100 /*	14000 /*	46700 /*
LEAD	306 J/*E	102 J/*E	358 J/*E	7950 J/*E	587 J/*E
MAGNESIUM	2040	1870	5980	2950	2120
MANGANESE	415	352	354	1140	1960
MERCURY	1.6 J/N*	0.15 J/N*	0.99 J/N*	1.3 J/N*	0.5 J/
NICKEL	10	8.0 /B	21	14 /B	53
POTASSIUM	779 /B	703 /B	745 /J	1550 /B	674 /B
SELENIUM					
SILVER					
SODIUM					
THALLIUM					
VANADIUM	12.0	13.0	21.0	12.0 /B	24.0
ZINC	174 J/	236 J/	467 J/	1830 J/	3010 J/
CYANIDE					
TOTAL SOLIDS (%)	86.3	87.6	84.6	52.5	91.4

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Soil(ug/kg)
Volatiles	
Chloromethane	10
Bromomethane	10
Vinyl chloride	10
Chloroethane	10
Methylene chloride	5
Acetone	10
Carbon disulfide	5
1,1-Dichloroethene	5
1,1-Dichloroethane	5
Total-1,2-Dichloroethene	5
Chloroform	5
1,2-Dichloroethane	5
2-Butanone	10
1,1,1-Trichloroethane	5
Carbon tetrachloride	5
Vinyl acetate	10
Bromodichloromethane	5
1,2-Dichloropropane	5
cis-1,3-Dichloropropene	5
Trichloroethene	5
Dibromochloromethane	5
1,1,2-Trichloroethane	5
Benzene	5
trans-1,3-Dichloropropene	5
Bromoform	5
4-Methyl-2-pentanone	10
2-Hexanone	10
Tetrachloroethene	5
1,1,2,2-Tetrachloroethane	5
Toluene	5
Chlorobenzene	5
Ethyl benzene	5
Styrene	5
Total xylenes	5
Semi-volatiles	
Phenol	330
bis(2-Chloroethyl)ether	330
2-Chlorophenol	330
1,3-Dichlorobenzene	330
1,4-Dichlorobenzene	330
Benzyl alcohol	330
1,2-Dichlorobenzene	330
2-Methylphenol	330

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Soil(ug/kg)
bis(2-Chloroisopropyl)ether	330
4-Methylphenol	330
N-Nitroso-dipropylamine	330
Hexachloroethane	330
Nitrobenzene	330
Isophorone	330
2-Nitrophenol	330
2,4-Dimethylphenol	330
Benzoic acid	1600
bis(2-Chloroethoxy)methane	330
2,4-Dichlorophenol	330
1,2,4-Trichlorobenzene	330
Naphthalene	330
4-Chloroaniline	330
Hexachlorobutadiene	330
4-Chloro-3-methylphenol	330
2-Methylnaphthalene	330
Hexachlorocyclopentadiene	330
2,4,6-Trichlorophenol	330
2,4,5-Trichlorophenol	1600
2-Chloronaphthalene	330
2-Nitroaniline	1600
Dimethyl phthalate	330
Acenaphthylene	330
3-Nitroaniline	1600
Acenaphthene	330
2,4-Dinitrophenol	1600
4-Nitrophenol	1600
Dibenzofuran	330
2,4-Dinitrotoluene	330
2,6-Dinitrotoluene	330
Diethylphthalate	330
4-Chlorophenyl phenyl ether	330
Fluorene	330
4-Nitroaniline	1600
4,6-Dinitro-2-methylphenol	1600
N-nitrosodiphenylamine	330
4-Bromophenyl phenyl ether	330
Hexachlorobenzene	330
Pentachlorophenol	1600
Phenanthrene	330
Anthracene	330
Di-n-butylphthalate	330
Fluoranthene	330
Pyrene	330
Butyl benzyl phthalate	330
3,3'-Dichlorobenzidine	660

TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

	Detection Limit Soil(ug/kg)
Benzo(a)anthracene	330
bis(2-ethylhexyl)phthalate	330
Chrysene	330
Di-n-octyl phthalate	330
Benzo(b)fluoranthene	330
Benzo(k)fluoranthene	330
Benzo(a)pyrene	330
Ideno(1,2,3-cd)pyrene	330
Dibenz(a,h)anthracene	330
Benzo(g,h,i)perylene	330
Pesticides/PCBs	
alpha-BHC	8.0
beta-BHC	8.0
delta-BHC	8.0
gamma-BHC (Lindane)	8.0
Heptachlor	8.0
Aldrin	8.0
Heptachlor epoxide	8.0
Endosulfan I	8.0
Dieldrin	16.0
4,4'-DDE	16.0
Endrin	16.0
Endosulfan II	16.0
4,4'-DDD	16.0
Endosulfan sulfate	16.0
4,4'-DDT	16.0
Endrin ketone	16.0
Methoxychlor	80
Alpha Chlordane	80
Gamma Chlordane	80
Toxaphene	160.0
Aroclor-1016	80
Aroclor-1221	80
Aroclor-1232	80
Aroclor-1242	80
Aroclor-1248	80
Aroclor-1254	160.0
Aroclor-1260	160.0

APPENDIX M3

SOIL ORGANIC ANALYSIS RESULTS

WAUSAU RI/FS
QUALIFIER DEFINITIONS
Data Validation Qualifier/Laboratory Qualifier

Data Validation Qualifiers (Organic)

F Indicates compound was also detected in the Field Blank.

J The associated numerical value is an estimated quantity.

*** Indicates that sample designation shown in Appendix K1 may be incorrect based on duplicate analysis results and/or comparison to historical concentrations. Refer to Appendix K3 for additional analysis results.

Laboratory Qualifiers (Organic)

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mas spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

D This flag identifies all compounds quantitated in an analysis at a secondary dilution factor.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed. If The dilution of the extract causes any compounds identified in the first analysis to be below the calibration range of the second analysis, thene the results of both analyses are reported by the laboratory.

X This flag is applied to data which were calculated manually (as opposed to computer generated) by the laboratory.

A This flag indicates that a tentatively identified compound (TIC) is a suspected aldol condensation product.

B This flag is used when the analyte is found in the associated blank at less than 5 times the contract-required quantitation limit as well as in the sample. It indicates possible blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

M Analyte does not meet EPA spectral matching protocols but is present in expert opinion of the analyst.

PHASE 1 SOIL ORGANIC ANALYSIS RESULTS

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

CK'D: RSC APP'D: CSR
5/15/89

SAMPLE DESCRIPTION	SE31-25	W53A-20	W53A-40	W52-32	SS04	SS05	SS05-9	E26A-14
DATE SAMPLED	11/02/87	11/02/87	11/02/87	11/03/87	11/05/87	11/06/87	11/06/87	11/06/87
VOLATILE ORGANIC COMPOUNDS								
CHLOROMETHANE								
BROMOMETHANE								
VINYL CHLORIDE								
CHLOROETHANE								
METHYLENE CHLORIDE								
ACETONE								
CARBON DISULFIDE								
1,1-DICRLOROETHENE								
1,1-DICHLOROETHANE								
TRANS-1,2-DICHLOROETHENE								
CHLOROFORM								
1,2-DICHLOROETRANE								
2-BUTANONE								
1,1,1-TRICHLOROETHANE								
CARBON TETRACHLORIDE								
VINYL ACETATE								
BROMODICHLOROMETHANE								
1,2-DICHLOROPROPANE								
TRANS-1,3-DICHLOROPROPENE								
TRICHLOROETHENE								
DIBROMOCHLOROMETHANE								
1,1,2-TRICRLOROETHANE								
BENZENE								
CIS-1,3-DICHLOROPROPENE								
2-CHLORETHYL VINYL ETHER								
BROMOFORM								
4-METHYL-2-PENTANONE								
2-HEXANONE								
TETRACHLOROETHENE							2 /J	
1,1,2,2-TETRACHLOROETHANE								
TOLUENE								
CHLOROBENZENE								
ETHYLBENZENE								
STYRENE								
TOTAL XYLENES								
TOTAL ETHENES	0	0	0	0	0	0	2	0
TOTAL VOCS	0	0	0	0	0	0	2	0
SEMIVOLATILE ORGANIC COMPOUNDS								
NO TCL SEMIVOLATILE COMPOUNDS DETECTED								

TENTATIVELY IDENTIFIED COMPOUNDS
WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

CK'D: BY APP'D: CSR

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMAT CONCENTR (UG/KG
WE-SE31-25	11/02/87	UNKNOWN	VOA	555	26
		UNKNOWN	A/BN	542	290
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	626	5400
WE-SW53A-20	11/02/87	TRIMETHYL SILANOL	VOA	261	33
		UNKNOWN	VOA	559	10
		UNKNOWN	A/BN	542	270
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	627	5000
WE-SW53A-40	11/02/87	UNKNOWN	VOA	559	16
		UNKNOWN	A/BN	542	340
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	627	7100
WE-SW52-32	11/03/87	TRIMETHYL SILANOL	VOA	261	68
		UNKNOWN	VOA	558	29
		UNKNOWN	A/BN	542	240
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	626	6500
WE-SS04	11/05/87	TRIMETHYL SILANOL	VOA	261	58
		UNKNOWN	VOA	560	28
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	626	6800
		UNKNOWN	A/BN	2260	410
WE-SS05	11/06/87	UNKNOWN	VOA	559	21
		UNKNOWN	A/BN	542	250
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	626	4900
		UNKNOWN	A/BN	1390	640
		UNKNOWN	A/BN	2129	520
		UNKNOWN	A/BN	2148	710
		UNKNOWN	A/BN	2154	190
		UNKNOWN	A/BN	2166	380
		UNKNOWN	A/BN	2175	260
		UNKNOWN	A/BN	2195	250
		UNKNOWN	A/BN	2259	150
WE-SS05-9	11/06/88	TRIMETHYL SILANOL	VOA	260	45
		UNKNOWN	A/BN	545	400
		1,1,1-TRICHLORO-2-METHYL-2-PHOPANOL	A/BN	631	8300
		UNKNOWN	A/BN	1395	470
		UNKNOWN	A/BN	2135	490
		UNKNOWN	A/BN	2153	660
		UNKNOWN	A/BN	2172	260
		UNKNOWN	A/BN	2181	190
		UNKNOWN	A/BN	2199	200

TENTATIVELY IDENTIFIED COMPOUNDS
WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMAT CONCENTR (UG/KG
WE-SE26A-14	11/06/88	TRIMETHYL SILANOL	VOA	261	36
		UNKNOWN	A/BN	546	310
		1,1,1-TRICHLORO-2-METHYL-2-PROPANOL	A/BN	631	5900
		UNKNOWN	A/BN	1396	140
		UNKNOWN	A/BN	2265	260

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

CK'D:BJC APP'D:CSE

SAMPLE DESCRIPTION	W57-10	SS01	SS02	SS03	SS03-9
DATE SAMPLED	10/21/87	10/29/87	10/29/87	10/29/87	10/29/87
VOLATILE ORGANIC COMPOUNDS					
CHLOROMETHANE					
BROMOMETHANE					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE					64
ACETONE					
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
TRANS-1,2-DICHLOROETHENE					
CHLOROFORM					
1,2-DICHLOROETHANE					
2-BUTANONE					
1,1,1-TRICHLOROETHANE				3 \J	2 /J
CARBON TETRACHLORIDE					
VINYL ACETATE					
BROMODICHLOROMETHANE					
1,2-DICHLOROPROPANE					
TRANS-1,3-DICHLOROPROPENE					
TRICHLOROETHENE					2 /J
DIBROMOCHLOROMETHANE					
1,1,2-TRICHLOROETHANE					
BENZENE					
CIS-1,3-DICHLOROPROPENE					
2-CHLOROETHYL VINYL ETHER					
BROMOFORM					
4-METHYL-2-PENTANONE					
2-HEXANONE					
TETRACHLOROETHENE					
1,1,2,2-TETRACHLOROETHANE					
TOLUENE					
CHLOROBENZENE					
ETHYLBENZENE					
STYRENE					
TOTAL XYLENES					
TOTAL ETHENES	0	0	0	0	4
TOTAL VOCS	0	0	0	3	68

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	W57-10	SS01	SS02	SS03	SS03-9
DATE SAMPLED	10/21/87	10/29/87	10/29/87	10/29/87	10/29/87
SEMIVOLATILE ORGANIC COMPOUNDS					
NAPHTHALENE				37 \J	28 \J
2-METHYLNAPHTHALENE		770 \J		32 \J	23 \J
ACENAPHTHYLENE			27 \J	2 \J	
ACENAPHTHENE				7 \J	51 \J
DIBENZOFURAN				38 \J	27 \J
FLUORENE				100 \J	69 \J
PHENANTHRENE		1400 \J	150 \J	2500	1400
ANTHRACENE			32 \J	480	280 \J
DI-N-BUTYLPHTHALATE					
FLUORANTHENE		1800 \J	620	6600	3500
PYRENE		1600 \J		2500 J\	1400 J\
BUTYLBENZYLPHTHALATE			150 \J		59 \J
BENZO(A)ANTHRACENE				2400	1200
BIS(2-ETHYLHEXYL)PHTHALATE					
CHRYSENE			390	3200	1700
BENZO(B)FLUORANTHENE			250 \J	5400	1800
BENZO(A)PYRENE			330 \J	2700	1400
INDENO(1,2,3-CD)PYRENE			210 \J	940	450
BENZO(G,H,I)PERYLENE			230 \J	890	390
TOTAL TCL SEMIVOLATILE COMPOUNDS	0	5570	2389	27826	13777

TENTATIVELY IDENTIFIED COMPOUNDS CK'D: BSC APP'D:
WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMAT CONCENTR (UG/KG
WE-SW57-10	10/21/87	UNKNOWN ALKENE OR CYCLOALKANE	A/BN	5.71	320
		UNKNOWN ALKENE OR CYCLOALKANE	A/BN	7.48	270
		UNKNOWN KETONE	A/BN	7.93	1700
		UNKNOWN KETONE	A/BN	8.06	3800
		ALDOL CONDENSATION PRODUCT	A/BN	8.72	96000
		UNKNOWN ALKANE	A/BN	8.93	490
		UNKNOWN ALKANE	A/BN	9.1	550
		UNKNOWN KETONE	A/BN	10.11	2600
		UNKNOWN	A/BN	11.52	790
		UNKNOWN	A/BN	12.29	180
		UNKNOWN ADIPIC ACID ISOMER	A/BN	29.52	660
WE-SS01	10/29/87	UNKNOWN ALKENE OR CYCLOALKANE	A/BN	5.59	18000
		UNKNOWN ALDOL CONDENSATION PRODUCT	A/BN	8.31	29000
WE-SS02	10/29/87	UNKNOWN ALKENE OR CYCLOALKANE	A/BN	5.73	350
		UNKNOWN KETONE	A/BN	7.94	2100
		ALDOL CONDENSATION PRODUCT	A/BN	8.59	39000
		UNKNOWN KETONE	A/BN	10.07	930
		UNKNOWN ADIPIC ACID ISOMER	A/BN	29.5	1400
		UNKNOWN PHTHALATE	A/BN	30.84	760
		UNKNOWN ALKANE	A/BN	33.91	220
		UNKNOWN ALKANE	A/BN	36.41	340
WE-SS03	10/29/87	UNKNOWN KETONE	A/BN	7.98	2900
		ALDOL CONDENSATION PRODUCT	A/BN	8.65	50000
		UNKNOWN	A/BN	10.09	1100
		UNKNOWN	A/BN	24.49	370
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	25.24	180
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	25.59	560
		UNKNOWN	A/BN	26.11	310
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	28.65	190
		UNKNOWN ADIPIC ACID ISOMER	A/BN	29.51	530
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	35.17	1200
WE-SS03-9	10/29/87	UNKNOWN ALKENE OR CYCLOALKANE (MW=98)	A/BN	5.8	290
		UNKNOWN KETONE	A/BN	8.01	2000
		ALDOL CONDENSATION PRODUCT	A/BN	8.67	35000
		UNKNOWN KETONE	A/BN	10.1	770
		UNKNOWN KETONE	A/BN	11.51	270
		UNKNOWN 11/24/87	A/BN	15.19	270
		UNKNOWN ALKANE	A/BN	18.3	120
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	28.67	200
		UNKNOWN PHTHALATE	A/BN	30.87	1900
		UNKNOWN POLYCYCLIC AROMATIC HYDROCARBON	A/BN	31.3	190

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS CK'D: BX APP'D: CSA
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	W55A-35	SSG18	E24-24
DATE SAMPLED	10/14/87	10/15/87	10/15/87
CHLOROMETHANE			
BROMOMETHANE			
VINYL CHLORIDE			
CHLOROETHANE			
METHYLENE CHLORIDE	1 J\M	190	8
ACETONE			
CARBON DISULFIDE			
1,1-DICHLOROETHENE			
1,1-DICHLOROETHANE			
TRANS-1,2-DICHLOROETHENE			
CHLOROFORM			
1,2-DICHLOROETHANE			
2-BUTANONE			
1,1,1-TRICHLOROETHANE			
CARBON TETRACHLORIDE			
VINYL ACETATE			
BROMODICHLOROMETHANE			
1,2-DICHLOROPROPANE			
TRANS-1,3-DICHLOROPROPENE			
TRICHLOROETHENE			
DIBROMOCHLOROMETHANE			
1,1,2-TRICHLOROETHANE			
BENZENE			
CIS-1,3-DICHLOROPROPENE			
2-CHLOROETHYL VINYL ETHER			
BROMOFORM			
4-METHYL-2-PENTANONE			
2-HEXANONE			
TETRACHLOROETHENE		3 \J	1 \J
1,1,2,2-TETRACHLOROETHANE			
TOLUENE	1 \J	2 \J	1 \J
CHLOROBENZENE			
ETHYLBENZENE			
STYRENE			
TOTAL XYLENES	3 \J	4 \J	2 \J
TOTAL ETHENES	0	3	1
TOTAL VOCS	5	199	12
SEMIVOLATILE ORGANIC COMPOUNDS			
PENTACHLOROPHENOL		1300	
BIS(2-ETHYLHEXYL)PHTHALATE			80 \J
TOTAL SEMIVOLATILE COMPOUNDS	0	1300	80

TENTATIVELY IDENTIFIED COMPOUNDS CK'D: RJC APP'D: CSR
WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONCENTRATION (UG/KG)
WE-SW55A-35	10/14/87	2-HEPTANONE	A/BN	255	2200
		UNKNOWN (BASE PEAK M/E 43)	A/BN	261	790
		UNKNOWN (BASE PEAK M/E 57)	A/BN	273	1200
		UNKNOWN (BASE PEAK M/E 43)	A/BN	351	970
WE-SSG18	10/15/87	ETHANE,1,1,2-TRICBLORO-1,2,2-TRIFLUORO-	VOA	291	10
		2-HEPTANONE	A/BN	257	1400
		UNKNOWN (BASE PEAK M/E 43)	A/BN	262	1100
		UNKNOWN (BASE PEAK M/E 57)	A/BN	275	1500
		ETHANE,1,1,2,2-TETRACHLORO-	A/BN	342	130
		UNKNOWN (BASE PEAK M/E 43)	A/BN	352	1100
		UNKNOWN (BASE PEAK M/E 43)	A/BN	409	510
		UNKNOWN (BASE PEAK M/E 55)	A/BN	1572	1300
		UNKNOWN (BASE PEAK M/E 55)	A/BN	1626	520
		UNKNOWN (BASE PEAK M/E 43)	A/BN	2066	1400
		UNKNOWN (BASE PEAK M/E 57)	A/BN	2102	530
		UNKNOWN (BASE PEAK M/E 43)	A/BN	2111	1900
		UNKNOWN (BASE PEAK M/E 57)	A/BN	2209	740
WE-SE24-24	10/15/88	2-HEPTANONE	A/BN	257	2500
		UNKNOWN (BASE PEAK M/E 43)	A/BN	263	870
		UNKNOWN (BASE PEAK M/E 57)	A/BN	275	1416
		UNKNOWN (BASE PEAK M/E 43)	A/BN	352	900

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

CK'D: BSC APP'D: CSE

SAMPLE DESCRIPTION	SS06	SS07	W54-20	W54-30	W54-5	W54-59	E21-31
DATE SAMPLED	11/10/87	11/10/87	11/11/87	11/11/87	11/11/87	11/11/87	11/12/87
CHLOROMETHANE							
BROMOMETHANE							
VINYL CHLORIDE							
CHLOROETHANE							
METHYLENE CHLORIDE							
ACETONE							
CARBON DISULFIDE							
1,1-DICHLOROETHENE							
1,1-DICHLOROETHANE							
TRANS-1,2-DICHLOROETHENE							
CHLOROFORM							
1,2-DICHLOROETHANE							
2-BUTANONE							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
VINYL ACETATE							
BROMODICHLOROMETHANE							
1,2-DICHLOROPROPANE							
TRANS-1,3-DICHLOROPROPENE							
TRICHLOROETHENE					120	80	
DIBROMOCHLOROMETHANE							
1,1,2-TRICHLOROETHANE							
BENZENE							
CIS-1,3-DICHLOROPROPENE							
2-CHLOROETHYL VINYL ETHER							
BROMOFORM							
4-METHYL-2-PENTANONE							
2-HEXANONE							
TETRACHLOROETHENE							
1,1,2,2-TETRACHLOROETHANE							
TOLUENE			2 \J		10	9	
CHLOROBENZENE							
ETHYLBENZENE							
STYRENE							
TOTAL XYLENES							
TOTAL ETHENES	0	0	0	0	120	80	0
TOTAL VOCS	0	0	2	0	130	89	0

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCHIPTION	SS06	SS07	W54-20	W54-30	W54-5	W54-59	E21-31
DATE SAMPLED	11/10/87	11/10/87	11/11/87	11/11/87	11/11/87	11/11/87	11/12/87
SEMIVOLATILE ORGANIC COMPOUNDS							
PHENOL	93 \J	89 \J					
4-METHYLPHENOL		200 \J					
BENZOIC ACID		160 \J					
NAPHTHALENE	720	270 \J			31 \J		
2-METHYLNAPHTHALENE	740	270 \J			39 \J	33 \J	
ACENAPHTHYLENE	110	42 \J					
ACENAPHTHENE	69 \J						
DIBENZOFURAN	180 \J						
FLUORENE	120 \J						
PHENANTHRENE	1200	200 \J			130 \J	110 \J	
ANTHRACENE	250 \J				25 \J	23 \J	
DI-N-BUTYLPHTHALATE							
FLUORANTHENE	2600	200 \J			350 \J	310 \J	
PYRENE	2900	150 J\J			300 \J	240 \J	
BUTYLBENZYLPHTHALATE	390 \J						
BENZO(A)ANTHRACENE	1600	110 J\J			180 \J		
BIS(2-ETHYLHEXYL)PHTHALATE	1600	150 J\J			210 \J	380	
CHRYSENE	960	460 J\J			310 \J		
DI-N-OCTYL PHTHALATE	380 \J				38 \J		
BENZO(B)FLUORANTHENE	2000				240 \J	250 \J	
BENZO(K)FLUORANTHENE	1600				200 \J	210 \J	
BENZO(A)PYRENE	1500	100 \J			150 \J	130 \J	
INDENO(1,2,3-CD)PYRENE	1200				170 \J		
DIBENZ(A H)ANTHRACENE	390 \J						
BENZO(G.H.I)PERYLENE	1400						
TOTAL TCL SEMIVOLATILE COMPOUNDS	22002	2401	0	0	2373	1686	0
TOTAL PAHS	19266	1713	0	0	2125	1306	0

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	B32-14	B33-14	B34-14	B35-16	B36-16	B37-16	B38-16
DATE SAMPLED	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87
VINYL CHLORIDE							
CHLOROETHANE							
METHYLENE CHLORIDE							
ACETONE							
CARBON DISULFIDE							
1,1-DICHLOROETHENE							
1,1-DICHLOROETHANE							
TRANS-1,2-DICHLOROETHENE							
CHLOROFORM							
1,2-DICHLOROETHANE							
2-BUTANONE							
1,1,1-TRICHLOROETHANE							
CARBON TETRACHLORIDE							
VINYL ACETATE							
BROMODICHLOROMETHANE							
1,2-DICHLOROPROPANE							
TRANS-1,3-DICHLOROPROPENE							
TRICHLOROETHENE							
DIBROMOCHLOROMETHANE							
1,1,2-TRICHLOROETHANE							
BENZENE							
CIS-1,3-DICHLOHOPROPENE							
2-CHLOROETHYL VINYL ETHER							
BROMOFORM							
4-METHYL-2-PENTANONE							
2-HEXANONE							
TETRACHLOROETHENE		0.9 \J	30	30			
1,1,2,2-TETRACHLOROETHANE							
TOLUENE			5 \J				
CHLOROBENZENE							
ETHYLBENZENE							
STYRENE							
TOTAL XYLENES							
TOTAL ETHENES	0	0.9	30	30	0	0	0
TOTAL VOCS	0	0.9	35	30	0	0	0

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	B32-14	B33-14	B34-14	B35-16	B36-16	B37-16	B38-16
DATE SAMPLED	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87	11/12/87
SEMIVOLATILE ORGANIC COMPOUNDS							
PHENOL							
4-METHYLPHENOL							
BENZOIC ACID							
NAPHTHALENE							
2-METHYLNAPHTHALENE							
ACENAPHTHYLENE							
ACENAPHTHENE							
DIBENZOFURAN							
FLUORENE							
PHENANTHRENE	88 \J	270 \J	480	160 \J			
ANTHRACENE		48 \J	100 \J	53 \J			
DI-N-BUTYLPHTHALATE							
FLUORANTHENE	310 \J	540	1400	470	29 \J		30 \J
PYRENE				350 \J	38 \J		31 \J
BUTYLBENZYLPHTHALATE							
BENZO(A)ANTHRACENE				240 \J			
BIS(2-ETHYLHEXYL)PHTHALATE				84 \J	45 \J	49 \J	
CHRYSENE				240 \J			
DI-N-OCTYL PHTHALATE							
BENZO(B)FLUORANTHENE	150 \J	170 \J	350	210 \J			
BENZO(K)FLUORANTHENE	100 \J	160 \J	340 \J	190 \J			
BENZO(A)PYRENE	120 \J	160 \J	380	220 \J			
INDENO(1,2,3-CD)PYRENE			240 \J	190 \J			
DIBENZ(A H)ANTHRACENE				74 \J			
BENZO(G.H.I)PERYLENE			260 \J	220 \J			
TOTAL TCL SEMIVOLATILE COMPOUNDS	768	1348	3550	2701	112	49	61
TOTAL PAHS	768	1348	3550	2617	67	0	61

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	SDSB-01
DATE SAMPLED	11/16/87
VINYL CHLORIDE	
CHLOROETHANE	
METHYLENE CHLORIDE	
ACETONE	
CARBON DISULFIDE	
1,1-DICHLOROETHENE	
1,1-DICHLOROETHANE	
TRANS-1,2-DICHLOROETHENE	
CHLOROFORM	
1,2-DICHLOROETHANE	
2-BUTANONE	11
1,1,1-TRICHLOROETHANE	
CARBON TETRACHLORIDE	
VINYL ACETATE	
BROMODICHLOROMETHANE	
1,2-DICHLOROPROPANE	
TRANS-1,3-DICHLOROPROPENE	
TRICHLOROETHENE	
DIBROMOCHLOROMETHANE	
1,1,2-TRICRLOROETHANE	
BENZENE	
CIS-1,3-DICHLOROPROPENE	
2-CHLOROETHYL VINYL ETHER	
BROMOFORM	
4-METHYL-2-PENTANONE	7
2-HEXANONE	
TETRACHLOROETHENE	
1,1,2,2-TETRACHLOROETHANE	
TOLUENE	8
CHLOROBENZENE	
ETHYLBENZENE	
STYRENE	
TOTAL XYLENES	
TOTAL ETHENES	0
TOTAL VOCS	26

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
CONCENTRATION (UG/KG)
C#: 13076.30

SAMPLE DESCRIPTION	SDSB-01
DATE SAMPLED	11/16/87

SEMIVOLATILE ORGANIC COMPOUNDS	
PHENOL	76
4-METHYLPHENOL	
BENZOIC ACID	
NAPHTHALENE	
2-METHYLNAPHTHALENE	
ACENAPHTHYLENE	
ACENAPHTHENE	
DIBENZOFURAN	
FLUORENE	
PHENANTHRENE	
ANTHRACENE	
DI-N-BUTYLPHTHALATE	
FLUORANTHENE	
PYRENE	
BUTYLBENZYLPHTHALATE	
BENZO(A)ANTHRACENE	
BIS(2-ETHYLHEXYL)PHTHALATE	29
CHRYSENE	
DI-N-OCTYL PHTHALATE	
BENZO(B)FLUORANTHENE	
BENZO(K)FLUORANTHENE	
BENZO(A)PYRENE	
INDENO(1,2,3-CD)PYRENE	
DIBENZ(A H)ANTHRACENE	
BENZO(G.H.I)PERYLENE	
TOTAL TCL SEMIVOLATILE COMPOUNDS	105
TOTAL PAHS	0

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

CK'D: BE APP'D:

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONCENTRATION (UG/KG)
WE-SS06	11/10/87	N-TETRADAECANE	A/BN	18.12	1600
		N-PENTADECANE	A/BN	19.52	1900
		N-HEXADECANE	A/BN	20.85	3000
		N-HEPTADECANE	A/BN	22.09	3600
		UNKNOWN BRANCHED C19 ALKANE	A/BN	22.17	2300
		N-OCTADECANE	A/BN	23.27	2700
		UNKNOWN BRANCHED ALKANE	A/BN	23.4	1900
		N-NONADECANE	A/BN	24.4	3200
		HEXADECANOIC ACID	A/BN	25.02	1600
		N-EICOSANE	A/BN	25.49	1700
		N-HENEICOSANE	A/BN	26.52	2000
		N-TRICOSANE	A/BN	28.46	2200
		N-TETRACOSANE	A/BN	29.39	2000
		N-PENTACOSANE	A/BN	30.31	4800
		N-HEXACOSANE	A/BN	31.36	3600
		N-HEPTACOSANE	A/BN	32.57	2800
		N-OCTACOSANE	A/BN	34.02	2300
		N-NONACOSANE	A/BN	35.77	3900
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	41.29	3300
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	43.78	3000
WE-SS07	11/10/87	N-TETRADECANE	A/BN	15.45	680
		N-PENTADECANE	A/BN	16.64	870
		N-HEXADECANE	A/BN	17.75	1000
		N-HEPTADECANE	A/BN	18.8	760
		UNKNOWN C19 BRANCHED ALKANE	A/BN	18.89	790
		UNKNOWN CYCLIC OXYHYDROCARBON	A/BN	18.97	740
		TETRADECANOIC ACID	A/BN	19.37	470
		N-OCTADECANE	A/BN	19.8	800
		UNKNOWN BRANCHED ALKANE	A/BN	19.92	1000
		N-NONADECANE	A/BN	20.77	1400
		N-EICOSANE	A/BN	21.67	1100
		UNKNOWN C21 BRANCHED ALKANE	A/BN	22.37	800
		N-HENEICOSANE	A/BN	22.54	600
		N-TETRACOSANE	A/BN	24.97	760
		N-PENTACOSANE	A/BN	25.86	1600
		N-HEXACOSANE	A/BN	26.87	1100
		N-HEPTACOSANE	A/BN	27.61	1500
		UNKNOWN STEROIDAL HYDROCARBON	A/BN	35.09	1100
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	36.91	1100
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	39.44	1400
WE-SW54-20	11/11/87	UNKNOWN CYCLIC OXYHDROCARBON	A/BN	30.12	450

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONCENTRATION (UG/KG)
NE-SW54-5	11/11/87	N-HEXADECANE	A/BN	20.84	350
		N-HEPTADECANE	A/BN	22.09	390
		UNKNOWN C19 ALKANE	A/BN	22.17	310
		N-NONADECANE	A/BN	24.4	460
		HEXADECANOIC ACID	A/BN	25.01	430
		UNKNOWN	A/BN	25.82	530
		UNKNOWN	A/BN	26.22	430
		UNKNOWN	A/BN	28.32	430
		N-TRICOSANE	A/BN	28.46	820
		UNKNOWN	A/BN	28.71	610
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	29.09	750
		N-TETRACOSANE	A/BN	29.37	890
		N-PENTACOSANE	A/BN	30.29	1100
		N-HEXACOSANE	A/BN	31.32	810
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	31.81	570
		N-HEPTACOSANE	A/BN	32.54	1300
		N-OCTACOSANE	A/BN	33.97	740
		N-NONACOSANE	A/BN	35.69	1100
		N-TRIACONTANE	A/BN	37.77	490
		N-HENTRIACONTANE	A/BN	40.32	680
NE-SW54-5-9	11/11/87	N-HEXADECANE	A/BN	20.82	320
		N-HEPTADECANE	A/BN	22.07	330
		N-OCTADECANE	A/BN	23.25	330
		UNKNOWN PHTHALATE	A/BN	24.17	330
		N-NONADECANE	A/BN	24.39	440
		HEXADECANOIC ACID	A/BN	25.01	420
		UNKNOWN	A/BN	25.81	880
		UNKNOWN	A/BN	26.21	570
		N-TRICOSANE	A/BN	28.46	1800
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	29.07	800
		N-TETRACOSANE	A/BN	29.36	2900
		N-PENTACOSANE	A/BN	30.27	1800
		N-HEXACOSANE	A/BN	31.31	1500
		N-HEPTACOSANE	A/BN	32.51	1800
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	33.04	1100
		N-OCTACOSANE	A/BN	33.94	1300
		N-NONACOSANE	A/BN	35.64	1400
		N-TRIACONTANE	A/BN	37.72	980
		N-HENTRIACONTANE	A/BN	40.26	1100
		UNKNOWN POLYCYCLIC HYDROCARBON	A/BN	41.12	780
NE-SE35-16	11/12/87	PROPANOIC ACID, 2-METHYL-,2-E	A/BN	20.94	220
		UNKNOWN PHTHALATE	A/BN	24.17	230

WAUSAU NPL RI/FS
SOIL ORGANIC ANALYSIS RESULTS
C#: 13076.30

WELL NUMBER	DATE SAMPLED	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONCENTRATION (UG/KG)
WE-SE37-16	11/12/87	UNKNOWN BROMOHYDROCARBON	A/BN	13.95	420
WE-SDSB-01	11/16/87	UNKNOWN AMINE	VOA	8.75	7.6
		PROPANE, 2-ETHOXY-2-METHYL-	VOA	14.6	8.1
		HEXANAL	VOA	19.65	5
		OXYGENATED HYDROCARBON (>C7)	VOA	28.61	18
		UNKNOWN BROMOHYDROCARBON	A/BN	14	160

PHASE 2 SOIL ORGANIC ANALYSIS RESULTS

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

CK'D: BSC APP'D: CSR
5/15/89

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
DILUTION						
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE				9		
ACETONE		71				
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						170
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE		16 J/				
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE				50		250 J/E
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
2-CHLOROETHYLVINYL ETHER						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE						
1,1,2,2-TETRACHLOROETHANE						
TOLUENE	3 /J	46	73	19		13
CHLOROBENZENE						
ETHYLBENZENE		4 /J	4 /J	2 /J		
STYRENE						
TOTAL XYLENES	4 /J	19	24	10		
ACROLEIN						
ACRYLONITRILE						
TOTAL ETHENES	0	0	0	50	0	420
TOTAL VOCS	7	156	101	90	0	433

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
DILUTION						
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN		8 /J	10 /J		10 /J	
UNKNOWN			20 /J			
UNKNOWN			10 /J			
UNKNOWN ALKANE			20 /J			
UNKNOWN ALKANE						
UNKNOWN CYCLOALKANE			30 /J			
UNKNOWN HYDROCARBON						
2-PENTENE,3,4-DIMETHYL-,		10 /J				
3-HEPTENE,3-ETHYL-			8 /J			
3-HEXENE, 3-ETHYL-2,5-DIMETH			20 /J			
BENZENE, 1,2,4-TRIMETHYL-						
C10.H14 AROMATIC HYDROCARBON			10 /J			
C10.H20.HYDROCARBON						
C11.H20.HYDROCARBON						
C11.H22.HYDROCARBON						
C12.H26.ALKANE						
C11.H20.HYDROCARBON						
CYCLOHEXANE, BUTYL-						
CYCLOHEXANE, METHYL-			8 /J			
CYCLOHEXANE, PENTYL-						
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL						
DECANE						
DODECANE						
NAPHTHALENE,DECAHYDRO-2-MET						
NAPHTHALENE, DECAHYDRO-, CIS			9 /J			
NONANE, 2,6-DIMETHYL-						
OCTANE						
OCTANE, 2,4,6-TRIMETHYL-						0.9 /J
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	0	18	145	0	10	0.9

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

CK'D: RJC APP'D: CSR

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-8-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
DILUTION						2
PHENOL						
2-CHLOROPHENOL						
1,2-DICHLOROBENZENE						
2-METHYLPHENOL						
4-METHYLPHENOL						
ISOPHORONE						
1,2,4-TRICHLOROBENZENE						
NAPHTHALENE			300			
4-CHLORO-3-METHYLPHENOL						
2-METHYLNAPHTHALENE			180 J/			
2,4,5-TRICHLOROPHENOL						
2-CHLORONAPHTHALENE						
DIMETHYLPHTHALATE						
ACENAPHTHYLENE						130 /J
ACENAPHTHENE				45 J/J		
4-NITROPHENOL						
DIBENZOFURAN				40 J/J		130
FLUORENE			260	82 J/		150 /J
PENTACHLOROPHENOL						
PHENANTHRENE		530	870	1100 J/		3000
ANTHRACENE		120	170	230 J/		800
DI-N-BUTYLPHTHALATE						
FLUORANTHENE	180	1500	840	2200 J/		5900
PYRENE	200 J/	1400	1000	1600 J/		9100
BUTYLBENZYLPHTHALATE						
BENZO(A)ANTHRACENE		800	360	890 J/		4400
CHRYSENE	100	670	440	1000 J/		4000
BIS(2-ETHYLHEXYL)PHTHALATE	150	120 /J	670	110 J/J		140 /J
BENZO(B)FLUORANTHENE		800	410	1500 J/		6000
BENZO(K)FLUORANTHENE		850 J/	430 J/	1100 J/		3300 J/
BENZO(A)PYRENE		670		1100 J/		3600
INDENO(1,2,3-CD)PYRENE		460		840 J/		3100
DIBENZ (A,H)ANTHRACENE				300 J/		1200
BENZO(G,H,I)PERYLENE		560		890 J/		3700
PESTICIDE/PCBS						
AROCLOR - 1260						
TOTAL PAHS	480	8360	5260	12877	0	48380
TOTAL SEMIVOLATILES	630	8480	5930	13027	0	48650
TENTATIVELY IDENTIFIED SEMI-VOLATILES						
UNKNOWN	200 /J	500 /J	1000 /J	1000 J/J		400 /J

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-8-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
DILUTION						2
UNKNOWN		100 /J	600 /J			
UNKNOWN		2000 /J	800 /J			
UNKNOWN		200 /J	3000 /J			
UNKNOWN		20000 /J	2000 /J			
UNKNOWN		200 /J				
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE	200 /J	100 /J	500 /J	300 J/J		500 /J
UNKNOWN ALKANE	200 /J		700 /J	400 J/J		700 /J
UNKNOWN ALKANE	400 /J		700 /J	600 J/J		500 /J
UNKNOWN ALKANE	400 /J		2000 /J	800 J/J		500 /J
UNKNOWN ALKANE	200 /J		2000 /J	1000 J/J		500 /J
UNKNOWN ALKANE	400 /J		3000 /J	1000 J/J		2000 /J
UNKNOWN ALKANE	500 /J		3000 /J	1000 J/J		
UNKNOWN ALKANE	200 /J		3000 /J	2000 J/J		
UNKNOWN ALKANE	300 /J		3000 /J	2000 J/J		
UNKNOWN ALKANE	200 /J		3000 /J	1000 J/J		
UNKNOWN ALKANE	400 /J		4000 /J	1000 J/J		
UNKNOWN ALKANE	200 /J		2000 /J	500 J/J		
UNKNOWN ALKANE			3000 /J			
UNKNOWN ALKANE			2000 /J			
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN AROMATIC						
UNKNOWN AROMATIC						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN HYDROCARBON				600 J/J		
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB01-7.5	SSB4-2.5	SSB5-7.5	SSB6-8-11	SSB8-5	SSB11-5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/27/88	06/30/88	06/29/88	06/27/88	06/29/88	06/29/88
DILUTION						2
UNKNOWN PHTHALATE					200 /J	
UNKNOWN CL'D CPD						400 /J
1H-INDENE,OCTAHYDRO-2,2,4,4						
11H-BENZO[A]FLURORENE						400 /J
11H-BENZO[B]FLUORENE		300 /J		300 J/J		
1-PHENANTHRENECARBOXYLIC ACID						
1,1'-BIPHENYL,2,2',4,4',5-P						
1,2-BENZENEDICARBOXYLIC ACID						
2-PENTANONE,4-HYDROXY-4-METH			40000 /JA			
3-HEXENE-2,5-DIONE						
3-PENTEN-2-ONE,4-METHYL-		1000 /JA				
4-HEPTANONE						
4H-CYCLOPENTA[DEF]PHENANTHRENE				300 J/J		
BENZENE, 1,2,4-TRIMETHYL-						
BENZENE, 1-METHYL-3-(1-METHY						
BENZENE, 1-METHYL-3-PHOPYL-						
BENZENE, 1,3,5-TRIMETHYL-						
BENZENE, 2-ETHYL-1,4-DIMETHYL						
BENZ(e)ACEPHENANTHRYLENE						
BENZO[E]PYRENE		800 /J				5000 /J
BENZO[J]FLUORANTHENE				800 J/J		3000 /J
BENZOPHENONE		200 /J				
C8H18 HYDROCARBON						
C16H3202 ACID			2000 /J			
C17H36 ALKANE						
C19H20 ALKANE						
C9H16 HYDROCARBON					200 /J	
C9H20 ALKANE		500 /J				
DECANE						600 /J
HEPTANE, 2,3-DIMETHYL-						
HEPTANE, 2,4-DIMETHYL-					1000 /J	
HEPTANE, 3,4-DIMETHYL						
HEXADECANOIC ACID			9000 /J			
NAPHTHALENE, 1,8-DIMETHYL-						
NONANE, 2,6-DIMETHYL-			800 /J			
PHOSPHORIC ACID, THIPHENYL E						
PYRENE, 1-METHYL-						
UNDECANE						800 /J
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	3800	25900	91100	14600	1400	15300

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG SAMPLE DESCHIPTION CONTRACT LABORATORY DATE SAMPLED DILUTION	SSB12-2.5 UOIA 06/29/88 3.33	SSB15-20.0 UOIA 07/07/88	SSB16-2.5 UOIA 06/30/88	SSB16-2.5D UOIA 06/30/88	SSB17-.5-2 UOIA 06/30/88 5	SSB18-2.5 UOIA 06/30/88 50
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE	19 /J			5 /J		1800
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)	26					
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE	810			5 /J		
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
2-CHLOROETHYLVINYL ETHER						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE					690	3500
1,1,2,2-TETRACHLOROETHANE						
TOLUENE	94	12	46	42	24 /J	
CHLOROBENZENE						
ETHYLBENZENE			4 /J	3 /J		
STYRENE						
TOTAL XYLENES	24		24	16		
ACROLEIN						
ACRYLONITRILE						
TOTAL ETHENES	836	0	0	5	690	3500
TOTAL VOCS	973	12	74	71	714	5300

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG SAMPLE DESCRIPTION	SSB12-2.5	SSB15-20.0	SSB16-2.5	SSB16-2.5D	SSB17-.5-2	SSB18-2.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/29/88	07/07/88	06/30/88	06/30/88	06/30/88	06/30/88
DILUTION	3.33				5	50
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN	80 /J					
UNKNOWN	100 /J					
UNKNOWN	100 /J					
UNKNOWN ALKANE		8 /J				
UNKNOWN ALKANE		8 /J				
UNKNOWN CYCLOALKANE						
UNKNOWN HYDROCARBON	60 /J					
2-PENTENE,3,4-DIMETHYL-						
3-HEPTENE,3-ETHYL-						
3-HEXENE, 3-ETHYL-2,5-DIMETH						
BENZENE, 1,2,4-TRIMETHYL-						
C10.H14 AROMATIC HYDROCARBON						
C10.H20.HYDROCARBON	100 /J					
C11.H20.HYDROCARBON	100 /J					
C11.H22.HYDROCARBON	300 /J					
C12.H26.ALKANE	100 /J					
C11.H20.HYDROCARBON	100 /J					
CYCLOHEXANE, BUTYL-						
CYCLOHEXANE, METHYL-						
CYCLOHEXANE, PENTYL-						
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL						
DECANE						
DODECANE		10 /J				
NAPHTHALENE,DECAHYDRO-2-MET	200 /J					
NAPHTHALENE, DECAHYDRO-, CIS						
NONANE, 2,6-DIMETHYL-						
OCTANE						
OCTANE, 2,4,6-TRIMETHYL-						
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	1240	26	0	0	0	0

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB12-2.5	SSB15-20.0	SSB16-2.5	SSB16-2.5D	SSB17-.5-2	SSB18-2.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/29/88	07/07/88	06/30/88	06/30/88	06/30/88	06/30/88
DILUTION	2					
PHENOL						
2-CHLOROPHENOL						
1,2-DICHLOROBENZENE						
2-METHYLPHENOL						
4-METHYLPHENOL						
ISOPHORONE						
1,2,4-TRICHLOROBENZENE						
NAPHTHALENE						
4-CHLORO-3-METHYLPHENOL						
2-METHYLNAPHTHALENE						
2,4,5-TRICHLOROPHENOL						
2-CHLORONAPHTHALENE						
DIMETHYLPHTHALATE		140				
ACENAPHTHYLENE						
ACENAPHTHENE						
4-NITROPHENOL						
DIBENZOFURAN						
FLUORENE						
PENTACHLOROPHENOL						
PHENANTHRENE						400
ANTHRACENE						120
DI-N-BUTYLPHTHALATE		76 /J				
FLUORANTHENE			39 /J	37 /J	77 /J	820
PYRENE			71 /J	53 /J	110 /J	1300
BUTYLBENZYLPHTHALATE						
BENZO(A)ANTHRACENE						660
CHRYSENE						750
BIS(2-ETHYLHEXYL)PHTHALATE						
BENZO(B)FLUORANTHENE					120 /J	680
BENZO(K)FLUORANTHENE						760
BENZO(A)PYRENE						750
INDENO(1,2,3-CD)PYRENE						680
DIBENZ (A,H)ANTHRACENE						
BENZO(G,H,I)PERYLENE						800
PESTICIDE/PCBS						
AROCLOR - 1260						
TOTAL PAHS	0	0	110	90	307	7720
TOTAL SEMIVOLATILES	0	216	110	90	307	7720
TENTATIVELY IDENTIFIED SEMI-VOLATILES						
UNKNOWN	10000 /J	600 /J	200 /J	100 /J	100 /J	200 /J

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB12-2.5	SSB15-20.0	SSB16-2.5	SSB16-2.5D	SSB17-.5-2	SSB18-2.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/29/88	07/07/88	06/30/88	06/30/88	06/30/88	06/30/88
DILUTION	2					
UNKNOWN	10000 /J	100 /J	200 /J		400 /J	200 /J
UNKNOWN		600 /J			100 /J	300 /J
UNKNOWN		200 /J				
UNKNOWN		100 /J				
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE	10000 /J		200 /J	200 /J	100 /J	400 /J
UNKNOWN ALKANE	40000 /J				300 /J	400 /J
UNKNOWN ALKANE	80000 /J				300 /J	
UNKNOWN ALKANE	20000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	8000 /J					
UNKNOWN ALKANE	20000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	30000 /J					
UNKNOWN ALKANE	30000 /J					
UNKNOWN ALKANE	50000 /J					
UNKNOWN ALKANE	40000 /J					
UNKNOWN ALKANE	90000 /J					
UNKNOWN ALKANE	30000 /J					
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN AROMATIC						
UNKNOWN AROMATIC						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB12-2.5	SSB15-20.0	SSB16-2.5	SSB16-2.5D	SSB17-.5-2	SSB18-2.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	06/29/88	07/07/88	06/30/88	06/30/88	06/30/88	06/30/88
DILUTION	2					
UNKNOWN PHTHALATE						
UNKNOWN CL'D CPD						
1H-INDENE,OCTAHYDRO-2,2,4,4						
11H-BENZO[A]FLURORNE						
11H-BENZO[B]FLUORENE						200 /J
1-PHENANTHRENECARBOXYLIC ACID						
1,1'-BIPHENYL,2,2',4,4',5-P	10000 /J					
1,2-BENZENEDICARBOXYLIC ACID						
2-PENTANONE,4-HYDROXY-4-METH						
3-HEXENE-2,5-DIONE						
3-PENTEN-2-ONE,4-METHYL-			200 /JA			
4-HEPTANONE			200 /J			
4H-CYCLOPENTA[DEF]PHENANTHRENE						
BENZENE, 1,2,4-TRIMETHYL-						
BENZENE, 1-METHYL-3-(1-METHY						
BENZENE, 1-METHYL-3-PROPYL-						
BENZENE, 1,3,5-TRIMETHYL-						
BENZENE, 2-ETHYL-1,4-DIMETHYL						
BENZ(e)ACEPHENANTHRYLENE						
BENZO[E]PYRENE						
BENZO[J]FLUORANTHENE						900 /J
BENZOPHENONE						
C8H18 HYDROCARBON						
C16H3202 ACID						
C17H36 ALKANE						
C19H20 ALKANE						
C9H16 HYDROCARBON						
C9H20 ALKANE				100. /J		
DECANE						
HEPTANE, 2,3-DIMETHYL-						
HEPTANE, 2,4-DIMETHYL-						
HEPTANE, 3,4-DIMETHYL						
HEXADECANOIC ACID						
NAPHTHALENE, 1,8-DIMETHYL-						
NONANE, 2,6-DIMETHYL-						
PHOSPHORIC ACID, TRIPHENYL E						
PYRENE, 1-METHYL-						200 /J
UNDECANE						
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	498000	1600	1000	400	1300	2800

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG SAMPLE DESCRIPTION CONTRACT LABORATORY DATE SAMPLED DILUTION	SSB19-12.5 UOIA 07/01/88	SSB19-12.5D UOIA 07/01/88	SSB20-7.5 UOIA 07/06/88	SSB21-7.0 UOIA 07/06/88	SSB22-12 UOIA 07/01/88	SSB23-10 UOIA 07/01/88
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE						
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)						
CHLOROFORM	8					
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE						10
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
2-CHLOROETHYLVINYL ETHER						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE						120
1,1,2,2-TETRACHLOROETHANE						
TOLUENE						4 /J
CHLOROBENZENE						
ETHYLBENZENE						
STYRENE						
TOTAL XYLENES						
ACROLEIN						
ACRYLONITRILE						
TOTAL ETHENES	0	0	0	0	0	130
TOTAL VOCS	8	0	0	0	0	134

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB19-12.5	SSB19-12.5D	SSB20-7.5	SSB21-7.0	SSB22-12	SSB23-10
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	07/06/88	07/06/88	07/01/88	07/01/88
DILUTION						
==========	========	========	========	========	========	========
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN CYCLOALKANE						
UNKNOWN HYDROCARBON						
2-PENTENE,3,4-DIMETHYL-,						
3-HEPTENE,3-ETHYL-						
3-HEXENE, 3-ETHYL-2,5-DIMETH						
BENZENE, 1,2,4-TRIMETHYL-						
C10.H14 AROMATIC HYDROCARBON						
C10.H20.HYDROCARBON						
C11.H20.HYDROCARBON						
C11.H22.HYDROCARBON						
C12.H26.ALKANE						
C11.H20.HYDROCARBON						
CYCLOHEXANE, BUTYL-						
CYCLOHEXANE, METHYL-						
CYCLOHEXANE, PENTYL-						
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL						
DECANE						
DODECANE						
NAPHTHALENE,DECAHYDRO-2-MET						
NAPHTHALENE, DECAHYDRO-, CIS						
NONANE, 2,6-DIMETHYL-						
OCTANE						
OCTANE, 2,4,6-TRIMETHYL-						
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	0	0	0	0	0	0

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG SAMPLE DESCRIPTION CONTRACT LABORATORY DATE SAMPLED DILUTION	SSB19-12.5 UOIA 07/01/88	SSB19-12.5D UOIA 07/01/88	SSB20-7.5 UOIA 07/06/88	SSB21-7.0 UOIA 07/06/88	SSB22-12 UOIA 07/01/88	SSB23-10 UOIA 07/01/88
PHENOL	320					
2-CHLOROPHENOL						
1,2-DICHLOROBENZENE						
2-METHYLPHENOL						
4-METHYLPHENOL						
ISOPHORONE						
1,2,4-TRICHLOROBENZENE						
NAPHTHALENE						
4-CHLORO-3-METHYLPHENOL						
2-METHYLNAPHTHALENE						
2,4,5-TRICHLOROPHENOL						
2-CHLORONAPHTHALENE						
DIMETHYLPHTHALATE	78					
ACENAPHTHYLENE						
ACENAPHTHENE						
4-NITROPHENOL						
DIBENZOFURAN						
FLUORENE			63 /J			
PENTACHLOROPHENOL						
PHENANTHRENE			690	330		
ANTHRACENE			150	83		
DI-N-BUTYLPHTHALATE						
FLUORANTHENE			840	660		94 /J
PYRENE			720	710		160 /J
BUTYLBENZYLPHTHALATE						
BENZO(A)ANTHRACENE			280	290		
CHRYSENE			310	340		
BIS(2-ETHYLHEXYL)PHTHALATE						
BENZO(B)FLUORANTHENE			270	190		
BENZO(K)FLUORANTHENE			250 J/	340		
BENZO(A)PYRENE			240	270		
INDENO(1,2,3-CD)PYRENE			130 /J	230		
DIBENZ (A,H)ANTHRACENE						
BENZO(G,H,I)PERYLENE				270		
PESTICIDE/PCBS						
AROCLOR - 1260						
TOTAL PAHS	0	0	3943	3713	0	254
TOTAL SEMIVOLATILES	398	0	3943	3713	0	254
TENTATIVELY IDENTIFIED SEMI-VOLATILES						
UNKNOWN	100 /J		700 /J	100 /J		1000 /J

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB19-12.5	SSB19-12.5D	SSB20-7.5	SSB21-7.0	SSB22-12	SSB23-10
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	07/06/88	07/06/88	07/01/88	07/01/88
DILUTION						
UNKNOWN	600 /J		200 /J			
UNKNOWN	2000 /J					
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE						200 /J
UNKNOWN ALKANE						200 /J
UNKNOWN ALKANE						2000 /J
UNKNOWN ALKANE						3000 /J
UNKNOWN ALKANE						2000 /J
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN AROMATIC						
UNKNOWN AROMATIC						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB19-12.5	SSB19-12.5D	SSB20-7.5	SSB21-7.0	SSB22-12	SSB23-10
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	07/06/88	07/06/88	07/01/88	07/01/88
DILUTION						
UNKNOWN PHTHALATE						
UNKNOWN CL'D CPD						
1H-INDENE,OCTAHYDRO-2,2,4,4						
11H-BENZO[A]FLUORENE						
11H-BENZO[B]FLUORENE						
1-PHENANTHRENECARBOXYLIC ACID						
1,1'-BIPHENYL,2,2',4,4',5-P						
1,2-BENZENEDICARBOXYLIC ACID						
2-PENTANONE,4-HYDROXY-4-METH						
3-HEXENE-2,5-DIONE						
3-PENTEN-2-ONE,4-METHYL-						
4-HEPTANONE						
4H-CYCLOPENTA[DEF]PHENANTHRENE						
BENZENE, 1,2,4-TRIMETHYL-						
BENZENE, 1-METHYL-3-(1-METHY						
BENZENE, 1-METHYL-3-PROPYL-						
BENZENE, 1,3,5-TRIMETHYL-						
BENZENE, 2-ETHYL-1,4-DIMETHYL						
BENZ(e)ACEPHENANTHRYLENE						
BENZO[E]PYRENE			200 /J	300 /J		
BENZO[J]FLUORANTHENE						
BENZOPHENONE						
C8H18 HYDROCARBON					100 /J	
C16H3202 ACID						
C17H36 ALKANE						
C19H20 ALKANE						
C9H16 HYDROCARBON						
C9H20 ALKANE						
DECANE						
HEPTANE, 2,3-DIMETHYL-				300 /J		
HEPTANE, 2,4-DIMETHYL-						
HEPTANE, 3,4-DIMETHYL				300 /J		
HEXADECANOIC ACID						
NAPHTHALENE, 1,8-DIMETHYL-						
NONANE, 2,6-DIMETHYL-						
PHOSPHORIC ACID, TRIPHENYL E	4000 /J					
PYRENE, 1-METHYL-						
UNDECANE						
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	6700	0	1100	1000	100	8400

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
DILUTION	50		50	5		
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE	2000		1900			
ACETONE				99		
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)				21 /J		
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE		4 /J	11000	1200		
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
2-CHLOROETHYLVINYL ETHER						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE	1000	64			290 J/E	
1,1,2,2-TETRACHLOROETHANE						
TOLUENE				18 /J		49
CHLOROBENZENE						
ETHYLBENZENE						4 /J
STYRENE						
TOTAL XYLENES					7	18
ACROLEIN						
ACRYLONITRILE						
TOTAL ETHENES	1000	68	11000	1221	290	0
TOTAL VOCS	3000	68	12900	1338	297	71

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
DILUTION	50		50	5		
==========	========	========	========	========	========	========
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN CYCLOALKANE						
UNKNOWN HYDROCARBON						
2-PENTENE,3,4-DIMETHYL-,						
3-HEPTENE,3-ETHYL-						
3-HEXENE, 3-ETHYL-2,5-DIMETH						
BENZENE, 1,2,4-TRIMETHYL-						
C10.H14 AROMATIC HYDROCARBON						
C10.H20.HYDROCARBON						
C11.H20.HYDROCARBON						
C11.H22.HYDROCARBON						
C12.H26.ALKANE						
C11.H20.HYDROCARBON						
CYCLOHEXANE, BUTYL-						
CYCLOHEXANE, METHYL-						
CYCLOHEXANE, PENTYL-						
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL						
DECANE						
DODECANE						
NAPHTHALENE,DECAHYDRO-2-MET						
NAPHTHALENE, DECAHYDRO-, CIS						
NONANE, 2,6-DIMETHYL-						
OCTANE						
OCTANE, 2,4,6-TRIMETHYL-						
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	0	0	0	0	0	0

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
DILUTION						
PHENOL						
2-CHLOROPHENOL						
1,2-DICHLOROBENZENE						
2-METHYLPHENOL						
4-METHYLPHENOL						
ISOPHORONE			110	130		
1,2,4-TRICHLOROBENZENE						
NAPHTHALENE			49 /J	45 /J		
4-CHLORO-3-METHYLPHENOL						
2-METHYLNAPHTHALENE			74	90		
2,4,5-TRICHLOROPHENOL						
2-CHLORONAPHTHALENE						
DIMETHYLPHTHALATE					110	
ACENAPHTHYLENE						
ACENAPHTHENE						
4-NITROPHENOL						
DIBENZOFURAN						
FLUORENE						
PENTACHLOROPHENOL						
PHENANTHRENE	81		130	1100		
ANTHRACENE				190		
DI-N-BUTYLPHTHALATE					58 /J	
FLUORANTHENE	160		220	2400		
PYRENE	200 J/		260	3600		
BUTYLBENZYLPHTHALATE						
BENZO(A)ANTHRACENE				1900		
CHRYSENE				2200		
BIS(2-ETHYLHEXYL)PHTHALATE						
BENZO(B)FLUORANTHENE				1800		
BENZO(K)FLUORANTHENE				1500		
BENZO(A)PYRENE				1700		
INDENO(1,2,3-CD)PYRENE				1400		
DIBENZ (A,H)ANTHRACENE				570		
BENZO(G,H,I)PERYLENE				1600		
PESTICIDE/PCBS						
AROCLOR - 1260						
TOTAL PAHS	441	0	733	20095	0	0
TOTAL SEMIVOLATILES	441	0	843	20225	168	0
TENTATIVELY IDENTIFIED SEMI-VOLATILES						
UNKNOWN	100 /J		1000 /J	700 /J	200 /J	200 /J

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
DILUTION						
UNKNOWN			2000 /J	900 /J	600 /J	900 /J
UNKNOWN				900 /J	3000 /J	
UNKNOWN				1000 /J	200 /J	
UNKNOWN				1000 /J	200 /J	
UNKNOWN				700 /J		
UNKNOWN				900 /J		
UNKNOWN				3000 /J		
UNKNOWN				1000 /J		
UNKNOWN ALKANE	200 /J		500 /J	2000 /J		
UNKNOWN ALKANE	100 /J		500 /J	2000 /J		
UNKNOWN ALKANE			400 /J	2000 /J		
UNKNOWN ALKANE			500 /J	7000 /J		
UNKNOWN ALKANE			1000 /J	3000 /J		
UNKNOWN ALKANE			2000 /J	2000 /J		
UNKNOWN ALKANE			2000 /J	2000 /J		
UNKNOWN ALKANE			2000 /J	2000 /J		
UNKNOWN ALKANE			2000 /J	1000 /J		
UNKNOWN ALKANE			2000 /J	1000 /J		
UNKNOWN ALKANE			3000 /J	2000 /J		
UNKNOWN ALKANE			3000 /J			
UNKNOWN ALKANE			3000 /J			
UNKNOWN ALKANE			2000 /J			
UNKNOWN ALKANE			2000 /J			
UNKNOWN ALKANE			2000 /J			
UNKNOWN ALKANE						
UNKNOWN AROMATIC						
UNKNOWN AROMATIC						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN CYCLIC HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN HYDROCARBON						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB24-11.5	SSB25-19	SSB26-7.5	SSB26-11	SSB27-5	SSB29-11.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	UOIA	UOIA	UOIA
DATE SAMPLED	07/01/88	07/01/88	06/30/88	06/30/88	07/01/88	07/05/88
DILUTION						
UNKNOWN PHTHALATE						
UNKNOWN CL'D CPD						
1H-INDENE,OCTAHYDRO-2,2,4,4			400 /J			
11H-BENZO[A]FLUORENE						
11H-BENZO[B]FLUORENE						
1-PHENANTHRENECARBOXYLIC ACID				1000 /J		
1,1'-BIPHENYL,2,2',4,4',5-P						
1,2-BENZENEDICARBOXYLIC ACID						
2-PENTANONE,4-HYDROXY-4-METH						
3-HEXENE-2,5-DIONE						
3-PENTEN-2-ONE,4-METHYL-						
4-HEPTANONE						
4H-CYCLOPENTA[DEF]PHENANTHRENE						
BENZENE, 1,2,4-TRIMETHYL-						
BENZENE, 1-METHYL-3-(1-METHY						
BENZENE, 1-METHYL-3-PROPYL-						
BENZENE, 1,3,5-TRIMETHYL-						
BENZENE, 2-ETHYL-1,4-DIMETHYL						
BENZ(e)ACEPHENANTHRYLENE						
BENZO[E]PYRENE						
BENZO[J]FLUORANTHENE						
BENZOPHENONE						
C8H18 HYDROCARBON						
C16H3202 ACID						
C17H36 ALKANE			500 /J			
C19H20 ALKANE	200 /J					
C9H16 HYDROCARBON						
C9H20 ALKANE						
DECANE						
HEPTANE, 2,3-DIMETHYL-						400 /J
HEPTANE, 2,4-DIMETHYL-						
HEPTANE, 3,4-DIMETHYL	200 /J					400 /J
HEXADECANOIC ACID				1000 /J		
NAPHTHALENE, 1,8-DIMETHYL-						
NONANE, 2,6-DIMETHYL-						
PHOSPHORIC ACID, TRIPHENYL E					6000 /J	
PYRENE, 1-METHYL-						
UNDECANE						
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	800	0	31800	38100	10200	1900

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG SAMPLE DESCRIPTION CONTRACT LABORATORY DATE SAMPLED DILUTION	SSB30-10.0 UOIA 07/05/88 100	SSB31-3 UOIA 06/29/88	SSB32-03 UOIA 06/28/88	TP1-3.5 PEI 07/07/88	TP2-3.0 PEI 07/06/88	TP2-4.5 PEI 07/06/88
CHLOROMETHANE						
BROMOMETHANE						
VINYL CHLORIDE						
CHLOROETHANE						
METHYLENE CHLORIDE						
ACETONE						
CARBON DISULFIDE						
1,1-DICHLOROETHENE						
1,1-DICHLOROETHANE						
1,2-DICHLOROETHENE (TOTAL)					75 J/	220 J/
CHLOROFORM						
1,2-DICHLOROETHANE						
2-BUTANONE						
1,1,1-TRICHLOROETHANE						
CARBON TETRACHLORIDE						
VINYL ACETATE						
BROMODICHLOROMETHANE						
1,2-DICHLOROPROPANE						
TRANS-1,3-DICHLOROPROPENE						
TRICHLOROETHENE				770	27000	160000
DIBROMOCHLOROMETHANE						
1,1,2-TRICHLOROETHANE						
BENZENE						
CIS-1,3-DICHLOROPROPENE						
2-CHLOROETHYLVINYL ETHER						
BROMOFORM						
4-METHYL-2-PENTANONE						
2-HEXANONE						
TETRACHLOROETHENE		48	210			
1,1,2,2-TETRACHLOROETHANE						
TOLUENE		5 /J	8	170	750	240 J/E
CHLOROBENZENE						
ETHYLBENZENE	2900					
STYRENE						
TOTAL XYLENES	21000		6			
ACROLEIN						
ACRYLONITRILE						
TOTAL ETHENES	0	48	210	770	27075	160220
TOTAL VOCS	23900	53	224	940	27825	160460

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG						
SAMPLE DESCRIPTION	SSB30-10.0	SSB31-3	SSB32-03	TP1-3.5	TP2-3.0	TP2-4.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	PEI	PEI	PEI
DATE SAMPLED	07/05/88	06/29/88	06/28/88	07/07/88	07/06/88	07/06/88
DILUTION	100					
TENTATIVELY IDENTIFIED VOLATILES						
UNKNOWN	100000 /J					
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE						
UNKNOWN ALKANE						
UNKNOWN CYCLOALKANE						
UNKNOWN HYDROCARBON						
2-PENTENE,3,4-DIMETHYL-,						
3-HEPTENE,3-ETHYL-						
3-HEXENE, 3-ETHYL-2,5-DIMETH						
BENZENE, 1,2,4-TRIMETHYL-	40000 /J					
C10.H14 AROMATIC HYDROCARBON						
C10.H20.HYDROCARBON						
C11.H20.HYDROCARBON	40000 /J					
C11.H22.HYDROCARBON						
C12.H26.ALKANE						
C11.H20.HYDROCARBON						
CYCLOHEXANE, BUTYL-	40000 /J					
CYCLOHEXANE, METHYL-						
CYCLOHEXANE, PENTYL-	70000 /J					
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL	30000 /J					
DECANE	100000 /J					
DODECANE						
NAPHTHALENE,DECAHYDRO-2-MET	50000 /J					
NAPHTHALENE, DECAHYDRO-, CIS						
NONANE, 2,6-DIMETHYL-	40000 /J					
OCTANE	30000 /J					
OCTANE, 2,4,6-TRIMETHYL-						
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	540000	0	0	0	0	0

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB30-10.0	SSB31-3	SSB32-03	TP1-3.5	TP2-3.0	TP2-4.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	PEI	PEI	PEI
DATE SAMPLED	07/05/88	06/29/88	06/28/88	07/07/88	07/06/88	07/06/88
DILUTION	5					
PHENOL						
2-CHLOROPHENOL						
1,2-DICHLOROBENZENE						
2-METHYLPHENOL						
4-METHYLPHENOL						
ISOPHORONE						
1,2,4-TRICHLOROBENZENE						
NAPHTHALENE	4900			57 /J	63 /J	96 /J
4-CHLORO-3-METHYLPHENOL						
2-METHYLNAPHTHALENE	16000			65 /J	76 /J	100 /J
2,4,5-TRICBLOROPHENOL						
2-CHLORONAPHTHALENE						
DIMETHYLPHTBALATE						
ACENAPHTBYLENE						
ACENAPHTHENE						
4-NITROPHENOL						
DIBENZOFURAN				27 /J	19 /J	
FLUORENE	1600					
PENTACHLOROPHENOL				820 /J	4300	1900
PHENANTHRENE	2600	180	63	510	69 /J	170 /J
ANTHRACENE				110 /J		
DI-N-BUTYLPHTHALATE						
FLUORANTHENE		530	180	1300		60 /J
PYRENE		530 J/	250	1400		63 /J
BUTYLBENZYLPHTBALATE				440	130 /J	
BENZO(A)ANTBRACENE		210	98	680		
CHRYSENE		250	130	750		54 /J
BIS(2-ETHYLHEXYL)PHTHALATE		64 /J		1200	4900	2600
BENZO(B)FLUORANTHENE		330	110 /J	850		
BENZO(K)FLUORANTHENE		120 /J	100 /J	740		
BENZO(A)PYRENE		200		610		
INDENO(1,2,3-CD)PYRENE		130 J/J		640		
DIBENZ (A,H)ANTHRACENE						
BENZO(G,H,I)PERYLENE		130 J/J				
PESTICIDE/PCBS						
AROCLOR - 1260				850	2200 J/	2300 J/
TOTAL PAHS	25100	2610	931	7712	208	543
TOTAL SEMIVOLATILES	25100	2674	931	10199	9557	5043
TENTATIVELY IDENTIFIED SEMI-VOLATILES						
UNKNOWN	10000 /J	300 /J	600 /J	2000 /J	2000 /J	2000 /J

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSB30-10.0	SSB31-3	SSB32-03	TP1-3.5	TP2-3.0	TP2-4.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	PEI	PEI	PEI
DATE SAMPLED	07/05/88	06/29/88	06/28/88	07/07/88	07/06/88	07/06/88
DILUTION	5					
UNKNOWN	20000 /J	2000 /J	200 /J	3000 /J	6000 /J	3000 /J
UNKNOWN				2000 /J	1000 /J	4000 /J
UNKNOWN						3000 /J
UNKNOWN						4000 /J
UNKNOWN						3000 /J
UNKNOWN						
UNKNOWN						
UNKNOWN						
UNKNOWN ALKANE	20000 /J	200 /J	200 /J			
UNKNOWN ALKANE	20000 /J	200 /J	200 /J			
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	30000 /J					
UNKNOWN ALKANE	20000 /J					
UNKNOWN ALKANE	20000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	30000 /J					
UNKNOWN ALKANE	20000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	40000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	5000 /J					
UNKNOWN ALKANE	9000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN ALKANE	10000 /J					
UNKNOWN AROMATIC						
UNKNOWN AROMATIC						
UNKNOWN CYCLIC HYDROCARBON	20000 /J					
UNKNOWN CYCLIC HYDROCARBON	9000 /J					
UNKNOWN HYDROCARBON				3000 /J	3000 /J	3000 /J
UNKNOWN HYDROCARBON				800 /J	1000 /J	2000 /J
UNKNOWN HYDROCARBON				900 /J	1000 /J	3000 /J
UNKNOWN HYDROCARBON				500 /J	1000 /J	1000 /J
UNKNOWN HYDROCARBON				400 /J	600 /J	4000 /J
UNKNOWN HYDROCARBON				500 /J	1000 /J	1000 /J
UNKNOWN HYDROCARBON				4000 /J	800 /J	2000 /J
UNKNOWN HYDROCARBON					1000 /J	2000 /J
UNKNOWN HYDROCARBON					900 /J	
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						
UNKNOWN PAH						

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	SSH30-10.0	SSB31-3	SSB32-03	TP1-3.5	TP2-3.0	TP2-4.5
CONTRACT LABORATORY	UOIA	UOIA	UOIA	PEI	PEI	PEI
DATE SAMPLED	07/05/88	06/29/88	06/28/88	07/07/88	07/06/88	07/06/88
DILUTION	5					
UNKNOWN PHTHALATE						
UNKNOWN CL'D CPD						
1H-INDENE,OCTAHYDRO-2,2,4,4						
11H-BENZO[A]FLUORENE						
11H-BENZO[B]FLUORENE						
1-PHENANTHRENECARBOXYLIC ACID						
1,1'-BIPHENYL,2,2',4,4',5-P						
1,2-BENZENEDICARBOXYLIC ACID						
2-PENTANONE,4-HYDROXY-4-METH						
3-HEXENE-2,5-DIONE						
3-PENTEN-2-ONE,4-METHYL-						
4-HEPTANONE						
4H-CYCLOPENTA[DEF]PHENANTHRENE						
BENZENE, 1,2,4-TRIMETHYL-						
BENZENE, 1-METHYL-3-(1-METHY	10000 /J					
BENZENE, 1-METHYL-3-PROPYL-						
BENZENE, 1,3,5-TRIMETHYL-						
BENZENE, 2-ETHYL-1,4-DIMETHYL	20000 /J					
BENZ(e)ACEPHENANTHRYLENE						
BENZO[E]PYRENE						
BENZO[J]FLUORANTHENE		200 /J				
BENZOPHENONE						
C8H18 HYDROCARBON						
C16H3202 ACID						
C17H36 ALKANE						
C19H20 ALKANE			700 /J			
C9H16 HYDROCARBON						
C9H20 ALKANE		400 /J	300 /J			
DECANE						
HEPTANE, 2,3-DIMETHYL-						
HEPTANE, 2,4-DIMETHYL-						
HEPTANE, 3,4-DIMETHYL						
HEXADECANOIC ACID						
NAPHTHALENE, 1,8-DIMETHYL-	7000 /J					
NONANE, 2,6-DIMETHYL-						
PHOSPHORIC ACID, TRIPHENYL E						
PYRENE, 1-METHYL-						
UNDECANE						
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	380000	3300	2200	17100	19300	37000

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG					
SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PEI	PEI	PEI	PEI	PEI
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
DILUTION					
CHLOROMETHANE					
BROMOMETHANE					
VINYL CHLORIDE					
CHLOROETHANE					
METHYLENE CHLORIDE					
ACETONE		160 J/			
CARBON DISULFIDE					
1,1-DICHLOROETHENE					
1,1-DICHLOROETHANE					
1,2-DICHLOROETHENE (TOTAL)					
CHLOROFORM					
1,2-DICHLOROETHANE					
2-BUTANONE					
1,1,1-TRICHLOROETHANE					
CARBON TETRACHLORIDE					
VINYL ACETATE					
BROMODICHLOROMETHANE					
1,2-DICHLOROPROPANE					
TRANS-1,3-DICHLOROPROPENE					
TRICHLOROETHENE			36 J/		92
DIBROMOCHLOROMETHANE					
1,1,2-TRICHLOROETHANE					
BENZENE					
CIS-1,3-DICHLOROPROPENE					
2-CHLOROETHYLVINYL ETHER					
BROMOFORM					
4-METHYL-2-PENTANONE					
2-HEXANONE					
TETRACHLOROETHENE					
1,1,2,2-TETRACHLOROETHANE					
TOLUENE		160	190 J/		73
CHLOROBENZENE					
ETHYLBENZENE					
STYRENE					
TOTAL XYLENES					
ACROLEIN					
ACRYLONITRILE					
TOTAL ETHENES	0	0	36	0	92
TOTAL VOCS	0	320	226	0	165

PHASE II RAS SOIL ANALYSES
VOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG					
SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PEI	PEI	PEI	PEI	PEI
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
DILUTION					
==========	========	========	========	========	========
TENTATIVELY IDENTIFIED VOLATILES					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN CYCLOALKANE					
UNKNOWN HYDROCARBON					
2-PENTENE,3,4-DIMETHYL-,					
3-HEPTENE,3-ETHYL-					
3-HEXENE, 3-ETHYL-2,5-DIMETH					
BENZENE, 1,2,4-TRIMETHYL-					
C10.H14 AROMATIC HYDROCARBON					
C10.H20.HYDROCARBON					
C11.H20.HYDROCARBON					
C11.H22.HYDROCARBON					
C12.H26.ALKANE					
C11.H20.HYDROCARBON					
CYCLOHEXANE, BUTYL-					
CYCLOHEXANE, METHYL-					
CYCLOHEXANE, PENTYL-					
CYCLOHEXANE, 1-ETHYL-2,3 DIMETHYL					
DECANE					
DODECANE					
NAPHTHALENE,DECAHYDRO-2-MET					
NAPHTHALENE, DECAHYDRO-, CIS					
NONANE, 2,6-DIMETHYL-					
OCTANE					
OCTANE, 2,4,6-TRIMETHYL-					
TOTAL TENTATIVELY IDENTIFIED COMPOUNDS	0	0	0	0	0

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PEI	PEI	PEI	PEI	PEI
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
DILUTION					
UNKNOWN PHTHALATE					
UNKNOWN CL'D CPD					
1H-INDENE,OCTAHYDRO-2,2,4,4					
11H-BENZO[A]FLUROENE					
11H-BENZO[B]FLUORENE					
1-PHENANTHRENECARBOXYLIC ACID					
1,1'-BIPHENYL,2,2',4,4',5-P					
1,2-BENZENEDICARBOXYLIC ACID					
2-PENTANONE,4-HYDROXY-4-METH					
3-HEXENE-2,5-DIONE					
3-PENTEN-2-ONE,4-METHYL-					
4-HEPTANONE					
4H-CYCLOPENTA[DEF]PHENANTHRENE					
BENZENE, 1,2,4-TRIMETHYL-				6000 /J	
BENZENE, 1-METHYL-3-(1-METHY					
BENZENE, 1-METHYL-3-PROPYL-				5000 /J	
BENZENE, 1,3,5-TRIMETHYL-				8000 /J	
BENZENE, 2-ETHYL-1,4-DIMETHYL					
BENZ(e)ACEPHENANTHRYLENE					800 /J
BENZO[E]PYRENE					
BENZO[J]FLUORANTHENE					
BENZOPHENONE					
C8H18 HYDROCARBON					
C16H3202 ACID					
C17H36 ALKANE					
C19H20 ALKANE					
C9H16 HYDROCARBON					
C9H20 ALKANE					
DECANE					
HEPTANE, 2,3-DIMETHYL-					
HEPTANE, 2,4-DIMETHYL-					
HEPTANE, 3,4-DIMETHYL					
HEXADECANOIC ACID					
NAPHTHALENE, 1,8-DIMETHYL-					
NONANE, 2,6-DIMETHYL-					
PHOSPHORIC ACID, TRIPHENYL E					
PYRENE, 1-METHYL-					
UNDECANE					
TOTAL TENTATIVELY IDENTIFIED SEMIVOLATILES	110000	20000	110000	78000	12000

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PEI	PEI	PEI	PEI	PEI
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
DILUTION					
UNKNOWN				4000 /J	500 /J
UNKNOWN					400 /J
UNKNOWN					2000 /J
UNKNOWN					4000 /J
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN ALKANE					
UNKNOWN AROMATIC				7000 /J	
UNKNOWN AROMATIC				3000 /J	
UNKNOWN CYCLIC HYDROCARBON					
UNKNOWN CYCLIC HYDROCARBON					
UNKNOWN HYDROCARBON	20000 J/J	20000 J/J		5000 /J	3000 /J
UNKNOWN HYDROCARBON	20000 J/J			5000 /J	400 /J
UNKNOWN HYDROCARBON	20000 J/J			5000 /J	500 /J
UNKNOWN HYDROCARBON	10000 J/J			3000 /J	
UNKNOWN HYDROCARBON	10000 J/J			3000 /J	
UNKNOWN HYDROCARBON				4000 /J	
UNKNOWN HYDROCARBON				9000 /J	
UNKNOWN HYDROCARBON				5000 /J	
UNKNOWN HYDROCARBON					
UNKNOWN PAH			20000 J/J		
UNKNOWN PAH			20000 J/J		
UNKNOWN PAH			20000 J/J		
UNKNOWN PAH			10000 J/J		
UNKNOWN PAH			20000 J/J		

TENTATIVELY IDENTIFIED SEMI-VOLATILES

PHASE II SOIL ANALYSES
SEMIVOLATILE ORGANIC COMPOUNDS
WAUSAU WATER SUPPLY NPL SITE

UNITS - UG/KG

SAMPLE DESCRIPTION	TP3-9.0	TP3-9.0D	TP4-7.0	TP6-7.5	TP7-8.0
CONTRACT LABORATORY	PEI	PEI	PEI	PEI	PEI
DATE SAMPLED	07/07/88	07/06/88	07/06/88	07/06/88	07/07/88
DILUTION					
PHENOL	2200 J/J				
2-CHLOROPHENOL	2200 J/J				
1,2-DICHLOROBENZENE				210 /J	
2-METHYLPHENOL				75 /J	
4-METHYLPHENOL				830	
ISOPHORONE					
1,2,4-TRICHLOROBENZENE	1200 J/J				
NAPHTHALENE				1300	100 /J
4-CHLORO-3-METHYLPHENOL	2300 J/J				
2-METHYLNAPHTHALENE				890	110 /J
2,4,5-TRICHLOROPHENOL					
2-CHLORONAPHTHALENE				170	
DIMETHYLPHTHALATE					
ACENAPHTHYLENE					
ACENAPHTHENE		730 J/J		180 /J	
4-NITROPHENOL					
DIBENZOFURAN		160 J/J	330 J/J		34 /J
FLUORENE		400 J/J	500 J/J	140 /J	
PENTACHLOROPHENOL	32000 J/J	1100 J/J		1500 /J	1200 /J
PHENANTHRENE	3000 J/J	3200 J/J	15000 J/	1600	190 /J
ANTHRACENE	1400 J/J	2100 J/J	2200 J/J	230 /J	19 /J
DI-N-BUTYLPHTHALATE					
FLUORANTHENE	8300 J/J	10000 J/J	45000 J/	3000	460
PYRENE	8200 J/J	7700 J/J	49000 J/	2200	510
BUTYLBENZYLPHTHALATE			2300 J/J		
BENZO(A)ANTHRACENE	2300 J/J	3200 J/J	24000 J/	1100	420
CHRYSENE	2800 J/J	3800 J/J	25000 J/	1600	580
BIS(2-ETHYLHEXYL)PHTHALATE	54000 J/			2000	1800
BENZO(B)FLUORANTHENE	2000 J/J	2500 J/J	25000 J/	1300	860
BENZO(K)FLUORANTHENE	1500 J/J	2600 J/J	25000 J/	1000	740
BENZO(A)PYRENE	1800 J/J	2400 J/J	25000 J/	1000	480
INDENO(1,2,3-CD)PYRENE				880	690
DIBENZ (A,H)ANTHRACENE				280	
BENZO(G,H,I)PERYLENE			14000 J/	960	780
PESTICIDE/PCBS					
AROCLOR - 1260					
TOTAL PAHS	31300	38630	249700	17830	5939
TOTAL SEMIVOLATILES	125200	39890	252330	22445	8973
TENTATIVELY IDENTIFIED SEMI-VOLATILES					
		20000 J/J			
UNKNOWN	30000 J/J		20000 J/J	6000 /J	400 /J

M.4

FIELD GC ANALYSIS OF PHASE II SOIL SAMPLES

WAUSAU NPL SITE - PHASE 2 INVESTIGATION
SOIL HEADSPACE ANALYSES

	DEPTH (FEET)	DATE COLLECTED	TOLUENE UG /KG	1,1 DCE UG /KG	1,2 DCE UG /KG	TCE UG /KG	PCE UG /KG	BENZENE UG /KG	ETH-BENZENE UG /KG
DETECTION LIMIT			1.0	1.0	1.0	1.0	1.0	2.0	2.0
LOCATIONS									
B1-SS 2	5'	6-27-88	< 1.0	< 1.0	< 1.0	12.0	< 1.0	< 2.0	< 2.0
B1-SS 3	7.5'	6-27-88	< 1.0	< 1.0	< 1.0	11.4	< 1.0	< 2.0	< 2.0
B1-SS 4	10'	6-27-88	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
B1-SS 5	15'	6-27-88	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
B11-SS 3	8.5'	6-29-88	< 1.0	< 1.0	36.0	223	< 1.0	< 2.0	< 2.0
B12-SS 4	10'	6-29-88	< 1.0	< 1.0	27.9	627	< 1.0	< 2.0	< 2.0
B31-SS 1	4'	6-28-88	< 1.0	< 1.0	< 1.0	3.3	20.7	< 2.0	< 2.0
B32-SS 1	3'	6-28-88	< 1.0	< 1.0	< 1.0	54.3	459	< 2.0	< 2.0
TP3	9'	7-7-88	< 1.0	< 1.0	< 1.0	BMDL	BMDL	< 2.0	< 2.0

EXPLANATION

BMDL BELOW MINIMUM REPORTABLE DETECTION LIMIT
REFER TO DRAWING 13076-B50 AND 13076-B51 FOR
LOCATION OF BORINGS AND TEST PITS

WAUSAU NPL SITE - PHASE 2 INVESTIGATION
SOIL HEADSPACE ANALYSES

DETECTION LIMIT	MECL2 UG /KG 5.0	1,1 DCA UG /KG 2.0	CHCL3 UG /KG 2.0	1,2 DCA UG /KG 5.0	1,1,1 TCA UG /KG 1.0	BRCL2CH UG /KG 5.0	CLBR2CH UG /KG 25.0	BROMOFORM UG /KG 50.0	TOTAL CHLOR ETHENES UG /KG	TOTAL VOC'S UG /KG
LOCATIONS										
B1-SS 2	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	12.0	12.0
B1-SS 3	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	11.4	11.4
B1-SS 4	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	<1.0	<1.0
B1-SS 5	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	<1.0	<1.0
B11-SS 3	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	259.0	259.0
B12-SS 4	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	654.9	654.9
B31-SS 1	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	24.0	24.0
B32-SS 1	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	513.3	513.3
TP3	< 5.0	< 2.0	< 2.0	< 5.0	< 1.0	< 5.0	< 25	< 50	<1.0	<1.0

EXPLANATION

BMDL BELOW MINIMUM REPORTABLE DETECTION LIMIT
REFER TO DRAWING 13076-B50 AND 13076-B51 FOR
LOCATION OF BORINGS AND TEST PITS

APPENDIX N

SOIL GAS ANALYSIS RESULTS

N.1

PHASE I
SOIL GAS RESULTS

WAUSAU MPL RI/FS

TARGET SOIL GAS ANALYSES

LOCATIONS	TOLUENE ug/L	1,1 DCE ug/L	1,2-DCE ug/L	TCE ug/L	PCE ug/L	BENZENE ug/L	ETH-BENZENE ug/L	MECL2 ug/L	1,1DCA ug/L	CHCL3 ug/L	1,2DCA ug/L	1,1,1TCA ug/L	BRCL2CH ug/L	CLBR2CH ug/L	BROMOFORM ug/L	TOTAL CHLOR ETHENES ug/L	TOTAL VOCS ug/L
DETECTION LIMIT (ug/L)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2000	2000	1000	1000
10-13-87																	
S61																	
S62																	
S63																	
S64																	
S65																	
SB1																	
10-14-87																	
S66																	
S67																	
S68																	
S69																	
S69 DUP																	
S610																	
S611																	
S612																	
S613																	
S614																	
S615																	
S616																	
S617																	
S618																	
S619																	
S520																	
SB2																	
10-15-87																	
S621				BMDL	BMDL											BMDL	BMDL
S622					BMDL											BMDL	BMDL
S623					BMDL											BMDL	BMDL
S624					BMDL											BMDL	BMDL
S625					BMDL											BMDL	BMDL
S626					BMDL											BMDL	BMDL
S627					BMDL											BMDL	BMDL
S628					BMDL											BMDL	BMDL
SB3 (1)					BMDL											BMDL	BMDL
S629																	
S630																	
S631																	
S632																	
S633																	
S633																	
S634				BMDL													
S635																BMDL	BMDL
S636																	
10-16-87																	
S621REPEAT																	
S621REPEAT																	
S625REPEAT																	
S637																	
S637DUP																	
SB04																	

WAUSAU NPL RI/FS

TARGET SOIL GAS ANALYSES

	TOLUENE ng/L	1,1 DCE ng/L	1,2-DCE ng/L	TCE ng/L	PCE ng/L	BENZENE ng/L	ETH-BENZENE ng/L	MECL2 ng/L	1,1DCA ng/L	CHCL3 ng/L	1,2DCA ng/L	1,1,1TCA ng/L	BRCL2CH ng/L	CLBR2CH ng/L	BROMOFORM ng/L	TOTAL CHLOR ETHENES ng/L	TOTAL VOCS ng/L
DETECTION LIMIT (ng/L)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2000	2000	1000	1000
LOCATIONS																	
S638																	
S639						BMDL											
S640						BMDL											BMDL
S641																	BMDL
S642																	
S643						BMDL											BMDL
S644																	
S645																	
S646																	
S647																	
S648																	
S649												BMDL					
10-19-87																	
S650				BMDL													
S651																	
S652																	
S653																	
S654																	
S655																	
S656																	
10-20-87																	
S657	OVERANGE ESTIMATED VALUE		BMDL	244000	4080000							2580				4324000	4324000
	S658-S663 WERE RERUN DUE TO CARRY OVER CONTAMINATION FROM S657																
SB05	GROSS PCE CONTAMINATION																
10-21-87																	
S658REP																	
S659REP																	
S660REP																	
S661REP																	
S662REP						BMDL											BMDL
S663REP																	
S663DUPREP																	
S664					5300											5300	5300
S665					BMDL											BMDL	BMDL
S666																	
S667																	
SB06					BMDL											BMDL	BMDL
S668																	
S669																	
S670	1244																
S671																	1244
S672																	
S673					BMDL											BMDL	BMDL
S674					2340											2340	2340
S674DUP					3000											3000	3000
SB07++					BMDL											BMDL	BMDL
10-22-87																	
S675					BMDL											BMDL	BMDL
S676					BMDL											BMDL	BMDL
S677				BMDL	1294							BMDL				1294	1294
S677DUP				BMDL	1324								BMDL			1324	1324

MAUSAU NPL RI/FS

TARGET SOIL GAS ANALYSES

	TOLUENE ug/L	1,1 DCE ug/L	1,2-DCE ug/L	TCE ug/L	PCE ug/L	BENZENE ug/L	ETH-BENZENE ug/L	MECL2 ug/L	1,1DCA ug/L	CHCL3 ug/L	1,2DCA ug/L	1,1,1TCA ug/L	BRCL2CH ug/L	CLBR2CH ug/L	BROMOFORM ug/L	TOTAL CHLOR ETHENES ug/L	TOTAL VOCS ug/L
DETECTION LIMIT (ug/L)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2000	2000	1000	1000
LOCATIONS																	
S678																	
S679																	
S680																	
S681					BMDL											BMDL	BMDL
S682					BMDL											BMDL	BMDL
S683																	
S684																	
S685																	
S808																	
10-23-87																	
S686					BMDL											BMDL	BMDL
S687					BMDL											BMDL	BMDL
S688		BMDL			1606											1606	1606
S689																	
S690																	
S691																	
S692					6320							BMDL				6320	6320
S693					4600											4600	4600
S693DUP					3940											3940	3940
S694					5280											5280	5280
S695					12960											12960	12960
S696					8440											8440	8440
S809					BMDL											BMDL	BMDL
S697					BMDL											BMDL	BMDL
S698					BMDL											BMDL	BMDL
S699					2660											2660	2660
10-26-87																	
S6100					BMDL											BMDL	BMDL
S6101				1004												1004	1004
S6102																	
S6103				BMDL												BMDL	BMDL
10-27-87																	
S6104																	
S6105				82000	BMDL											82000	82000
S6106				BMDL												BMDL	BMDL
S6107																	
S6107DUP																	
S810																	
S6108																	
S6109																	
10-28-87																	
S6110																	
S6111																	
S6112																	
S6113	5260																
S6113DUP	6120																6120
S6114																	
S6115				BMDL												BMDL	BMDL
S811																	
S6116																	
S6117																	

MAUSAU MPL RI/FS

TARGET SOIL GAS ANALYSES

	TOLUENE ug/L	1,1 DCE ug/L	1,2-DCE ug/L	TCE ug/L	PCE ug/L	BENZENE ug/L	ETH-BENZENE ug/L	MECL2 ug/L	1,1DCA ug/L	CHCL3 ug/L	1,2DCA ug/L	1,1,1TCA ug/L	BRCL2CH ug/L	CLBR2CH ug/L	BROMOFORM ug/L	TOTAL CHLOR ETHENES ug/L	TOTAL VOCS ug/L
DETECTION LIMIT (ng/L)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2000	2000	1000	1000
LOCATIONS																	
SB118					8060											8060	8060
**********																BMDL	BMDL
SB119					BMDL											BMDL	BMDL
SB120					BMDL											7120	9180
SB121	2060		1320	5800												4880	4880
SB122				4880												2260	2260
SB123				2260													
**********																	
10-29-87																	
SB124				12640												12640	12640
SB125			BMDL	63600	BMDL											63600	63600
SB126				BMDL	BMDL											BMDL	BMDL
**********																37600	37600
SB127				BMDL	37600											8240	8240
SB128				BMDL	8240											BMDL	BMDL
SB					BMDL											50600	50600
SB129				11000	39600											28100	28100
SB129 DUP@				3900	24200												
**********																BMDL	BMDL
SB130					BMDL											BMDL	BMDL
SB131					BMDL												
11-10-87																	
SB132																	
**********																	
SB133																	
SB134							3580										3580
SB135																BMDL	BMDL
SB136				BMDL								BMDL					BMDL
SB137																	
**********																	
SB138																BMDL	BMDL
SB139					BMDL											BMDL	BMDL
SB140				BMDL												65800	65800
SB141				65800	BMDL							<BMDL				11000	11000
SB142				11000	BMDL												
**********																BMDL	BMDL
SB143				BMDL													
SB143DUP																	
11-11-87																	
SB144																	
**********																	
SB144DUP												BMDL					BMDL
SB145																	
SB146																BMDL	BMDL
SB147					BMDL												
SB148																	
**********																	
SB149																	
SB150	COULD NOT DRIVE SOIL GAS PROBE																
SB151																	

NOTES
* SB16, SB18, SB19 CONTAINED UNIDENTIFIED COMPOUND PEAK IN PID CHROMATOGRAM
BMDL BELOW MINIMUM REPORTABLE DETECTION LIMIT
++ SB07 RAN USING BOMB FROM SB37
@ DILUTED 1:50
SB21,SB22,SB23,SB24,SB25,SB26,SB27,SB28,SB3 CONTAIN PCE CARRY OVER FROM WATER SAMPLE ANALYZED EARLIER ON SAME DAY

N.2

PHASE II
SOIL GAS SAMPLES OBTAINED
DURING DRILLING

WAUSAU NPL RI/FS

TARGET SOIL GAS ANALYSES

LOCATIONS	DEPTH FEET	TOLUENE NG /L	1,1-DCE NG /L	1,2-DCE NG /L	TCE NG /L	PCE NG /L	BENZENE NG /L	ETH-BENZENE NG /L
DETECTION LIMIT		1000	1000	1000	1000	1000	1000	1000
SB01		< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG-B1	5'	< 1000	< 1000	< 1000	7600	< 1000	< 1000	< 1000
SB-B1	16'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B2	5'	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG-B2	15.5'	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG-B3	5'	< 1000	< 1000	< 1000	57200	BMDL	< 1000	< 1000
SG-B3	10.5'	< 1000	< 1000	< 1000	90000	BMDL	< 1000	< 1000
SG-B3	20.5'	< 1000	< 1000	< 1000	82800	< 1000	< 1000	< 1000
SG-B4	5'	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG-B5	5.5'	< 1000	< 1000	< 1000	1680*	< 1000	< 1000	< 1000
SG-B5 DUP	5.5'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B5	10.5'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B5	20.5'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B6	5.5'	< 1000	< 1000	< 1000	5260	< 1000	< 1000	< 1000
SG-B6	15.5'	< 1000	< 1000	< 1000	21800	< 1000	< 1000	< 1000
SG-B7	6.5'	< 1000	< 1000	1550	43400	< 1000	< 1000	< 1000
SG-B7	10.5'	< 1000	< 1000	1060	37400	< 1000	< 1000	< 1000
SG-B8	5.5'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B9	5'	< 1000	< 1000	< 1000	1640	< 1000	< 1000	< 1000
SG-B10	5'	< 1000	< 1000	< 1000	21000	< 1000	< 1000	< 1000
SG-B10	10'	< 1000	< 1000	< 1000	21600	< 1000	< 1000	< 1000
SG-B10	20'	< 1000	< 1000	< 1000	27600	< 1000	< 1000	< 1000
SG-B11	5'	< 1000	< 1000	65800	96000	BMDL	< 1000	< 1000
SG-B11	10'	< 1000	< 1000	8200	59200	BMDL	< 1000	< 1000
SG-B11	20'	< 1000	< 1000	4400	84800	BMDL	< 1000	< 1000
SG-B12	5.5'	< 1000	< 1000	5200	118200	1500	< 1000	< 1000
SG-B12	10.5'	< 1000	< 1000	3600	115000	3060	< 1000	< 1000
SG-B13	5'	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-B13	10'	< 1000	< 1000	BMDL	44600	< 1000	< 1000	< 1000
SG-B14	10'	< 1000	10100	< 1000	4060	< 1000	2900	< 1000
SG-B14	20'	< 1000	< 1000	< 1000	3640	< 1000	2320	< 1000
SG-B15	20'	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000
SG-B15 DUP	20'	< 1000	< 1000	< 1000	BMDL	1300	< 1000	< 1000
SG-B16	10.5'	< 1000	< 1000	< 1000	2880	< 1000	< 1000	< 1000
SG-B16	20.5'	< 1000	< 1000	< 1000	11020	< 1000	< 1000	< 1000
SG-B17	5'	< 1000	< 1000	< 1000	BMDL	141000	< 1000	< 1000
SG-B17	10'	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG-B18	5.5'	< 1000	< 1000	< 1000	BMDL	159000	< 1000	< 1000
SG-B18 DUP	5.5'	< 1000	< 1000	< 1000	BMDL	210000	< 1000	< 1000
SG-B18	10'	< 1000	< 1000	< 1000	< 1000	162400	< 1000	< 1000
SG-B19	5'	< 1000	< 1000	8000	2800	146800	< 1000	< 1000
SG-B19	10'	< 1000	< 1000	4600	1280	99200	< 1000	< 1000
SG-B19	16'	< 1000	< 1000	< 1000	1780	1160	< 1000	< 1000

WAUSAU NPL RI/FS

TARGET SOIL GAS ANALYSES

LOCATIONS	MECL2 NG /L	1,1-DCA NG /L	CHCL3 NG /L	1,2-DCA NG /L	1,1,1-TCA NG /L	BRCL2CH NG /L	CLBR2CH NG /L	BROMOFORM NG /L	TOTAL CHLOR ETHENES NG /L	TOTAL VOCS NG /L
DETECTION LIMIT	1000	1000	1000	1000	1000	1000	2000	2000		
SB01	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B1	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	7600	7600
SB-B1	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B3	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	57200	57200
SG-B3	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	90000	90000
SG-B3	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	82800	82800
SG-B4	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B5	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B5 DUP	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B5	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B5	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B6	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B6	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B7	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1550	1550
SG-B7	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1060	1060
SG-B8	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B9	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1640	1640
SG-B10	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	21000	21000
SG-B10	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	21600	21600
SG-B10	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	27600	27600
SG-B11	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	161800	161800
SG-B11	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	67400	67400
SG-B11	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	89200	89200
SG-B12	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	124900	124900
SG-B12	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	121660	121660
SG-B13	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B13	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	44600	44600
SG-B14	< 1000	< 1000	< 1000	< 1000	86600	< 1000	< 2000	< 2000	14160	103660
SG-B14	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	3640	5960
SG-B15	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	0	0
SG-B15 DUP	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	0	0
SG-B16	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	2880	2880
SG-B16	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	11020	11020
SG-B17	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	141000	141000
SG-B17	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-B18	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 2000	< 2000	159000	159000
SG-B18 DUP	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 2000	< 2000	210000	210000
SG-B18	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	162400	162400
SG-B19	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	157600	157600
SG-B19	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	105080	105080
SG-B19	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	2940	2940

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TARGET SOIL GAS ANALYSES

		TOLUENE	1,1-DCE	1,2-DCE	TCE	PCE	BENZENE	ETH-BENZENE
		NG /L	NG /L	NG /L	NG /L	NG /L	NG /L	NG /L
DETECTION LIMIT	DEPTH FEET	1000	1000	1000	1000	1000	1000	1000
LOCATIONS								
SG-B20	5'	< 1000	< 1000	< 1000	< 1000	7900	< 1000	< 1000
SG-B20	10'	< 1000	< 1000	< 1000	< 1000	64800	< 1000	< 1000
SG-B21	5'	< 1000	< 1000	< 1000	4200	47400	< 1000	< 1000
SG-B22	5'	< 1000	BMDL	54600	71400	252000	< 1000	< 1000
SG-B22	15'	< 1000	< 1000	2800	6800	110200	< 1000	< 1000
SG-B23	5.5'	< 1000	< 1000	BMDL	12000	67000	< 1000	< 1000
SG-B23	10.5'	< 1000	< 1000	5400	90400	154000	< 1000	< 1000
SG-B26	5'	< 1000	< 1000	BMDL	73400	BMDL	< 1000	< 1000
SG-B26	10'	< 1000	< 1000	1140	80000	BMDL	< 1000	< 1000
SG-B27	5.5'	< 1000	< 1000	< 1000	1220	157600	< 1000	< 1000
SG-B27	10.5'	< 1000	< 1000	< 1000	BMDL	124200	< 1000	< 1000
SG-B28	10'	< 1000	< 1000	< 1000	3660	17400	< 1000	< 1000
SG-B29	13'	< 1000	< 1000	< 1000	2800	BMDL	< 1000	< 1000
SB-B30	10'	< 1000	< 1000	< 1000	1320	BMDL	< 1000	< 1000
SG-SB-02		< 1000	< 1000	< 1000	2280	< 1000	< 1000	< 1000
SG-SB-03		< 1000	< 1000	< 1000	1140	< 1000	< 1000	< 1000
SG SB-04		< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG-SB-05		< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000
SG SB-06		< 1000	< 1000	< 1000	< 1000	7600	< 1000	< 1000
SG SB-07		< 1000	< 1000	< 1000	BMDL	BMDL	< 1000	< 1000

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TARGET SOIL GAS ANALYSES

	MECL2 NG /L	1,1-DCA NG /L	CHCL3 NG /L	1,2-DCA NG /L	1,1,1-TCA NG /L	BRCL2CH NG /L	CLBR2CH NG /L	BROMOFORM NG /L	TOTAL CHLOR ETHENES NG /L	TOTAL VOCS NG /L
DETECTION LIMIT	1000	1000	1000	1000	1000	1000	2000	2000		
LOCATIONS										
SG-B20	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	7900	7900
SG-B20	< 1000	< 1000	< 1000	< 1000	2240	< 1000	< 2000	< 2000	64800	67040
SG-B21	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	51600	51600
SG-B22	< 1000	< 1000	< 1000	8400	15600	< 1000	< 2000	< 2000	378000	402000
SG-B22	< 1000	< 1000	< 1000	4800	2400	< 1000	< 2000	< 2000	119800	127000
SG-B23	< 1000	< 1000	< 1000	< 1000	1540	< 1000	< 2000	< 2000	79000	80540
SG-B23	< 1000	< 1000	< 1000	< 1000	5600	< 1000	< 2000	< 2000	249800	255400
SG-B26	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	73400	73400
SG-B26	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	81140	81140
SG-B27	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	158820	158820
SG-B27	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	124200	124200
SG-B28	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	17400	17400
SG-B29	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	2800	2800
SB-B30	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1320	1320
SG-SB-02	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	2280	2280
SG-SB-03	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	1140	1140
SG SB-04	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG-SB-05	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	0	0
SG SB-06	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	7600	7600
SG SB-07	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	0	0

N.3

SOIL GAS EXTRACTION TEST RESULTS

WAUSAU NPL RI/FS

SOIL GAS EXTRACTION TEST

LOCATIONS	DATE	TIME	TOLUENE NG /L	1,1-DCE NG /L	1,2-DCE NG /L	TCE NG /L	PCE NG /L	BENZENE NG /L	ETH-BENZENE NG /L
DETECTION LIMIT			1000	1000	1000	1000	1000	1000	1000
SG-B3D	7-5-88	1304	< 1000	< 1000	< 1000	73400	< 1000	< 1000	< 1000
SG-B3D-2	7-6-88	740	< 1000	< 1000	< 1000	80200	BMDL	< 1000	< 1000
SG-B3S	7-5-88	1304	< 1000	< 1000	< 1000	68400	BMDL	< 1000	< 1000
SG-B3S-2	7-6-88	740	< 1000	< 1000	< 1000	1260	< 1000	< 1000	< 1000
SG-B6D	7-5-88	1340	< 1000	< 1000	1560	32600	< 1000	< 1000	< 1000
SG-B6D-2	7-6-88	800	< 1000	< 1000	< 1000	24800	BMDL	< 1000	< 1000
SG-B6S	7-5-88	1345	< 1000	< 1000	BMDL	22600	< 1000	< 1000	< 1000
SG-B6S-2	7-6-88	800	< 1000	< 1000	BMDL	19520	BMDL	< 1000	< 1000
SG-B9	7-5-88	1405	< 1000	< 1000	< 1000	8600	BMDL	< 1000	< 1000
SG-B9 DUP	7-5-88	1405	< 1000	< 1000	< 1000	5600	< 1000	< 1000	< 1000
SG-B9-2	7-6-88	836	< 1000	< 1000	< 1000	3360	< 1000	< 1000	< 1000
SG-B10	7-5-88	1325	< 1000	< 1000	< 1000	39200	< 1000	< 1000	< 1000
SG-B10-2	7-6-88	824	< 1000	< 1000	< 1000	21600	< 1000	< 1000	< 1000
SG-B11	7-5-88	1415	< 1000	< 1000	5400	57200	< 1000	< 1000	< 1000
SG-B11-2	7-5-88	1550	< 1000	< 1000	5200	69800	BMDL	< 1000	< 1000
SG-B11-3	7-5-88	1650	< 1000	< 1000	7000	81000	5800	< 1000	< 1000
SG-B11-4	7-5-88	1800	< 1000	< 1000	7200	88600	1400	< 1000	< 1000
SG-B11-5	7-6-88	722	< 1000	< 1000	7560	101800	BMDL	< 1000	< 1000
SG-B11-6	7-6-88	920	< 1000	< 1000	7980	106000	2600	< 1000	< 1000
SG-B11-6 DUP	7-6-88	920	< 1000	< 1000	7600	107200	2080	< 1000	< 1000
SG-B12	7-5-88	1238	< 1000	< 1000	4400	100800	1820	< 1000	< 1000
SG-B12-2	7-6-88	902	< 1000	< 1000	6960	116000	1940	< 1000	< 1000
SG-B22-1	7-6-88	1140	< 1000	< 1000	1780	3900	53400	< 1000	< 1000
SG-B22-2	7-6-88	1755	< 1000	< 1000	1380	2320	58400	< 1000	< 1000
SG-B23-1	7-6-88	1125	< 1000	< 1000	BMDL	11240	27200	< 1000	< 1000
SG-B23-2	7-6-88	1805	< 1000	< 1000	< 1000	860*	4120	< 1000	< 1000
SG-B24-1	7-6-88	1105	< 1000	< 1000	4440	17000	146800	< 1000	< 1000
SG-B24-2	7-6-88	1807	< 1000	< 1000	43000	13520	145600	< 1000	< 1000
SG-B24-2 DUP	7-6-88	1867	< 1000	< 1000	43400	15120	146800	< 1000	< 1000
SG-B25-1	7-6-88	1149	< 1000	< 1000	BMDL	39200	102000	< 1000	< 1000
SG-B25-2	7-6-88	1345	6000	< 1000	1580	71400	155800	< 1000	< 1000
SG-B25-3	7-6-88	1508	6320	< 1000	1320	59000	146800	< 1000	< 1000
SG-B25-4	7-6-88	1845	11380	< 1000	1120	50000	140400	< 1000	< 1000
SG-B26	7-5-88	1205	< 1000	< 1000	1920	95200	1160	< 1000	< 1000
SG-B26-2	7-6-88	849	< 1000	< 1000	2460	107800	3560	< 1000	< 1000
SG FIELD BLANK 1	7-5-88	1415	< 1000	< 1000	< 1000	4120	< 1000	< 1000	< 1000
SG FIELD BLANK-2	7-5-88	1700	< 1000	< 1000	< 1000	6800	< 1000	< 1000	< 1000
SG FIELD BLANK 3	7-5-88	1915	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG FIELD BLANK 4	7-6-88	935	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000
SG FIELD BLANK 5	7-6-88	1830	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000

NOTES:

BMDL BELOW MINIMUM DETECTION LIMIT

REFER TO DRAWING 13076-B50 AND 13076-B51 FOR SOIL GAS SAMPLING PROBE LOCATION

WAUSAU NPL RI/FS

SOIL GAS EXTRACTION TEST

	MECL2 NG /L	1,1-DCA NG /L	CHCL3 NG /L	1,2-DCA NG /L	1,1,1-TCA NG /L	BRCL2CH NG /L	CLBR2CH NG /L	BROMOFORM NG /L	TOTAL CHLOR ETHENES NG /L	TOTAL VOCS NG /L
DETECTION LIMIT	1000	1000	1000	1000	1000	1000	2000	2000		
LOCATIONS										
SG-B3D	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	73400	73400
SG-B3D-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	80200	80200
SG-B3S	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	68400	68400
SG-B3S-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1260	1260
SG-B6D	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	34160	34160
SG-B6D-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	24800	24800
SG-B6S	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	22600	22600
SG-B6S-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	19520	19520
SG-B9	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	8600	8600
SG-B9 DUP	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	5600	5600
SG-B9-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	3360	3360
SG-B10	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	39200	39200
SG-B10-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	21600	21600
SG-B11	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	62600	62600
SG-B11-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	75000	75000
SG-B11-3	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	93800	93800
SG-B11-4	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	97200	97200
SG-B11-5	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	109360	109360
SG-B11-6	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	116580	116580
SG-B11-6 DU	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	116880	116880
SG-B12	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	107020	107020
SG-B12-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	124900	124900
SG-B22-1	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	59080	59080
SG-B22-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	62100	62100
SG-B23-1	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	38440	38440
SG-B23-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	4120	4120
SG-B24-1	< 1000	< 1000	< 1000	< 1000	1280	< 1000	< 2000	< 2000	168240	169520
SG-B24-2	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	202120	202120
SG-B24-2 DU	< 1000	< 1000	< 1000	< 1000	1360	< 1000	< 2000	< 2000	205320	206680
SG-B25-1	< 1000	< 1000	< 1000	< 1000	1900	< 1000	< 2000	< 2000	141200	143100
SG-B25-2	< 1000	< 1000	< 1000	< 1000	2280	< 1000	< 2000	< 2000	228780	237060
SG-B25-3	< 1000	< 1000	< 1000	< 1000	1820	< 1000	< 2000	< 2000	207120	215260
SG-B25-4	< 1000	< 1000	< 1000	< 1000	1480	< 1000	< 2000	< 2000	191520	204380
SG-B26	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	98280	98280
SG-B26-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	113820	113820
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	4120	4120
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	6800	6800
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000

NOTES:
BMDL BELOW MINIMUM DETECTION LIMIT
REFER TO DRAWING 13076-B50 AND 13076-B51 FOR SOIL GAS SAMPLING PROBE LOCATION

WAUSAU NPL RI/FS

SOIL GAS EXTRACTION TEST

DETECTION LIMIT	DATE	TIME	TOLUENE NG /L 1000	1,1-DCE NG /L 1000	1,2-DCE NG /L 1000	TCE NG /L 1000	PCE NG /L 1000	BENZENE NG /L 1000	ETH-BENZENE NG /L 1000
LOCATIONS									
SG-B3D	7-5-88	1304	< 1000	< 1000	< 1000	73400	< 1000	< 1000	< 1000
SG-B3D-2	7-6-88	740	< 1000	< 1000	< 1000	80200	BMDL	< 1000	< 1000
SG-B3S	7-5-88	1304	< 1000	< 1000	< 1000	68400	BMDL	< 1000	< 1000
SG-B3S-2	7-6-88	740	< 1000	< 1000	< 1000	1260	< 1000	< 1000	< 1000
SG-B6D	7-5-88	1340	< 1000	< 1000	1560	32600	< 1000	< 1000	< 1000
SG-B6D-2	7-6-88	800	< 1000	< 1000	< 1000	24800	BMDL	< 1000	< 1000
SG-B6S	7-5-88	1345	< 1000	< 1000	BMDL	22600	< 1000	< 1000	< 1000
SG-B6S-2	7-6-88	800	< 1000	< 1000	BMDL	19520	BMDL	< 1000	< 1000
SG-B9	7-5-88	1405	< 1000	< 1000	< 1000	8600	BMDL	< 1000	< 1000
SG-B9 DUP	7-5-88	1405	< 1000	< 1000	< 1000	5600	< 1000	< 1000	< 1000
SG-B9-2	7-6-88	836	< 1000	< 1000	< 1000	3360	< 1000	< 1000	< 1000
SG-B10	7-5-88	1325	< 1000	< 1000	< 1000	39200	< 1000	< 1000	< 1000
SG-B10-2	7-6-88	824	< 1000	< 1000	< 1000	21600	< 1000	< 1000	< 1000
SG-B11	7-5-88	1415	< 1000	< 1000	5400	57200	< 1000	< 1000	< 1000
SG-B11-2	7-5-88	1550	< 1000	< 1000	5200	69800	BMDL	< 1000	< 1000
SG-B11-3	7-5-88	1650	< 1000	< 1000	7000	81000	5800	< 1000	< 1000
SG-B11-4	7-5-88	1800	< 1000	< 1000	7200	88600	1400	< 1000	< 1000
SG-B11-5	7-6-88	722	< 1000	< 1000	7560	101800	BMDL	< 1000	< 1000
SG-B11-6	7-6-88	920	< 1000	< 1000	7980	106000	2600	< 1000	< 1000
SG-B11-6 DUP	7-6-88	920	< 1000	< 1000	7600	107200	2080	< 1000	< 1000
SG-B12	7-5-88	1238	< 1000	< 1000	4400	100800	1820	< 1000	< 1000
SG-B12-2	7-6-88	902	< 1000	< 1000	6960	116000	1940	< 1000	< 1000
SG-B22-1	7-6-88	1140	< 1000	< 1000	1780	3900	53400	< 1000	< 1000
SG-B22-2	7-6-88	1755	< 1000	< 1000	1380	2320	58400	< 1000	< 1000
SG-B23-1	7-6-88	1125	< 1000	< 1000	BMDL	11240	27200	< 1000	< 1000
SG-B23-2	7-6-88	1805	< 1000	< 1000	< 1000	860*	4120	< 1000	< 1000
SG-B24-1	7-6-88	1105	< 1000	< 1000	4440	17000	146800	< 1000	< 1000
SG-B24-2	7-6-88	1807	< 1000	< 1000	43000	13520	145600	< 1000	< 1000
SG-B24-2 DUP	7-6-88	1867	< 1000	< 1000	43400	15120	146800	< 1000	< 1000
SG-B25-1	7-6-88	1149	< 1000	< 1000	BMDL	39200	102000	< 1000	< 1000
SG-B25-2	7-6-88	1345	6000	< 1000	1580	71400	155800	< 1000	< 1000
SG-B25-3	7-6-88	1508	6320	< 1000	1320	59000	146800	< 1000	< 1000
SG-B25-4	7-6-88	1845	11380	< 1000	1120	50000	140400	< 1000	< 1000
SG-B26	7-5-88	1205	< 1000	< 1000	1920	95200	1160	< 1000	< 1000
SG-B26-2	7-6-88	849	< 1000	< 1000	2460	107800	3560	< 1000	< 1000
SG FIELD BLANK 1	7-5-88	1415	< 1000	< 1000	< 1000	4120	< 1000	< 1000	< 1000
SG FIELD BLANK-2	7-5-88	1700	< 1000	< 1000	< 1000	6800	< 1000	< 1000	< 1000
SG FIELD BLANK 3	7-5-88	1915	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000	< 1000
SG FIELD BLANK 4	7-6-88	935	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000
SG FIELD BLANK 5	7-6-88	1830	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 1000

NOTES:

BMDL BELOW MINIMUM DETECTION LIMIT

WAUSAU NPL RI/FS

SOIL GAS EXTRACTION TEST

	MECL2 NG /L	1,1-DCA NG /L	CHCL3 NG /L	1,2-DCA NG /L	1,1,1-TCA NG /L	BRCL2CH NG /L	CLBR2CH NG /L	BROMOFORM NG /L	TOTAL CHLOR ETHENES NG /L	TOTAL VOCS NG /L
DETECTION LIMIT	1000	1000	1000	1000	1000	1000	2000	2000		
LOCATIONS										
SG-B3D	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	73400	73400
SG-B3D-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	80200	80200
SG-B3S	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	68400	68400
SG-B3S-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	1260	1260
SG-B6D	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	34160	34160
SG-B6D-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	24800	24800
SG-B6S	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	22600	22600
SG-B6S-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	19520	19520
SG-B9	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	8600	8600
SG-B9 DUP	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	5600	5600
SG-B9-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	3360	3360
SG-B10	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	39200	39200
SG-B10-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	21600	21600
SG-B11	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	62600	62600
SG-B11-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	75000	75000
SG-B11-3	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	93800	93800
SG-B11-4	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	97200	97200
SG-B11-5	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	109360	109360
SG-B11-6	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	116580	116580
SG-B11-6 DU	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	116880	116880
SG-B12	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	107020	107020
SG-B12-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	124900	124900
SG-B22-1	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	59080	59080
SG-B22-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	62100	62100
SG-B23-1	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	38440	38440
SG-B23-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	4120	4120
SG-B24-1	< 1000	< 1000	< 1000	< 1000	1280	< 1000	< 2000	< 2000	168240	169520
SG-B24-2	< 1000	< 1000	< 1000	< 1000	BMDL	< 1000	< 2000	< 2000	202120	202120
SG-B24-2 DU	< 1000	< 1000	< 1000	< 1000	1360	< 1000	< 2000	< 2000	205320	206680
SG-B25-1	< 1000	< 1000	< 1000	< 1000	1900	< 1000	< 2000	< 2000	141200	143100
SG-B25-2	< 1000	< 1000	< 1000	< 1000	2280	< 1000	< 2000	< 2000	228780	237060
SG-B25-3	< 1000	< 1000	< 1000	< 1000	1820	< 1000	< 2000	< 2000	207120	215260
SG-B25-4	< 1000	< 1000	< 1000	< 1000	1480	< 1000	< 2000	< 2000	191520	204380
SG-B26	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	98280	98280
SG-B26-2	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	113820	113820
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	4120	4120
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	6800	6800
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000
SG FIELD BL	< 1000	< 1000	< 1000	< 1000	< 1000	< 1000	< 2000	< 2000	<1000	<1000

NOTES:

BMDL BELOW MINIMUM DETECTION LIMIT

APPENDIX O

MASS CALCULATIONS

UNSATURATED ZONE MASS ESTIMATES
WAUSAU CHEMICAL

South Source Area

Assume: Maximum observed PCE concentration 1000 ug/kg (Refer to Appendix M boring B24) is evely distributed throughout unsaturated zone soils contained within th 5 ug/L soil gas concentration contour (Drawing 13076-B20, Tech memo).

Mass (lbs) = conc. $\left(\frac{ug}{kg}\right)$ x Volume soils (ft^3) x Density $\left(\frac{lbs}{ft^3}\right)$ x Conversion $\left(1 \times 10^{-9} \frac{kg}{ug}\right)$

Maximum PCE concentration = 1000 ug/kg (Boring B24)

Volume = (Area x Depth) = 121,850 ft^2 x 12 ft = 1,462,150 ft^3

Depth to Water = 12 ft (Boring B24)

Soil Density = 120 lbs/ft^3 (Typical value)

Mass = $\left(1000 \frac{ug}{kg}\right)$ x (1,462, 150 ft^3) x $\left(120 \frac{lbs}{ft^3}\right)$ x $\left(1 \times 10^{-9} \frac{kg}{ug}\right)$ = 175 lbs

∴ A maximum of 175 lbs of PCE is estimated within unsaturated zone soils at the former bulk solvent storage area.

NORTHWEST LOADING DOCK

Assume: maxiumum observed PCE concentration of 3500 ug/kg (refer to Appendix M Boring B18) is evely distributed throughout the unsaturated zone soils contained within a 100 ft x 150 ft area.

Area = 100 ft x 150 ft (Based on maximum area between B17, B18 and B19)

Maximum concentration = 3500 ug/kg (Boring B18)

Depth to water = 12 ft (Boring B18)

Mass = $\left(3500 \frac{ug}{kg}\right)$ x (15,000 ft^2 x 13 ft) x (120 lbs/ft^3) x $\left(1 \times 10^{-9} \frac{kg}{ug}\right)$ = 81.9 lbs

∴ A maximum of 82 lbs of PCE is estimated within unsaturated zone soils in the vicinity of the northwest loading dock

CSR/ckb/MAO
[ckb-400-96]

VAPOR PHASE MASS ESTIMATES

Vapor Phase Mass = Conc (ug/l) x Volume soils (ft^3) x Porosity x conversion

Wausau Chemical South Source (PCE)

Assume: Maximum concentration observed during Phase II Gas Extraction Test (Appendix N) is distributed evenly throughout the area contained within the 5 ug/l soil gas contour (Drawing 13076-B20, Tech Memo)

Vapor Mass = (228.8 ug/l) x (121,850 ft^2 x 12 ft) x (.35) x $\left(28.33 \frac{L}{ft^3}\right)$ x $\left(\frac{1\ lb}{4.53 \times 108\ ug}\right)$ = 7.32 lbs

Area determined by digitizing the 5 ug/l soil gas contour (Drawing 13076-B20 Tech Memo)

Note: Available porosity assumes that no liquid is contained in pores.
(i.e.: only gas saturated)

North Source (PCE)

Vapor Mass = (210 ug/l) x (15,000 ft^2 x 13 ft) x (.35) x $\left(\frac{28.33\ L}{ft^3}\right)$ $\left(\frac{1\ lb}{4.53 \times 108\ ug}\right)$ = 0.90

Note: Available porosity assumes that no liquid is contained is soil pores.
(i.e: only gas saturated)

Area estimated based on dimensions of 100 x 150, between borings B18, B19 and B27.

Landfill (TCE)

Assume: Maximum concentration observed during the Phase II Gas Extraction Test (Appendix N) is distributed evenly throughout the area contained within the 10 ug/l soil gas contour (Drawing 13076-B19, Tech Memo) Also assumes that all porosity is gas filled (i.e: no liquids)

Area = 13740 ft^2 (From digitizing area within 10 ug/l soil gas contour)

Depth to Water = 30 ft (well W53A)

Mass Vapor of TCE = (116.9 ug/l) x 13,740 ft^2 x 30 ft) x (.35) x $\left(\frac{28.33\ l}{ft^3}\right)$ x $\left(\frac{1\ lb}{4.53 \times 10^8\ ug}\right)$ = 1.05 lbs

Note: Available porosity assumes that no liquid is contained in pores.
(i.e: only gas saturated).

CSR/ckb/MAO
[ckb-400-96]

CONTAINMENT TRASPORT
RETARDATION FACTOR ESTIMATES

Determine Retardation Factor

$$Rd = 1 + \left(\frac{pb}{n}\right) Kd \qquad (1)$$

where Rd = retardation factor (dimensionless)
Pb = bulk density of soil (g/cm^3) Assume: 1.8 g/cm^3
n = effective porosity = 0.3
Kd = distribution coefficient (ml/g)

1. Determine Kd from Koc for contaminant compounds

$$Kd = Koc \left(\frac{Oc}{100}\right)$$

Assume Oc = West 230 mg/kg (See Appendix M)
= .023%

Where Koc = Organic Carbon Partition Coef (ml/g)
Oc = Organic carbon content of soil (%)

Oc East = 690 mg/kg (See Appendix M)
.069%

2. Determine Rd using eqn. (1)

Group	Contaminant	Koc* (ml/g)	Kd (ml/g)	Rd	Wellfield
Ethenes	PCE	364	.084	1.50	(West)
	PCE	364	.251	2.50	(East)
	TCE	126	.087	1.52	(East)
	TCE	126	.029	1.17	(West)
	1,2 DCE (trans)	59	.014	1.08	(West)
	1,2 DCE (trans)	59	.041	1.24	(East)
BETX	Benzene	83	.019	1.11	(West)
		83	.057	1.34	(East)
	Xylene (mixed)	240	.055	1.33	(West)
		240	.166	1.99	(East)
Ethanes	1,1,1 TCA	152	.105	1.63	(East)
	1,1,1 TCA	152	.035	1.21	(West)
	1,1,2 TCA	56	.012	1.07	(West)
Other	Carbon Tetrachloride	110	.025	1.15	(West)

CSR/ckb/SWR
[ckb-400-96]

Calculation of mass of TCE within the unsaturated zone at the abandoned landfill.

1) Contour plan view of maximum unsaturated soil/landfill residue concentrations assuming uniform contaminant distribution within the fill materials (Cmax map).

2) Contour plan view of fill thickness (Landfill Thickness map, Figure 11).

3) Digitize thickness and Cmax maps. Replot using contouring package to determine adequacy of digitizing.

4) Grid each map using the Plot 88 contour Package using the same window and grid spacing.

5) Obtain ASCII File and translate into spreadsheet.

6) Compute Mass/Area according to the following equation:

$$\text{Mass/Area} = \text{Concentration (ug/kg)} \times \text{Conversion} \times \text{thickness (ft)} \times \text{Area (ft}^2\text{)} \times \text{Density (lbs/ft}^3\text{)}$$

Conversion = 1×10^{-9} kg/ug
Density = 110 lbs/ft^3 (Wisconsin Administrative Code NR520 Table 3)

7) Sum the mass for each cell to obtain Total Mass

Assumptions

1) Contaminant concentrations are uniformly distributed (vertically and laterally) within the landfill residue materials.

2) Contaminant mass retained in soils underlying the landfill are negligible (based on borings W54 and W53).

3) No non-aqueous phase product is present within the landfill residue materials.

CSR/ckb/SWR
[ckb-800-98]

UNSATURATED ZONE MASS CALCULATION WAUSAU LANDFILL
MASS=CONC X CONV X (THICKNESS X AREA X DENSITY)
CONVERSION =1.00E-09 KG/UG CF=.453KG/LB X 2.2E-09 LB/UG
DENSITY 110 LBS/FT3
CELL AREA 100 FT2

ESTIMATED MASS (LBS) 272.5056

EAST---->	7000	7010	7020	7030	7040	7050	7060	7070	7080	7090	7100	7110	7120	7130	7140	7150	7160	7170	7180	7190	7200	7210	7220	7230	7240	7250
NORTH																										
10350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000002	0.000003	0	0	0.000005	0.000004	0.000003	0	0	0
10310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000006	0.000007	0	0	0.000014	0.000007	0.000008	0	0	0
10300	0	0	0	0	0	0	0	0	0	0.000008	0.000007	0.000006	0	0	0	0	0.000023	0.000018	0.000114	0.000128	0.000124	0.000168	0.000285	0.000112	0.000035	0
10290	0	0	0	0	0	0	0	0	0.000008	0.000008	0.000007	0.000007	0	0.000002	0.000010	0.000051	0.000143	0.000481	0.001650	0.001980	0.001917	0.002172	0.006130	0.003511	0.000525	0
10280	0	0	0	0	0	0	0	0	0.000008	0.000003	0.000008	0.000012	0.000082	0	0	0	0.004154	0.000875	0.014854	0.107835	0.019706	0.029700	0.148542	0.028600	0.003739	0.000170
10270	0	0	0	0	0	0	0	0	0	0	0	0.000442	0.001735	0.004458	0.007480	0.052748	0.087377	0.340899	0.946018	1.873681	0.489315	0.480577	0.605011	0.041067	0.004950	0.000173
10260	0	0	0	0	0	0	0	0	0	0.000233	0.001878	0.004805	0.007893	0.032406	0.069406	0.207725	1.310666	2.077268	3.292252	2.092102	1.100021	0.659362	0.257413	0.043031	0.003087	0.000175
10250	0	0	0	0	0	0	0	0.000059	0.000061	0.000083	0.000978	0.005329	0.014485	0.031958	0.059689	0.110001	1.310668	4.144702	20.77278	16.50040	4.144702	1.661814	0.687125	0.072523	0.012378	0.001740	0.000212
10240	0	0	0	0	0	0	0	0	0.000078	0.001011	0.005504	0.012029	0.032844	0.057607	0.083008	0.207725	5.217873	20.77278	20.77278	20.77278	4.144702	1.661814	0.110001	0.049066	0.006728	0.001470	0
10230	0	0	0	0	0	0	0	0	0.000521	0.004372	0.009278	0.021275	0.045759	0.062485	0.084756	1.310668	8.269780	16.50040	16.50040	16.50040	2.077268	0.285327	0.069406	0.012740	0.005552	0.000575	0
10220	0	0	0	0	0	0	0	0	0.000913	0.008800	0.017339	0.038099	0.049618	0.066630	0.087377	1.310666	13.10673	20.77278	16.50040	3.292252	0.165002	0.113590	0.048171	0.008300	0.001121	0.000232	0
10210	0	0	0	0	0	0	0	0.000669	0.004961	0.014818	0.025698	0.051272	0.066630	0.069406	0.143002	1.223288	1.650032	1.650032	1.310666	0.207725	0.131066	0.071670	0.011000	0.006454	0.000784	0.000082	0
10200	0	0	0	0	0	0.000265	0.000988	0.008213	0.016736	0.026525	0.052926	0.067324	0.066630	0.131066	0.329223	0.414468	0.414468	0.207725	0.131066	0.104109	0.056930	0.008737	0.002514	0.000326	0	0
10190	0	0	0	0	0	0.000801	0.002624	0.010670	0.016910	0.033741	0.053477	0.068712	0.069406	0.131068	0.176002	0.176002	0.176002	0.139803	0.104109	0.082698	0.013200	0.006940	0.000979	0.000101	0.000069	0
10180	0	0	0	0	0.000296	0.001018	0.005347	0.010780	0.016910	0.026802	0.053477	0.053477	0.104109	0.111050	0.148541	0.148541	0.117990	0.111050	0.082896	0.019387	0.010485	0.002194	0.000144	0.000095	0.000070	0.000055
10170	0	0	0	0.000222	0.000876	0.002150	0.006871	0.010780	0.017085	0.027078	0.042040	0.066157	0.082696	0.117990	0.124931	0.124931	0.099236	0.088210	0.041446	0.014300	0.006084	0.000929	0	0.000077	0.000061	0.000038
10160	0.000103	0.000117	0.000154	0.000475	0.001370	0.004379	0.006940	0.011000	0.013432	0.021948	0.041742	0.082696	0.082696	0.110262	0.138812	0.110262	0.687584	0.046972	0.020772	0.008328	0.001743	0.000143	0.000088	0.000068	0.000054	0
10150	0.000118	0.000130	0.000151	0.001100	0.002194	0.005513	0.008737	0.011000	0.016617	0.022664	0.041446	0.052178	0.110262	0.087584	0.087584	0.069570	0.043898	0.027894	0.012232	0.002633	0.000453	0	0.000069	0.000056	0.000025	0
10140	0.000175	0.000196	0.001372	0.002077	0.003868	0.007718	0.012232	0.012232	0.016500	0.020772	0.034868	0.043896	0.058025	0.058025	0.046091	0.043896	0.027698	0.016500	0.004522	0.000898	0.000116	0	0.000059	0.000028	0	0
10130	0	0.000745	0.002769	0.004389	0.006957	0.011799	0.015727	0.015727	0.019800	0.022000	0.027698	0.038354	0.038354	0.038354	0.036611	0.027696	0.022000	0.004144	0.001024	0.000120	0.000090	0.000060	0.000049	0	0	0
10120	0.000775	0.002628	0.004358	0.006907	0.013782	0.017351	0.020970	0.021844	0.020970	0.026400	0.026400	0.026400	0.025300	0.024200	0.023100	0.017475	0.004420	0.001310	0.000124	0.000097	0.000063	0.000032	0	0	0	0
10110	0.002134	0.003462	0.004358	0.006907	0.013782	0.013782	0.017351	0.021844	0.021844	0.021844	0.021844	0.021844	0.021844	0.020970	0.015269	0.008758	0.001404	0.000159	0	0.000079	0.000054	0.000002	0	0	0	0
10100	0.002687	0.003462	0.005487	0.006907	0.013782	0.013782	0.017351	0.017351	0.021844	0.021844	0.021644	0.021844	0.021844	0.017351	0.009634	0.002769	0.000559	0.000170	0.000116	0.000054	0.000001	0	0	0	0	0
10090	0.002750	0.003462	0.005487	0.006907	0.010948	0.013782	0.017351	0.017351	0.017351	0.017351	0.017351	0.017351	0.017351	0.010948	0.004828	0.001960	0	0	0.000059	0.000001	0	0	0	0	0	0
10080	0.002750	0.003462	0.004358	0.006907	0.008696	0.010948	0.013782	0.013782	0.017351	0.017351	0.013782	0.013782	0.010948	0.006907	0.002769	0.001217	0	0	0	0	0	0	0	0	0	0
10070	0.002687	0.003462	0.004358	0.005487	0.006907	0.008696	0.010948	0.013782	0.013782	0.013782	0.013782	0.010948	0.006907	0.004358	0.001916	0	0	0	0	0	0	0	0	0	0	0
10060	0.002235	0.002750	0.003462	0.004358	0	0.006907	0.008696	0.008696	0.008696	0.008696	0.008696	0.008696	0.006907	0.005487	0.003462	0	0	0	0	0	0	0	0	0	0	0
10050	0.001146	0.002750	0.003462	0.003462	0.004358	0.005487	0.005487	0.006907	0.006907	0.006907	0.005487	0.004358	0.003462	0.000953	0	0	0	0	0	0	0	0	0	0	0	0
10040	0.000587	0.001859	0.003462	0.003462	0.004358	0.004358	0.004358	0.005487	0.005487	0.004358	0.004358	0.003462	0.002628	0.000232	0	0	0	0	0	0	0	0	0	0	0	0
10030	0	0.000342	0.001021	0.003462	0.003462	0.003462	0.004358	0.004358	0.004358	0.004358	0.003462	0.003462	0.000757	0.000290	0.000175	0	0	0	0	0	0	0	0	0	0	0
10020	0	0.000281	0.000289	0.000830	0.002508	0.003482	0.003462	0.003462	0.003462	0.003462	0.002687	0.000830	0	0.000200	0.000134	0.000056	0	0	0	0	0	0	0	0	0	0
10010	0	0	0	0	0.000329	0.000354	0.000889	0.002038	0.001902	0.000910	0.000280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10000	0	0	0	0	0.000278	0.000282	0	0	0	0.000379	0.000307	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LANDFILL UNSATURATED ZONE MASS CALCULATION

LOG OF

CONCENTRATION

EAST---->	7000	7010	7020	7030	7040	7050	7060	7070	7080	7090	7100	7110	7120	7130	7140	7150	7160	7170	7180	7190	7200	7210	7220	7230	7240	7250
NORTH:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10
10350	36	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10340	35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.00055	0.0031	1.0E+35	0.017	0.0099	-0.0011	-0.0096	1.0E+35
10330	34	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.0075	-0.0014	1.0E+35	0.0063	-0.0022	0.0058	0.033	0.024	0.014	-0.0038	-0.018	-0.019
10320	33	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.013	-0.016	-0.014	0.0047	0.035	0.015	-0.022	-0.011	0.07	0.031	0.025	-0.01	-0.039	-0.021
10310	32	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.011	-0.0099	-0.022	-0.036	-0.0018	0.087	0.038	-0.088	-0.1	0.23	0.0051	0.065	-0.024	-0.11	-0.04
10300	31	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.075	0.077	0.032	-0.018	-0.027	-0.11	-0.063	0.28	0.14	0.87	0.89	0.94	1.1	1.3	0.93	0.58	-0.081
10290	30	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.037	0.073	0.13	0.054	-0.059	0.037	0.55	0.89	0.94	1.6	2	2	2.2	2.3	2.6	2.3	1.8	0.44
10280	29	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.013	0.002	0.052	0.3	0.12	0.91	1.2	1.4	1.9	2.1	2.8	2.9	3.5	3.8	4	3.9	3	2.1	0.5
10270	28	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.019	-0.029	-0.069	-0.16	0.9	1.4	1.8	1.9	2	2.8	2.9	3.5	4	4.2	3.9	3.9	4	2.9	2	0.5
10260	27	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.011	-0.0095	-0.015	-0.078	0.61	1.5	1.9	2.1	2.6	2.8	3.1	3.9	4.1	4.3	4.2	4	3.8	3.5	2.8	1.7	0.47
10250	26	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.013	0.0074	0.064	0.19	1.2	1.9	2.3	2.6	2.8	3	3.9	4.4	5.1	5	4.4	4.1	3.8	2.9	2.2	1.4	0.53
10240	25	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.052	-0.036	-0.012	0.076	1.2	1.9	2.2	2.6	2.8	2.9	3.1	4.5	5.1	5.1	5.1	4.4	4.1	3	2.7	1.9	1.3	-0.06
10230	24	1.0E+35	1.0E+35	1.0E+35	-0.074	-0.068	-0.066	-0.095	0.87	1.8	2.1	2.4	2.7	2.8	2.9	3.9	4.7	5	5	5	4.1	3.3	2.8	2.1	1.8	0.88	-0.11
10220	23	1.0E+35	1.0E+35	1.0E+35	-0.081	-0.078	-0.067	-0.014	1	2	2.3	2.6	2.7	2.8	2.9	3.9	4.9	5.1	5	4.3	3	2.9	2.6	1.9	1.1	0.48	-0.15
10210	22	1.0E+35	1.0E+35	-0.091	-0.091	-0.097	-0.099	0.84	1.7	2.2	2.4	2.7	2.8	2.8	3	3.9	4	4	3.9	3.1	2.9	2.7	2	1.8	0.95	0.038	-0.05
10200	21	1.0E+35	-0.089	-0.092	-0.095	-0.12	0.41	0.99	1.9	2.2	2.4	2.7	2.8	2.8	2.9	3.3	3.4	3.4	3.1	2.9	2.8	2.6	1.9	1.4	0.58	-0.1	-0.05
10190	20	1.0E+35	-0.086	-0.092	-0.079	-0.027	0.88	1.4	2	2.2	2.5	2.7	2.8	2.8	2.9	3	3	3	2.9	2.8	2.7	2	1.8	1	0.092	0.003	-0.014
10180	19	-0.054	-0.077	-0.11	-0.1	0.44	0.98	1.7	2	2.2	2.4	2.7	2.7	2.8	2.8	2.9	2.9	2.8	2.8	2.7	2.1	1.9	1.3	0.19	0.088	0.034	0.014
10170	18	-0.031	-0.058	-0.17	0.32	0.91	1.3	1.8	2	2.2	2.4	2.6	2.7	2.7	2.8	2.8	2.8	2.7	2.7	2.4	2	1.7	0.94	-0.007	0.036	0.03	0.022
10160	17	0.018	0.05	0.16	0.64	1.1	1.6	1.8	2	2.1	2.3	2.5	2.7	2.7	2.7	2.8	2.7	2.8	2.4	2.1	1.8	1.2	0.17	0.049	0.033	0.029	1.0E+35
10150	18	0.034	0.075	0.14	1	1.3	1.7	1.9	2	2.1	2.2	2.4	2.5	2.7	2.8	2.8	2.5	2.3	2.2	1.9	1.3	0.62	-0.064	0.0018	0.017	0.023	1.0E+35
10140	15	0.026	0.075	0.92	1.1	1.4	1.7	1.9	1.9	2	2.1	2.2	2.3	2.4	2.4	2.3	2.3	2.1	2	1.5	0.87	0.038	-0.0018	0.0053	0.011	1.0E+35	1.0E+35
10130	14	-0.0073	0.53	1.1	1.3	1.5	1.8	1.9	1.9	2	2	2.1	2.2	2.2	2.2	2.2	2.1	2	1.4	0.89	0.039	0.03	0.015	0.0099	1.0E+35	1.0E+35	1.0E+35
10120	13	0.45	0.98	1.2	1.4	1.7	1.8	1.9	1.9	1.9	2	2	2	2	2	2	1.9	1.4	0.9	0.054	0.034	0.026	0.02	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10110	12	0.89	1.1	1.2	1.4	1.7	1.7	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	0.93	0.047	-0.015	0.016	0.021	0.021	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10100	11	0.99	1.1	1.3	1.4	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6	1.1	0.53	0.15	0.041	0.02	0.02	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10090	10	1	1.1	1.3	1.4	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.3	0.95	-0.085	-0.00012	0.0018	0.0015	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10080	9	1	1.1	1.2	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.7	1.7	1.6	1.4	1.1	0.84	-0.17	-0.07	-0.036	-0.017	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10070	8	0.99	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.7	1.6	1.4	1.2	0.94	-0.075	-0.1	-0.079	-0.057	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10060	7	0.91	1	1.1	1.2	1.0E+35	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1	-0.19	-0.11	-0.093	-0.084	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10050	6	0.62	1	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.2	1.1	0.54	-0.082	-0.076	-0.077	-0.08	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10040	5	0.33	0.83	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.1	0.98	0.024	-0.017	-0.038	-0.057	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10030	4	-0.092	0.095	0.57	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	0.44	0.12	0.028	-0.0022	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10020	3	-0.043	0.0099	0.023	0.48	0.96	1.1	1.1	1.1	1.1	1.1	0.99	0.48	-0.099	0.0048	0.0085	0.0032	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10010	2	-0.042	-0.035	-0.062	-0.17	0.079	0.11	0.51	0.87	0.84	0.52	0.0088	-0.038	-0.041	-0.014	-0.0025	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10000	1	-0.045	-0.047	-0.062	-0.077	0.0048	0.012	-0.077	-0.1	-0.15	0.14	0.049	-0.00074	-0.019	-0.017	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

LANDFILL UNSATURATED ZONE MASS

THICKNESS

NORTH	EAST--->	7000	7010	7020	7030	7040	7050	7060	7070	7080	7090	7100	7110	7120	7130	7140	7150	7160	7170	7180	7190	7200	7210	7220	7230	7240	7250
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10
10350	36	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10340	35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10330	34	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10320	33	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.2	0.3	0.35	0.5	0.45	0.35	0.3	0.25	0.1	1.0E+35
10310	32	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.4	0.5	0.6	0.75	0.8	0.75	0.7	0.65	0.5	0.35	1.0E+35
10300	31	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.53	0.54	0.56	0.51	0.4	0.46	0.73	1.1	1.2	1.4	1.5	1.3	1.2	1.3	1.2	0.85	0.11
10290	30	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.31	0.42	0.58	0.73	0.68	0.51	0.53	0.64	0.57	0.23	0.28	0.6	1.5	1.1	1.5	1.8	1.1	0.99	1.4	1.6	1.2	-0.32
10280	29	1.0E+35	0.046	0.096	0.16	0.21	0.35	0.81	0.91	0.6	0.32	0.41	0.89	0.92	-0.33	-0.28	-0.048	3	0.2	1.7	3.1	0.45	0.27	1.7	2.6	2.7	4.9
10270	28	-0.072	-0.0059	0.078	0.18	0.0019	0.17	0.59	1.5	1.3	-0.44	-0.085	1.8	2.5	5.1	6.8	7.6	10	9.8	8.8	9.8	5.6	5.5	5.5	4.7	4.5	5
10260	27	-0.1	-0.08	0.039	0.48	-0.56	-0.27	0.091	3.2	3.4	5.2	5.4	5.5	5.7	7.4	10	15	15	15	15	12	10	9.5	7.4	6.2	5.6	5.4
10250	26	-0.14	-0.25	-0.32	2.3	4.9	5.1	5.3	4.8	4.9	5.8	6.1	6.6	7.3	8.6	10	15	15	15	15	15	12	9.9	8.3	7.1	6.3	5.7
10240	25	-0.078	7.6	8.3	8.9	6.8	6.3	6.1	5.8	5.8	6.3	6.9	7.5	8.3	9.5	15	15	15	15	15	15	12	10	8.9	7.7	6.7	6
10230	24	8.5	8.7	9.3	10	8.4	7.5	7	6.4	6.3	6.7	7.7	8.3	9	9.7	15	15	15	15	15	15	13	10	9.2	8	6.9	6.1
10220	23	9.8	9.6	9.7	10	9.1	8.4	8.1	8.3	8	7.9	8.7	9	9.6	10	15	15	15	15	15	15	13	11	9.5	8.1	7	6
10210	22	9.5	10	10	10	9.5	9	8.8	9	8.5	9.3	9.3	9.6	10	13	14	15	15	15	15	15	13	10	9.3	8	6.9	5.8
10200	21	8.1	9.9	10	10	9.7	9.4	9.2	9.4	9.6	9.8	9.8	9.7	9.8	15	15	15	15	15	15	15	13	10	9.1	7.8	6.8	5.5
10190	20	7.5	9.1	10	10	9.7	9.6	9.5	9.7	9.7	9.7	9.7	9.9	10	15	18	18	18	18	15	15	12	10	8.9	7.5	6.3	5.2
10180	19	7.7	6.8	9.5	9.8	9.8	9.7	9.7	9.8	9.7	9.7	9.7	9.7	15	18	17	17	17	18	15	14	12	10	8.5	7.1	5.9	4.9
10170	18	8.2	9	9.5	9.7	9.8	9.8	9.9	9.8	9.8	9.6	9.6	12	15	17	18	18	18	18	15	13	11	9.7	8	6.5	5.2	3.3
10160	17	9	9.5	9.7	9.9	9.9	10	10	10	9.7	10	12	15	15	20	20	20	20	20	17	15	12	10	8.8	7.2	5.8	4.8	1.8
10150	16	10	10	10	10	10	10	10	10	12	13	15	15	20	20	20	20	20	16	14	12	9.9	8	6.3	4.9	2.2	-0.41
10140	15	15	15	15	15	14	14	14	14	15	15	20	20	21	21	21	20	20	15	13	11	9.7	7.1	5.3	2.5	-0.15	-0.21
10130	14	20	20	20	20	20	17	18	18	18	20	20	22	22	22	21	20	20	15	12	10	7.7	5.3	4.4	0.0072	-0.062	-0.12
10120	13	25	25	25	25	25	25	24	25	24	24	24	24	23	22	21	20	18	15	10	8.2	5.4	2.8	0.23	0.091	0.0093	-0.053
10110	12	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	22	20	15	13	10	7	4.7	0.23	0.18	0.11	0.062	1.0E+35
10100	11	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	20	15	11	9.8	4.7	0.15	0.15	0.14	0.13	1.0E+35	1.0E+35
10090	10	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	20	15	10	5.4	0.17	0.092	0.094	0.1	1.0E+35	1.0E+35	1.0E+35
10080	9	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20	18	15	9.8	4.8	-0.3	-0.048	0.032	0.068	1.0E+35	1.0E+35	1.0E+35
10070	8	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20	15	10	6.7	0.29	-0.0082	-0.0055	0.014	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10060	7	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20	15	10	4.8	-0.22	-0.018	0.018	0.018	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10050	6	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20	12	6.7	0.44	0.22	0.14	0.078	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10040	5	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20	17	10	4.9	1.4	0.5	0.28	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10030	4	25	25	25	25	25	25	25	25	25	25	25	25	25	20	15	7.5	3	-0.35	0.14	0.21	0.21	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10020	3	25	25	25	25	25	25	25	25	25	25	25	25	25	18	12	5.1	-0.0077	0.088	0.19	0.2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10010	2	25	25	25	25	25	25	25	25	25	25	25	25	25	20	15	8.3	2.4	0.98	0.51	0.35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10000	1	25	25	25	25	25	25	25	25	25	25	25	25	18	12	5	2	0.96	0.63	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

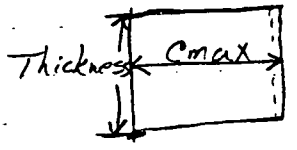
WARZYN ENGINEERING INC.
MADISON, WISCONSIN

BY KJQ DATE 12/19/88 SUBJECT Mass Calculation SHEET NO. 1 OF 3
CHKD. BY [illegible] DATE 12/19/88 JOB NO. 13076

Calculation of Mass/Area in a contaminated groundwater plume

1. Contour plan view of maximum concentration in plume vertical thickness (Cmax map)
2. Contour plan view of thickness of the plume - (thickness map)
3. Digitize both Cmax and thickness maps (Replot using contouring package using a fine contour interval to determine adequacy of digitizing)
4. Grid each map using the PLOT88 contour program using the same window and grid spacing
5. Obtain ASCII file and translate into spreadsheet.
6. Compute Mass/Area using one of the following equations.

Uniform Distribution - Vertical Distribution is



Cmax - ug/L
Thickness - Ft.
Mass - lbs.

$$\text{Mass/Unit Area} = \frac{R_d * C_{max} * \text{Thickness}}{} * \text{Porosity} * CF$$

R_d = Retardation Factor = $1 + \frac{\rho}{n} K_d$ (see Freeze + Cherry)

CF = Conversion Factor

Conversion Factor

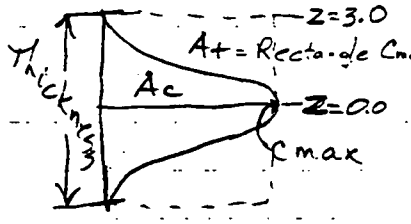
$$\frac{\text{Mass}\left(\frac{lb}{ft^3}\right)}{\text{Unit Area}} = C_{max}\left(\frac{ug}{L}\right) \text{Thickness}(ft)\, R(\text{dimensionless}) * \text{Porosity} * CF$$

$$CF = \left(1000\frac{L}{m^3} \quad 0.3048^3\frac{m^3}{ft^3} \quad 2.2\frac{lb}{Kg} \quad \frac{Kg}{10^9 ug}\right)$$

$$CF = 6.23 \times 10^{-8}\frac{L\ lb}{ft^3\ ug}$$

Note: Use an area to compute a workable Mass/Area number e.g. Mass/$10^4 ft^2$

Vertical Distribution appears as



Same units as above

$$\frac{\text{Mass}}{\text{Unit Area}} = \overset{E4}{R_f} * C_{max} * \text{Thickness} * \overset{E5}{\text{Porosity}} * \overset{E6}{6.23 \times 10^{-8}} * \overset{E1}{\frac{Ac}{A+}}$$

A_c = Area under Normal Curve - use Z = 3 standard deviations to approach Ø concentration at edge of plume. If plume is truncated select an alternate Z. $A_c = 0.4987 * 2$ @ Z = 3

$A_c = .9974$

A_+ = Ordinate at Z=0 * 3 std. deviations in both direct

$= 0.3989 * 3 * 2 = 2.3934$

$$A_c/A_t = \frac{.9974}{2.3934} = 0.417$$

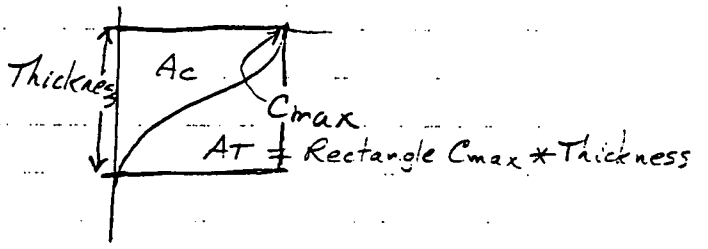
Therefore for Normal distribution

$$\frac{\text{Mass}}{\text{Unit Area}} = Rd * Cmax * \text{thickness} * \text{Porosity} * 2.60 \times 10^{-8}$$

~~3.238×10^{-8}~~

½ Normal Distribution

When the plume maximum is at the water table or on the bottom of an aquifer the plume could be described as



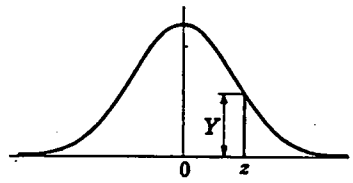
The mass eqn is identical to full Normal curve because Ac/A_T does not change

$$\frac{A_c}{A_T} = \frac{0.4987}{0.3989 * 3} = 0.417$$

and all other parameters are as shown

Appendix I

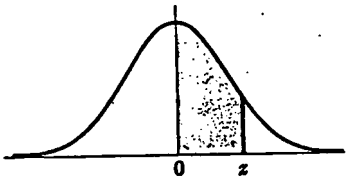
ORDINATES (Y) of the STANDARD NORMAL CURVE at z



z	0	1	2	3	4	5	6	7	8	9
0·0	0·3989	0·3989	0·3989	0·3988	0·3986	0·3984	0·3982	0·3980	0·3977	0·3973
0·1	0·3970	0·3965	0·3961	0·3956	0·3951	0·3945	0·3939	0·3932	0·3925	0·3918
0·2	0·3910	0·3902	0·3894	0·3885	0·3876	0·3867	0·3857	0·3847	0·3836	0·3825
0·3	0·3814	0·3802	0·3790	0·3778	0·3765	0·3752	0·3739	0·3725	0·3712	0·3697
0·4	0·3683	0·3668	0·3653	0·3637	0·3621	0·3605	0·3589	0·3572	0·3555	0·3538
0·5	0·3521	0·3503	0·3485	0·3467	0·3448	0·3429	0·3410	0·3391	0·3372	0·3352
0·6	0·3332	0·3312	0·3292	0·3271	0·3251	0·3230	0·3209	0·3187	0·3166	0·3144
0·7	0·3123	0·3101	0·3079	0·3056	0·3034	0·3011	0·2989	0·2966	0·2943	0·2920
0·8	0·2897	0·2874	0·2850	0·2827	0·2803	0·2780	0·2756	0·2732	0·2709	0·2685
0·9	0·2661	0·2637	0·2613	0·2589	0·2565	0·2541	0·2516	0·2492	0·2468	0·2444
1·0	0·2420	0·2396	0·2371	0·2347	0·2323	0·2299	0·2275	0·2251	0·2227	0·2203
1·1	0·2179	0·2155	0·2131	0·2107	0·2083	0·2059	0·2036	0·2012	0·1989	0·1965
1·2	0·1942	0·1919	0·1895	0·1872	0·1849	0·1826	0·1804	0·1781	0·1758	0·1736
1·3	0·1714	0·1691	0·1669	0·1647	0·1626	0·1604	0·1582	0·1561	0·1539	0·1518
1·4	0·1497	0·1476	0·1456	0·1435	0·1415	0·1394	0·1374	0·1354	0·1334	0·1315
1·5	0·1295	0·1276	0·1257	0·1238	0·1219	0·1200	0·1182	0·1163	0·1145	0·1127
1·6	0·1109	0·1092	0·1074	0·1057	0·1040	0·1023	0·1006	0·0989	0·0973	0·0957
1·7	0·0940	0·0925	0·0909	0·0893	0·0878	0·0863	0·0848	0·0833	0·0818	0·0804
1·8	0·0790	0·0775	0·0761	0·0748	0·0734	0·0721	0·0707	0·0694	0·0681	0·0669
1·9	0·0656	0·0644	0·0632	0·0620	0·0608	0·0596	0·0584	0·0573	0·0562	0·0551
2·0	0·0540	0·0529	0·0519	0·0508	0·0498	0·0488	0·0478	0·0468	0·0459	0·0449
2·1	0·0440	0·0431	0·0422	0·0413	0·0404	0·0396	0·0387	0·0379	0·0371	0·0363
2·2	0·0355	0·0347	0·0339	0·0332	0·0325	0·0317	0·0310	0·0303	0·0297	0·0290
2·3	0·0283	0·0277	0·0270	0·0264	0·0258	0·0252	0·0246	0·0241	0·0235	0·0229
2·4	0·0224	0·0219	0·0213	0·0208	0·0203	0·0198	0·0194	0·0189	0·0184	0·0180
2·5	0·0175	0·0171	0·0167	0·0163	0·0158	0·0154	0·0151	0·0147	0·0143	0·0139
2·6	0·0136	0·0132	0·0129	0·0126	0·0122	0·0119	0·0116	0·0113	0·0110	0·0107
2·7	0·0104	0·0101	0·0099	0·0096	0·0093	0·0091	0·0088	0·0086	0·0084	0·0081
2·8	0·0079	0·0077	0·0075	0·0073	0·0071	0·0069	0·0067	0·0065	0·0063	0·0061
2·9	0·0060	0·0058	0·0056	0·0055	0·0053	0·0051	0·0050	0·0048	0·0047	0·0046
3·0	0·0044	0·0043	0·0042	0·0040	0·0039	0·0038	0·0037	0·0036	0·0035	0·0034
3·1	0·0033	0·0032	0·0031	0·0030	0·0029	0·0028	0·0027	0·0026	0·0025	0·0025
3·2	0·0024	0·0023	0·0022	0·0022	0·0021	0·0020	0·0020	0·0019	0·0018	0·0018
3·3	0·0017	0·0017	0·0016	0·0016	0·0015	0·0015	0·0014	0·0014	0·0013	0·0013
3·4	0·0012	0·0012	0·0012	0·0011	0·0011	0·0010	0·0010	0·0010	0·0009	0·0009
3·5	0·0009	0·0008	0·0008	0·0008	0·0008	0·0007	0·0007	0·0007	0·0007	0·0006
3·6	0·0006	0·0006	0·0006	0·0005	0·0005	0·0005	0·0005	0·0005	0·0005	0·0004
3·7	0·0004	0·0004	0·0004	0·0004	0·0004	0·0004	0·0003	0·0003	0·0003	0·0003
3·8	0·0003	0·0003	0·0003	0·0003	0·0003	0·0002	0·0002	0·0002	0·0002	0·0002
3·9	0·0002	0·0002	0·0002	0·0002	0·0002	0·0002	0·0002	0·0002	0·0001	0·0001

Appendix II

AREAS under the STANDARD NORMAL CURVE from 0 to z



z	0	1	2	3	4	5	6	7	8	9
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0754
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0·4	0·1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2258	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2518	0·2549
0·7	0·2580	0·2612	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2996	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389
1·0	0·3413	0·3438	0·3461	0·3485	0·3508	0·3531	0·3554	0·3577	0·3599	0·3621
1·1	0·3643	0·3665	0·3686	0·3708	0·3729	0·3749	0·3770	0·3790	0·3810	0·3830
1·2	0·3849	0·3869	0·3888	0·3907	0·3925	0·3944	0·3962	0·3980	0·3997	0·4015
1·3	0·4032	0·4049	0·4066	0·4082	0·4099	0·4115	0·4131	0·4147	0·4162	0·4177
1·4	0·4192	0·4207	0·4222	0·4236	0·4251	0·4265	0·4279	0·4292	0·4306	0·4319
1·5	0·4332	0·4345	0·4357	0·4370	0·4382	0·4394	0·4406	0·4418	0·4429	0·4441
1·6	0·4452	0·4463	0·4474	0·4484	0·4495	0·4505	0·4515	0·4525	0·4535	0·4545
1·7	0·4554	0·4564	0·4573	0·4582	0·4591	0·4599	0·4608	0·4616	0·4625	0·4633
1·8	0·4641	0·4649	0·4656	0·4664	0·4671	0·4678	0·4686	0·4693	0·4699	0·4706
1·9	0·4713	0·4719	0·4726	0·4732	0·4738	0·4744	0·4750	0·4756	0·4761	0·4767
2·0	0·4772	0·4778	0·4783	0·4788	0·4793	0·4798	0·4803	0·4808	0·4812	0·4817
2·1	0·4821	0·4826	0·4830	0·4834	0·4838	0·4842	0·4846	0·4850	0·4854	0·4857
2·2	0·4861	0·4864	0·4868	0·4871	0·4875	0·4878	0·4881	0·4884	0·4887	0·4890
2·3	0·4893	0·4896	0·4898	0·4901	0·4904	0·4906	0·4909	0·4911	0·4913	0·4916
2·4	0·4918	0·4920	0·4922	0·4925	0·4927	0·4929	0·4931	0·4932	0·4934	0·4936
2·5	0·4938	0·4940	0·4941	0·4943	0·4945	0·4946	0·4948	0·4949	0·4951	0·4952
2·6	0·4953	0·4955	0·4956	0·4957	0·4959	0·4960	0·4961	0·4962	0·4963	0·4964
2·7	0·4965	0·4966	0·4967	0·4968	0·4969	0·4970	0·4971	0·4972	0·4973	0·4974
2·8	0·4974	0·4975	0·4976	0·4977	0·4977	0·4978	0·4979	0·4979	0·4980	0·4981
2·9	0·4981	0·4982	0·4982	0·4983	0·4984	0·4984	0·4985	0·4985	0·4986	0·4986
3·0	0·4987	0·4987	0·4987	0·4988	0·4988	0·4989	0·4989	0·4989	0·4990	0·4990
3·1	0·4990	0·4991	0·4991	0·4991	0·4992	0·4992	0·4992	0·4992	0·4993	0·4993
3·2	0·4993	0·4993	0·4994	0·4994	0·4994	0·4994	0·4994	0·4995	0·4995	0·4995
3·3	0·4995	0·4995	0·4995	0·4996	0·4996	0·4996	0·4996	0·4996	0·4996	0·4997
3·4	0·4997	0·4997	0·4997	0·4997	0·4997	0·4997	0·4997	0·4997	0·4997	0·4998
3·5	0·4998	0·4998	0·4998	0·4998	0·4998	0·4998	0·4998	0·4998	0·4998	0·4998
3·6	0·4998	0·4998	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999
3·7	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999
3·8	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999	0·4999
3·9	0·5000	0·5000	0·5000	0·5000	0·5000	0·5000	0·5000	0·5000	0·5000	0·5000

Montgomery

Statistics

MURRAY R SPIEGEL

INCLUDING OVER 870 FULLY SOLVED PROBLEMS

WAUSAU RI/FS
13078
LANDFILL TCE PLUME

Plume Thickness Data (Ft)

		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.0049	0.0032	0.0017	0.00073	0	0	0	0	0	0	0
12600	42	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.012	0.0073	0.0039	0.0015	0.00049	0	0	0	0	0	0	0
12500	41	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.026	0.016	0.01	0.0037	0.0012	0	0	0	0	0	0	0	0
12400	40	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.046	0.037	0.027	0.015	0	0	0	0	-1.5	0	0	0	0	0
12300	39	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.064	0.057	0.043	0.024	0	0	0	2.7	10	0	0	0	0	0.00024
12200	38	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.1	0.095	0.074	0.038	0	0	-0.16	21	16	0	0	0.00024	0.00049	0.00073
12100	37	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.17	0.16	0.13	0.058	0	-1.9	20	27	10	0	0	0.00073	0.0015	0.0017
12000	36	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.27	0.27	0.23	0.07	-0.84	17	26	23	0.78	0	0	0.0022	0.0027	0.0029
11900	35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.42	0.41	0.45	0.45	-2.2	7.3	25	25	20	-1.5	0.016	0.0051	0.0049	0.0046	0.0046
11800	34	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.48	0.54	0.71	1.1	1.9	21	40	28	3.8	-1.2	0.057	0	0.0083	0.0073	0.0061
11700	33	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.44	0.5	0.63	0.74	-2.7	12	28	28	21	1.7	0.68	0.21	0.059	0.021	0.01	0.0076
11600	32	1.0E+35	1.0E+35	1.0E+35	0.15	1.0E+35	0.42	0.53	0.8	1.6	2.2	25	25	27	13	-0.77	0	0.058	0	0.0083	0.0073	0.0061
11500	31	1.0E+35	1.0E+35	0.099	0.15	0.26	0.39	0.47	0.45	-0.7	8.1	28	24	21	5.7	-3	0.0044	0.016	0.0056	0.0049	0.0044	0.0042
11400	30	1.0E+35	0.043	0.076	0.15	0.29	0.46	0.59	0.55	-0.18	12	28	26	16	0.26	0	0	0.0049	0	0.0015	0.002	0.0022
11300	29	0.017	0.029	0.058	0.13	0.37	0.65	0.91	1.2	3.8	15	25	22	6.9	-0.78	0	0.00049	0.0017	0.00049	0.00049	0.00098	0.00098
11200	28	0.014	0.021	0.032	0	0.45	0.9	1.2	-1.6	11	21	19	12	5	-1.5	0	0	0.00049	0	0	0	0.00024
11100	27	0.015	0.027	0.06	0.16	0.59	1.3	3.1	7.6	22	21	22	11	-0.1	0	0	0	0	0	0	0	0
11000	26	0.014	0.023	0.033	0	0.45	0.67	-2.7	12	23	23	22	8.7	-1.4	0	0	0	0	0	0	0	0
10900	25	0.014	0.025	0.058	0.16	0.58	0.92	-0.65	18	28	31	23	5.9	-2.5	0	0	0	0	0	0	0	0
10800	24	0.0098	0.016	0.024	0	0.81	2.4	5.6	32	45	44	19	0.73	0	0	0	0	0	0	0	0	1.0E+35
10700	23	0.0066	0.012	0.026	0.063	0.23	-4.8	17	56	73	49	15	1.2	0	0	0	0	0	0	0	1.0E+35	1.0E+35
10600	22	0.0029	0.0054	0.0078	0	0.057	1.1	34	76	80	57	13	-0.45	0	0	0	0	0	0	0	0	1.0E+35
10500	21	0.00098	0.0017	0.0022	0.00049	-2.8	11	61	100	100	61	13	-0.95	0	0	0	0	0	0	0	1.0E+35	1.0E+35
10400	20	0	0	0.00049	0	1.5	30	87	110	110	65	11	0.46	0	0	0	0	0	0	0	0	1.0E+35
10300	19	0	0	0	-3.5	11	63	130	150	110	66	19	4.1	0	0	0	0	0	0	0	1.0E+35	1.0E+35
10200	18	0	0	0	0.51	26	78	160	160	110	66	25	11	1.4	0	0	0	0	0	1.0E+35	1.0E+35	1.0E+35
10100	17	0	0	-3.7	6.4	43	98	150	140	100	64	31	15	8.3	0.68	0	0	0	0	0	1.0E+35	1.0E+35
10000	16	0	0	-5	13	60	100	110	100	82	56	30	21	10	5	1.1	-0.64	0	0	0	0	1.0E+35
9900	15	0	0	-5	27	69	82	83	78	66	47	29	22	15	11	5.6	3.1	-0.67	0	0	0	0
9800	14	0	0	-5.5	31	69	72	71	58	46	38	25	21	19	7.4	11	6.5	3.1	-0.51	0	0	0
9700	13	0	0	-5.9	30	53	57	53	46	38	27	24	21	17	13	11	10	5.8	1	0	0	0
9600	12	0	0	-5	19	50	49	38	30	26	24	23	20	17	13	11	10	9.5	4	0.068	0	0
9500	11	0	0	0	3.8	17	24	22	23	22	22	20	19	15	12	11	9.8	11	6	0.62	0	0
9400	10	0	0	0	-1.1	5.8	9.4	15	13	15	15	15	14	13	10	10	10	10	9.4	1.7	0	0
9300	9	0	0	0	0	-2.5	0.15	2	6.1	9.2	10	12	12	11	10	10	10	10	11	5	-1.1	0
9200	8	0	0	0	0	0	0	0	-1.2	-1.6	-0.64	0.27	5.3	9.3	12	10	10	10	10	8.6	-1.3	0
9100	7	0	0	0	0	0	0	0	0.00024	0.00073	0.0015	0.0027	-1.3	-0.14	1.8	10	10	10	10	9.6	-0.51	0
9000	6	0	0	0	0	0	0	0	0.00024	0.0015	0.0027	0.0093	0.013	0.045	0.045	-1	9.4	12	10	11	0.17	0
8900	5	0	0	0	0	0	0	0	0	0.0024	0	0.019	0	0.17	0.33	0.69	-0.39	2.9	11	10	3.3	0
8800	4	0	0	0	0	0	0	0.00024	0.002	0.0088	0.026	0.066	0.13	0.28	0.48	0.78	1.2	1.3	-1	-0.0024	-0.16	0
8700	3	1.0E+35	0	0	0	0	0	0.00024	0.0024	0.011	0.037	0.094	0.19	0.34	0.52	0.72	0.87	0.82	0.37	0.18	0.078	0
8600	2	1.0E+35	1.0E+35	0	0	0	0	0	0.0017	0.011	0.036	0.1	0.21	0.36	0.53	0.69	0.76	0.68	0.48	0.27	0.13	0
8500	1	1.0E+35	1.0E+35	1.0E+35	0	0	0	0	0.00024	1.0E+35	0.024	1.0E+35	0.19	1.0E+35	1.0E+35	1.0E+35	0.74	0.66	0.49	0.31	0.15	0

WAUSAU RI/FS
13076
LANDFILL TCE PLUME

Log of Plume Concentration Data (ug/L)

East-->		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.84	-0.85	-0.89	-0.94	-0.96	-0.97	-0.98	1.0E+35	1.0E+35
12600	42	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.84	-0.84	-0.82	-0.82	-0.87	-0.97	-0.98	-0.98	-0.98	-0.98	1.0E+35
12500	41	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.85	-0.85	-0.84	-0.8	-0.74	-0.8	-1.1	-1	-0.99	-0.98	-0.98	-0.97
12400	40	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.83	-0.86	-0.87	-0.87	-0.8	-0.55	-0.48	-1.2	-1	-0.99	-0.98	-0.97	-0.97
12300	39	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.76	-0.81	-0.86	-0.92	-0.95	-1	-0.17	0.61	1.2	-1	-0.99	-0.98	-0.97	-0.97
12200	38	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.66	-0.71	-0.78	-0.87	-1	-1	-1	0.27	1.9	2	-1	-0.98	-0.97	-0.96	-0.96
12100	37	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.61	-0.65	-0.72	-0.83	-1	-1	-0.14	2.1	3.1	1.8	-1	-0.98	-0.96	-0.95	-0.94
12000	36	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.52	-0.55	-0.62	-0.75	-1	-0.59	1.5	2.9	3.1	1	-1	-0.96	-0.94	-0.93	-0.93
11900	35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.4	-0.42	-0.46	-0.53	-0.64	0.73	2.8	3.4	2.6	0.67	-1	-0.94	-0.91	-0.9	-0.9
11800	34	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.26	-0.26	-0.27	-0.27	-0.089	2.3	3.3	3.2	1.5	-0.3	-1	-0.88	-0.86	-0.87	-0.88
11700	33	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.065	-0.11	-0.11	-0.1	-0.18	1.2	3	3	2.7	0.81	-0.083	-0.58	-0.72	-0.77	-0.82	1.0E+35
11600	32	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.02	-0.01	0.044	0.15	0.29	2.4	3.3	3.2	2.2	0.1	-0.26	-0.52	-0.65	-0.7	1.0E+35	1.0E+35
11500	31	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.015	0.046	0.14	0.39	1.2	2.9	3.1	2.8	1.6	-0.5	-0.53	-0.59	-0.65	-0.67	1.0E+35	1.0E+35
11400	30	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.013	0.019	0.039	0.077	0.091	1.8	3.2	3.2	2.5	0.71	-1	-0.76	-0.68	-0.67	-0.67	1.0E+35	1.0E+35
11300	29	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.0079	0.0088	0.012	0.04	0.28	2.2	3.1	2.9	1.9	0.32	-1	-0.81	-0.72	-0.68	-0.68	1.0E+35	1.0E+35
11200	28	1.0E+35	1.0E+35	1.0E+35	0.00027	0.0014	-0.0042	-0.039	-0.21	1.4	2.5	3.1	2.7	1.5	-0.28	-1	-0.76	-0.69	-0.67	-0.67	1.0E+35	1.0E+35
11100	27	1.0E+35	1.0E+35	1.0E+35	-0.00098	0.0012	0.011	0.048	0.16	1.5	2.9	2.7	2.2	0.58	-0.08	-0.49	-0.56	-0.6	-0.63	1.0E+35	1.0E+35	1.0E+35
11000	26	1.0E+35	1.0E+35	1.0E+35	-0.0049	-0.007	0.00027	0.059	0.38	1.9	2.9	2.7	1.6	-0.22	-0.16	-0.31	-0.41	-0.5	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10900	25	1.0E+35	1.0E+35	0.0013	-0.0072	-0.025	-0.062	-0.19	1.3	2.2	2.9	2.3	1	0.23	-0.028	-0.18	-0.25	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10800	24	1.0E+35	1.0E+35	0.0095	-0.00074	-0.024	-0.03	0.27	1.7	2.4	2.4	2	0.42	0.17	-0.011	-0.12	-0.18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10700	23	1.0E+35	0.033	0.027	0.018	-0.038	-0.3	0.88	2.1	2.9	2.3	1.7	0.24	0.039	-0.063	-0.12	-0.16	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10600	22	1.0E+35	0.038	0.049	0.083	0.16	0.31	1.5	3	3.2	2.4	0.85	-0.39	-0.19	-0.15	-0.16	-0.17	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10500	21	1.0E+35	0.031	0.049	0.11	0.28	0.71	2.5	3.2	3.2	2.3	0.83	-0.4	-0.26	-0.21	-0.19	-0.18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10400	20	-0.0054	0.0047	0.0074	0.015	0.15	1.9	3	3.1	3.1	2.4	0.88	-0.34	-0.25	-0.22	-0.2	-0.19	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10300	19	-0.018	-0.014	-0.039	-0.2	1	2.5	3.2	3.1	3	2.7	1	0.26	-0.18	-0.21	-0.21	-0.2	-0.2	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10200	18	-0.028	-0.0063	0.056	0.19	1.7	2.9	3.1	3.3	3.2	2.8	2.3	0.89	0.49	-0.24	-0.21	-0.2	-0.2	-0.21	1.0E+35	1.0E+35	1.0E+35
10100	17	-0.064	-0.039	0.079	0.64	2.1	3.1	3.1	3.1	3.1	3	2.9	2.2	1.5	0.49	-0.2	-0.19	-0.2	-0.22	-0.25	1.0E+35	1.0E+35
10000	16	-0.12	-0.16	-0.34	1	2.2	2.9	3	3.1	3.2	3.1	3	3	2.3	1.7	0.83	-0.15	-0.19	-0.23	-0.27	-0.33	1.0E+35
9900	15	-0.14	-0.16	-0.13	1.4	1.8	2.7	2.8	2.9	3	3	2.9	2.9	3	2.7	1.8	0.85	-0.17	-0.22	-0.29	-0.38	-0.45
9800	14	-0.15	-0.19	-0.31	1.3	1.8	2	2.6	2.7	2.7	2.9	2.8	2.8	2.8	2.8	2.7	1.9	0.89	-0.2	-0.3	-0.45	-0.51
9700	13	-0.11	-0.14	-0.26	1.1	1.9	1.9	1.9	1.9	2	2.1	2.6	2.8	2.9	2.9	3	2.8	1.7	0.53	-0.28	-0.59	-0.65
9600	12	-0.038	-0.012	0.096	0.55	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.9	2.4	2.9	3	3.2	2.7	1.3	0.14	-1	-0.84
9500	11	0.0075	0.037	0.11	0.25	1.1	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.9	2.7	3.2	3.1	2.2	0.53	-1	-0.87
9400	10	0.024	0.04	0.065	0.08	-0.00078	0.8	0.88	0.99	1	1.1	1.2	1.2	1.3	1.5	1.8	2.7	3.2	2.8	1.2	-0.69	-0.78
9300	9	1.0E+35	0.035	0.03	0.011	-0.053	-0.18	0.0054	0.1	0.13	0.22	0.5	0.66	0.9	1	1.5	1.8	2.9	3.2	1.7	-0.59	-0.79
9200	8	1.0E+35	1.0E+35	0.0086	-0.013	-0.045	-0.073	-0.021	0.018	0.018	-0.055	-0.058	0.055	0.27	0.54	0.88	0.58	2.5	3.2	2.4	-0.18	-1
9100	7	1.0E+35	1.0E+35	1.0E+35	-0.027	-0.041	-0.049	-0.035	-0.025	-0.034	-0.063	-0.078	-0.071	-0.13	-0.01	0.29	0.35	1.2	3	2.6	0.044	-1
9000	6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.043	-0.047	-0.046	-0.05	-0.066	-0.095	-0.12	-0.15	-0.18	-0.15	-0.044	-0.41	0.21	2.5	2.9	0.82	-1
8900	5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.049	-0.052	-0.062	-0.085	-0.13	-0.17	-0.22	-0.29	-0.38	-0.53	-1	-0.24	1.6	2.9	0.84	-1
8800	4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.17	-0.2	-0.28	-0.4	-0.53	-0.7	-1	-1	-0.64	1.3	0.14	-1
8700	3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.52	-0.83	-0.76	-0.9	-0.96	-1	-0.43	-1	-1
8600	2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.71	-0.79	-0.68	-0.93	-0.97	-1	-1	-1	-1
8500	1	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.84	-0.88	-0.92	-0.96	-0.98	-0.99	-1

MANSAU RI/FS
13076
LANDFILL TCE PLUME

Normal Distribution of Concentration
Mass/10000 Ft2 = Conc X Thickness X Retard X Porosity X Conversion X Ac/At X 10X4

Retard 1.25 Retardation Factor
Porosity 0.35
Conversion 6.23E-08 CF = (1000L/m^3 * 0.3048^3m^3/ft^3 * 2.2lb/kg * 1kg/10^9ug)
Ac/At 0.417 Area under the normal curve / Thickness * Cmax
Cell Area 10000 Ft^2

Mass of Contaminants Per 10,000 Ft^2 Cell In Pounds
Total Mass of Plume: 847.0584 Pounds

East-->		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12600	42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12500	41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12400	40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12300	39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.018	0.000	0.000	0.000	0.000	0.000
12200	38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.190	0.182	0.000	0.000	0.000	0.000	0.000
12100	37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.288	3.863	0.072	0.000	0.000	0.000	0.000	0.000
12000	36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.061	2.347	3.291	0.001	0.000	0.000	0.000	0.000	0.000
11900	35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	1.793	7.138	0.905	0.000	0.000	0.000	0.000	0.000	0.000
11800	34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.476	9.071	5.044	0.014	0.000	0.000	0.000	0.000	0.000	0.000
11700	33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	3.182	3.182	1.196	0.001	0.000	0.000	0.000	0.000	0.000	0.000
11600	32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.714	5.670	4.864	0.234	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11500	31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	2.347	3.434	1.506	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11400	30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	5.044	4.684	0.575	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11300	29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.270	3.577	1.986	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11200	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.755	2.719	0.684	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11100	27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.079	1.496	1.253	0.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11000	26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.208	2.077	1.253	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10900	25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.041	0.504	2.799	0.522	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10800	24	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.182	1.285	1.256	0.216	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10700	23	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.801	6.591	1.111	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10600	22	0.000	0.000	0.000	0.000	0.000	0.000	0.122	8.638	14.411	1.627	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10500	21	0.000	0.000	0.000	0.000	0.000	0.006	2.192	18.014	18.014	1.383	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10400	20	0.000	0.000	0.000	0.000	0.000	0.271	9.888	15.740	15.740	1.856	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10300	19	0.000	0.000	0.000	0.000	0.013	2.264	56.159	51.471	12.503	3.760	0.022	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10200	18	0.000	0.000	0.000	0.000	0.148	7.042	54.903	87.015	19.815	4.733	0.567	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10100	17	0.000	0.000	0.000	0.003	0.615	14.023	51.471	48.040	14.309	7.274	2.799	0.270	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10000	16	0.000	0.000	0.000	0.015	1.081	9.028	29.982	34.314	14.771	8.013	3.410	2.387	0.227	0.028	0.001	0.000	0.000	0.000	0.000	0.000	0.000
9900	15	0.000	0.000	0.000	0.077	0.495	4.671	5.952	7.042	7.502	5.342	2.618	1.986	1.705	0.627	0.042	0.002	0.000	0.000	0.000	0.000	0.000
9800	14	0.000	0.000	0.000	0.070	0.495	0.818	3.213	3.304	2.620	3.431	1.793	1.506	1.363	0.531	0.627	0.059	0.003	0.000	0.000	0.000	0.000
9700	13	0.000	0.000	0.000	0.043	0.479	0.515	0.479	0.415	0.432	0.386	1.086	1.506	1.535	1.174	1.250	0.717	0.033	0.000	0.000	0.000	0.000
9600	12	0.000	0.000	0.000	0.008	0.226	0.279	0.273	0.215	0.186	0.172	0.165	0.181	0.485	1.174	1.250	1.801	0.541	0.009	0.000	0.000	0.000
9500	11	0.000	0.000	0.000	0.001	0.024	0.054	0.063	0.083	0.100	0.100	0.114	0.108	0.108	0.108	0.627	1.765	1.574	0.108	0.000	0.000	0.000
9400	10	0.000	0.000	0.000	0.000	0.000	0.007	0.013	0.014	0.017	0.021	0.027	0.025	0.029	0.036	0.072	0.570	1.801	0.674	0.003	0.000	0.000
9300	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.004	0.006	0.010	0.011	0.036	0.072	0.903	1.982	0.028	0.000	0.000
9200	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.005	0.009	0.004	0.359	1.801	0.251	0.000	0.000
9100	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.003	0.018	1.137	0.434	0.000	0.000
9000	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.359	0.993	0.000	0.000
8900	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.903	0.003	0.000
8800	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8700	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8600	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8500	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

WAUSAU RI/FS
13076
BOS CREEK TCE PLUME

Plume Concentration Data (ug/L)

East→		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.59	0.63	0.61	0.52	0.45	1.0E+35	1.0E+35	1.0E+35
12600	42	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.43	0.56	0.68	0.68	0.5	0.37	0.28	1.0E+35	1.0E+35
12500	41	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.1	0.18	0.31	0.52	0.85	0.94	0.43	0.27	0.18	0.1	1.0E+35
12400	40	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.16	-0.18	-0.2	1.0E+35	-0.18	-0.1	0.027	0.12	0.089	0.38	1.2	1.8	0	0.084	0.069	0.031	-0.013
12300	39	1.0E+35	1.0E+35	1.0E+35	-0.12	-0.14	-0.17	-0.22	-0.27	-0.25	-0.16	-0.019	0.2	-0.46	-0.38	2	5	0	-0.0051	-0.023	-0.041	-0.055
12200	38	1.0E+35	1.0E+35	-0.11	-0.11	-0.12	-0.16	-0.25	-0.33	-0.4	-0.29	-0.14	1.2	-1.8	8.5	20	5.2	0	-0.085	-0.12	-0.12	-0.11
12100	37	1.0E+35	-0.12	-0.11	-0.088	-0.073	-0.09	-0.29	-0.4	-0.73	-0.44	-1.5	6.3	14	27	18	0.28	0	-0.22	-0.25	-0.21	-0.16
12000	36	-0.16	-0.14	-0.11	-0.068	0	0.22	-0.36	-0.27	-1.8	0.66	7.4	16	24	28	8	-1.8	-0.81	-0.56	-0.45	-0.33	1.0E+35
11900	35	-0.18	-0.17	-0.13	-0.074	0	-1.3	0.58	1.4	5.9	11	17	25	26	17	-0.7	-1.2	-0.93	-0.75	-0.65	1.0E+35	1.0E+35
11800	34	-0.23	-0.21	-0.17	-0.099	0	19	27	17	22	25	27	28	31	5.3	-1.8	-1.2	-1	-0.87	-0.76	1.0E+35	1.0E+35
11700	33	-0.3	-0.29	-0.25	-0.15	0	29	62	45	43	45	41	29	18	-3.1	-1.6	-1.2	-1	-0.95	1.0E+35	1.0E+35	1.0E+35
11600	32	-0.38	-0.4	-0.37	-0.26	0	12	50	51	47	46	45	29	8.1	1	-0.56	-0.93	-0.99	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11500	31	-0.46	-0.55	-0.59	-0.52	0	0.97	36	52	49	48	42	17	-0.17	-0.33	-0.76	-0.98	-1	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11400	30	1.0E+35	-0.74	-0.93	-1.2	-2.1	-5.7	20	54	51	46	36	9.2	-2.6	-1.4	-1.2	-1.2	-1.1	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11300	29	1.0E+35	1.0E+35	-1.2	-1.3	-1.6	-1.6	2.5	45	50	52	25	0.58	-1.5	-1.6	-1.4	-1.4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11200	28	1.0E+35	1.0E+35	-1.2	-1.3	-1.5	-1.6	-2.3	19	52	50	20	-3.3	-2.3	-1.9	-1.7	-1.6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11100	27	1.0E+35	1.0E+35	1.0E+35	-1.3	-1.2	-1	-0.069	4.6	31	42	12	-4.5	-2.7	-2	-1.8	-1.7	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
11000	26	1.0E+35	1.0E+35	1.0E+35	-1.2	-1.2	-1.2	-1.5	-3.7	14	34	14	-2.6	-1.9	-1.8	-1.7	-1.7	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10900	25	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-1.2	-1.1	-1.2	-1.3	-0.041	24	22	3.2	-0.59	-1.4	-1.6	-1.6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10800	24	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.87	-0.74	-0.27	1.5	7	23	7.9	-2.3	-1.8	-1.7	-1.7	-1.7	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10700	23	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.77	-0.68	-0.55	-0.62	-2.8	8.6	8.8	-2.9	-2	-1.7	-1.6	-1.6	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10600	22	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.66	-0.65	-0.74	-1	-0.068	0.41	-1.2	-1.5	-1.5	-1.6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10500	21	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.64	-0.66	-0.66	-0.38	-0.35	-0.86	-1.1	-1.3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10400	20	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.6	-0.57	-0.49	-0.53	-0.74	-0.93	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10300	19	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.53	-0.51	-0.55	-0.64	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10200	18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.5	-0.52	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10100	17	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10000	16	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9900	15	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9800	14	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9700	13	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9600	12	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9500	11	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9400	10	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9300	9	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9200	8	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9100	7	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9000	6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8900	5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8800	4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8700	3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8600	2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8500	1	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

Mass/10000 Ft2 = Conc X Thickness X Retard X Porosity X Conversion X Ac/At X 10E4

Retard 1.2 Retardation Factor
Porosity 0.35
Conversion 8.23E-08 CF = (1000L/m^3 * 0.3048^3m^3/ft^3 * 2.2lb/kg * 1kg/10^9ug)
Ac/At 0.417 Area under the normal curve / Thickness * Cmax
Cell Area 10000 Ft^2

MAUSAU RI/FS
13076
BOS CREEK TCE PLUME

Mass of Contaminants Per 10,000 ft^2 Cell In Pounds
Total Mass of Plume: 6.413697 Pounds

MASS OF CONTAMINANTS

East-->		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12600	42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12500	41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12400	40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12300	39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
12200	38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.053	0.000	0.000	0.000	0.000	0.000	0.000
12100	37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.051	0.095	0.040	0.000	0.000	0.000	0.000	0.000
12000	36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.058	0.087	0.069	0.004	0.000	0.000	0.000	0.000	0.000	0.000
11900	35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.011	0.035	0.061	0.090	0.086	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11800	34	0.000	0.000	0.000	0.000	0.000	0.005	0.028	0.060	0.080	0.090	0.098	0.101	0.086	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11700	33	0.000	0.000	0.000	0.000	0.000	0.025	0.231	0.163	0.156	0.163	0.148	0.098	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11600	32	0.000	0.000	0.000	0.000	0.000	0.012	0.176	0.184	0.170	0.168	0.158	0.083	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11500	31	0.000	0.000	0.000	0.000	0.000	0.000	0.126	0.188	0.177	0.166	0.139	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11400	30	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.195	0.184	0.166	0.100	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11300	29	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.163	0.181	0.188	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11200	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.063	0.188	0.185	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11100	27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.112	0.130	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11000	26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.098	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10900	25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10800	24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10700	23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10600	22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10500	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10400	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10300	19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10200	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10100	17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10000	16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9900	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9800	14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9700	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9600	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9500	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9400	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9300	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9200	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9100	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9000	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8900	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8800	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8700	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8600	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8500	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MAUSAU RI/FS
13076
BOS CREEK TCE PLUME

Plume Thickness Data (Ft)

East-->		6500	6600	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
12700	43	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.6	1.7	1.9	2.2	0	0	0	0	0	1.0E+35	1.0E+35
12600	42	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.2	1.3	1.4	1.6	1.8	2.1	0	0	0	0	0	1.0E+35	1.0E+35
12500	41	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.1	1.1	1.1	1.2	1.3	1.4	1.5	1.8	0	0	0	0	0	0	1.0E+35
12400	40	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.1	1.1	1	1	1.1	1.2	1.2	1.1	0.95	0	0	0	0	0	0	2.8
12300	39	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.3	1.2	1	0.96	0.9	0.92	1	1.3	0.76	-1.7	2.4	0	0	0	0	0	2.8
12200	38	1.0E+35	1.0E+35	1.0E+35	1.6	1.4	1.2	1	0.86	0.68	0.71	0.63	2.1	2.3	30	25	0	0	0	0	0	2.3
12100	37	1.0E+35	1.0E+35	2.1	1.9	1.6	1.2	0.88	0.8	0.26	0.6	-1.3	4.3	34	33	21	-0.42	0	0	0	0	2.1
12000	36	1.0E+35	2.5	2.4	2.1	1.8	1.2	0.53	1.2	-1	2.7	28	34	34	23	5.2	-1.7	0	0	0	0	1.7
11900	35	2.8	2.7	2.7	2.5	2.2	1.2	-1.1	4.5	17	30	34	34	31	19	0.26	-0.42	0	0	0	0	1.4
11800	34	2.9	2.9	3	3.2	3.2	2.4	9.8	33	34	34	34	34	26	9.1	0	-0.41	0	0	0	0	1.2
11700	33	2.9	3.1	3.3	3.9	5.1	8	35	34	34	34	34	31	17	0.17	0	-0.23	0	0	0	0	1.0E+35
11600	32	2.9	3	3.3	3.9	5.4	9.6	33	34	34	34	33	27	12	0	0	-0.17	0	0	0	0	1.0E+35
11500	31	2.8	2.8	2.9	3.1	3.1	2.3	33	34	34	34	31	15	0.39	0	0	-0.09	0	0	0	1.0E+35	1.0E+35
11400	30	2.7	2.6	2.5	2.3	1.5	-1.4	15	34	34	34	26	9	-0.69	0	0	-0.033	0	0	0	1.0E+35	1.0E+35
11300	29	2.5	2.4	2.3	2.1	1.9	2.3	7.3	34	34	34	20	3.8	0.82	0	0	0.02	0	0	0	1.0E+35	1.0E+35
11200	28	2.4	2.3	2.1	2	1.8	1.3	-0.87	31	34	31	23	-0.015	0.19	0	0	0.031	0	0	0	1.0E+35	1.0E+35
11100	27	1.0E+35	2.1	2	1.9	1.9	2.1	3.5	11	34	29	13	-0.74	-0.15	0	0	0.022	0	0	0	1.0E+35	1.0E+35
11000	26	1.0E+35	2	1.9	1.8	1.7	1.7	1.4	-0.83	33	27	9.3	-0.17	-0.042	0	0	0.013	0	0	0	1.0E+35	1.0E+35
10900	25	1.0E+35	1.0E+35	1.8	1.7	1.6	1.5	1.3	1.1	2.5	15	9.1	1.1	0.16	0	0	0.0052	0	0	0	1.0E+35	1.0E+35
10800	24	1.0E+35	1.0E+35	1.0E+35	1.5	1.4	1.4	1.3	1.3	1.9	2.8	3.4	1.1	-0.41	0	0	-0.0024	0	0	0	1.0E+35	1.0E+35
10700	23	1.0E+35	1.0E+35	1.0E+35	1.4	1.3	1.2	1.1	1	0.86	-0.062	0.78	0.48	-0.035	0	0	0.0073	0	0	0	1.0E+35	1.0E+35
10600	22	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.2	1.1	0.97	0.82	0.6	0.21	-0.0043	0.029	0.014	0	0	0.025	0	0	0	1.0E+35	1.0E+35
10500	21	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.98	0.83	0.69	0.51	0.3	0.15	0.1	0.074	0	0	0.045	0	0	0	1.0E+35	1.0E+35
10400	20	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.71	0.59	0.46	0.32	0.22	0.16	0.12	0	0	0.065	0	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10300	19	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.5	0.4	0.32	0.24	0.19	0.15	0	0	0.085	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10200	18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.35	0.29	0.24	0.2	0.17	0	0	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10100	17	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.26	0.23	0.21	0.19	0	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
10000	16	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.22	0.21	0.2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9900	15	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9800	14	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9700	13	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9600	12	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9500	11	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9400	10	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9300	9	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9200	8	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9100	7	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
9000	6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8900	5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8800	4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8700	3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8600	2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
8500	1	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

WAUSAU RI/FS
13076
WAUSAU CHEMICAL PCE PLUME

Plume Concentration Data (ug/L)

		7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500	8600	8700	8800	8900	9000
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
9100	22	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	3.6	3.9	4.3	5.7	9.1	12	7.8	5.2	4	3.2	2.6	1.0E+35	1.0E+35
9000	21	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	3	3.2	3	2.3	2.7	10	24	6.1	3	2.5	2.3	2.1	1.8	1.0E+35
8900	20	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	2.1	2.8	3.1	2.6	-0.65	-7.4	3.5	100	0	-1.8	0.64	1.4	1.6	1.5	1.4
8800	19	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.2	1.4	2.8	3.9	5.2	-1.1	0	100	89	0	-0.64	0.43	0.98	1.2	1.3	1.3
8700	18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-4.6	-1.8	0.91	2.9	4.6	15	28	56	130	50	0	0	0.7	0.85	1	1.1	1.2
8600	17	1.0E+35	1.0E+35	1.0E+35	-11	-7.4	-3.5	1.1	3.3	-3.5	23	42	150	100	19	7.4	-1.9	-0.027	0.61	0.9	1	1.1
8500	16	1.0E+35	1.0E+35	-16	-14	-11	-5.9	3.5	13	-46	36	120	120	87	16	5.2	-0.49	0.3	0.67	0.89	1	1
8400	15	1.0E+35	-19	-19	-18	-17	-13	6	88	90	120	120	120	86	10	2.3	0.99	0.78	0.84	0.94	1	1
8300	14	-20	-20	-21	-23	-28	-34	-55	240	420	98	140	150	77	9	1.6	1.1	0.95	0.94	0.98	1	1
8200	13	-20	-20	-22	-25	-31	-41	-51	470	1100	180	180	120	74	4.8	0.86	0.93	0.95	0.96	1	1	1
8100	12	-19	-20	-22	-25	-33	-48	-77	490	1000	480	240	120	42	-0.15	1.1	0.81	0.9	0.95	0.98	1	1
8000	11	-19	-18	-19	-22	-27	-40	-80	500	1000	480	270	93	7.5	1.5	0.89	0.84	0.89	0.93	0.97	0.98	1.0E+35
7900	10	1.0E+35	-16	-16	-16	-14	-5.2	37	230	420	150	100	15	6.1	-0.2	0.55	0.77	0.86	0.92	0.95	0.97	1.0E+35
7800	9	1.0E+35	-13	-13	-11	-8.7	-2.9	5.2	-13	62	30	3.6	5.5	1.7	0.84	0.78	0.82	0.86	0.9	0.92	1.0E+35	1.0E+35
7700	8	1.0E+35	-11	-10	-8.6	-6.3	-2.9	0.54	0.91	14	7.7	3.4	1.5	1.5	1	0.89	0.88	0.87	0.89	0.9	1.0E+35	1.0E+35
7600	7	1.0E+35	1.0E+35	-8.3	-6.7	-4.9	-2.8	-1.1	-0.66	-2.2	0.98	1.1	0.9	1	0.98	0.89	0.87	0.87	0.88	1.0E+35	1.0E+35	1.0E+35
7500	6	1.0E+35	1.0E+35	1.0E+35	-5.1	-3.8	-2.5	-1.4	-0.87	-0.65	0.21	0.59	0.72	0.82	0.83	0.83	0.84	0.85	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7400	5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-2.8	-1.9	-1.2	-0.75	-0.39	0.07	0.39	0.57	0.68	0.73	0.77	0.8	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7300	4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-1.3	-0.88	-0.51	-0.2	0.098	0.32	0.49	0.59	0.66	0.72	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7200	3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.48	-0.23	-0.016	0.18	0.34	0.45	0.54	0.6	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7100	2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.027	0.18	0.28	0.38	0.45	0.5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7000	1	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.33	0.37	0.41	0.43	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

Plume Thickness Data (ft)

East-->		7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500	8600	8700	8800	8900	9000
North:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
9100	22	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.2	1.6	2.1	2.8	3.8	5.2	3.9	2.8	2.1	1.6	1.2	1.0E+35	1.0E+35
9000	21	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	0.43	0.77	1.1	1.6	2.3	3.6	9.2	4.1	2.2	1.4	1.1	0.77	0.51	1.0E+35
8900	20	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.15	0.087	0.32	0.58	0.89	1	-0.84	39	1	0.49	0.46	0.44	0.38	0.24	0.1
8800	19	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.52	-0.38	-0.26	-0.16	-0.038	0.35	1.9	22	43	22	-1.8	-0.53	-0.13	-0.012	-0.0068	-0.037
8700	18	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.77	-0.67	-0.59	-0.57	-0.68	-0.91	-1.3	22	37	42	30	-1.1	-0.68	-0.41	-0.27	-0.22	-0.21
8600	17	1.0E+35	1.0E+35	1.0E+35	-0.97	-0.88	-0.79	-0.73	-0.75	-1.1	-1.6	12	27	40	37	20	-0.66	-0.68	-0.56	-0.46	-0.39	-0.36
8500	16	1.0E+35	1.0E+35	-1.1	-1.1	-0.99	-0.9	-0.77	-0.64	-1.3	12	20	29	29	28	16	-0.84	-0.62	-0.71	-0.6	-0.52	-0.49
8400	15	1.0E+35	-1.2	-1.2	-1.1	-1.1	-1	-0.81	0.27	14	20	21	24	24	20	12	-1.4	-1.1	-0.84	-0.7	-0.62	-0.58
8300	14	-1.3	-1.3	-1.2	-1.2	-1.3	-1.4	-1.7	6.6	18	20	21	22	22	17	5.1	-2.1	-1.2	-0.9	-0.75	-0.67	-0.63
8200	13	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4	-1.6	12	19	21	21	21	19	12	0.83	-0.71	-0.86	-0.79	-0.72	-0.67	-0.65
8100	12	-1.3	-1.3	-1.3	-1.3	-1.4	-1.4	-1.4	12	17	20	20	19	16	9.3	-1.3	-0.76	-0.71	-0.69	-0.67	-0.65	-0.65
8000	11	-1.3	-1.3	-1.3	-1.4	-1.4	-1.5	-1.7	11	15	17	18	14	12	3.3	0.36	-0.33	-0.53	-0.59	-0.61	-0.61	1.0E+35
7900	10	-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1	10	14	18	14	12	9.3	-0.1	-0.18	-0.37	-0.48	-0.54	-0.57	-0.58	1.0E+35
7800	9	-1.3	-1.4	-1.4	-1.4	-1.5	-1.7	-2.4	6.4	12	12	11	11	4.8	-1.3	-0.63	-0.49	-0.49	-0.52	-0.54	-0.56	1.0E+35
7700	8	1.0E+35	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-0.5	8.5	9.1	8.6	4.9	0.35	-0.46	-0.5	-0.48	-0.48	-0.5	-0.51	1.0E+35	1.0E+35
7600	7	1.0E+35	1.0E+35	-1.3	-1.3	-1.3	-1.3	-1.2	-1.1	-1.7	-0.18	0.34	-0.083	-0.16	-0.34	-0.42	-0.45	-0.46	-0.48	-0.49	1.0E+35	1.0E+35
7500	6	1.0E+35	1.0E+35	1.0E+35	-1.3	-1.2	-1.2	-1.1	-1	-1	-0.49	-0.19	-0.22	-0.27	-0.35	-0.4	-0.43	-0.45	-0.46	1.0E+35	1.0E+35	1.0E+35
7400	5	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-1.2	-1.1	-1	-0.93	-0.81	-0.57	-0.4	-0.35	-0.35	-0.38	-0.4	-0.42	-0.43	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7300	4	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-1	-0.93	-0.84	-0.73	-0.8	-0.49	-0.49	-0.41	-0.41	-0.41	-0.41	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7200	3	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.85	-0.77	-0.69	-0.6	-0.53	-0.48	-0.45	-0.43	-0.42	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7100	2	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.71	-0.65	-0.6	-0.54	-0.5	-0.47	-0.45	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35
7000	1	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	-0.62	-0.58	-0.55	-0.51	-0.49	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35	1.0E+35

WAUSAU RI/FS
13078
WAUSAU CHEMICAL PCB PLUME

Normal Distribution of Concentration
Mass/10000 Ft2 = Conc X Thickness X Retard X Porosity X Conversion X Ac/At X 10E4

Retard 2.2 Retardation Factor
Porosity 0.35
Conversion 6.23E-08 CF = (1000L/m^3 * 0.3048^3m^3/ft^3 * 2.2lb/kg * 1kg/10^9ug)
Ac/At 0.417 Area under the normal curve / Thickness * Cmax
Cell Area 10000 Ft^2
Mass of Contaminants Per 10,000 Ft^2 Cell In Pounds
Total Mass of Plume: 39.12697 Pounds

		7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200	8300	8400	8500	8600	8700	8800	8900	9000
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
9100	22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.003	0.007	0.012	0.006	0.003	0.002	0.001	0.001	0.000	0.000
9000	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.007	0.044	0.005	0.001	0.001	0.001	0.000	0.000	0.000
8900	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.780	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8800	19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.440	0.766	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8700	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.246	0.962	0.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8600	17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.101	0.810	0.800	0.141	0.030	0.000	0.000	0.000	0.000	0.000	0.000
8500	16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.480	0.696	0.505	0.090	0.017	0.000	0.000	0.000	0.000	0.000	0.000
8400	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.252	0.480	0.504	0.576	0.413	0.040	0.006	0.000	0.000	0.000	0.000	0.000	0.000
8300	14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.413	1.512	0.392	0.588	0.660	0.339	0.031	0.002	0.000	0.000	0.000	0.000	0.000	0.000
8200	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.128	4.181	0.756	0.756	0.504	0.281	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8100	12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.176	3.401	1.920	0.960	0.456	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8000	11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.100	3.001	1.632	0.972	0.260	0.018	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7900	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.460	1.176	0.540	0.280	0.036	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7800	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.149	0.072	0.008	0.012	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7700	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.014	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7600	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7500	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7400	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7300	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7200	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7100	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7000	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MASS REMOVAL ESTIMATES
FOR CITY PRODUCTION WELLS
WAUSAU WATER SUPPLY NPL SITE

number of days	month	year	gallons *1000 well 3	liters well 3	gallons *1000 well 4	liters well 4	gallons *1000 well 6	liters well 6	TCE MASS/LBS well 6	TCE MASS/LBS well 3	PCE+TCE +DCE MASS/LBS well 4	PCE+DCE +TCE(>90) MASS/LBS well 3
31	3	1982	36727	1.4E+08	0	0	60125	2.28E+08	58.622	33.115	0.000	45.992
30	4	0	20263	76754217	600	2272740	54595	2.07E+08	53.230	18.270	0.000	35.798
31	5	0	0	0	0	0	49759	1.88E+08	48.515	0.000	0.000	0.000
30	6	0	0	0	27123	1.0E+08	41756	1.58E+08	40.712	0.000	2.260	0.000
31	7	0	0	0	48214	1.8E+08	36253	1.37E+08	35.347	0.000	24.911	0.000
31	8	0	15441	58488963	47069	1.8E+08	39995	1.51E+08	38.995	13.922	45.108	14.154
30	9	0	46212	1.8E+08	35600	1.3E+08	36009	1.36E+08	35.109	41.667	83.067	36.200
31	10	0	49412	1.9E+08	19785	74943601	33055	1.25E+08	32.229	44.552	74.194	12.353
30	11	0	12309	46625261	0	0	44573	1.69E+08	43.459	11.098	0.000	3.077
31	12	0	30889	1.2E+08	0	0	36074	1.37E+08	35.172	27.851	0.000	7.722
31	1	1983	32695	1.2E+08	0	0	41974	1.59E+08	52.468	23.704	0.000	6.811
28	2	0	27578	1.0E+08	0	0	34649	1.31E+08	43.311	19.994	0.000	4.596
31	3	0	34510	1.3E+08	0	0	28741	1.09E+08	35.926	25.020	0.000	5.752
30	4	0	20174	76417094	0	0	39706	1.50E+08	49.633	14.626	0.000	3.362
31	5	0	31881	1.2E+08	0	0	38012	1.44E+08	47.515	23.114	0.000	5.314
30	6	0	54167	2.1E+08	7844	29712287	37993	1.44E+08	47.492	39.271	13.727	9.028
31	7	0	49506	1.9E+08	0	0	49525	1.88E+08	61.907	35.892	0.000	8.251
31	8	0	57027	2.2E+08	0	0	35618	1.35E+08	44.523	41.345	0.000	11.881
30	9	0	46136	1.7E+08	0	0	30410	1.15E+08	38.013	33.449	0.000	9.612
31	10	0	34799	1.3E+08	0	0	30280	1.15E+08	37.850	25.229	0.000	7.250
30	11	0	32220	1.2E+08	0	0	22279	8.44E+07	27.849	23.360	0.000	8.592
31	12	0	31963	1.2E+08	0	0	36165	1.37E+08	45.207	23.173	0.000	6.659
31	1	1984	34986	1.3E+08	0	0	28631	1.08E+08	44.378	40.526	0.000	5.831
29	2	0	30407	1.2E+08	0	0	23561	8.92E+07	36.520	35.222	0.000	13.176
31	3	0	42569	1.6E+08	0	0	23280	8.82E+07	36.084	49.309	0.000	15.963
30	4	0	27788	1.1E+08	0	0	30598	1.16E+08	47.427	32.188	0.000	10.421
31	5	0	36351	1.4E+08	0	0	23570	8.93E+07	36.534	42.107	0.000	12.723
30	6	0	23128	87606551	0	0	9860	3.73E+07	15.283	26.790	0.000	10.986
31	7	0	0	0	0	0	58410	2.21E+08	90.536	0.000	0.000	0.000
31	8	0	0	0	36095	1.4E+08	58437	2.21E+08	90.578	0.000	60.159	0.000
30	9	0	3768	14272807	32858	1.2E+08	51175	1.94E+08	79.322	4.365	54.764	2.261
31	10	0	50305	1.9E+08	432	1636372.	52256	1.98E+08	80.997	58.270	0.706	16.894
30	11	0	15320	58030628	25364	96076295	0	0.00E+00	0.000	17.746	40.160	14.299
31	12	0	58581	2.2E+08	38205	1.4E+08	5308	2.01E+07	8.227	67.857	62.083	26.850
31	1	1985	65790	2.5E+08	29415	1.1E+08	1018	3.86E+06	1.578	54.825	36.769	19.189
28	2	0	57507	2.2E+08	32126	1.2E+08	2382	9.02E+06	3.692	47.923	37.481	16.773
31	3	0	64397	2.4E+08	35041	1.3E+08	3438	1.30E+07	5.329	53.664	35.041	18.783
30	4	0	63882	2.4E+08	32731	1.2E+08	16325	6.18E+07	25.304	53.235	30.004	18.632
31	5	0	47015	1.8E+08	29591	1.1E+08	8504	3.22E+07	13.181	39.179	25.892	13.713
30	6	0	57468	2.2E+08	28131	1.1E+08	6738	2.55E+07	10.444	47.890	23.443	16.762
31	7	0	63457	2.4E+08	2868	10863697	4583	1.74E+07	7.104	52.881	2.151	18.508
31	8	0	53948	2.0E+08	5938	22492550	8587	3.25E+07	13.310	44.957	3.959	15.735
30	9	0	32969	1.2E+08	17232	65273092	7431	2.81E+07	11.518	27.474	10.052	9.616
31	10	0	61802	2.3E+08	237	897732.3	4114	1.56E+07	6.377	51.502	0.128	18.026
30	11	0	59904	2.3E+08	652	2469710.	4278	1.62E+07	6.631	49.920	0.326	17.472
31	12	0	46327	1.8E+08	3427	12981133	10171	3.85E+07	15.765	38.606	1.571	13.512
31	1	1986	67655	2.6E+08	4541	17200853	1588	6.02E+06	2.991	56.379	1.892	19.733
28	2	0	1815	6875038.	4240	16060696	16488	6.25E+07	31.053	1.513	1.590	0.529
31	3	0	46081	1.7E+08	4546	17219793	41943	1.59E+08	78.993	38.401	1.515	13.440
30	4	0	58356	2.2E+08	4333	16412970	35390	1.34E+08	66.652	48.630	1.264	17.021
31	5	0	43827	1.7E+08	38076	1.4E+08	48460	1.84E+08	91.267	36.523	9.519	12.783
30	6	0	37979	1.4E+08	48101	1.8E+08	46941	1.78E+08	88.406	31.649	10.021	11.077
31	7	0	30550	1.2E+08	47428	1.8E+08	30339	1.15E+08	57.139	25.458	7.905	8.910
31	8	0	26743	1.0E+08	44512	1.7E+08	50046	1.90E+08	94.254	22.286	7.419	7.800
30	9	0	25864	97970245	42934	1.6E+08	47810	1.81E+08	90.043	21.553	7.156	7.544
31	10	0	45312	1.7E+08	24533	92928550	45806	1.74E+08	86.268	37.760	4.089	13.216
30	11	0	23182	87811097	31108	1.2E+08	49632	1.88E+08	93.474	19.318	5.185	6.761
31	12	0	40106	1.5E+08	24831	94057344	40330	1.53E+08	75.955	33.422	4.139	11.698
31	1	1987	46921	1.8E+08	22578	85523206	48941	1.85E+08	54.243	30.108	3.763	13.685
28	2	0	40432	1.5E+08	19694	74598902	44117	1.67E+08	48.897	25.944	3.282	11.793
31	3	0	34675	1.3E+08	30363	1.2E+08	48121	1.82E+08	53.334	22.250	5.061	10.114
30	4	0	42068	1.6E+08	29042	1.1E+08	43296	1.64E+08	47.987	26.994	4.840	12.270
31	5	0	59029	2.2E+08	36074	1.4E+08	48284	1.83E+08	53.515	37.877	6.012	17.217
30	6	0	64749	2.5E+08	41844	1.6E+08	45256	1.71E+08	50.159	41.548	6.974	18.885

TCE MASS REMOVED BY CW6 BETWEEN 3/82 AND 6/87	2745.21	LBS
TCE REMOCAL RATE CW6	522.90	LBS/YR
TOTAL VHH REMOVAL CW4	759.58	LBS
VHH REMOVAL RATE CW4	146.07	LBS/YR
TOTAL EAST SIDE VHH REMOVAL CW3	737.01	LBS
VHH REMOVAL RATE (EAST SOURCE) CW3	141.73	LBS/YR
TCE REMOVAL RATE (CW3 AND CW6)	908.62	LBS/YR
TOTAL TCE REMOVAL(CW6 &CW3) 3/82 TO 6/87	4724.80	LBS
TCE MASS REMOVED BY CW3 BETWEEN 3/82 AND 6/87	1979.59	LBS
TCE REMOVAL RATE CW3	377.06	LBS/YR

NOTES

1) MASS REMOVAL OF TCE (LANDFILL SOURCE) BY CW3 IS BASED ON AVERAGE CONCENTRATIONS DURING PERIODS OF MINIMAL IMPACT BY EAST SIDE SOURCES.

2) MASS REMOVED BY CW4 ASSUMES ALL CHLORINATED ETHENES RESULT FROM EAST SIDE (WAUSAU CHEMICAL) SOURCES.

3) MASS REMOVED BY WELL CW3 ASSUMES THAT ALL PCE AND DCE AND TCE IN EXCESS OF 90 UG/L RESULTS FROM EAST SIDE (WAUSAU CHEMICAL) SOURCES.

CSR/RJK

TABLE 14
SUMMARY OF WAUSAU CHEMICAL EXTRACTION SYSTEM PERFORMANCE
WAUSAU WATER SUPPLY NPL SITE, WAUSAU WISCONSIN

DATE	TOTAL DAYS	PUMPING RATE (GPM)	PCE INFLUENT CONCENTRATION (UG/L)	MASS REMOVED (LBS)
24-Jun-86	3	140	9360	47.18
27-Jun-86	3	141	7700	39.16
30-Jun-86	3	141	6300	32.04
07-Jul-86	7	121	5290	53.87
14-Jul-86	7	129	5150	55.91
21-Jul-86	7	118.5	3870	38.59
28-Jul-86	7	128.1	2840	30.62
04-Aug-86	7	129.8	3240	35.39
12-Aug-86	8	185.3	2810	50.08
20-Aug-86	8	129.8	3140	39.20
27-Aug-86	7	127	2630	28.11
29-Aug-86	2	128.8	2840	8.80
22-Sep-86	24	132.4	3540	135.23
29-Sep-86	7	126.5	6220	66.22
22-Oct-86	23	120.1	4820	160.07
28-Oct-86	6	122	998	8.78
03-Nov-86	6	108.8	2340	18.36
17-Nov-86	14	96.7	2115	34.42
02-Dec-86	15	84.3	1510	22.96
09-Dec-86	7	110	1940	17.96
15-Dec-86	6	96.5	2295	15.98
29-Dec-86	14	95.9	1565	25.26
05-Jan-87	7	95.8	1370	11.05
13-Jan-87	8	96.5	1700	15.78
20-Jan-87	7	96	1360	10.99
02-Feb-87	13	95.5	885	13.21
10-Feb-87	8	95.9	750	6.92
23-Feb-87	13	95	785	11.66
24-Mar-87	29	65.2	1290	29.32
10-Jun-87	78	123	732	84.43
09-Jul-87	29	98	1440	49.20
30-Sep-87	83	89	1317	116.96
08-Oct-87	8	87	1422	11.90
16-Oct-87	8	110	937	9.91
22-Oct-87	6	81.2	937	5.49
05-Nov-87	14	55.1	955	8.86
12-Nov-87	7	60	1191	6.01
09-Dec-87	27	64.5	1559	32.64
TOTAL DAYS OPERATED	536		TOTAL MASS REMOVED	1388.5

NOTES

Pumpage and concentration data based on information presented by STS Ltd. in the 1986 and 1987 progress reports submitted to the WDNR.

APPENDIX P

GROUNDWATER FLOW MODEL INPUT

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                    U.S. GEOLOGICAL SURVEY MODULAR FINITE-DIFFERENCE GROUND-WATER MODEL

 run at 16:09:33   on 24-APR-89

 Wausau - transient, 1 layer, final flow model calibration run, pumps on
    1 LAYERS        69 ROWS        36 COLUMNS
 150 STRESS PERIOD(S) IN SIMULATION
 MODEL TIME UNIT IS SECONDS
 Input file list
 block.dat
 pump76.dat
 river122.dat
 rechrun119.dat
 sip.dat
 output.dat
 nodal.dat
 velcty.dat
 I/O UNITS:
 ELEMENT OF IUNIT:  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
        I/O UNIT:  7  8  0  9  0  0  0 10 11  0  0 12 13 14  0  0  0  0  0  0  0  0  0  0
 BAS1 -- BASIC MODEL PACKAGE, VERSION 1, 12/08/83 INPUT READ FROM UNIT  5
 ARRAYS RHS AND BUFF WILL SHARE MEMORY.
 START HEAD WILL NOT BE SAVED -- DRAWDOWN CANNOT BE CALCULATED
  19981 ELEMENTS IN X ARRAY ARE USED BY BAS
  19981 ELEMENTS OF X ARRAY USED OUT OF 600000
 BCF1 -- BLOCK-CENTERED FLOW PACKAGE, VERSION 1, 12/08/83 INPUT READ FROM UNIT  7
 TRANSIENT SIMULATION
      LAYER  AQUIFER TYPE
      ------------------
         1         1
   7453 ELEMENTS IN X ARRAY ARE USED BY BCF
  27434 ELEMENTS OF X ARRAY USED OUT OF 600000
 WEL1 -- WELL PACKAGE, VERSION 1, 12/08/83 INPUT READ FROM  8
 MAXIMUM OF    8 WELLS
     32 ELEMENTS IN X ARRAY ARE USED FOR WELLS
  27466 ELEMENTS OF X ARRAY USED OUT OF 600000
 RCH1 -- RECHARGE PACKAGE, VERSION 1, 12/08/83 INPUT READ FROM UNIT 10
 OPTION 1 -- RECHARGE TO TOP LAYER
   2484 ELEMENTS OF X ARRAY USED FOR RECHARGE
  29950 ELEMENTS OF X ARRAY USED OUT OF 600000
 RIV1 -- RIVER PACKAGE, VERSION 1,  12/08/83 INPUT READ FROM UNIT  9
 MAXIMUM OF  366 RIVER NODES
 CELL-BY-CELL FLOWS WILL BE PRINTED
   2196 ELEMENTS IN X ARRAY ARE USED FOR RIVERS
  32146 ELEMENTS OF X ARRAY USED OUT OF 600000
 SIP1 -- STRONGLY IMPLICIT PROCEDURE SOLUTION PACKAGE, VERSION 1, 12/08/83 INPUT READ FROM UNIT 11
 MAXIMUM OF 100 ITERATIONS ALLOWED FOR CLOSURE
  5 ITERATION PARAMETERS
  10341 ELEMENTS IN X ARRAY ARE USED BY SIP
  42487 ELEMENTS OF X ARRAY USED OUT OF 600000
1Wausau - transient, 1 layer,                                                pumps on


                          BOUNDARY ARRAY FOR LAYER  1 WILL BE READ ON UNIT 25 USING FORMAT:          (36I3)
                          ---------------------------------------------------------------------------------

      1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
  ....................................................................................................
   1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  1  1  1  1  1  1  0  0  0
   2  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  1  1  1  1  1  1  1  0  0  0
```

3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0
4	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
15	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
16	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
17	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
18	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
19	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
20	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
21	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
22	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
23	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
24	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
25	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
26	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
27	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
28	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
29	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
30	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
31	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
32	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
33	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
34	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
35	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
36	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
37	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
38	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
39	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
40	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
41	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
42	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
43	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
44	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
45	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
46	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
47	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
48	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
49	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
50	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
51	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
52	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
53	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
54	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
55	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
56	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
57	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
58	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
59	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
60	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
61	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
62	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
63	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0

```
64   0  0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0  0
65   0  0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0  0
66   0  0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0  0
67   0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0  0
68   0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0
69   0  0  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  0  0  0  0  0
AQUIFER HEAD WILL BE SET TO  1230.0     AT ALL NO-FLOW NODES (IBOUND=0).
```

INITIAL HEAD FOR LAYER 1 WILL BE READ ON UNIT 26 USING FORMAT: (10f8.0)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	31	32	33	34	35	36									
1	1265.1	1290.1	1290.1	1290.1	1251.4	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1218.9	1221.8
	1223.2	1222.3	1224.0	1222.7	1215.9	1208.4	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5
	1187.5	1187.8	1189.0	1221.9	1288.7	1290.1									
2	1254.8	1290.1	1290.1	1290.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1
	1230.1	1230.1	1230.1	1230.1	1200.1	1170.1	1187.7	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5
	1187.5	1187.5	1188.2	1217.8	1288.1	1390.1									
3	1251.0	1243.6	1253.0	1220.1	1220.1	1220.1	1220.1	1220.1	1220.1	1220.1	1220.1	1220.1	1220.1	1230.1	1230.1
	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1200.1	1200.1	1175.1	1150.1	1125.1	1187.5	1187.5
	1187.5	1187.5	1187.9	1189.1	1251.1	1290.1									
4	1247.6	1240.9	1233.5	1222.6	1214.6	1212.3	1217.8	1219.4	1221.8	1225.1	1222.2	1221.4	1221.0	1230.1	1230.1
	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1230.1	1187.5	1187.5	1187.5	1187.5	1187.5	1187.5
	1187.5	1187.5	1187.6	1187.8	1200.1	1279.6									
5	1246.8	1239.6	1230.2	1216.8	1204.7	1198.8	1195.5	1193.8	1192.7	1191.7	1191.1	1190.5	1190.0	1189.5	1189.1
	1188.7	1188.3	1188.1	1187.8	1187.7	1187.5	1187.4	1187.3	1187.2	1187.2	1187.2	1187.2	1187.2	1187.3	1187.4
	1187.5	1187.5	1187.6	1187.7	1226.2	1252.7									
6	1246.4	1239.3	1229.9	1216.8	1203.8	1196.4	1193.8	1192.2	1191.1	1190.2	1189.5	1189.0	1188.6	1188.1	1187.7
	1187.4	1187.2	1187.0	1186.8	1186.7	1186.7	1186.7	1186.7	1186.7	1186.8	1186.8	1186.9	1187.0	1187.1	1187.3
	1187.5	1187.5	1187.6	1202.3	1239.2	1230.6									
7	1246.2	1239.1	1229.9	1217.7	1203.5	1194.8	1192.4	1190.7	1189.6	1188.7	1188.1	1187.6	1187.2	1186.8	1186.5
	1186.3	1186.2	1186.1	1186.1	1186.1	1186.1	1186.2	1186.3	1186.4	1186.5	1186.6	1186.7	1186.8	1187.0	1187.2
	1187.4	1187.5	1187.6	1230.0	1248.3	1234.1									
8	1246.1	1239.1	1229.9	1218.8	1203.8	1194.0	1191.8	1190.1	1189.0	1188.2	1187.5	1187.1	1186.7	1186.3	1186.1
	1185.9	1185.8	1185.8	1185.8	1185.8	1185.9	1186.0	1186.1	1186.2	1186.3	1186.4	1186.5	1186.7	1186.8	1187.1
	1187.4	1187.5	1187.6	1220.7	1241.2	1240.7									
9	1246.1	1239.2	1229.9	1219.6	1204.2	1193.5	1191.3	1189.6	1188.6	1187.7	1187.1	1186.7	1186.2	1185.9	1185.7
	1185.5	1185.5	1185.5	1185.5	1185.6	1185.7	1185.8	1185.9	1186.1	1186.2	1186.2	1186.4	1186.5	1186.8	1187.1
	1187.4	1187.5	1187.7	1244.5	1243.0	1249.1									
10	1246.0	1239.2	1229.8	1220.3	1204.5	1193.3	1191.0	1189.2	1188.1	1187.3	1186.7	1186.3	1185.8	1185.5	1185.2
	1185.1	1185.2	1185.2	1185.3	1185.4	1185.5	1185.6	1185.7	1185.9	1186.0	1186.1	1186.2	1186.4	1186.7	1187.0
	1187.4	1187.5	1190.1	1256.8	1247.7	1265.9									
11	1246.0	1239.3	1229.8	1220.8	1204.8	1193.2	1190.8	1189.0	1187.8	1187.0	1186.4	1186.0	1185.5	1185.0	1184.6
	1184.7	1184.9	1185.0	1185.1	1185.2	1185.3	1185.4	1185.6	1185.7	1185.8	1186.0	1186.1	1186.3	1186.6	1187.0
	1187.4	1187.5	1230.1	1253.0	1245.3	1272.6									
12	1246.0	1239.4	1229.8	1221.4	1205.1	1193.2	1190.6	1188.6	1187.3	1186.7	1186.2	1185.7	1185.2	1184.6	1183.6
	1184.4	1184.7	1184.9	1185.0	1185.1	1185.2	1185.3	1185.4	1185.5	1185.7	1185.8	1186.0	1186.2	1186.5	1187.0
	1187.4	1187.5	1230.1	1268.9	1244.8	1262.6									
13	1246.0	1239.5	1229.7	1221.9	1205.5	1193.2	1190.3	1188.2	1187.0	1186.5	1186.0	1185.6	1185.2	1184.8	1184.4
	1184.5	1184.7	1184.8	1184.9	1185.0	1185.1	1185.1	1185.2	1185.3	1185.5	1185.7	1185.9	1186.1	1186.5	1187.0
	1187.5	1187.5	1230.1	1280.5	1247.7	1285.3									
14	1246.0	1239.7	1229.7	1222.4	1205.6	1193.3	1190.1	1187.8	1186.7	1186.2	1185.8	1185.5	1185.2	1184.9	1184.7
	1184.7	1184.7	1184.8	1184.9	1184.9	1185.0	1185.0	1185.1	1185.2	1185.3	1185.5	1185.8	1186.0	1186.4	1187.0
	1187.5	1187.5	1230.1	1271.9	1259.5	1281.5									
15	1246.1	1240.3	1229.7	1223.1	1212.2	1193.6	1189.8	1187.4	1186.5	1186.0	1185.7	1185.4	1185.1	1184.9	1184.8
	1184.7	1184.7	1184.8	1184.8	1184.9	1184.9	1184.9	1184.9	1184.9	1185.2	1185.4	1185.7	1185.9	1186.3	1187.0

	1187.5	1187.5	1230.1	1257.9	1255.5	1277.6									
16	1247.6	1241.1	1229.6	1223.6	1214.7	1194.7	1189.7	1187.0	1186.2	1185.9	1185.6	1185.3	1185.1	1184.9	1184.8
	1184.7	1184.7	1184.7	1184.8	1184.8	1184.9	1184.8	1184.7	1184.2	1185.0	1185.4	1185.7	1185.9	1186.3	1187.1
	1187.5	1200.1	1230.1	1260.3	1274.0	1330.9									
17	1245.9	1252.1	1229.6	1224.2	1208.4	1195.1	1190.1	1186.7	1186.0	1185.7	1185.5	1185.2	1185.0	1184.8	1184.7
	1184.6	1184.6	1184.6	1184.7	1184.8	1184.9	1184.9	1184.9	1184.9	1185.2	1185.4	1185.7	1185.9	1186.4	1187.3
	1187.5	1200.1	1230.1	1269.2	1284.5	1340.5									
18	1250.1	1265.6	1229.6	1224.5	1225.9	1220.1	1200.1	1186.3	1185.8	1185.6	1185.4	1185.2	1185.0	1184.8	1184.6
	1184.4	1184.4	1184.5	1184.6	1184.8	1184.9	1185.0	1185.1	1185.2	1185.4	1185.6	1185.8	1186.0	1186.4	1187.3
	1187.5	1200.1	1250.1	1278.0	1287.4	1349.1									
19	1250.1	1272.6	1229.6	1224.7	1214.3	1230.1	1200.1	1186.1	1185.7	1185.6	1185.3	1185.1	1184.9	1184.7	1184.4
	1184.2	1184.1	1184.3	1184.6	1184.8	1185.0	1185.1	1185.2	1185.4	1185.5	1185.7	1185.9	1186.1	1186.5	1187.4
	1187.5	1230.1	1255.8	1273.5	1281.6	1359.5									
20	1243.9	1276.8	1229.6	1225.0	1208.6	1230.1	1230.1	1186.1	1185.7	1185.6	1185.4	1185.2	1184.9	1184.6	1184.3
	1183.9	1183.5	1184.0	1184.5	1184.8	1185.0	1185.2	1185.4	1185.5	1185.7	1185.9	1186.0	1186.2	1186.7	1187.4
	1187.5	1230.1	1267.9	1268.1	1281.4	1368.9									
21	1242.3	1278.9	1231.0	1229.0	1224.2	1230.1	1220.1	1186.1	1185.8	1185.6	1185.4	1185.2	1185.0	1184.7	1184.3
	1183.5	1182.2	1183.8	1184.5	1184.9	1185.2	1185.4	1185.6	1185.7	1185.9	1186.0	1186.2	1186.3	1186.8	1187.5
	1187.5	1230.1	1284.5	1268.8	1277.9	1390.1									
22	1244.1	1230.1	1222.7	1223.1	1222.0	1230.1	1215.1	1186.1	1185.9	1185.7	1185.6	1185.4	1185.2	1184.9	1184.6
	1184.1	1183.8	1184.3	1184.8	1185.1	1185.3	1185.5	1185.7	1185.9	1186.0	1186.2	1186.3	1186.5	1187.1	1187.5
	1187.5	1230.1	1287.4	1270.1	1292.8	1390.1									
23	1236.6	1230.1	1230.1	1228.9	1230.1	1225.1	1200.1	1186.3	1186.1	1185.9	1185.8	1185.6	1185.4	1185.2	1185.0
	1184.9	1184.8	1185.0	1185.2	1185.4	1185.6	1185.8	1185.9	1186.1	1186.2	1186.4	1186.5	1186.7	1187.3	1187.5
	1187.5	1230.1	1276.0	1268.4	1358.0	1390.1									
24	1238.7	1230.1	1230.1	1230.1	1230.1	1230.1	1187.2	1186.6	1186.4	1186.2	1186.1	1186.0	1185.8	1185.7	1185.6
	1185.5	1185.5	1185.5	1185.7	1185.8	1185.9	1186.1	1186.2	1186.3	1186.5	1186.6	1186.8	1187.0	1187.4	1187.5
	1187.7	1230.1	1254.4	1277.6	1359.6	1390.1									
25	1230.1	1230.1	1230.1	1230.1	1230.1	1215.1	1187.2	1186.8	1186.7	1186.6	1186.5	1186.3	1186.2	1186.1	1186.1
	1186.0	1186.0	1186.0	1186.1	1186.2	1186.3	1186.4	1186.5	1186.6	1186.7	1186.9	1187.1	1187.3	1187.5	1187.5
	1190.1	1230.1	1278.7	1278.8	1345.1	1390.1									
26	1230.1	1230.1	1230.1	1230.1	1222.7	1215.1	1187.3	1187.1	1187.1	1187.1	1186.9	1186.8	1186.7	1186.6	1186.6
	1186.5	1186.5	1186.5	1186.6	1186.6	1186.7	1186.8	1186.8	1186.9	1187.0	1187.1	1187.1	1187.3	1187.4	1188.1
	1230.1	1237.7	1274.3	1290.1	1375.7	1390.1									
27	1240.7	1230.1	1230.1	1230.1	1225.5	1195.1	1187.4	1187.2	1187.2	1187.2	1187.2	1187.1	1187.0	1186.9	1186.9
	1186.8	1186.8	1186.8	1186.9	1186.9	1187.0	1187.0	1187.1	1187.1	1187.1	1187.2	1187.2	1187.3	1187.4	1188.4
	1220.1	1247.9	1280.3	1290.1	1390.1	1390.1									
28	1246.6	1230.1	1230.1	1222.3	1216.2	1188.6	1187.4	1187.3	1187.2	1187.2	1187.2	1187.2	1187.1	1187.1	1187.0
	1187.0	1187.0	1187.0	1187.0	1187.1	1187.1	1187.1	1187.2	1187.2	1187.2	1187.2	1187.2	1187.3	1187.4	1188.5
	1220.1	1275.6	1290.1	1290.1	1390.1	1390.1									
29	1250.1	1214.3	1230.1	1219.1	1223.4	1188.3	1187.5	1187.3	1187.3	1187.2	1187.2	1187.2	1187.2	1187.2	1187.1
	1187.1	1187.1	1187.1	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.3	1187.4	1180.1
	1238.8	1282.8	1290.1	1290.1	1346.4	1390.1									
30	1250.1	1208.2	1230.1	1215.9	1211.3	1188.2	1187.5	1187.3	1187.3	1187.3	1187.2	1187.2	1187.2	1187.2	1187.2
	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.4	1188.6
	1232.1	1277.0	1275.1	1290.1	1358.7	1390.1									
31	1250.1	1207.5	1225.3	1230.1	1221.5	1188.2	1187.5	1187.3	1187.3	1187.3	1187.3	1187.2	1187.2	1187.2	1187.2
	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.3	1200.1
	1241.8	1259.9	1273.0	1290.1	1349.5	1390.1									
32	1250.1	1200.1	1223.3	1230.1	1228.6	1188.2	1187.6	1187.3	1187.3	1187.3	1187.3	1187.3	1187.2	1187.2	1187.2
	1187.2	1187.2	1187.2	1187.2	1187.1	1187.1	1187.1	1187.1	1187.1	1187.1	1187.1	1187.1	1187.1	1187.3	1187.9
	1220.1	1238.7	1262.1	1290.1	1290.1	1390.1									
33	1250.1	1200.1	1212.6	1230.1	1230.1	1188.1	1187.6	1187.4	1187.3	1187.3	1187.2	1187.2	1187.2	1187.2	1187.2
	1187.1	1187.1	1187.1	1187.0	1187.0	1187.0	1187.0	1187.0	1187.0	1187.0	1187.0	1187.0	1187.0	1187.2	1188.1
	1200.1	1213.4	1261.8	1290.1	1290.1	1390.1									
34	1250.1	1200.1	1203.9	1223.0	1230.1	1188.1	1187.6	1187.4	1187.3	1187.3	1187.2	1187.2	1187.2	1187.1	1187.1
	1187.0	1187.0	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1187.0	1190.1
	1200.1	1230.1	1267.5	1290.1	1290.1	1390.1									
35	1250.1	1200.1	1203.5	1226.1	1222.1	1188.1	1187.6	1187.4	1187.3	1187.2	1187.2	1187.1	1187.1	1187.0	1187.0
	1186.9	1186.8	1186.8	1186.7	1186.7	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.7	1186.8	1187.2	1189.6
	1210.1	1240.9	1279.4	1290.1	1290.1	1365.0									

36	1250.1	1200.1	1203.5	1213.0	1216.9	1188.1	1187.7	1187.4	1187.3	1187.2	1187.1	1187.1	1187.0	1186.9	1186.8
	1186.7	1186.6	1186.6	1186.5	1186.4	1186.4	1186.4	1186.4	1186.4	1186.4	1186.5	1186.5	1186.6	1185.1	1190.1
	1220.1	1240.1	1281.2	1265.8	1290.1	1374.4									
37	1250.1	1200.1	1196.8	1204.4	1184.2	1188.2	1187.7	1187.5	1187.3	1187.2	1187.1	1187.0	1186.9	1186.8	1186.7
	1186.6	1186.5	1186.4	1186.2	1186.1	1186.1	1186.1	1186.2	1186.2	1186.3	1186.3	1186.4	1186.5	1186.7	1190.1
	1206.5	1247.4	1279.8	1268.2	1290.1	1366.5									
38	1250.1	1204.1	1196.6	1193.3	1189.6	1188.2	1187.8	1187.5	1187.4	1187.2	1187.1	1187.0	1186.9	1186.8	1186.7
	1186.5	1186.4	1186.2	1186.0	1185.8	1185.8	1185.9	1186.0	1186.1	1186.2	1186.2	1186.3	1186.4	1186.7	1200.1
	1210.1	1230.1	1250.1	1253.6	1290.1	1367.6									
39	1246.0	1204.3	1196.5	1192.2	1189.6	1188.3	1187.8	1187.5	1187.4	1187.2	1187.1	1187.0	1186.9	1186.8	1186.7
	1186.5	1186.3	1186.0	1185.7	1185.3	1185.5	1185.8	1185.9	1186.0	1186.1	1186.2	1186.2	1186.4	1186.8	1200.1
	1210.1	1230.1	1250.1	1275.8	1290.1	1359.6									
40	1248.9	1200.1	1196.4	1192.2	1189.7	1188.3	1187.8	1187.6	1187.4	1187.2	1187.1	1187.0	1186.9	1186.8	1186.6
	1186.5	1186.3	1185.9	1185.4	1184.3	1185.3	1185.7	1185.9	1186.0	1186.1	1186.1	1186.2	1186.4	1187.0	1195.1
	1200.1	1225.1	1255.9	1266.5	1290.1	1362.5									
41	1248.9	1200.1	1196.3	1192.1	1189.7	1188.4	1187.9	1187.6	1187.4	1187.2	1187.1	1187.0	1186.9	1186.8	1186.7
	1186.5	1186.3	1186.0	1185.7	1185.3	1185.5	1185.8	1185.9	1186.0	1186.1	1186.2	1186.2	1186.4	1186.9	1190.1
	1200.1	1205.1	1230.1	1240.9	1290.1	1365.4									
42	1247.9	1200.1	1196.2	1192.1	1189.7	1188.4	1187.9	1187.6	1187.4	1187.2	1187.1	1187.0	1186.9	1186.8	1186.7
	1186.6	1186.4	1186.2	1186.0	1185.9	1185.9	1186.0	1186.0	1186.1	1186.2	1186.2	1186.3	1186.4	1186.7	1190.1
	1298.0	1205.1	1220.1	1249.6	1290.1	1369.0									
43	1245.7	1200.1	1196.1	1192.0	1189.7	1188.5	1187.9	1187.6	1187.4	1187.3	1187.1	1187.1	1187.0	1186.9	1186.8
	1186.7	1186.6	1186.4	1186.3	1186.2	1186.2	1186.2	1186.2	1186.3	1186.3	1186.3	1186.4	1186.5	1186.7	1187.2
	1190.1	1205.1	1220.1	1242.4	1290.1	1376.7									
44	1243.2	1200.1	1196.0	1192.0	1189.7	1188.5	1187.9	1187.6	1187.4	1187.3	1187.2	1187.1	1187.0	1187.0	1186.9
	1186.8	1186.7	1186.6	1186.5	1186.5	1186.4	1186.4	1186.4	1186.4	1186.4	1186.5	1186.5	1186.5	1186.7	1187.5
	1195.1	1205.1	1230.1	1244.7	1290.1	1335.7									
45	1257.5	1200.1	1196.0	1191.9	1189.7	1188.5	1187.9	1187.6	1187.4	1187.3	1187.2	1187.1	1187.1	1187.0	1186.9
	1186.9	1186.8	1186.8	1186.7	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.7	1187.2
	1190.1	1205.1	1237.4	1264.1	1285.5	1347.4									
46	1263.5	1200.1	1195.9	1191.8	1189.7	1188.5	1187.9	1187.6	1187.4	1187.3	1187.2	1187.2	1187.1	1187.0	1187.0
	1186.9	1186.9	1186.8	1186.8	1186.7	1186.7	1186.7	1186.7	1186.7	1186.7	1186.7	1186.7	1186.7	1186.8	1187.2
	1195.1	1205.1	1239.5	1277.0	1281.5	1315.3									
47	1268.1	1206.9	1190.1	1191.7	1189.7	1188.5	1187.9	1187.6	1187.4	1187.3	1187.2	1187.2	1187.1	1187.1	1187.0
	1187.0	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.7	1186.7	1186.7	1186.7	1186.7	1186.8	1186.9	1187.2
	1188.9	1201.8	1230.1	1272.8	1282.2	1284.1									
48	1270.8	1205.9	1190.1	1191.5	1189.6	1188.5	1187.9	1187.6	1187.4	1187.3	1187.2	1187.2	1187.1	1187.1	1187.0
	1187.0	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1187.2
	1188.6	1202.2	1239.6	1282.1	1282.7	1278.5									
49	1275.1	1205.0	1190.1	1191.3	1189.5	1188.4	1187.8	1187.5	1187.4	1187.3	1187.2	1187.2	1187.2	1187.1	1187.1
	1187.0	1187.0	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1187.2
	1188.4	1200.1	1242.1	1279.2	1268.8	1285.7									
50	1277.5	1204.1	1190.1	1191.1	1189.4	1188.4	1187.8	1187.5	1187.4	1187.3	1187.3	1187.2	1187.2	1187.1	1187.1
	1187.0	1187.0	1186.9	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1186.9	1187.1
	1188.0	1205.1	1242.7	1271.2	1273.6	1265.7									
51	1266.2	1203.1	1195.1	1191.0	1189.3	1188.3	1187.8	1187.5	1187.4	1187.3	1187.3	1187.2	1187.2	1187.1	1187.1
	1187.0	1187.0	1187.0	1186.9	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1187.0	1187.1
	1187.8	1205.1	1242.9	1257.1	1278.4	1261.7									
52	1276.0	1202.0	1195.1	1190.9	1189.2	1188.2	1187.8	1187.5	1187.4	1187.3	1187.3	1187.2	1187.2	1187.1	1187.1
	1187.0	1187.0	1187.0	1186.9	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.9	1186.9	1187.0	1187.1
	1187.7	1200.1	1241.7	1258.0	1284.7	1243.6									
53	1277.2	1204.1	1195.1	1190.8	1188.9	1188.1	1187.7	1187.5	1187.4	1187.4	1187.3	1187.3	1187.2	1187.1	1187.1
	1187.0	1187.0	1186.9	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.8	1186.8	1186.9	1186.9	1187.1
	1187.8	1205.1	1243.2	1254.6	1264.8	1234.8									
54	1280.1	1213.8	1195.1	1190.5	1188.5	1187.8	1187.5	1187.4	1187.4	1187.4	1187.3	1187.3	1187.2	1187.1	1187.1
	1187.0	1186.9	1186.9	1186.9	1186.8	1186.8	1186.8	1186.8	1186.7	1186.7	1186.8	1186.8	1186.8	1186.9	1187.1
	1187.7	1200.1	1231.7	1246.0	1242.7	1235.2									
55	1284.8	1231.3	1200.1	1190.1	1188.1	1187.5	1187.3	1187.3	1187.3	1187.3	1187.3	1187.2	1187.1	1187.1	1187.0
	1186.9	1186.8	1186.8	1186.7	1186.7	1186.7	1186.6	1186.6	1186.6	1186.6	1186.6	1186.6	1186.7	1186.8	1187.0
	1187.5	1189.2	1214.3	1238.3	1234.3	1273.6									
56	1290.1	1237.0	1200.0	1189.8	1187.7	1187.2	1187.2	1187.2	1187.2	1187.2	1187.2	1187.1	1187.0	1186.9	1186.8

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      1186.7  1186.6  1186.5  1186.5  1186.4  1186.4  1186.4  1186.4  1186.4  1186.4  1186.4  1186.4  1186.5  1186.6  1186.8
      1187.4  1189.2  1211.1  1240.3  1236.3  1275.7
 57   1290.1  1247.2  1200.1  1188.6  1187.1  1186.9  1186.9  1187.0  1187.1  1187.0  1186.9  1186.8  1186.6  1186.5  1186.4
      1186.3  1186.2  1186.1  1186.1  1186.0  1186.0  1186.0  1185.9  1185.9  1186.0  1186.0  1186.0  1186.1  1186.2  1186.5
      1187.1  1189.2  1205.4  1247.9  1254.1  1279.8
 58   1275.8  1283.0  1221.7  1187.6  1186.4  1186.3  1186.3  1186.3  1186.2  1186.1  1185.9  1185.8  1185.7  1185.6  1185.5
      1185.4  1185.3  1185.3  1185.2  1185.2  1185.1  1185.1  1185.1  1185.1  1185.1  1185.2  1185.2  1185.3  1185.5  1185.8
      1186.5  1190.8  1216.6  1273.9  1324.6  1309.2
 59   1237.1  1290.1  1248.0  1187.2  1184.9  1185.2  1185.0  1184.9  1184.8  1184.7  1184.5  1184.4  1184.2  1184.1  1184.0
      1183.9  1183.8  1183.7  1183.7  1183.6  1183.6  1183.6  1183.6  1183.6  1183.6  1183.7  1183.7  1183.8  1184.0  1184.4
      1185.5  1204.4  1243.0  1281.8  1371.9  1385.6
 60   1237.5  1283.0  1267.4  1208.0  1182.4  1183.0  1183.0  1182.8  1182.8  1182.7  1182.5  1182.3  1182.1  1181.9  1181.8
      1181.6  1181.6  1181.5  1181.4  1181.4  1181.4  1181.4  1181.4  1181.4  1181.5  1181.5  1181.6  1181.8  1182.0  1182.4
      1180.1  1217.2  1249.1  1322.7  1390.1  1390.1
 61   1234.9  1270.1  1290.1  1200.3  1178.7  1179.9  1180.3  1180.0  1179.9  1179.8  1179.6  1179.4  1179.3  1179.2  1179.1
      1179.0  1179.0  1179.0  1178.9  1178.9  1179.0  1179.0  1179.0  1179.1  1179.1  1179.2  1179.3  1179.5  1179.9  1180.8
      1184.9  1223.9  1251.4  1290.1  1347.9  1390.1
 62   1241.2  1241.3  1271.1  1206.4  1174.9  1177.0  1177.7  1177.3  1177.2  1177.1  1177.0  1177.0  1177.0  1176.9  1176.9
      1176.9  1176.9  1176.9  1176.9  1176.9  1177.0  1177.0  1177.1  1177.2  1177.3  1177.4  1177.5  1177.6  1177.9  1179.1
      1186.9  1202.2  1239.3  1276.6  1348.4  1386.1
 63   1208.7  1239.0  1237.2  1206.6  1171.3  1174.1  1175.0  1174.7  1174.7  1174.7  1174.7  1174.7  1174.8  1174.8  1174.8
      1174.9  1174.9  1175.0  1175.1  1175.1  1175.2  1175.2  1175.3  1175.4  1175.5  1175.6  1175.7  1175.8  1176.2  1177.5
      1195.7  1221.1  1238.8  1279.8  1326.2  1363.2
 64   1200.1  1227.7  1217.7  1165.9  1167.2  1169.4  1171.0  1171.5  1171.9  1172.1  1172.3  1172.4  1172.6  1172.7  1172.8
      1172.9  1173.0  1173.1  1173.1  1173.2  1173.3  1173.3  1173.4  1173.5  1173.6  1173.6  1173.7  1173.8  1174.0  1175.5
      1196.7  1214.2  1245.3  1282.0  1271.8  1339.8
 65   1200.1  1215.5  1200.9  1162.8  1162.2  1161.6  1166.7  1168.3  1169.1  1169.6  1169.9  1170.2  1170.4  1170.6  1170.7
      1170.9  1171.0  1171.1  1171.2  1171.3  1171.4  1171.5  1171.5  1171.6  1171.7  1171.8  1171.9  1172.0  1172.1  1172.5
      1199.6  1200.1  1236.0  1267.9  1286.5  1280.6
 66   1200.1  1203.9  1180.4  1162.4  1161.1  1161.1  1164.0  1165.6  1166.4  1166.9  1167.3  1167.6  1167.9  1168.1  1168.4
      1168.6  1168.7  1168.9  1169.0  1169.2  1169.3  1169.4  1169.5  1169.5  1169.6  1169.7  1169.8  1169.9  1170.0  1170.3
      1189.8  1200.1  1233.7  1276.3  1265.7  1286.3
 67   1200.1  1180.4  1166.0  1162.2  1161.0  1161.0  1161.2  1162.6  1163.4  1163.9  1164.3  1164.6  1164.9  1165.1  1165.4
      1165.6  1165.8  1166.1  1166.2  1166.4  1166.6  1166.7  1166.9  1167.0  1167.1  1167.2  1167.3  1167.5  1167.6  1167.8
      1173.6  1198.2  1216.3  1236.1  1230.5  1258.1
 68   1200.1  1166.3  1165.3  1162.4  1161.1  1161.0  1161.0  1161.1  1161.1  1161.2  1161.2  1161.3  1161.3  1161.4  1161.6
      1162.1  1162.6  1163.0  1163.4  1163.7  1164.0  1164.2  1164.4  1164.6  1164.8  1165.0  1165.2  1165.4  1165.6  1165.9
      1166.6  1186.1  1200.1  1238.2  1263.4  1290.1
 69   1169.3  1150.1  1165.0  1162.6  1161.6  1161.1  1161.0  1161.0  1161.0  1161.0  1161.0  1161.0  1161.0  1161.0  1161.1
      1161.2  1161.5  1161.9  1162.2  1162.5  1162.8  1163.1  1163.3  1163.5  1163.7  1164.0  1164.2  1164.4  1164.7  1165.1
      1165.7  1170.8  1210.6  1231.8  1279.5  1335.4
HEAD PRINT FORMAT IS FORMAT NUMBER  -3    DRAWDOWN PRINT FORMAT IS FORMAT NUMBER  -3
HEADS WILL BE SAVED ON UNIT 21    DRAWDOWNS WILL BE SAVED ON UNIT  0
OUTPUT CONTROL IS SPECIFIED EVERY TIME STEP
                                        COLUMN TO ROW ANISOTROPY =   1.000000

                                DELR WILL BE READ ON UNIT  7 USING FORMAT:          (10f8.0)
                        ----------------------------------------------------------------------

  2100.0      1400.0      1200.0      800.00      600.00      400.00      300.00      200.00      150.00      150.00
  100.00      100.00      100.00      100.00      100.00      100.00      100.00      100.00      100.00      100.00
  100.00      100.00      100.00      100.00      100.00      100.00      150.00      150.00      200.00      300.00
  400.00      600.00      800.00      1200.0      1600.0      1800.0

                                DELC WILL BE READ ON UNIT  7 USING FORMAT:          (10f8.0)
                        ----------------------------------------------------------------------
```

1800.0	1200.0	800.00	600.00	400.00	300.00	200.00	150.00	150.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	150.00	150.00	200.00	300.00	200.00	200.00	200.00	200.00
200.00	150.00	150.00	200.00	200.00	200.00	150.00	200.00	150.00	100.00
100.00	150.00	150.00	200.00	150.00	150.00	100.00	100.00	100.00	100.00
100.00	150.00	150.00	200.00	300.00	300.00	400.00	600.00	600.00	600.00
400.00	300.00	300.00	300.00	300.00	400.00	600.00	700.00	800.00	

PRIMARY STORAGE COEF = 0.2500000 FOR LAYER 1

HYD. COND. ALONG ROWS FOR LAYER 1 WILL BE READ ON UNIT 27 USING FORMAT: (36f4.0)

	1 11 21 31	2 12 22 32	3 13 23 33	4 14 24 34	5 15 25 35	6 16 26 36	7 17 27	8 18 28	9 19 29	10 20 30
1	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-04	2.0000E-03	3.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
2	2.0000E-03	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-04	2.0000E-03	3.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
3	3.0000E-03	2.0000E-03	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05
	1.0000E-05	1.0000E-04	2.0000E-03	3.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
4	5.0000E-03	5.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03
	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-04	1.0000E-04	1.0000E-04	1.0000E-04	1.0000E-04	1.0000E-04	1.0000E-04
	1.0000E-04	1.0000E-04	2.0000E-03	3.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
5	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03	2.0000E-03
	2.0000E-03	2.0000E-03	2.0000E-03	3.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
6	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
7	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
8	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
9	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
10	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
11	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03

	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
12	5.0000E-04	5.0000E-04	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.0000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
13	5.0000E-04	5.0000E-04	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
14	5.0000E-04	5.0000E-04	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
15	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
16	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	2.5000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
17	1.0000E-05	1.0000E-05	5.0000E-04	2.5000E-04	2.5000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
18	1.0000E-05	1.0000E-05	2.5000E-04	2.5000E-04	2.5000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
19	1.0000E-05	1.0000E-05	1.0000E-04	1.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
20	1.0000E-05	1.0000E-05	1.0000E-04	1.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
21	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
22	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
23	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
24	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	3.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
25	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
26	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	1.0000E-03	5.0000E-04

	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
27	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
28	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03	3.5000E-03
	3.5000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
29	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
30	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
31	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
32	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
33	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
34	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
35	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
36	1.0000E-05	1.0000E-05	1.0000E-05	3.0000E-05	1.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
37	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
38	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
39	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
40	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
41	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				

42	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
43	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
44	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
45	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
46	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
47	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
48	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
49	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
50	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	5.0000E-04
	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04				
51	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03
	5.0000E-03	5.0000E-03	5.0000E-03	5.0000E-03	2.5000E-03	2.5000E-03	2.5000E-03	2.5000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
52	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
53	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
54	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
55	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
56	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
57	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03

	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
58	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
59	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
60	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
61	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
62	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
63	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
64	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
65	5.0000E-04	5.0000E-04	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
66	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
67	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
68	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				
69	5.0000E-04	5.0000E-04	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03
	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03	1.0000E-03				

BOTTOM FOR LAYER 1 WILL BE READ ON UNIT 28 USING FORMAT: (10f8.0)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36									

1	1265.0	1290.0	1290.0	1290.0	1251.3	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1218.8	1221.7
	1223.1	1222.2	1223.9	1222.6	1215.8	1208.3	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1165.5	1169.2
	1146.3	1164.5	1158.7	1221.8	1288.6	1290.0									
2	1230.0	1290.0	1290.0	1290.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0
	1230.0	1230.0	1230.0	1230.0	1230.0	1210.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1138.6	1129.6
	1100.0	1100.0	1124.1	1217.7	1288.0	1390.0									
3	1238.8	1230.0	1252.9	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0	1230.0	1230.0
	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1215.0	1100.0	1100.0
	1100.0	1100.0	1116.9	1166.3	1251.0	1290.0									
4	1200.0	1190.0	1190.0	1190.0	1190.0	1190.0	1190.0	1200.0	1200.0	1200.0	1200.0	1200.0	1210.0	1210.0	1230.0
	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1230.0	1180.0	1180.0	1180.0	1180.0	1145.9	1121.1
	1108.3	1100.0	1100.0	1128.5	1200.0	1279.5									
5	1200.0	1190.0	1190.0	1190.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0
	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0	1175.0	1150.0	1125.0	1090.0	1090.0
	1090.0	1090.0	1108.0	1177.8	1226.1	1252.6									
6	1200.0	1190.0	1190.0	1190.0	1180.0	1160.0	1160.0	1175.0	1175.0	1180.0	1180.0	1180.0	1180.0	1180.0	1180.0
	1180.0	1180.0	1180.0	1175.0	1175.0	1175.0	1164.9	1154.0	1150.0	1135.0	1135.0	1125.0	1100.0	1085.0	1075.0
	1060.0	1060.0	1140.0	1202.2	1239.1	1230.5									
7	1200.0	1190.0	1190.0	1190.0	1175.0	1145.0	1135.0	1135.0	1135.0	1140.0	1150.0	1150.0	1150.0	1150.0	1150.0
	1150.0	1150.0	1150.0	1140.0	1140.0	1135.0	1125.0	1125.0	1115.0	1115.0	1110.0	1100.0	1085.0	1075.0	1062.0
	1050.0	1060.0	1140.0	1229.9	1248.2	1234.0									
8	1200.0	1190.0	1190.0	1190.0	1165.0	1140.0	1130.0	1125.0	1120.0	1120.8	1120.0	1120.0	1120.0	1115.0	1115.0
	1115.0	1115.0	1115.0	1115.0	1110.0	1110.0	1110.0	1100.0	1100.0	1095.0	1095.0	1085.0	1075.0	1062.0	1050.0
	1048.0	1080.0	1175.0	1220.6	1241.1	1240.6									
9	1200.0	1190.0	1190.0	1190.0	1170.0	1140.0	1130.0	1120.0	1115.0	1115.1	1110.0	1110.0	1110.0	1100.0	1100.0
	1100.0	1100.0	1100.0	1100.0	1100.0	1095.0	1095.0	1095.0	1090.0	1085.0	1080.0	1070.0	1058.0	1050.0	1047.0
	1047.0	1090.0	1180.0	1244.4	1242.9	1249.0									
10	1200.0	1200.0	1190.0	1190.0	1170.0	1150.0	1135.0	1110.0	1105.0	1100.0	1100.0	1100.0	1095.0	1095.0	1095.0
	1095.0	1095.0	1090.0	1090.0	1090.0	1090.0	1090.0	1090.0	1075.0	1075.0	1070.0	1060.0	1050.0	1047.0	1045.0
	1047.0	1095.0	1190.0	1256.7	1247.6	1265.8									
11	1200.0	1200.0	1190.0	1190.0	1170.0	1150.0	1135.0	1125.0	1115.0	1110.0	1105.0	1100.0	1095.0	1095.0	1095.0
	1095.0	1090.0	1085.0	1085.0	1085.0	1085.0	1085.0	1080.0	1070.0	1065.0	1060.0	1050.0	1049.0	1047.0	1045.0
	1047.0	1100.0	1230.0	1252.9	1245.2	1272.5									
12	1200.0	1200.0	1190.0	1190.0	1175.0	1155.0	1140.0	1130.0	1120.0	1115.0	1110.0	1100.0	1095.0	1095.0	1095.0
	1090.0	1090.0	1090.0	1080.0	1080.0	1080.0	1080.0	1065.0	1060.0	1055.0	1052.0	1049.0	1047.0	1045.0	1043.0
	1047.0	1110.0	1230.0	1268.8	1244.7	1262.5									
13	1200.0	1200.0	1190.0	1190.0	1175.0	1165.0	1150.0	1140.0	1130.0	1125.0	1120.0	1110.0	1100.0	1095.0	1095.0
	1095.0	1090.0	1090.0	1080.0	1065.0	1065.0	1062.0	1060.0	1057.0	1055.0	1051.0	1049.0	1046.0	1043.0	1040.0
	1048.0	1125.0	1230.0	1280.4	1247.6	1285.2									
14	1200.0	1200.0	1190.0	1190.0	1185.0	1175.0	1165.0	1145.0	1135.0	1130.7	1125.0	1115.0	1105.0	1100.0	1095.0
	1095.0	1095.0	1090.0	1070.0	1065.0	1063.0	1061.0	1060.0	1055.0	1053.0	1050.0	1048.0	1046.0	1040.0	1040.0
	1046.0	1150.0	1230.0	1271.8	1259.4	1281.4									
15	1242.6	1230.0	1200.0	1190.0	1190.0	1190.0	1175.0	1155.0	1145.0	1135.4	1125.0	1115.0	1110.0	1100.0	1095.0
	1095.0	1095.0	1085.0	1075.0	1073.0	1070.0	1065.0	1060.0	1055.0	1051.0	1049.0	1047.0	1045.0	1040.0	1040.0
	1047.0	1150.0	1230.0	1257.8	1255.4	1277.5									
16	1247.5	1230.0	1200.0	1190.0	1195.0	1190.0	1180.0	1165.0	1150.0	1135.2	1130.0	1125.0	1115.0	1110.0	1100.0
	1095.0	1095.0	1085.0	1075.0	1073.0	1070.0	1060.0	1058.0	1052.0	1050.0	1048.0	1046.0	1044.0	1040.0	1040.0
	1049.0	1200.0	1230.0	1260.2	1273.9	1330.8									
17	1245.8	1230.0	1200.0	1200.0	1200.0	1195.0	1190.0	1175.0	1150.0	1135.4	1130.0	1120.0	1115.0	1110.0	1100.0
	1095.0	1095.0	1085.0	1075.0	1071.0	1065.0	1060.0	1055.0	1053.0	1050.0	1048.0	1045.0	1040.0	1040.0	1042.0
	1055.0	1200.0	1230.0	1269.1	1284.4	1340.4									
18	1250.0	1230.0	1200.0	1200.0	1225.8	1220.0	1200.0	1180.0	1165.0	1140.7	1135.0	1130.0	1120.0	1110.0	1105.0
	1095.0	1095.0	1090.0	1075.0	1072.0	1068.0	1062.0	1055.0	1052.0	1049.0	1047.0	1043.0	1040.0	1040.0	1044.0
	1060.0	1200.0	1250.0	1277.9	1287.3	1349.0									
19	1250.0	1230.0	1211.3	1202.4	1214.2	1230.0	1200.0	1180.0	1160.0	1140.0	1135.0	1130.0	1120.0	1115.0	1105.0
	1095.0	1095.0	1090.0	1075.0	1072.0	1065.0	1060.0	1055.0	1052.0	1049.0	1047.0	1043.0	1040.0	1040.0	1047.0
	1090.0	1230.0	1255.7	1273.4	1281.5	1359.4									
20	1243.8	1230.0	1215.0	1207.3	1208.5	1230.0	1230.0	1180.0	1160.0	1140.2	1135.0	1125.0	1120.0	1110.0	1100.0
	1095.0	1095.0	1090.0	1075.0	1071.0	1067.0	1060.0	1055.0	1051.0	1048.0	1044.0	1040.0	1040.0	1043.0	1047.0
	1100.0	1230.0	1267.8	1268.0	1281.3	1368.8									
21	1242.2	1230.0	1218.8	1215.8	1224.1	1230.0	1220.0	1180.0	1150.0	1140.5	1130.0	1125.0	1115.0	1105.0	1100.0

	1095.0	1090.0	1085.0	1075.0	1070.0	1065.0	1058.0	1052.0	1050.0	1048.0	1044.0	1040.0	1040.0	1043.0	1048.0
	1125.0	1230.0	1284.4	1268.7	1277.8	1390.0									
22	1244.0	1230.0	1222.6	1223.0	1221.9	1230.0	1215.0	1175.0	1150.0	1135.8	1125.0	1120.0	1115.0	1110.0	1100.0
	1095.0	1090.0	1085.0	1073.0	1070.0	1065.0	1057.0	1052.0	1049.0	1047.0	1044.0	1040.0	1040.0	1044.0	1049.0
	1150.0	1230.0	1287.3	1270.0	1292.7	1390.0									
23	1236.5	1230.0	1230.0	1228.8	1230.0	1225.0	1200.0	1170.0	1150.0	1135.5	1125.0	1120.0	1115.0	1105.0	1095.0
	1095.0	1090.0	1078.0	1070.0	1065.0	1060.0	1052.0	1049.0	1048.0	1046.0	1043.0	1040.0	1040.0	1046.0	1075.0
	1160.0	1230.0	1275.9	1268.3	1357.9	1390.0									
24	1238.6	1230.0	1230.0	1230.0	1230.0	1230.0	1180.0	1160.0	1135.0	1125.3	1115.0	1105.0	1100.0	1095.0	1095.0
	1080.0	1075.0	1070.0	1065.0	1060.0	1055.0	1050.0	1048.0	1047.0	1044.0	1040.0	1040.0	1043.0	1048.0	1090.0
	1180.0	1230.0	1254.3	1277.5	1359.5	1390.0									
25	1230.0	1230.0	1230.0	1230.0	1230.0	1215.0	1170.0	1140.0	1125.0	1110.9	1100.0	1095.0	1095.0	1090.0	1085.0
	1077.0	1072.0	1070.0	1060.0	1055.0	1050.0	1049.0	1047.0	1043.0	1040.0	1040.0	1043.0	1048.0	1055.0	1150.0
	1190.0	1230.0	1278.6	1278.7	1345.0	1390.0									
26	1230.0	1230.0	1230.0	1230.0	1222.6	1215.0	1150.0	1120.0	1105.0	1095.0	1080.0	1075.0	1075.0	1070.0	1070.0
	1065.0	1060.0	1055.0	1050.0	1049.0	1047.0	1045.0	1043.0	1040.0	1040.0	1043.0	1048.0	1060.0	1090.0	1180.0
	1230.0	1237.6	1274.2	1290.0	1375.6	1390.0									
27	1240.6	1230.0	1230.0	1230.0	1225.4	1195.0	1125.0	1100.0	1080.0	1075.0	1070.0	1060.0	1058.0	1054.0	1051.0
	1050.0	1049.0	1048.0	1046.0	1044.0	1042.0	1040.0	1040.0	1043.0	1047.0	1050.0	1060.0	1090.0	1125.0	1180.0
	1220.0	1247.8	1280.2	1290.0	1390.0	1390.0									
28	1246.5	1230.0	1230.0	1222.2	1216.1	1180.0	1115.0	1085.0	1075.0	1065.2	1053.0	1050.0	1049.0	1048.0	1047.0
	1045.0	1043.0	1041.0	1040.0	1040.0	1040.0	1043.0	1047.0	1050.0	1060.0	1065.0	1080.0	1120.0	1140.0	1180.0
	1220.0	1275.5	1290.0	1290.0	1390.0	1390.0									
29	1250.0	1214.2	1230.0	1219.0	1223.3	1150.0	1100.0	1080.0	1060.0	1050.5	1048.0	1047.0	1046.0	1046.0	1043.0
	1041.0	1040.0	1040.0	1042.0	1045.0	1048.0	1050.0	1055.0	1065.0	1080.0	1090.0	1115.0	1125.0	1150.0	1180.0
	1238.7	1282.7	1290.0	1290.0	1346.3	1390.0									
30	1250.0	1208.1	1230.0	1215.8	1211.2	1150.0	1100.0	1075.0	1050.0	1048.3	1046.0	1044.0	1042.0	1040.0	1040.0
	1040.0	1042.0	1045.0	1047.0	1049.0	1051.0	1065.0	1080.0	1085.0	1100.0	1110.0	1125.0	1135.0	1165.0	1180.0
	1232.0	1276.9	1275.0	1290.0	1358.6	1390.0									
31	1250.0	1207.4	1225.2	1230.0	1221.4	1160.0	1100.0	1070.0	1049.0	1047.6	1044.0	1041.0	1040.0	1040.0	1040.0
	1042.0	1047.0	1049.0	1050.0	1060.0	1070.0	1080.0	1090.0	1100.0	1110.0	1120.0	1130.0	1140.0	1160.0	1200.0
	1241.7	1259.8	1272.9	1290.0	1349.4	1390.0									
32	1250.0	1200.0	1223.2	1230.0	1228.5	1160.0	1110.0	1070.0	1048.0	1045.4	1042.0	1040.0	1040.0	1042.0	1044.0
	1047.0	1049.0	1060.0	1065.0	1075.0	1080.0	1090.0	1105.0	1110.0	1115.0	1120.0	1130.0	1140.0	1150.0	1170.0
	1220.0	1238.6	1262.0	1290.0	1290.0	1390.0									
33	1250.0	1200.0	1212.5	1230.0	1230.0	1150.0	1090.0	1050.0	1045.0	1040.9	1040.0	1040.0	1040.0	1045.0	1050.0
	1050.0	1060.0	1065.0	1075.0	1080.0	1090.0	1100.0	1105.0	1110.0	1115.0	1120.0	1130.0	1140.0	1150.0	1180.0
	1200.0	1213.3	1261.7	1290.0	1290.0	1390.0									
34	1250.0	1200.0	1203.8	1222.9	1230.0	1130.0	1075.0	1045.0	1040.0	1040.1	1040.0	1040.0	1045.0	1050.0	1055.0
	1060.0	1065.0	1070.0	1080.0	1090.0	1095.0	1105.0	1110.0	1115.0	1120.0	1125.0	1135.0	1145.0	1160.0	1190.0
	1200.0	1230.0	1267.4	1290.0	1290.0	1390.0									
35	1250.0	1200.0	1203.4	1226.0	1222.0	1125.0	1060.0	1045.0	1040.0	1040.5	1040.0	1040.0	1045.0	1050.0	1055.0
	1065.0	1070.0	1075.0	1080.0	1090.0	1095.0	1105.0	1110.0	1115.0	1125.0	1125.0	1140.0	1150.0	1180.0	1200.0
	1210.0	1240.8	1279.3	1290.0	1290.0	1364.9									
36	1250.0	1200.0	1185.4	1212.9	1216.8	1130.0	1050.0	1045.0	1040.0	1040.5	1040.0	1040.0	1045.0	1055.0	1055.0
	1060.0	1070.0	1075.0	1080.0	1090.0	1095.0	1105.0	1110.0	1115.0	1125.0	1130.0	1150.0	1175.0	1185.0	1205.0
	1220.0	1240.0	1281.1	1265.7	1290.0	1374.3									
37	1250.0	1200.0	1177.8	1204.3	1190.1	1125.0	1060.0	1045.0	1040.0	1040.4	1040.0	1040.0	1040.0	1045.0	1045.0
	1050.0	1060.0	1065.0	1075.0	1075.0	1080.0	1090.0	1095.0	1100.0	1115.0	1130.0	1160.0	1180.0	1200.0	1205.0
	1206.4	1247.3	1279.7	1268.1	1290.0	1366.4									
38	1250.0	1204.0	1190.0	1190.0	1180.0	1120.0	1070.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1045.0	1045.0
	1050.0	1055.0	1060.0	1070.0	1080.0	1085.0	1085.0	1095.0	1105.0	1110.0	1130.0	1160.0	1180.0	1200.0	1205.0
	1215.0	1230.0	1250.0	1253.5	1290.0	1367.5									
39	1245.9	1204.2	1180.0	1180.0	1170.0	1105.0	1075.0	1045.0	1040.0	1040.3	1040.0	1040.0	1040.0	1040.0	1045.0
	1050.0	1055.0	1060.0	1065.0	1075.0	1080.0	1090.0	1095.0	1100.0	1110.0	1130.0	1160.0	1180.0	1200.0	1205.0
	1215.0	1230.0	1250.0	1275.7	1290.0	1359.5									
40	1248.8	1200.0	1180.0	1170.0	1160.0	1100.0	1065.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	1045.0
	1050.0	1055.0	1060.0	1060.0	1075.0	1080.0	1085.0	1095.0	1100.0	1110.0	1130.0	1160.0	1180.0	1200.0	1205.0
	1215.0	1225.0	1255.8	1266.4	1290.0	1362.4									
41	1248.8	1200.0	1170.0	1160.0	1130.0	1080.0	1060.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	1045.0
	1045.0	1055.0	1060.0	1070.0	1075.0	1080.0	1085.0	1090.0	1100.0	1105.0	1130.0	1160.0	1180.0	1200.0	1205.0

	1210.0	1205.0	1230.0	1240.8	1290.0	1385.3										
42	1247.8	1200.0	1170.0	1150.0	1120.0	1085.0	1060.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1045.0	1050.0	1060.0	1065.0	1075.0	1080.0	1085.0	1095.0	1100.0	1105.0	1125.0	1155.0	1180.0	1200.0	1205.0	
	1210.0	1215.0	1220.0	1249.5	1290.0	1368.9										
43	1245.6	1200.0	1170.0	1140.0	1120.0	1090.0	1065.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1045.0	1050.0	1060.0	1065.0	1075.0	1080.0	1090.0	1095.0	1100.0	1105.0	1125.0	1145.0	1165.0	1180.0	1200.0	
	1210.0	1215.0	1220.0	1242.3	1290.0	1376.6										
44	1243.1	1200.0	1170.0	1140.0	1120.0	1100.0	1075.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1045.0	1050.0	1055.0	1065.0	1075.0	1085.0	1090.0	1100.0	1105.0	1110.0	1125.0	1140.0	1155.0	1175.0	1185.0	
	1200.0	1205.0	1230.0	1244.6	1290.0	1335.6										
45	1257.4	1200.0	1180.0	1160.0	1150.0	1125.0	1080.0	1050.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1060.0	1075.0	1080.0	1090.0	1100.0	1105.0	1110.0	1115.0	1120.0	1135.0	1150.0	1165.0	1180.0	
	1190.0	1205.0	1237.3	1264.0	1285.4	1347.3										
46	1263.4	1200.0	1150.0	1117.5	1109.5	1100.0	1100.0	1080.0	1050.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1070.0	1080.0	1085.0	1095.0	1105.0	1110.0	1115.0	1120.0	1140.0	1150.0	1165.0	1180.0	
	1195.0	1205.0	1239.4	1276.9	1281.4	1315.2										
47	1268.0	1208.8	1190.0	1180.0	1170.0	1160.0	1135.0	1090.0	1060.0	1045.0	1040.0	1040.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1060.0	1070.0	1080.0	1085.0	1095.0	1105.0	1110.0	1115.0	1120.0	1125.0	1150.0	1165.0	1175.0	
	1185.0	1200.0	1230.0	1272.7	1282.1	1284.0										
48	1270.7	1205.8	1190.0	1180.0	1170.0	1160.0	1150.0	1100.0	1075.0	1050.0	1045.0	1040.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1065.0	1075.0	1085.0	1095.0	1100.0	1110.0	1115.0	1120.0	1125.0	1130.0	1140.0	1160.0	
	1180.0	1200.0	1239.5	1282.0	1282.6	1278.4										
49	1275.0	1204.9	1190.0	1180.0	1170.0	1160.0	1150.0	1110.0	1080.0	1050.0	1045.0	1040.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1070.0	1080.0	1090.0	1095.0	1105.0	1110.0	1115.0	1120.0	1125.0	1135.0	1140.0	1160.0	
	1185.0	1200.0	1242.0	1279.1	1268.7	1285.6										
50	1277.4	1204.0	1190.0	1180.0	1170.0	1165.0	1160.0	1140.0	1110.0	1075.0	1050.0	1045.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1070.0	1080.0	1090.0	1095.0	1100.0	1110.0	1115.0	1120.0	1125.0	1130.0	1140.0	1150.0	
	1180.0	1205.0	1242.6	1271.1	1273.5	1265.6										
51	1266.1	1203.0	1195.0	1185.0	1180.0	1175.0	1160.0	1150.0	1120.0	1090.0	1060.0	1045.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1065.0	1075.0	1085.0	1095.0	1100.0	1105.0	1110.0	1115.0	1120.0	1130.0	1135.0	1150.0	
	1180.0	1205.0	1242.8	1257.0	1278.3	1261.6										
52	1275.9	1201.9	1195.0	1185.0	1180.0	1175.0	1165.0	1155.0	1130.0	1115.0	1075.0	1050.0	1045.0	1040.0	1040.0	
	1040.0	1045.0	1055.0	1065.0	1075.0	1085.0	1095.0	1100.0	1105.0	1110.0	1115.0	1120.0	1125.0	1135.0	1145.0	
	1180.0	1200.0	1241.6	1257.9	1284.6	1243.5										
53	1277.1	1204.0	1195.0	1185.0	1180.0	1175.0	1170.0	1155.0	1140.0	1120.0	1080.0	1050.0	1045.0	1040.0	1040.0	
	1040.0	1045.0	1050.0	1070.0	1075.0	1085.0	1090.0	1095.0	1105.0	1110.0	1115.0	1120.0	1125.0	1135.0	1145.0	
	1180.0	1205.0	1243.1	1254.5	1264.7	1234.7										
54	1280.0	1213.7	1195.0	1185.0	1175.0	1170.0	1160.0	1150.0	1125.0	1100.0	1080.0	1045.0	1040.0	1040.0	1040.0	
	1040.0	1045.0	1050.0	1060.0	1075.0	1080.0	1085.0	1095.0	1100.0	1110.0	1115.0	1120.0	1125.0	1135.0	1145.0	
	1175.0	1200.0	1231.6	1245.9	1242.6	1235.1										
55	1284.7	1231.2	1200.0	1185.0	1165.0	1150.0	1100.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1062.3	
	1061.3	1060.2	1055.9	1062.7	1069.4	1076.1	1084.0	1090.1	1100.9	1101.9	1100.6	1102.3	1103.7	1125.4	1150.0	
	1150.0	1177.0	1214.2	1238.2	1234.2	1273.5										
56	1290.0	1236.9	1190.0	1170.0	1150.0	1140.0	1080.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	
	1050.0	1050.0	1050.3	1057.0	1063.5	1069.7	1075.6	1081.5	1087.4	1093.3	1100.1	1100.0	1100.0	1123.6	1130.8	
	1150.0	1172.9	1211.0	1240.2	1236.2	1275.6										
57	1290.0	1247.1	1200.0	1180.0	1150.0	1100.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	
	1050.0	1050.0	1050.0	1051.4	1057.1	1062.9	1068.6	1074.3	1081.0	1086.7	1100.0	1100.0	1109.6	1116.2	1131.2	
	1150.0	1173.9	1205.3	1247.8	1254.0	1279.7										
58	1275.7	1282.9	1221.6	1140.0	1125.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	
	1050.0	1050.0	1050.0	1050.0	1054.2	1059.7	1065.8	1072.0	1078.1	1084.2	1100.0	1100.0	1107.9	1119.7	1136.5	
	1159.6	1187.3	1216.5	1273.8	1324.5	1309.1										
59	1237.0	1290.0	1247.9	1162.8	1095.9	1059.7	1061.7	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1061.2	1059.1	
	1057.1	1061.0	1059.5	1057.9	1054.0	1061.1	1068.2	1078.6	1082.3	1089.9	1097.5	1106.7	1117.7	1130.3	1147.7	
	1172.1	1204.3	1242.9	1281.7	1371.8	1385.5										
60	1237.4	1282.9	1267.3	1207.9	1093.9	1050.0	1059.4	1062.8	1050.0	1050.0	1050.0	1050.0	1063.9	1061.7	1059.4	
	1057.2	1054.9	1061.3	1059.5	1056.6	1064.6	1072.6	1080.6	1089.7	1098.3	1103.6	1112.5	1123.5	1136.0	1156.1	
	1180.0	1217.1	1249.0	1322.6	1390.0	1390.0										
61	1234.8	1270.0	1290.0	1200.2	1116.3	1050.0	1061.8	1062.7	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1058.8	
	1056.5	1061.3	1062.5	1056.7	1066.7	1066.9	1074.9	1083.0	1091.1	1099.1	1106.8	1116.4	1126.3	1160.3	1164.8	
	1182.0	1223.8	1251.3	1290.0	1347.8	1390.0										

62	1241.1	1241.2	1271.0	1206.3	1106.2	1050.0	1062.1	1063.8	1050.0	1050.0	1050.0	1050.0	1062.7	1060.5	1058.2
	1056.0	1053.7	1062.8	1052.7	1060.8	1068.8	1076.8	1089.4	1092.9	1100.9	1108.6	1118.2	1129.7	1153.0	1169.5
	1186.1	1202.1	1239.2	1276.5	1348.3	1386.0									
63	1206.6	1238.9	1237.1	1206.5	1080.8	1058.1	1064.3	1050.0	1050.0	1050.0	1050.0	1050.0	1061.7	1059.5	1057.4
	1055.5	1059.8	1057.8	1054.5	1062.5	1070.6	1077.7	1080.2	1094.6	1125.9	1119.0	1124.5	1132.5	1154.1	1171.3
	1195.6	1221.0	1238.7	1279.7	1326.1	1363.1									
64	1200.0	1227.6	1217.6	1164.2	1076.0	1059.6	1065.2	1066.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
	1050.0	1053.9	1062.3	1055.2	1063.3	1070.5	1077.6	1084.8	1091.9	1126.7	1107.7	1118.8	1130.0	1155.9	1173.1
	1196.6	1214.1	1245.2	1281.9	1271.7	1339.7									
65	1200.0	1215.4	1200.8	1138.4	1074.6	1060.2	1067.8	1050.0	1050.0	1050.0	1050.0	1050.0	1061.3	1059.1	1058.9
	1054.8	1063.0	1060.6	1055.7	1062.7	1069.8	1076.8	1080.0	1092.2	1117.4	1114.2	1117.6	1129.9	1144.4	1166.7
	1199.5	1200.0	1235.9	1267.8	1286.4	1280.5									
66	1200.0	1203.8	1180.3	1079.3	1075.0	1065.1	1072.6	1050.0	1050.0	1050.0	1063.9	1062.0	1061.4	1059.2	1057.1
	1058.3	1057.0	1055.8	1055.3	1062.4	1069.4	1076.5	1083.2	1089.4	1104.4	1102.3	1112.8	1125.4	1147.6	1160.7
	1189.7	1200.0	1233.6	1276.2	1265.6	1286.2									
67	1200.0	1180.3	1150.7	1091.3	1050.0	1065.8	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
	1050.0	1066.3	1050.0	1050.0	1056.1	1062.7	1069.3	1075.8	1082.4	1088.8	1093.8	1103.2	1114.9	1127.8	1144.4
	1173.5	1196.1	1216.2	1236.0	1230.4	1258.0									
68	1200.0	1166.2	1129.3	1070.7	1062.8	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1051.1	1056.6	1065.3	1071.9	1078.5	1086.7	1095.5	1116.9	1128.5
	1155.5	1186.0	1200.0	1238.1	1263.3	1290.0									
69	1169.2	1150.0	1116.8	1067.9	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0	1067.2	1065.7	1058.5	1067.3	1084.1	1101.5
	1124.5	1166.9	1210.5	1231.7	1279.4	1335.3									

SOLUTION BY THE STRONGLY IMPLICIT PROCEDURE

MAXIMUM ITERATIONS ALLOWED FOR CLOSURE = 100
ACCELERATION PARAMETER = 0.70000
HEAD CHANGE CRITERION FOR CLOSURE = 0.60000E-01
SIP HEAD CHANGE PRINTOUT INTERVAL = 1

5 ITERATION PARAMETERS CALCULATED FROM SPECIFIED WSEED = 0.00003300 :

0.0000000E+00 0.9242071E+00 0.9942554E+00 0.9995846E+00 0.9999670E+00

STRESS PERIOD NO. 1, LENGTH = 2629800.

NUMBER OF TIME STEPS = 1

MULTIPLIER FOR DELT = 1.500

INITIAL TIME STEP SIZE = 2629800.

8 WELLS

LAYER	ROW	COL	STRESS RATE	WELL NO.
1	40	20	-1.0800	1
1	49	15	0.00000E+00	2
1	21	17	-2.7700	3
1	16	24	-1.8000	4
1	12	15	-1.0400	5
1	12	29	0.00000E+00	6
1	46	15	0.00000E+00	7
1	42	20	0.00000E+00	8

RECHARGE WILL BE READ ON UNIT 10 USING FORMAT: (36f5.1)

	1 11 21 31	2 12 22 32	3 13 23 33	4 14 24 34	5 15 25 35	6 16 26 36	7 17 27	8 18 28	9 19 29	10 20 30
1	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.8500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
2	1.5900E-07	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
3	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	5.3000E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00				
4	2.6500E-08	2.8500E-08	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	0.0000E+00
	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	2.8500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00				
5	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	1.5900E-07
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	1.5900E-07	5.3000E-08
	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00				
6	2.6500E-08	2.6500E-08	2.6500E-08	2.8500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08
	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
7	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08
	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
8	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08
	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
9	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.8500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08
	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	5.3000E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
10	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.8500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00				
11	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
12	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
13	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
14	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08

	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
15	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
16	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
17	0.0000E+00	1.5900E-07	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
18	0.0000E+00	1.5900E-07	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
19	0.0000E+00	1.5900E-07	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
20	0.0000E+00	1.5900E-07	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	1.5900E-07	1.5900E-07	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
21	0.0000E+00	1.5900E-07	2.6500E-08	1.5900E-07	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
22	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
23	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
24	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
25	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	5.3000E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
26	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
27	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	5.3000E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
28	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
29	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08	0.0000E+00
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				

30	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
31	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
32	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
33	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
34	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
35	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
36	0.0000E+00	0.0000E+00	2.6500E-08	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
37	0.0000E+00	0.0000E+00	2.6500E-08	0.0000E+00	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
38	0.0000E+00	0.0000E+00	2.6500E-08	0.0000E+00	1.5900E-07	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
39	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
40	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
41	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
42	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
43	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
44	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
45	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08

	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
46	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
47	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	2.6500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
48	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
49	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
50	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
51	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
52	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
53	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
54	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
55	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
56	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
57	0.0000E+00	0.0000E+00	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
58	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
59	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
60	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08

	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
61	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
62	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
63	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
64	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
65	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
66	0.0000E+00	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
67	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	7.9500E-08
	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
68	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				
69	0.0000E+00	0.0000E+00	7.9500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08	2.6500E-08
	2.6500E-08	7.9500E-08	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00				

357 RIVER REACHES

LAYER	ROW	COL	STAGE	CONDUCTANCE	BOTTOM ELEVATION	RIVER REACH
1	1	22	1187.9	1.184	1178.	1
1	1	23	1187.9	2.132	1178.	2
1	1	24	1187.9	2.368	1178.	3
1	1	25	1187.9	2.368	1178.	4
1	1	26	1187.9	1.184	1178.	5
1	1	27	1187.9	1.066	1178.	6
1	1	29	1187.9	0.4737	1178.	7
1	1	30	1187.9	1.421	1178.	8
1	1	31	1187.9	2.842	1178.	9
1	2	23	1187.9	0.7895E-01	1178.	10
1	2	24	1187.9	0.3158	1178.	11
1	2	25	1187.9	0.4737	1178.	12
1	2	26	1187.9	0.6316	1178.	13
1	2	27	1187.9	0.9474	1178.	14
1	2	28	1187.9	1.658	1178.	15
1	2	29	1187.9	2.526	1178.	16
1	2	30	1187.9	3.316	1178.	17
1	2	31	1187.9	5.053	1178.	18

1	2	32	1187.9	2.842	1178.	19
1	3	29	1187.9	1.474	1178.	20
1	3	30	1187.9	2.526	1178.	21
1	3	31	1187.9	3.368	1178.	22
1	3	32	1187.9	3.158	1178.	23
1	4	31	1187.9	2.842	1178.	24
1	4	32	1187.9	3.316	1178.	25
1	4	33	1187.9	0.1263	1178.	26
1	4	34	1187.9	0.1895	1178.	27
1	4	35	1187.9	0.2526	1178.	28
1	5	30	1187.9	0.1579	1178.	29
1	5	31	1187.9	1.684	1178.	30
1	5	32	1187.9	2.842	1178.	31
1	5	33	1187.9	0.8421E-01	1178.	32
1	5	34	1187.9	0.1263	1178.	33
1	5	35	1187.9	0.1684	1178.	34
1	6	31	1187.9	1.105	1178.	35
1	6	32	1187.9	2.132	1178.	36
1	6	33	1187.9	0.6316E-01	1178.	37
1	6	35	1187.9	0.1263	1178.	38
1	7	31	1187.9	0.7368	1178.	39
1	7	32	1187.9	1.263	1178.	40
1	7	33	1187.9	0.4211E-01	1178.	41
1	7	35	1187.9	0.8421E-01	1178.	42
1	8	31	1187.9	0.5526	1178.	43
1	8	32	1187.9	0.9474	1178.	44
1	8	33	1187.9	0.3158E-01	1178.	45
1	9	31	1187.9	0.5526	1178.	46
1	9	32	1187.9	0.7105	1178.	47
1	9	33	1187.9	0.3158E-01	1178.	48
1	10	31	1187.9	0.3684	1178.	49
1	10	32	1187.9	0.3947	1178.	50
1	10	33	1187.9	0.2105E-01	1178.	51
1	11	31	1187.9	0.4211	1178.	52
1	11	32	1187.9	0.3947	1178.	53
1	11	33	1187.9	0.2105E-01	1178.	54
1	12	31	1187.9	0.4211	1178.	55
1	12	32	1187.9	0.3947	1178.	56
1	12	33	1187.9	0.2105E-01	1178.	57
1	13	31	1187.9	0.4211	1178.	58
1	13	32	1187.9	0.3947	1178.	59
1	14	31	1187.9	0.4211	1178.	60
1	14	32	1187.9	0.6316	1178.	61
1	15	31	1187.9	0.5000	1178.	62
1	15	32	1187.9	0.3947	1178.	63
1	16	30	1187.9	0.3947E-01	1178.	64
1	16	31	1187.9	0.5263	1178.	65
1	16	32	1187.9	0.2368	1178.	66
1	17	30	1187.9	0.7895E-01	1178.	67
1	17	31	1187.9	0.5263	1178.	68
1	17	32	1187.9	0.1579	1178.	69
1	18	30	1187.9	0.1184	1178.	70
1	18	31	1187.9	0.5263	1178.	71
1	19	30	1187.9	0.2763	1178.	72
1	19	31	1187.9	0.3158	1178.	73
1	20	30	1187.9	0.2961	1178.	74
1	20	31	1187.9	0.3158	1178.	75
1	21	30	1187.9	0.3553	1178.	76
1	21	31	1187.9	0.2632	1178.	77
1	22	29	1187.9	0.6579E-01	1178.	78
1	22	30	1187.9	0.3947	1178.	79

1	22	31	1187.9	0.2105	1178.	80
1	23	29	1187.9	0.2368	1178.	81
1	23	30	1187.9	0.5921	1178.	82
1	23	31	1187.9	0.1974	1178.	83
1	24	28	1187.9	0.1776	1178.	84
1	24	29	1187.9	0.3947	1178.	85
1	24	30	1187.9	0.5329	1178.	86
1	25	26	1187.9	0.5263E-01	1178.	87
1	25	27	1187.9	0.1974	1178.	88
1	25	28	1187.9	0.3947	1178.	89
1	25	29	1187.9	0.5263	1178.	90
1	25	30	1187.9	0.3158	1178.	91
1	26	22	1187.9	0.1184E-01	1178.	92
1	26	23	1187.9	0.1974E-01	1178.	93
1	26	24	1187.9	0.3158E-01	1178.	94
1	26	25	1187.9	0.3947E-01	1178.	95
1	26	26	1187.9	0.3947E-01	1178.	96
1	26	27	1187.9	0.5921E-01	1178.	97
1	26	28	1187.9	0.5921E-01	1178.	98
1	26	29	1187.9	0.3947E-01	1178.	99
1	27	20	1187.9	0.1053E-01	1178.	100
1	27	21	1187.9	0.2368E-01	1178.	101
1	27	22	1187.9	0.2632E-01	1178.	102
1	27	23	1187.9	0.2632E-01	1178.	103
1	27	24	1187.9	0.2632E-01	1178.	104
1	27	25	1187.9	0.2632E-01	1178.	105
1	27	26	1187.9	0.2632E-01	1178.	106
1	27	27	1187.9	0.3947E-01	1178.	107
1	27	28	1187.9	0.1579E-01	1178.	108
1	28	19	1187.9	0.7890E-02	1178.	109
1	28	20	1187.9	0.2632E-01	1178.	110
1	28	21	1187.9	0.2632E-01	1178.	111
1	28	22	1187.9	0.2632E-01	1178.	112
1	28	23	1187.9	0.2632E-01	1178.	113
1	28	24	1187.9	0.2632E-01	1178.	114
1	28	25	1187.9	0.2632E-01	1178.	115
1	28	26	1187.9	0.3947E-01	1178.	116
1	28	27	1187.9	0.2368E-01	1178.	117
1	29	12	1187.9	0.2630E-02	1178.	118
1	29	13	1187.9	0.5300E-03	1178.	119
1	29	18	1187.9	0.1579E-01	1178.	120
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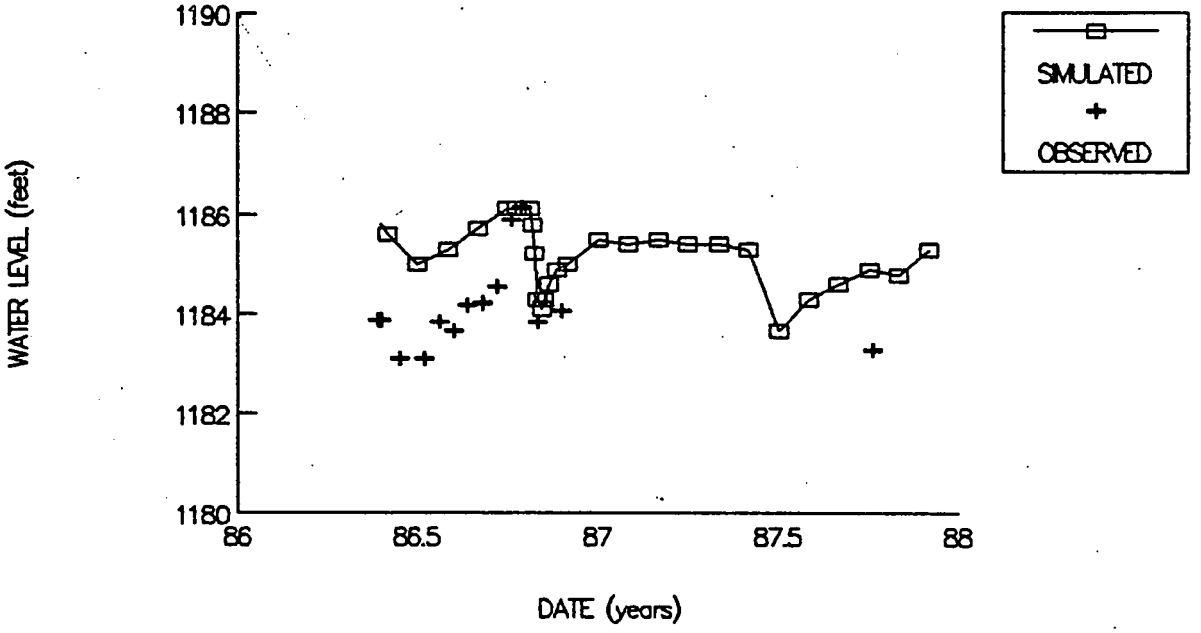
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APPENDIX Q

OBSERVED AQUIFER HEAD V.S.
GROUNDWATER FLOW MODEL SIMULATED HEAD

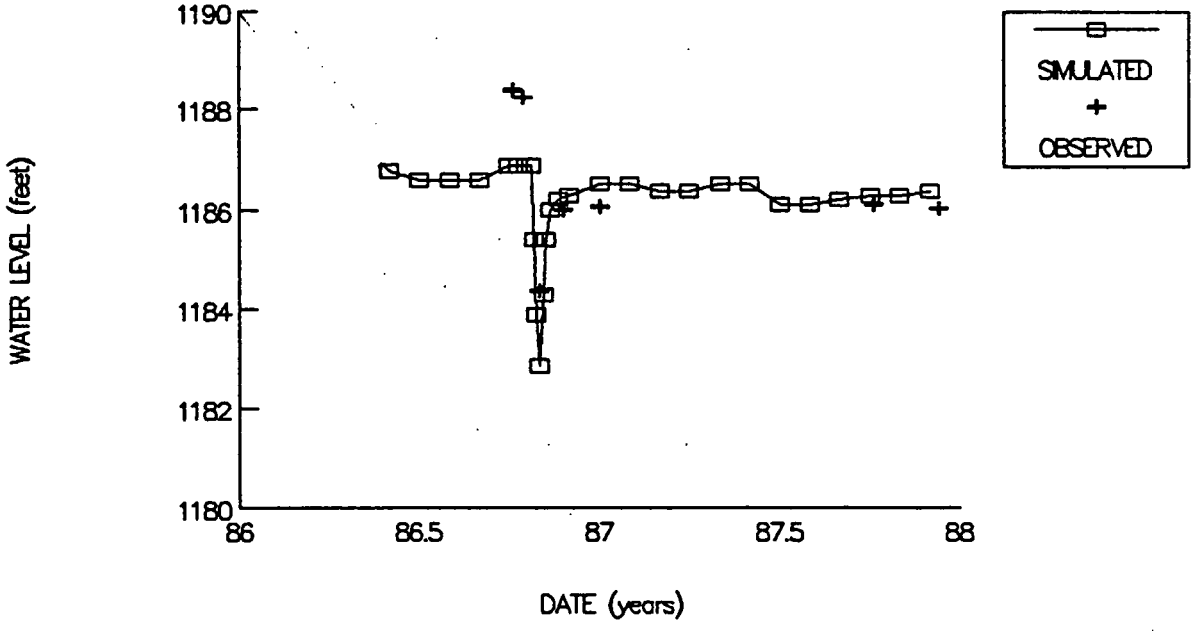
SIMULATED VS. OBSERVED HEAD

WELL CW9–OBS



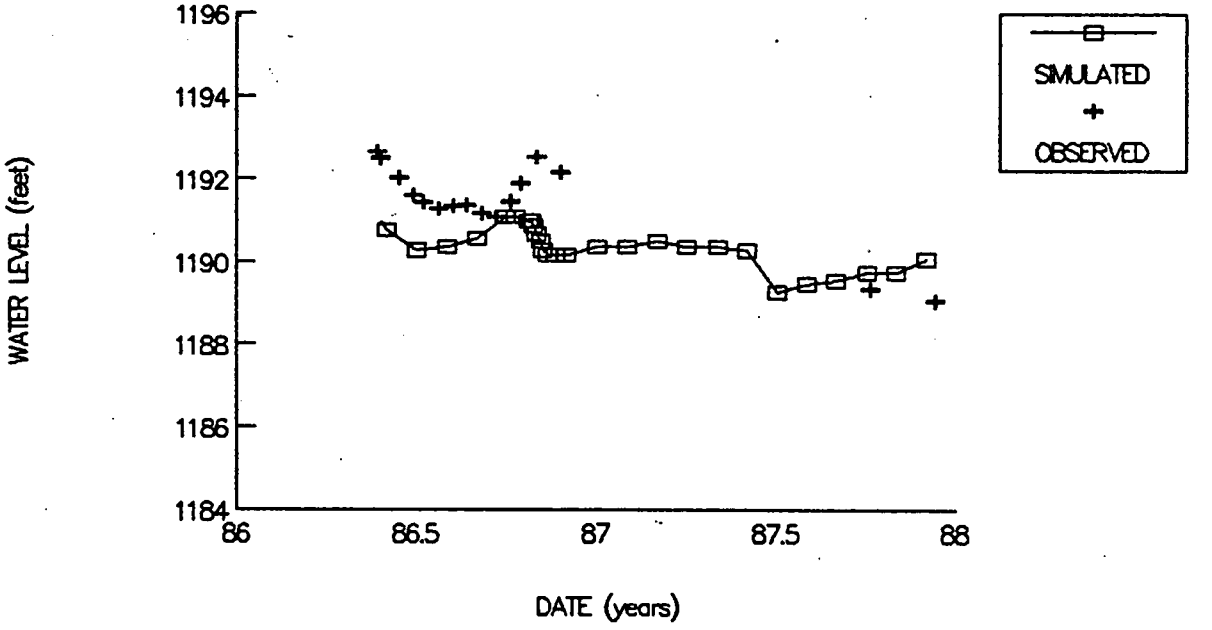
SIMULATED VS. OBSERVED HEAD

WELL GM4D



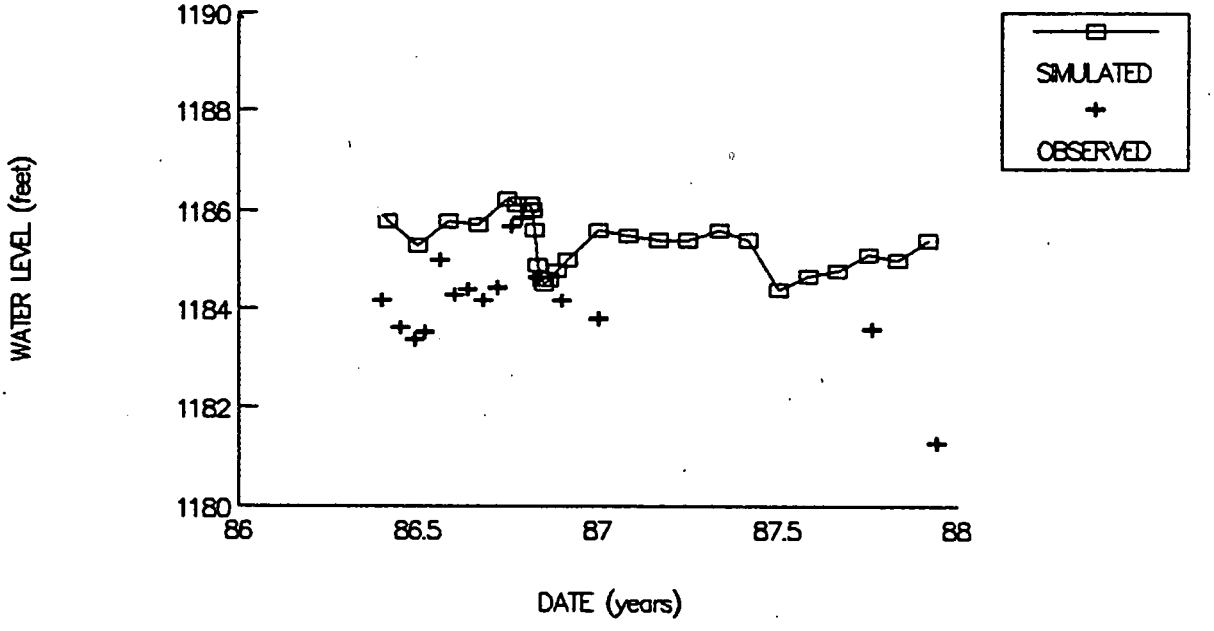
SIMULATED VS. OBSERVED HEAD

PLUM ST. TEST WELL



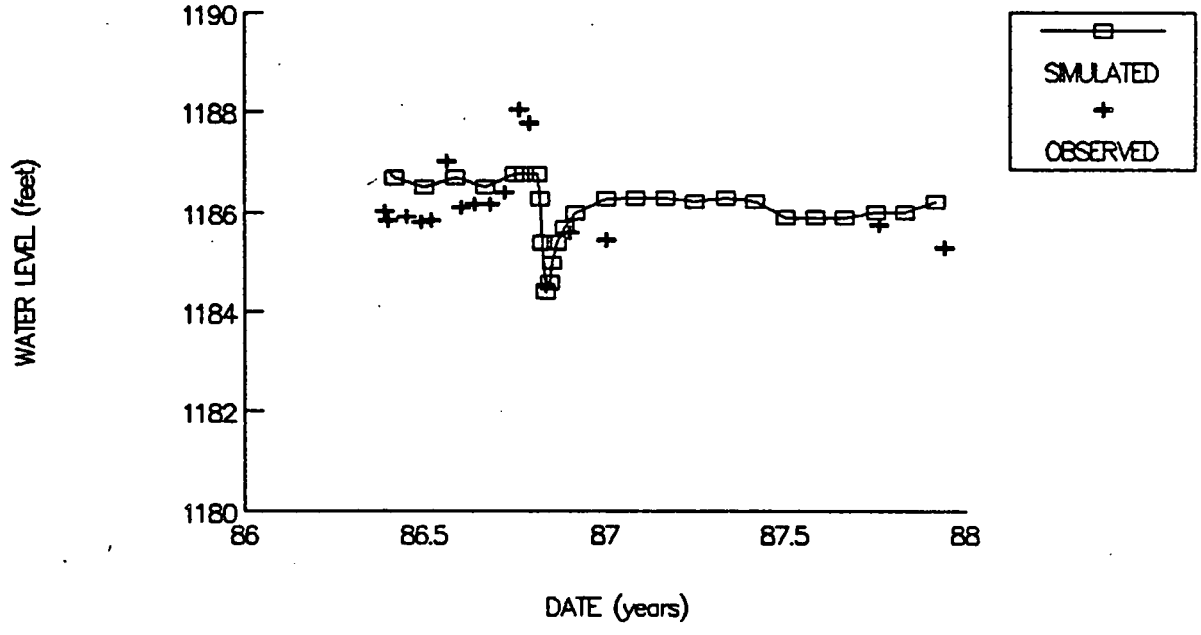
SIMULATED VS. OBSERVED HEAD

WELL MW9



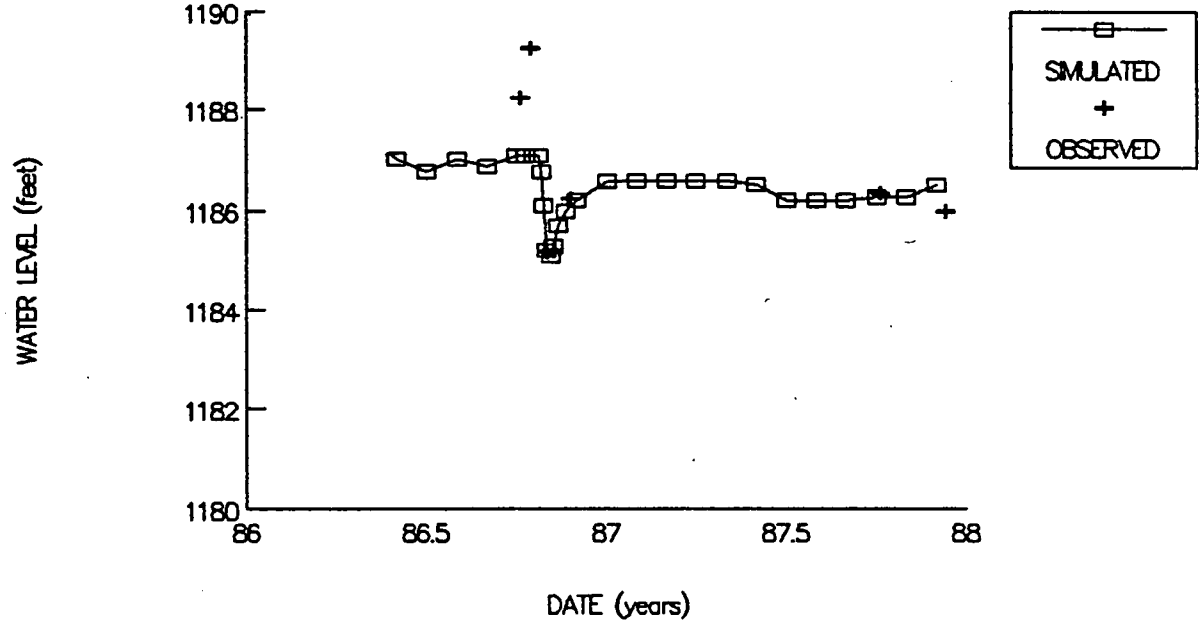
SIMULATED VS. OBSERVED HEAD

WELL MW1A



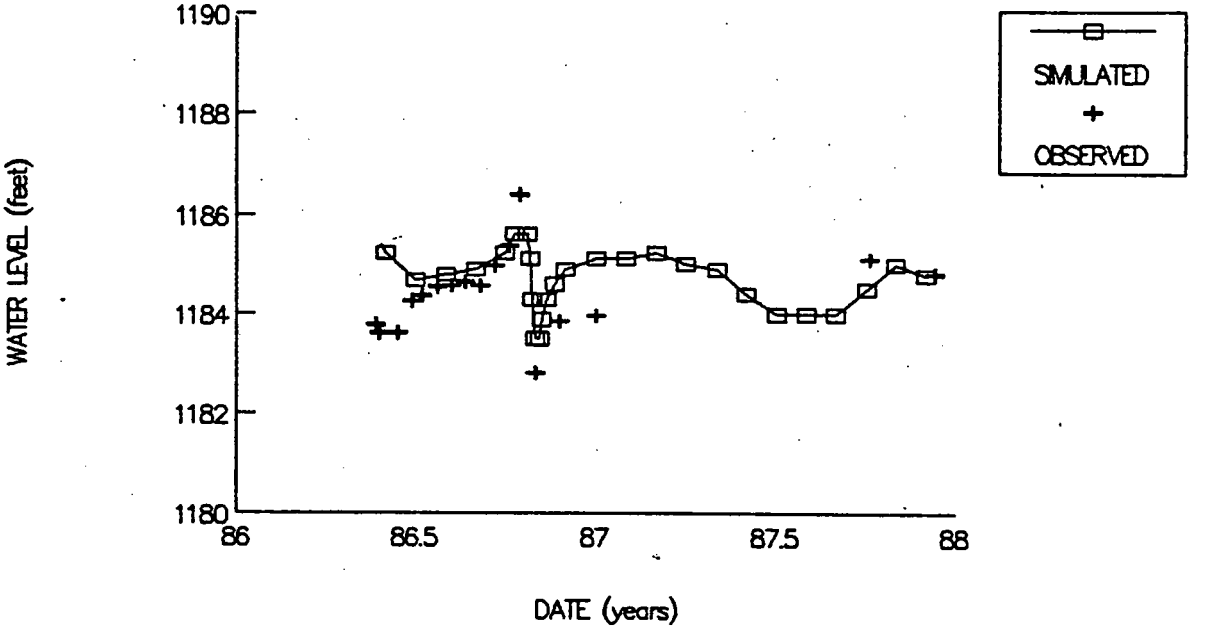
SIMULATED VS. OBSERVED HEAD

WELL R2D



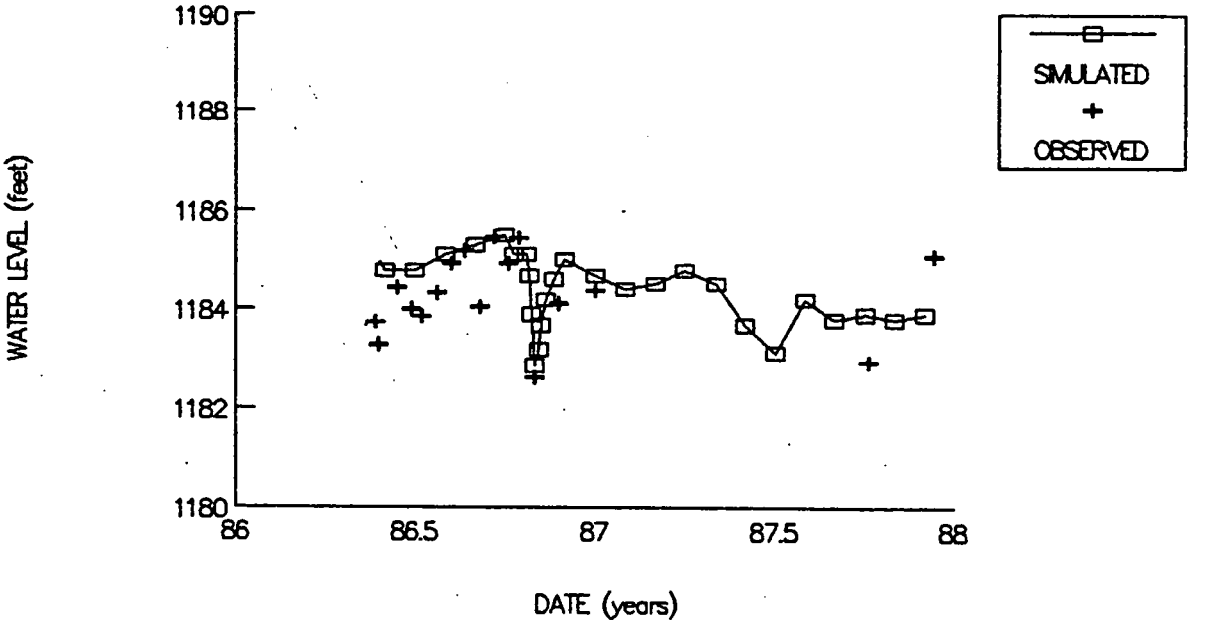
SIMULATED VS. OBSERVED HEAD

WELL MW11



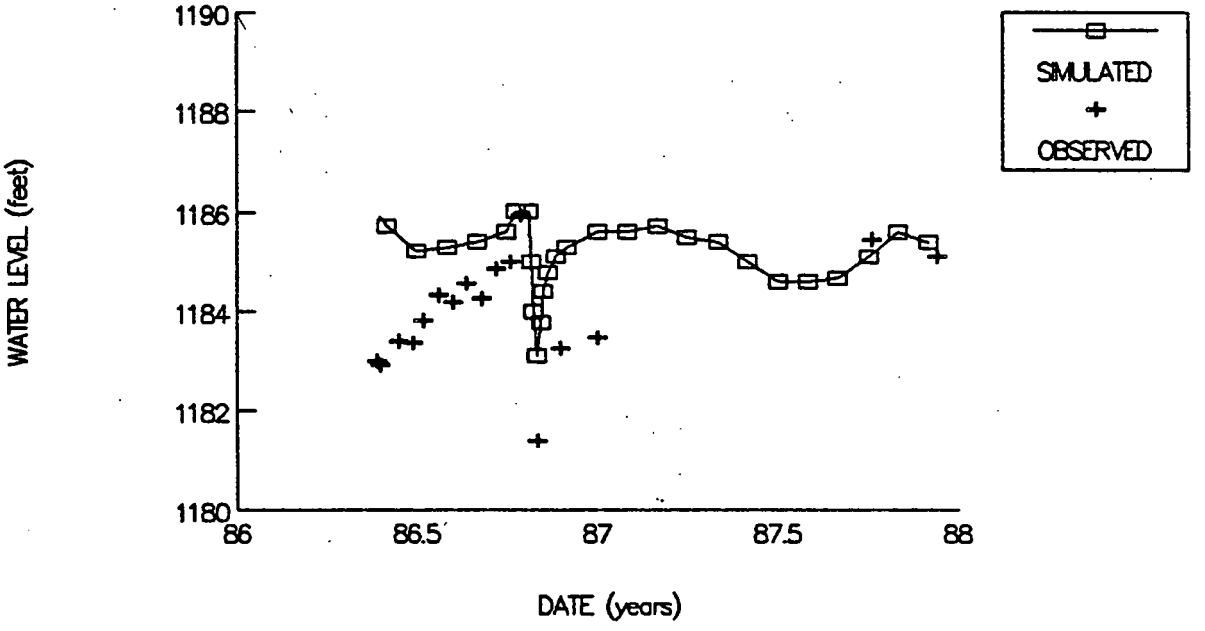
SIMULATED VS. OBSERVED HEAD

WELL WW4



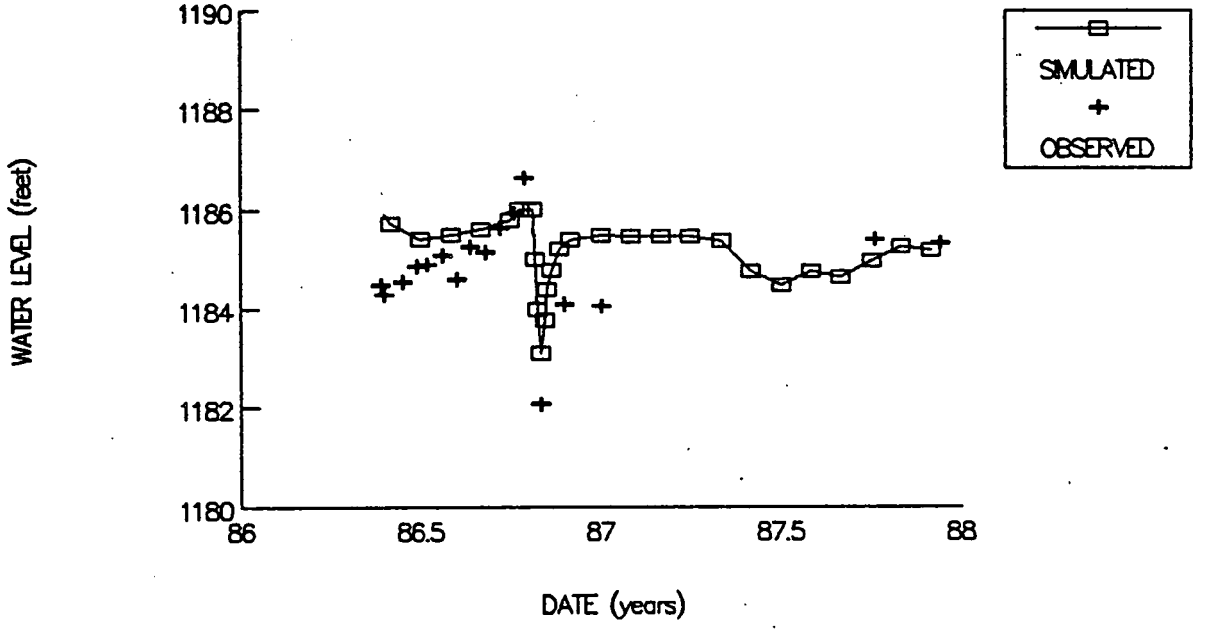
SIMULATED VS. OBSERVED HEAD

WELL WC7A



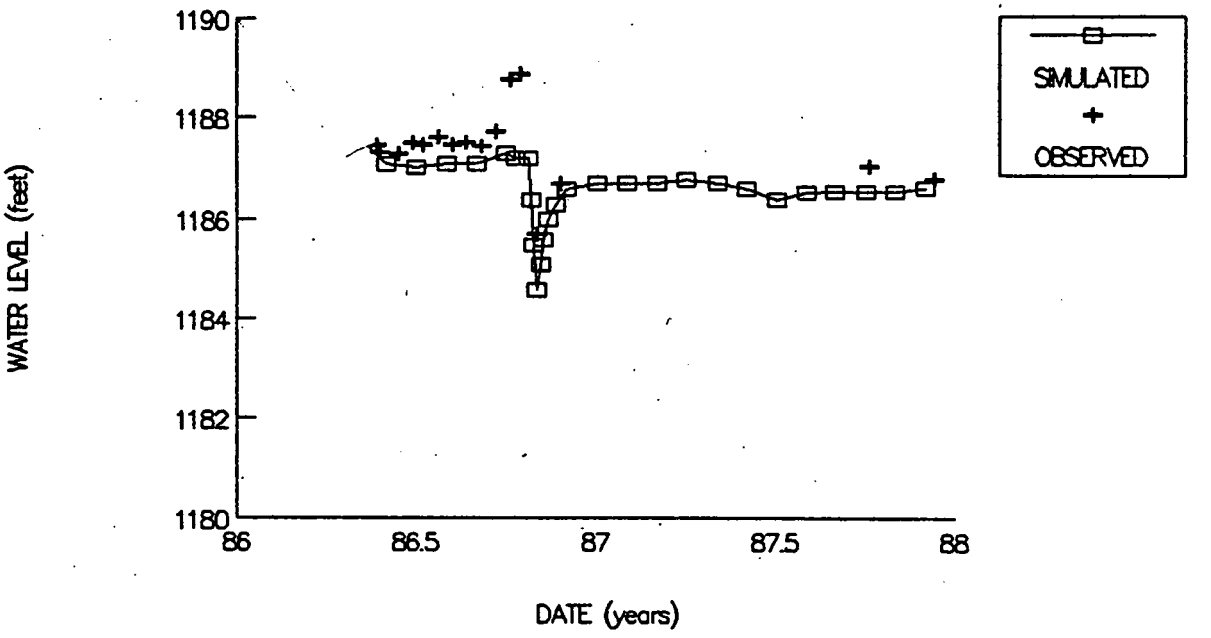
SIMULATED VS. OBSERVED

WELL WC4A



SIMULATED VS. OBSERVED HEAD

WELL C2S



SIMULATED VS. OBSERVED HEAD

WELL TCT44

