UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

ANDRITZ, INC.

35 SHERMAN STREET
MUNCY, PENNSYLVANIA

EPA ID NO. PAD 003 031 903

Prepared by
Office of Remediation
Land and Chemicals Division
June 2016

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List of Abbreviations and Acronyms

AR	Administrative Record
EI	Environmental Indicator
EPA	Environmental Protection Agency
IC	Institutional Control
MCLs	EPA's Maximum Contaminant Levels for drinking water
mg/kg	Milligrams per cubic meter
µg/L	Micrograms per kilogram
PADEP	Pennsylvania Department of Environmental Protection
RCRA	Resource Conservation and Recovery Act
RSLs	EPA Regional Screening Levels
SB	Statement of Basis
SHS	Statewide Health Standard(s)
SVOC	Semi-volatile Organic Compounds
TPH	Total petroleum Hydrocarbons
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis to solicit public comment on its proposed final remedy for the Andritz, Inc. facility located at 35 Sherman Street, Muncy, PA (Facility). EPA has prepared this Statement of Basis to explain the rationale for and to solicit public comment on its proposed remedy.

The Facility is subject to EPA's corrective action program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§6901 et seq., commonly referred to simply as RCRA. The corrective action program requires owners of certain current and past hazardous waste management operations to reduce or eliminate exposure to hazardous chemicals released to the environment. The Commonwealth of Pennsylvania's Department of Environmental Protection (PADEP) also has a long history of addressing environmental contamination at the Facility. However, PADEP is not authorized to implement the RCRA corrective action program. In Pennsylvania, that authority rests solely with EPA.

Information on the corrective action program as well as a fact sheet (listed under Andritz, Inc.) for the Facility can be found on the internet at https://www3.epa.gov/reg3wcmd/ca/pa.htm.

EPA has compiled an administrative record (AR) containing all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section 8, Public Participation, for information on how you may review the AR.

Section 2: Background

The Facility is located at 35 Sherman Street, Muncy, PA 17756. It is located partially in Muncy Borough and partially in Muncy Creek Township. Land use surrounding the Facility is mixed residential, commercial, industrial and agricultural (Figure 1).

The Facility has operated since 1866 in the manufacture of steel castings and sheet metal fabrication. The Facility was owned by Sprout, Wardron & Company from 1866 until 1975, and Beazer East, Inc. from 1975 until 1990. Andritz Sprout-Bauer, Inc, purchased the Facility property in 1990. It currently operates the Facility under the name Andritz, Inc.

Historic operations at the Facility employed a broad range of materials; primarily: steel, lubrication oils, solvents, fuels (gasoline, oil and kerosine), and paints.

Andritz, Inc. operated under RCRA interim status from 1980 until 1983. It currently operates as a hazardous waste generator. The Facility is comprised of two manufacturing areas known as Plant 1 and Plant 2. These areas are contiguous properties connected by a narrow strip of property. At the time of the Facility investigation and remediation, Andritz, Inc. owned the entire 42-acre industrial property. Several parcels, totaling approximately 10 acres, were sold from 2013 through 2015 (Figure 2).

This Statement of Basis addresses the entire 42 acre property that was included in the investigations and remediation actions by Andritz, Inc.

Areas of contamination that are currently owned by Andritz, Inc.:

- Building 67- remediated
- Building 70 – partial remediation
- Building 89 – no remediation
- Building 97 – remediated
- Former Drum Storage Area - remediated
- Building 200 – partial remediation

Areas of contamination that were sold by Andritz, Inc.:

- Building 18/66 – partial remediation
- Building 74 – remediated
- Building 81 – remediated

Section 3: Environmental Investigations and Completed Actions

Numerous environmental investigations and remediation actions have occurred over the Facility's history. Data from these investigations are the basis for EPA's proposed remedy. A complete list of reports that document the investigations and remediation actions can be found in the AR. See Section 8: Public Participation, below, for information on reviewing the AR.

The environmental investigations upon which EPA is relying in this SB were performed by Andritz, Inc. in accordance with work plans approved by PADEP. PADEP evaluated remediation results using the standards and procedures developed under the Pennsylvania Land Recycling and Environmental Remediation Standards Act, commonly referred to as Act 2. PADEP compared the post-remediation sampling results obtained during those investigations to Act 2 standards for soil and groundwater at the Facility.

PADEP approved the following Act 2 Final Reports:

- Act 2 Final Report, Building 70, Area 1, July 1996 (background cleanup standard for soil);
- Act 2 Final Report, Facility-wide, March 1999 (site-specific cleanup standards); and
- Act 2 Final Report, Building 81, July 2014 (statewide residential cleanup standard for soil).

PADEP approved the Facility-wide Act 2 Final Report on October 20, 1999, based on site-specific clean-up standards using pathway elimination under current and likely future exposure pathways. The evaluation considered the existing industrial zoning of the property and the existing physical barriers of building foundations, paving, and/or several feet of uncontaminated soil.

This SB compares the post-remediation sampling results to the following screening levels:

- Groundwater - EPA's drinking water standards, known as Maximum Contaminant Levels (MCLs), codified at 40 C.F.R. Part 141 and promulgated pursuant to the Safe Drinking Water Act, 42 U.S.C. §300f, et seq., and EPA Regional Screening Levels (RSLs) for tap water where no MCLs exist; and

- Soil – EPA RSLs for residential and industrial soil.

There are no reported releases of hazardous constituents at or from the Facility since the final remediation actions were completed in 1996.

1. Environmental Investigations

Environmental investigation activities began at the Facility in 1989 under the direction of the Pennsylvania Department of Environmental Resources, now known as PADEP. Environmental evaluations included a general site-wide evaluation (1990-1991) and detailed investigations of specific areas of potential concern (1991-1997). An additional soil evaluation was performed in 2014 at the Building 81 area, after the building was demolished, to support the approval of the Act 2 residential cleanup standard for soil.

Both soil and groundwater samples were taken during the site-wide evaluation (Phase II field investigations) to define the areas of potential concern.

Based on the results of the site-wide evaluation, detailed investigations were conducted at the areas of potential concern to define the nature and scope of contamination and to select remediation activities. Soil and groundwater samples were analyzed for some or all the following constituents, based on historical operations in the area and the results of the site-wide evaluation:

Total Petroleum Hydrocarbons (TPH)
Volatile Organic Compounds (VOCs)
Semi-Volatile Organic Compounds (SVOCs)
Priority Pollutant Metals (metals)

Environmental sampling identified five (5) areas of contaminated soil, as described below. Andritz, Inc. remediated the contaminated areas through soil removal or soil vapor extraction. Additionally, soil was removed in conjunction with the removal of Underground Storage tanks (USTs) from areas near Buildings 67, 70, 74, 81, 97, and 200. Following remediation, confirmation samples were taken to document the effectiveness of the cleanup.

Soil Investigation

Soil samples were collected at areas of potential concern, based on the site-wide evaluation. Two hundred and forty six (246) samples were analyzed to determine the need for remediation. The five areas identified for remediation were:

- Building 18/66/89 area (Plant 1) for TPH and VOC contamination;
- Building 70 area (Plant 1) for TPH and VOC contamination;
- Building 81 area (Plant 1) for TPH and VOC contamination;
- Former Drum Storage Area (Plant 1) for TPH and VOC contamination; and
- Building 200 area (Plant 2) for TPH, VOC and SVOC contaminants.

Groundwater Investigation

Groundwater samples were collected from 54 monitoring wells and 3 recovery wells on the Facility property and adjacent properties. Samples were collected during various area-specific monitoring activities as well as facility-wide monitoring events over several years. Several VOCs were detected above their applicable MCLs or RSLs.

Groundwater contamination was confined to the shallow aquifer, in alluvial material above the bedrock, in on-site wells and off-site wells installed to monitor the perimeter groundwater. Groundwater contamination was not present in deep wells, either on-site or off-site.

2. Remedial Activities Completed

Andritz, Inc. completed cleanup actions in the 5 areas identified by the detailed environmental investigations and at UST sites as part of the UST removal process. Where cleanup actions consisted of soil removal, all removal actions included post-excavation sampling of the excavated area to document the effectiveness of the remediation. All excavated contaminated soil was treated and disposed of off-site. All cleanup actions were completed with oversight, review, and approval by PADEP. The areas of soil removal/remediation are identified on Figure 3. The areas with contamination left in place are identified on Figure 5.

UST Removal and Cleanup Actions

- Building 74 area – Two tanks were removed in 1991: a 16,500 gallon fuel oil tank and an empty 1,000 gallon tank. Approximately 500 cubic yards of contaminated soil were removed. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil. This area was sold in April 2013

- Building 67 area – A 7,800 gallon fuel oil tank was removed in 1991. Approximately 500 cubic yards of contaminated soil were removed. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil.

- Building 97 area – Three tanks were removed in 1991: a 1,000 gallon gasoline tank, a 1,000 gallon diesel oil tank and a 500 gallon kerosene tank. Approximately 40 cubic yards of contaminated soil were removed. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil.

- Building 81 area – A 7,800 gallon fuel oil tank was removed in 1989 and 25 cubic yards of contaminated soil were removed. In 1994, an additional 2,400 tons of contaminated soil were removed as part of the facility-wide clean-up. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil. This area was sold in May 2015

- Building 70 area - A 1,000 gallon fuel oil tank was removed in 1995 as part of the broader Building 70 demolition and soil cleanup. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil.

- Building 200 area – Two tanks were removed. A 500 gallon tank used to store kerosene and/or naphtha products was removed in 1986. A 500 gasoline tank was removed in 1989. Post-excavation sampling confirmed clean closure and the excavation was backfilled with clean soil.

Buildings 18/66/89 Area

The 1991 Site Assessment identified a broad area of soil contamination (TPH) below Building 18/66 and in the area between that building and Building 89. Also, free product (cutting oil and solvent) contamination was discovered beneath the Building 18/66 foundation.

The free product contamination was confined to a small area immediately below the Building 18/66 foundation. In 1992, the free liquid in the saturated soil was pumped out. The contaminated soil below Building 18/66 and in the area between that building and Building 89 was not remediated.

The Building 18/66 area was sold in February 2014. Building 89 area remains under Andritz, Inc. ownership.

Building 70 Area

In 1989, cutting oil contamination was detected below the foundation of Building 70. From 1990 to 1992, approximately 7,000 cubic yards of contaminated soil were removed and recovery wells were installed and operated.

A detailed investigation was performed during 1991-93. Three areas of soil contamination were identified (Figure 4). TPH, chlorinated solvents and free product were found in the soil and extensive groundwater contamination was also detected. The investigation identified the soil beneath Area 1 of the building (eastern end) to be heavily

contaminated with cutting oil and solvents. In 1995, Building 70 was demolished and an additional 8,450 cubic yards of contaminated soil was removed from Area 1. Verification samples confirmed that contamination in Area 1 was removed to background soil levels. The excavation was backfilled with clean soil.

Area 2 and Area 3, which are located outside the footprint the soil excavation area, were found to be contaminated with lower concentrations of cutting oil and VOCs. The contaminated zone was confined to the soil between 9 feet and 16 feet below ground level. This soil was not remediated.

Building 81 Area

The 1992 Site Assessment identified TPH concentrations in the soil where the fuel oil tank was removed in 1989. In 1994, 2,400 tons of TPH-contaminated soil were removed, treated and disposed of off-site. Verification samples were collected within the excavation area. Soil samples were not collected below the building foundation. Verification samples confirmed that contamination was removed and the excavation was backfilled with clean soil.

Building 81 was demolished in 2012. In 2013, a subsequent soil sampling effort evaluated the area around former Building 81, as well as the footprint of the former building, which was inaccessible during the 1994 cleanup work. A small quantity of soil containing ash was excavated and disposed of offsite. The 2013 sampling data confirmed that the area was remediated to Act 2 residential standard for soil.

This area was sold in May 2015.

Former Drum Storage Area

A drum storage area was formerly located near Buildings 96 and 97. The 1992 Site Assessment identified soils contaminated with TPH and VOCs. In 1994, 883 tons of contaminated soil were removed, treated and disposed of off-site. Verification samples confirmed that contamination was removed and the excavation was backfilled with clean soil.

Building 200 Area

The 1992 Site Assessment identified a diffuse area of soil contamination northeast of Building 200. The soil was contaminated with TPH, VOCs, and SVOCs. The suspected source of the contamination was historical dumping of waste solvents. A soil vapor/groundwater extraction system was installed and operated from 1993 through 1996 to reduce the contamination in the broad area of diffuse contamination. Additional soil sampling was completed in January 1997 to determine the effectiveness of the remediation. Verification soil samples taken in 1997 confirmed that contamination was reduced to concentrations that would not pose a continuing release to groundwater.

Groundwater

In response to soil and groundwater contamination at the Facility, Andritz, Inc. extended the Muncy Borough potable water system to all downgradient properties that were using groundwater. Once the public water service was connected, the existing wells were removed from service and closed. Andritz, Inc. conducted an additional groundwater use survey in 1998 to confirm that all downgradient properties were connected to municipal water.

3. Environmental Indicators

EPA uses two *environmental indicators* (EIs) to evaluate a contaminated facility's progress toward meeting final cleanup standards. They are:

- Current human exposures under control (also referred to as Human Exposure EI), and
- Migration of contaminated groundwater under control (also referred to as Groundwater EI).

Foster Wheeler Environmental Corporation, on behalf of EPA and PADEP, conducted an inspection of the Facility in August 2001 to assess its status with respect to both EIs. Characterization of EI status, based on the inspection and the evaluation of site investigations, is documented in the January 2003 Environmental Indicator Inspection Report. Based on these site characterizations, EPA determined that the Facility had achieved both environmental indicators.

4. Current Site Conditions

The Facility conditions, summarized below, are based on the investigation and remediation reports that support the Act 2 Final Reports. The environmental data included in these reports have been accepted by both EPA and PADEP and have been used in developing this proposed remedy.

The post-remediation environmental data, collected primarily from 1993 through 1997, represent the most recent environmental data for the Facility. EPA acknowledges that biodegradation of the contaminants over the past 20 years has likely reduced the contamination levels. However, since more current data is not available, EPA evaluated current and future exposure against the 1993-1997 data.

Post-remediation soil samples were collected at the completion of each remediation activity (1989 through 1997). Additional soil samples were collected in 2013 in the Building 81 area, after the building was demolished, to support the Act 2 residential standard for soil for that area.

Post-remediation groundwater sampling was performed in 1994 and 1995. The wells were then closed and abandoned. No monitoring wells remain on the Facility property.

No releases of contamination have been reported since the Act 2 environmental investigations.

Soils

Contaminated soil was remediated to the extent practical. Soil with a defined area of contamination was excavated, treated, and disposed of off-site. A diffuse area of contamination in the Building 200 Area was remediated with a soil vapor/groundwater extraction system. Post-remediation soil sampling was completed in all areas of remediation.

Contaminated soil remained in areas located under existing manufacturing structures, paved areas, and/or several feet of uncontaminated soil, as described below and identified in Figure 5. Contaminated soil exceeded the EPA RSL values for ethylbenzene in the Plant 2 area and TPH in both plant areas.

TPH is a term that refers to the total mass of petroleum hydrocarbons present without identifying individual compounds. EPA has established six screening levels for TPH in soil for each of the six fractions of TPH identifiable through different analytical methods. Soil samples at the Facility were analyzed for TPH by either infrared spectroscopy or gas chromatograph. The infrared spectroscopy method does not distinguish the various hydrocarbon fractions. The gas chromatograph analysis distinguishes between high carbon and low carbon molecules. Where gas chromatograph analysis was performed, the TPH fraction identified was almost exclusively the high carbon fraction. Therefore, EPA screened TPH concentrations against the most conservative high carbon fraction, high carbon aromatic compounds.

Contaminant	**RSL for Residential Soil** mg/kg	**RSL for Industrial Soil** mg/kg	**Sample Collection Date**	**Location**	**Depth of sample Below ground surface**	**Detected Concentration** mg/kg
Ethyl-benzene	5.8	25	1997	Northeast of Building 200	19 feet	Up to 18
Total Petroleum Hydrocarbons High Carbon Aromatic	2,500	33,000	1993	Building 89 area	4 foot to 10 feet	Up to 6,600
			1993	Building 70 area	11 to 16 feet	Up to 37,900
			1993	Below Building 18/66	1 to 13 feet	Up to 39,900
			1997	Northeast of Building 200	19 feet	Up to 21,000

Building 89 area – TPH concentrations exceed the direct contact RSL for residential soil, but not for industrial soil, in both shallow and deep soil samples.

Building 70 area – TPH concentrations exceed the direct contact RSL for both residential soil and industrial soil. Only one sample, eleven feet below grade, contained concentrations above the industrial screening level. The building was demolished in 1995.

Building 18/66 – TPH concentrations exceed the direct contact RSL for both residential soil and industrial soil. Contaminated soil is contained beneath the concrete building floor.

Building 200 – Soils in the area of the former soil vapor/groundwater extraction system exceed direct contact RSL for residential soil for both ethylbenzene and TPH. Contamination is confined to a depth of 19 feet below grade.

These areas of contamination do not pose a current exposure risk since they are not accessible under current conditions, and groundwater sampling data documented that contamination was not impacting groundwater.

Groundwater

Prior to remediation of contamination at the Facility, VOCs were found in monitoring wells installed on-site and off-site around the perimeter of the Facility. The following chemicals were detected at concentrations above EPA screening levels: 1,1-dichloroethane, methylene chloride, ethylbenzene, tetrachloroethylene, and trichloroethylene.

The contaminated soil removal actions at the Facility contributed significantly to improving the groundwater quality. Contaminated soil, if left in place, would act as a source of continuing releases of contamination into the groundwater. The groundwater removal actions, in the areas of buildings 66, 70 and 200, addressed areas of concentrated groundwater contamination at the Facility.

Post-remediation Sampling

- Groundwater sampling was performed in 1994 and 1995 to assess the quality of the groundwater after most of the remediation actions were completed. The soil vapor/groundwater extraction system in the Building 200 area continued to operate through 1996. Following the post-remediation sampling, the wells were closed. No groundwater monitoring wells remain at the Facility.

- The groundwater sampling in 1994-1995 identified only 1,1-dichloroethane contamination above the EPA RSL as shown in the chart immediately below. That contaminant appeared in a small area in the vicinity of Buildings 70/92.

Contaminant	Drinking Water Screening µg/L	Location	Sample Collection Date	Detected Concentration µg/L
1,1-dichloroethane	RSL for Tap water 2.8	MWE-23 West of Buildings 70/92	10/1994	14
		MWE- 51 West of Buildings 70/92	10/1994	25
		PW-1 West of Buildings 70/92	4/1994	23

Based on the above post-remediation sampling results for 1,1-dichloroethane, EPA is proposing a remedy of corrective action complete without controls for Facility groundwater because no restrictions on groundwater use are necessary at the Facility. The 1994 sampling results demonstrate that the levels of 1,1-dichloroethane in the groundwater at the Facility were within EPA's acceptable risk range for that contaminant at that time. Moreover, it is reasonably expected that the level of 1,1-dichloroethane currently in Facility groundwater is now below the applicable RSL. This conclusion is based on the following considerations:

- Remediation actions (contaminated soil and groundwater removal) in the Building 70 area resulted in a 70% reduction in groundwater contamination in the 18 months following the remediation actions. In April 1993, concentrations of 1,1-dichloroethane ranged from 50 µg/L to 90 µg/L. Remediation activities reduced the concentrations to 14 µg/L to 25 µg/L in October 1994.
- In 1995, additional contaminated soil was removed from the area. This removal eliminated a source of contaminant release to the groundwater.
- Considering the additional removal of contaminated soil and the documented rate of contaminant reduction over an 18 months period, it is reasonable to that conclude that, 22 years later, bioremediation processes in the soil have reduced the contaminant levels below concentrations of concern.

Furthermore, the groundwater quality was deemed acceptable by PADEP under the Act 2 site-specific cleanup standard which considered pathway elimination to groundwater exposure. PADEP approved the Act 2 remediation and the closure of the wells based on the following considerations:

- all downgradient properties were connected to the municipal water supply;
- all downgradient water supply wells were removed from service and closed; and,
- zoning regulations restrict construction downgradient of the Facility as the area is in the 100-year floodway.

Surface Water

Groundwater from the Facility discharges to the West Branch of the Susquehanna River. Groundwater monitoring between the Facility and the Susquehanna River identified no contaminants of concern that may discharge to that river.

Subsurface Vapor Intrusion (Indoor Air)

Chemical vapors contained in contaminated soil or groundwater can create a health hazard if they migrate through foundations and accumulate in occupied buildings.

Subsurface contamination was found below Building 18/66 in both shallow and deep samples, just below the building floor to 13 feet below grade. However, VOCs were not detected at concentrations of concern. Since indoor air risks are related to the migration of VOCs into buildings, vapor intrusion does not pose a risk.

Subsurface contamination was found in the areas of Building 70 and Building 200 at depths from 9 feet to 19 feet below grade. Building 70 was demolished in 1995. The contamination in the Building 200 Area is not below any building structures.

Subsurface contamination was found in the open area between Building 18/66 and Building 89 at depths from 4 foot to 10 feet below grade. However, VOCs were not detected at concentrations of concern. Since indoor air risks are related to the migration of VOCs into buildings, vapor intrusion is not a concern for structures that may be built in that area.

Section 4: Corrective Action Objectives

1. Soils

EPA has determined that surface soils at the Facility meet the EPA Regional Screening Levels for both residential and industrial soil.

EPA has determined that subsurface soils at the Facility exceed the EPA Regional Screening Levels for both residential and industrial soil in the areas of Buildings 18/66, 70 and 200. Current conditions prevent direct contact with contaminated soil, through the physical barriers of building structures, paving, and uncontaminated soil.

The corrective action objectives for soils are to:

- Restrict land use to non-residential use unless further remediation to residential standards is performed, and
- Establish notification and safety procedures for excavation into contaminated areas of Buildings 18/66 (no longer owned by Andritz, Inc.), 70, and 200.

2. Groundwater

EPA has determined that site remediation already conducted at the Facility has returned groundwater to its maximum beneficial use. EPA has used the National Primary Drinking Water Standard MCLs (promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141), and EPA RSLs for tapwater where no MCLs exist.

Section 5: Proposed Remedy

EPA's proposed remedy for Facility groundwater is Corrective Action Complete Without Controls.

For Facility soils, the proposed remedy is outlined below. It proposes the implementation of institutional controls (ICs). ICs are generally non-engineered mechanisms such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of a remedy. Under this proposed remedy, ethylbenzene and TPH remain in the soils at the Facility above screening levels for residential and industrial direct contact. As a result, the proposed remedy will require Andritz Inc. to implement land use restrictions to prohibit human exposure to such contaminants. ICs may be established through an enforceable mechanism such as an order, permit or an environmental covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act. If the enforceable mechanism selected were to be an environmental covenant, it would be recorded with the Facility property records.

EPA is proposing that the following land use restrictions be implemented through an Environmental Covenant at the Facility:

1) The Facility property shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health and EPA provides prior written approval of such use. The non-residential use property areas are identified on Figure 5.

2) Any excavation or other construction activity within the footprint of the contaminated areas at the Facility, as identified in Figure 5, shall employ measures to protect workers from unacceptable exposure to contaminants.

Part of the property that requires land use restrictions is no longer owned by Andritz, Inc. This area, under Building 18/66, is shown in Figure 5. This area was sold to Catawissa Partners, LLC, in February 2014. PADEP has required Catawissa Partners, by letter dated May 24, 2016, to submit an Environmental Covenant that will restrict land use in accordance with the PADEP-approved 1999 facility-wide Act 2 final report. These restrictions are consistent with this proposed EPA remedy.

Section 6: Evaluation of Proposed Remedy

Consistent with national guidelines, EPA evaluates proposed corrective action remedies in two phases. EPA first evaluates them against three threshold criteria. For those meeting the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	The proposed remedy protects human health and the environment by eliminating exposure pathways. Soil exposure is generally limited by the physical barriers of overlying clean soil, concrete foundations, and asphalt paving. Exposure to contaminated soil below grade would be prevented by the terms of the proposed use and implementing protection measures for workers during soil excavation activities.
2) Achieve media cleanup objectives	Industrial use cleanup standards, have been achieved by past remediation at the Facility.
3) Remediating the source of releases	Remediation of source areas has been achieved by past soil excavation and UST removals at the Facility.

Balancing Criteria	Evaluation
4) Long-term effectiveness	The proposed land use restrictions will maintain protection of human health and the environment over time by controlling exposure to remaining contaminated soil. EPA anticipates that these restrictions will be implemented through an enforceable permit, order, or an environmental covenant to be recorded with the Facility property records.
5) Reduction of toxicity, mobility, or volume of the hazardous constituents	Toxicity, mobility, or volume of the hazardous constituents has been largely reduced by past remediation at the Facility. The remaining soil contamination is overlain by physical barriers, such as clean soil, concrete foundations, and asphalt paving.
6) Short-term effectiveness	EPA anticipates that the proposed land use restrictions will be implemented shortly after EPA selects a final remedy.
7) Implementability	EPA's proposed remedy is readily implementable. EPA does not anticipate any regulatory constraints in requiring the Facility property owners to implement institutional controls described above.
8) Cost	The proposed remedy is cost effective. Andritz, Inc. has already completed the remedial activities, USTs removal and soil excavation, at the Facility. The costs associated with implementing the proposed land use restrictions would be minimal.
9) Community acceptance	EPA will evaluate community acceptance during the public comment period and provide an analysis in the Final Decision and Response to Comments.
10) State/support agency acceptance	EPA will evaluate state acceptance during the public comment period and provide an analysis in the Final Decision and Response to Comments.

Section 7: Financial Assurance

EPA has evaluated whether financial assurance is necessary to implement EPA's proposed remedy at the Facility. The remediation of the Facility is complete. The costs of implementing institutional controls at the Facility will be minimal. EPA is proposing that no financial assurance be required.

Section 8: Public Participation

You are invited to comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, email, or phone to Maureen Essenthier at the address listed below.

EPA may hold a public meeting upon request. Requests for a public meeting should be made to Ms. Essenthier at the address listed below. A meeting will not be scheduled unless one is requested.

The Administrative Record contains all information considered by EPA for the proposed remedy. It is available at the following location:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Maureen Essenthier (3LC30)
Phone: (215) 814-3416
Fax: (215) 814 - 3113
Email: essenthier.maureen@epa.gov

Date: 6-21-2016

original signed by John A. Armstead
John A. Armstead, Director
Land and Chemicals Division
U.S. EPA Region III

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5. Notice of Violation, 1/12/88
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7. Invoice from Compliance Services, Inc. to Sprout Bauer for cleaning and disposing 4 removed tanks (UST SW-4; 7,800-gal UST by Bldg. 81; 1000-gal fuel oil UST; and 7,800-gal fuel oil UST), 11/20/89
8. Soil Investigation Results Report, Die Department – Plant 1, J. M. Sorge, Inc., 5/90
9. Storage Tank and Spill Prevention Act Notification of Contamination Report, 1/24/91 (documents contamination at USTs 001, 003, 005, and 006)
10. PADER Internal Memo regarding Building 70 Area Cleanup Chronology, 3/19/91
11. Underground Storage Tank Closure Report, C. M. Environmental Services, Inc., 6/10/91 (removed USTs 001, 002, 003, 005, and 006; replaced with USTs 007, 008, 009, 010)
12. Letter from EnSafe to Andritz Sprout-Bauer, 10/2/91 (sampling results for non-PCB transformer at Plant 2)
13. Summary of Building 66 and Main Building Hydrogeologic Investigation, Environmental and Safety Designs, Inc., 1/27/92
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15. Site Assessment Report, Building No. 74, Environmental and Safety Designs, Inc., 12/92
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17. Investigation Report, Former Drum Storage Area, Environmental and Safety Designs, Inc., 6/93
18. Remedial Alternatives for Former Drum Storage Area, Environmental and Safety Designs, Inc., 5/94
19. Summary of Groundwater Quality Evaluation, Plant 2 Facility, 1991-92, Environmental and Safety Designs, Inc., 7/1/94
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23. Completion Report, Area 1 Remediation, Die Department Operation (Building 70), Environmental and Safety Designs, Inc., 3/96
24. Letter from PADEP to Andritz, 5/17/96 (approval of Completion Report, Area 1 Remediation, Die Department Operation Building 70)
25. Act 2 Final Report, Building 70, Area 1, EnSafe, Inc., 7/96

26. Summary of results of Geoprobe Investigation, Envirogen, 1997
27. Underground Storage Tank Closure Report for 25,000 Gallon UST Formerly Holding Fuel Oil #2, Elk Environmental, 4/8/98 (Tank #004)
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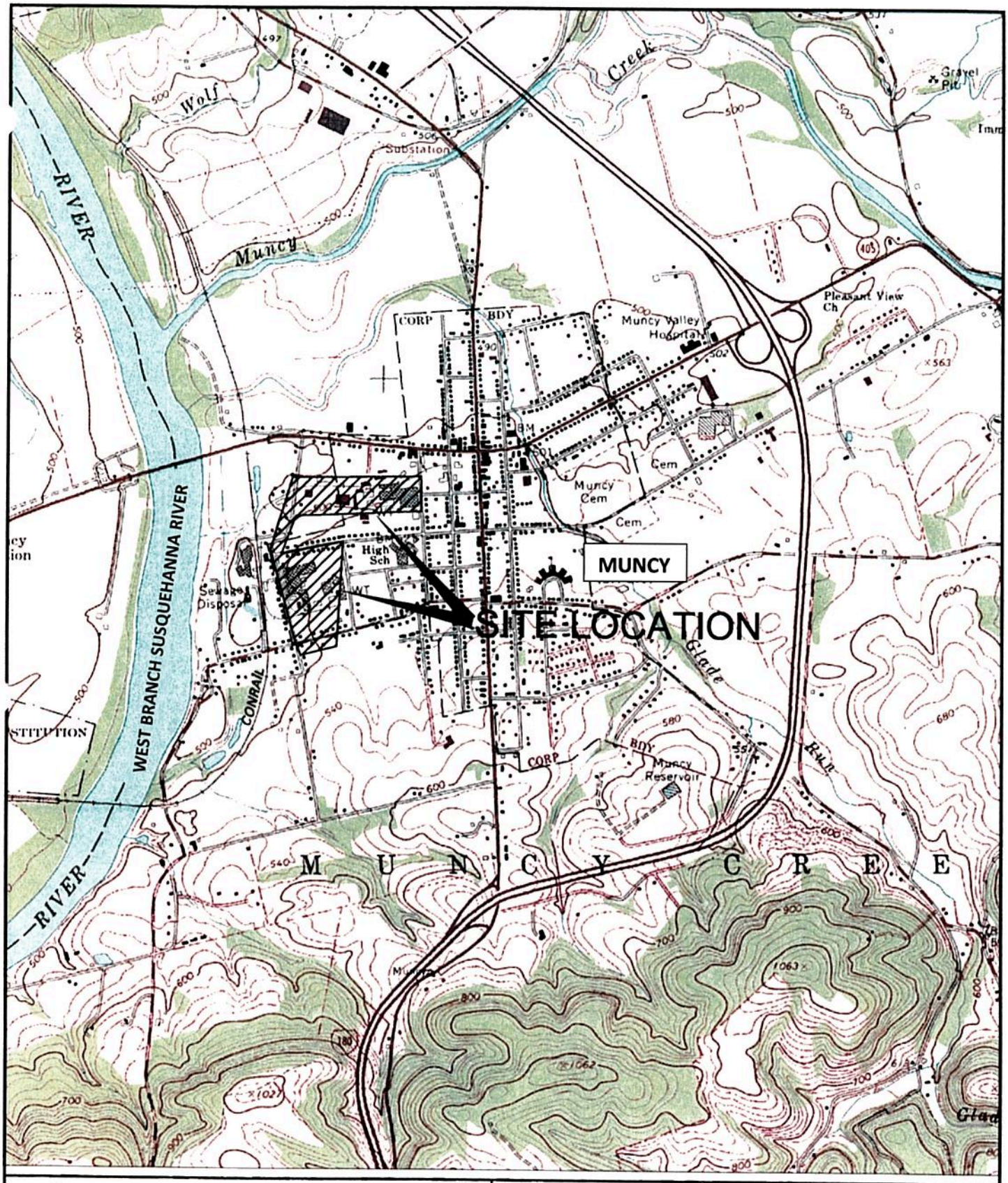
    - Appendix J, Supplemental Data - Groundwater
    - Appendix K – Public Participation Documents
29. PADEP Technical Memo, 1/8/99 (indicated 1/3/97 approval of Act 2 Final Report, Building 70, Area 1)
30. Act 2 Final Report (facility-wide), EnSafe Inc., 3/99
31. PADEP Technical Memo, 10/14/99 (approval of Act 2 Final Report)
32. PADEP approval letter, Act 2 Final Report (facility-wide), 10/20/1999
33. Act 2 Site Characterization and Final Report, Andritz Building 81, TRC Environmental Corporation, 7/2014
34. PADEP approval letter, Act 2 Site Characterization and Final Report, Andritz Building 81, 8/5/2014
35. Letter from Andritz, Inc. to USEPA, Summary of Current Conditions, 9/11/2015
36. PADEP Hazardous Waste Generator inspection Report, 11/10/2015
37. Andritz RCRA Corrective Action Review, email memo from Andritz to USEPA, 1/18/2016 – regarding possible releases since the Act 2 remediation
38. Andritz RCRA Corrective Action Review, email memo from PADEP to USEPA, 3/4/2016 – regarding possible releases since the Act 2 remediation
39. EPA memo, Evaluation of Post-Remediation Environmental Data Against EPA Screening Levels, March 20016



PENNSYLVANIA

Quadrangle Location Map

0 2000 4000 Feet

N

Source: U.S.G.S. Topographic Maps (7.5 Minute)
Muncy, PA

Commonwealth of Pennsylvania
Department of Environmental Protection

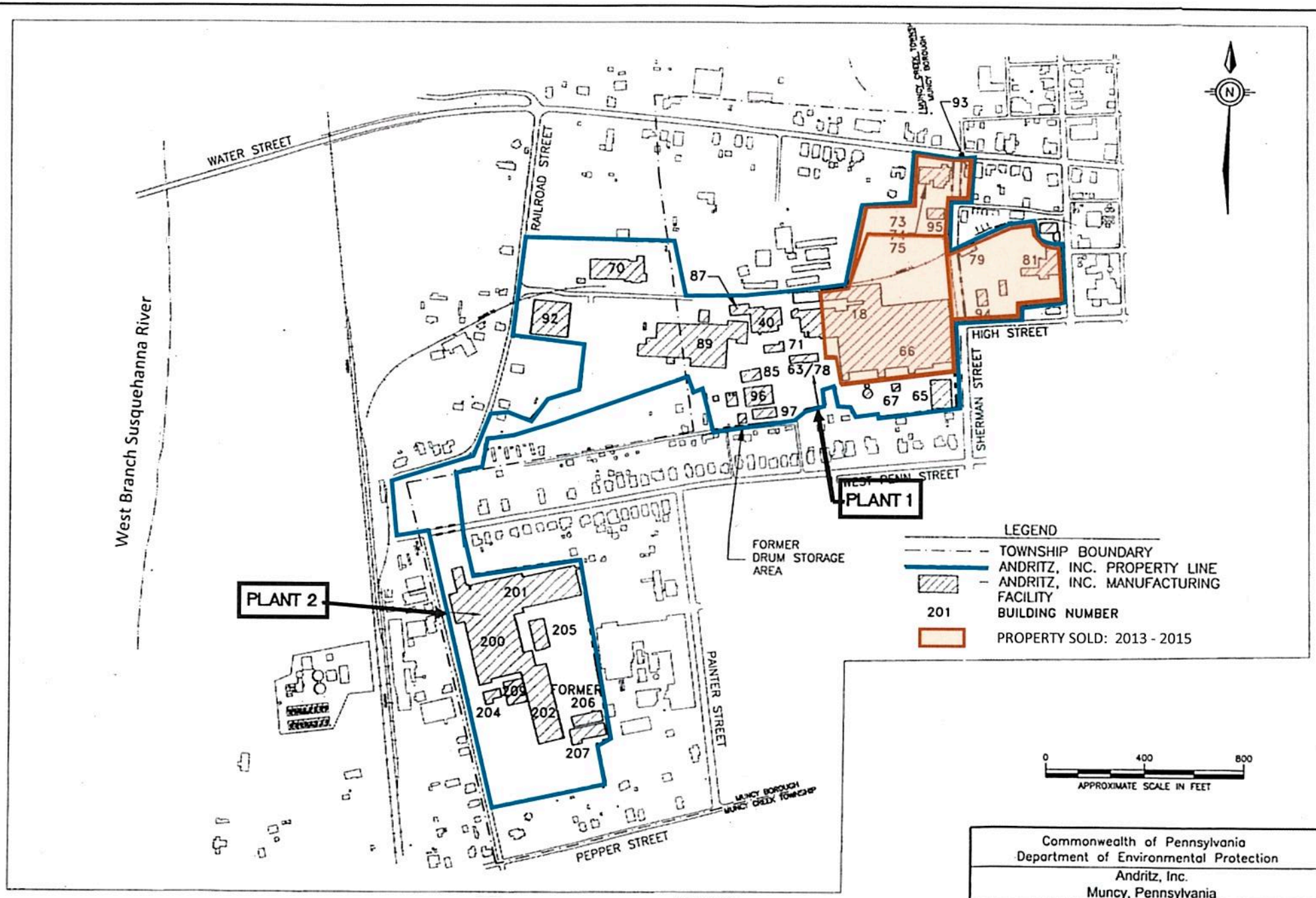
ANDRITZ, INC.
MUNCY, PA

Figure 1

Site Location Map

FOSTER WHEELER ENVIRONMENTAL CORPORATION

envt. investigations 2002\ Andritz site dwg



Andritz, Inc., Figure 2 - Site Layout

SOURCE:

ACT 2 REMEDIAL INVESTIGATION REPORT, FIGURE 2-1, ENSAFE, SEPTEMBER 1998.

Commonwealth of Pennsylvania Department of Environmental Protection
Andritz, Inc. Muncy, Pennsylvania
Figure 2 Site Layout
FOSTER WHEELER ENVIRONMENTAL CORPORATION

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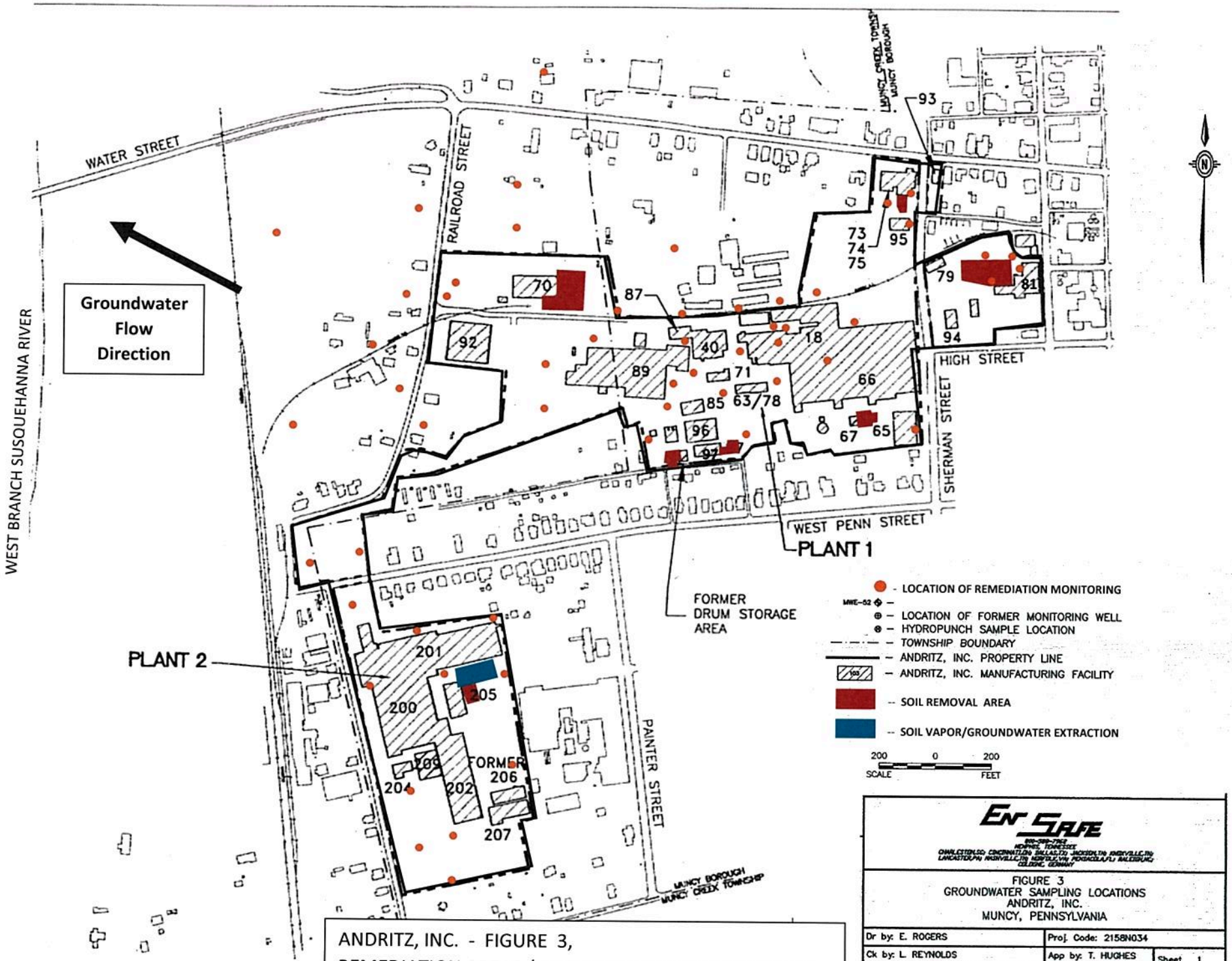
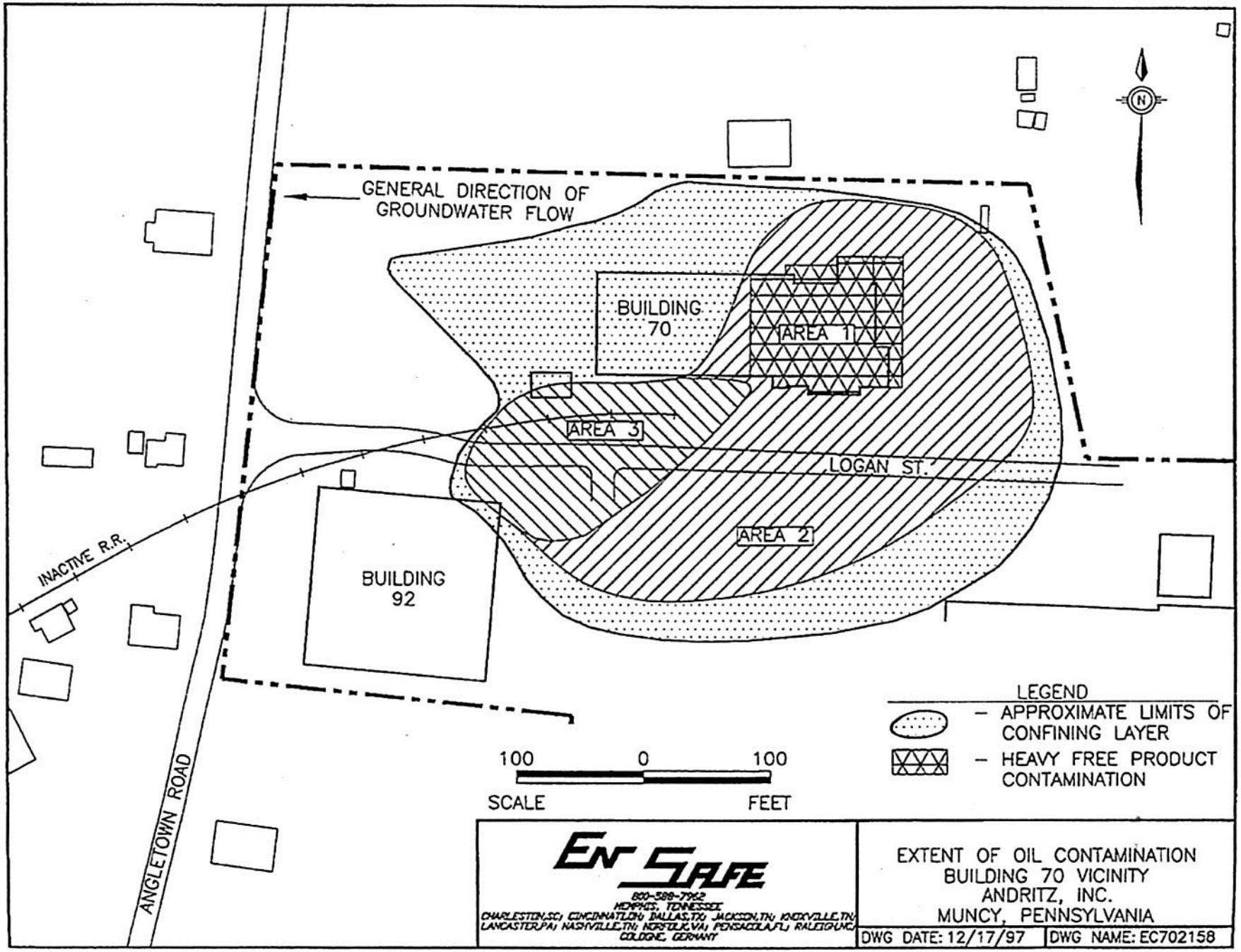


ANDRITZ, INC. - FIGURE 3,
REMEDIATION AREAS / MONITORING WELL LOCATIONS

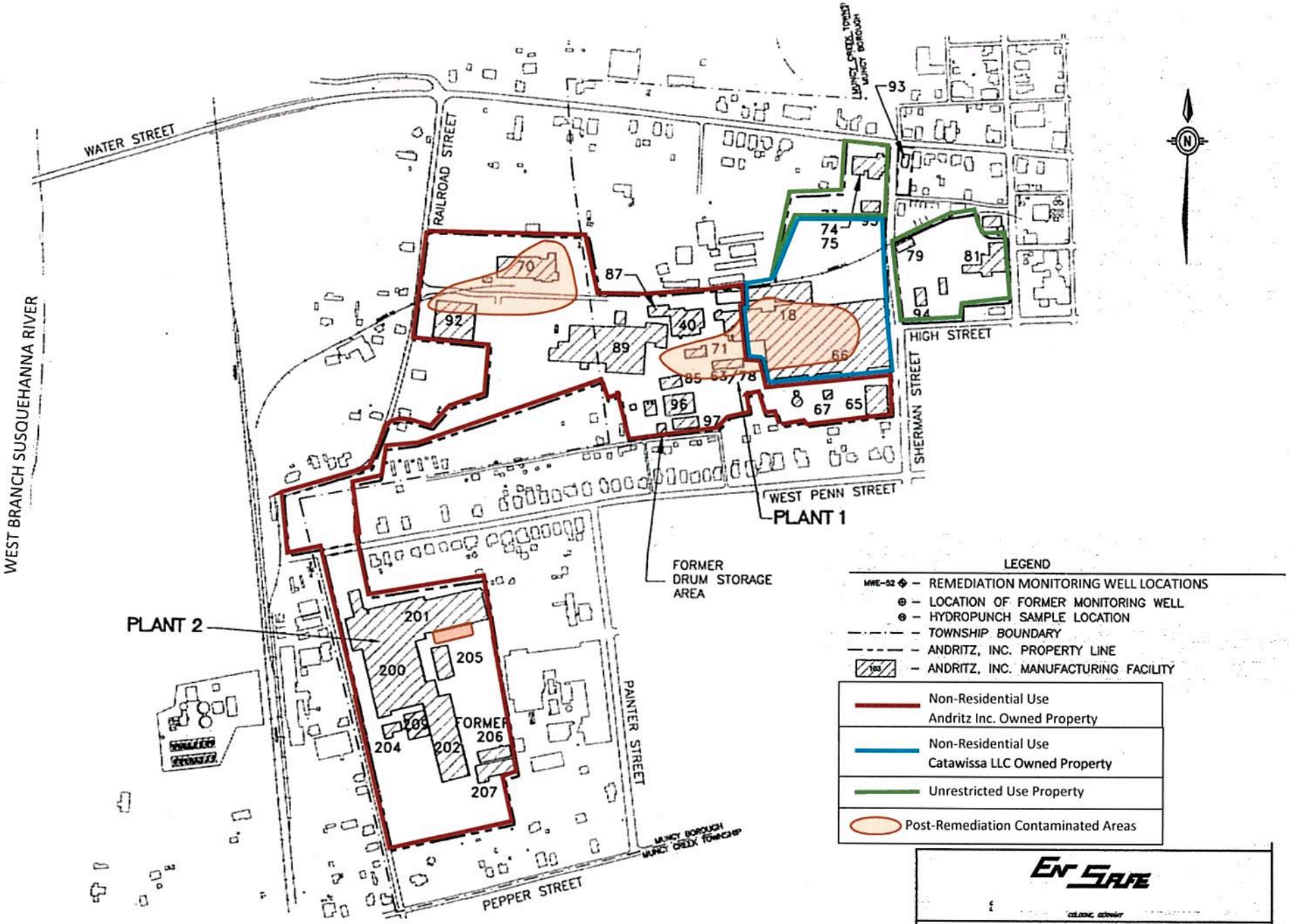
EnSafe

FIGURE 3
GROUNDWATER SAMPLING LOCATIONS
ANDRITZ, INC.
MUNCY, PENNSYLVANIA

Dr by: E. ROGERS	Proj. Code: 2158N034	
Ck by: L. REYNOLDS	App by: T. HUGHES	Sheet 1
Date: 12/17/97	DWG Name: SLPR2158	Of 1



Andritz, Inc., Figure 4 - Building 70, Extent of Oil Contamination



Andritz, Inc., Muncy, PA
Figure 5 – Future Land Use / Contaminated Areas

EnSafe

FIGURE 3-1
GROUNDWATER SAMPLING LOCATIONS
ANDRITZ, INC.
MUNCY, PENNSYLVANIA

Dr by: E. ROGERS	Proj. Code: 2158N034		
Ck by: L. REYNOLDS	App by: T. HUGHES	Sheet	1
Date: 12/17/97	DWG Name: SLPR2158	Of	1