Part 1
Section A – General Requirements

Appendix A-6
Professional Engineer Certification for FPOR and Containment

CERTIFICATION

PROFESSIONAL ENGINEER CERTIFICATION (NR 670.014(1))

"I, William L. Hable, hereby certify that I am a registered Professional Engineer in the State of Wisconsin in accordance with ch. A-E 4, Wis. Adm. Code and that this report has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code."

WISCONSIN
WILLIAM L.
HABLE
E-9778
BLOOMER
WI
4-18-13
PROFESSIONAL ENGINEER

Signature
William L. Hable
Professional Engineer

April 18, 2013
Date

Consulting Engineer
Title

9778
P.E. Number

CERTIFICATION

TANK AND CONTAINER CONTAINMENT CERTIFICATION

I, William L. Hable, hereby certify that I am a registered Professional Engineer in the State of Wisconsin in accordance with ch. A-E 4, Wis. Adm. Code. Further, I hereby certify that all Tank and Container Containment Structures meet the applicable performance standards in NR 664.0193 and NR 664.0175, Wisconsin Administrative Code. The secondary containment structures at WRR Environmental Services Company, Inc., are:

- Designed and capable of detecting and collecting releases and accumulated liquid
- Sloped or designed to drain and remove liquids resulting from leaks and spills
- Designed with appropriate secondary containment capacity
- Constructed with chemical resistant water stops in all joints
- Free of gaps and cracks, and provided with an impermeable interior coating

WISCONSIN
WILLIAM L.
HABLE
E-9778
BLOOMER
WI
4-18-13
PROFESSIONAL ENGINEER

Signature
William L. Hable
Professional Engineer

April 18, 2013
Date

Consulting Engineer
Title

9778
P.E. Number

WRR Environmental Services, Co, Inc.

Eau Claire, Wisconsin

Part I

Section B – Noncompliance with Plans or Orders

B-1 Identification of ownership NR 670.014(2)(x)1.a.

WRR Environmental Services, Co., Inc. is a wholly owned subsidiary of Caribou Corporation.

B-2 and B-3 Other Wisconsin solid or hazardous waste facilities NR 670.014(2)(x)1.b. and **NR 670.014(2)(x)1.c.**

The applicant, WRR Environmental Services or owner, Caribou Corporation, is not named in or subject to an order or plan approval issued by the department for any other Wisconsin solid or hazardous waste facility.

The applicant, WRR Environmental Services or owner, Caribou Corporation, does not own or previously owned a 10% or greater interest in any other Wisconsin solid or hazardous waste facility.

B-4 Other facility plans and orders compliance NR 670.014(2)(x)1.d.

WRR Environmental Services and owner, Caribou Corporation, is complying with all plan approvals and orders relating to this facility.

WRR Environmental Services, Co, Inc.

Eau Claire, Wisconsin

Part I

Section C – Environmental Impact Review

Environmental Impact Review NR 670.014(2)(x)2.

WRR is submitting the following information to enable the department to make a determination for the need of an environmental impact statement.

C-1 Summary of the project NR 670.014(2)(x)2.a.

WRR is located at 5200 Ryder Road just south of the City of Eau Claire, Wisconsin in Washington Township. WRR has been assigned the U.S. EPA ID Number WID990829475. WRR was founded in 1970 and provides services in the areas of solvent recycling, fuel blending, emergency spill response, remediation, community clean sweeps, and other hazardous waste treatment and management services to non-hazardous and hazardous waste generators. The facility is operated within the conditions set forth in the Federal RCRA Part B permit and State of Wisconsin hazardous waste storage and treatment licenses. The current Part B permit and Wisconsin State licenses issued in 2003 jointly by US EPA Region V and by the Wisconsin Department of Natural Resources expires on October 22, 2013. The focus of this Feasibility and Plan of Operation Report (FPOR) is to support the renewal of the hazardous waste license for hazardous waste storage and treatment activities at the Eau Claire facility.

WRR is currently zoned I1 – Non-sewered Industrial. No change in the zoning classification is requested or anticipated.

Activities at the WRR facility include the storage and treatment of hazardous wastes. Hazardous wastes are stored at the facility in containers and above ground storage tanks. Treatment activities conducted at the site include solvent recycling, wastewater treatment and fuel blending. WRR does not handle radioactive or explosive wastes and others.

Hazardous wastes are delivered to WRR in containers consisting of drums, totes, cubic yard boxes, and rolloffs. Liquid hazardous wastes are also delivered in tanker trucks. WRR will accept only pre-approved waste materials. For loads to be picked up by WRR contracted drivers, manifests and applicable paper work may be prepared by the WRR Traffic Department. Other waste haulers must have completed manifests or bills of lading for all waste streams delivered to WRR.

Before entering the facility, all delivery trucks must register at the plant office. The operation supervisor will direct the truck to a receiving area or a loading dock. The supervisor will review all of the shipping documents for completeness. After a unique tracking ID number is assigned to each bulk load, samples will be taken from each compartment of a tanker.

After the containers (drums, pails, totes) on a trailer load are unloaded, a unique tracking ID number is generated and assigned to each container. The contents in the containers are sampled and analyzed according to the Waste Analysis Plan. The containers on each waste shipment are then assigned to a specific process program. After analysis and assignment to a specific process program, materials that arrive in tanker truck are pumped to a storage tank. Materials that are in drums or totes may be pumped directly to storage tanks after assignment or to a specific container storage area for later bulk storage and processing or shipment for off-site treatment. Cubic yard boxes are stored until transported off-site for treatment or are processed in the fuels building.

Hazardous waste materials accepted at WRR are assigned to one of the following process programs:

1. Reclamation/Recycling of Solvents
2. Fuel Blending
3. Waste Water Treatment (On-site)
4. Waste Water Treatment (Off-site)
5. Off-site treatment

Description of proposed physical changes NR 670.014(2)(x)2.b.

C-2 Terrestrial resources NR 670.014(2)(x)2.b.(1)

WRR is an established facility complete with surface water drainage and sediment controls. Public road access to the facility is established. Changes to the terrestrial resources will not be needed.

C-3 Aquatic resources NR 670.014(2)(x)2.b.(2)

WRR is an established facility. No additional impacts to surface water are anticipated.

C-4 Buildings and structures NR 670.014(2)(x)2.b.(3)

WRR is an established facility. No additional structures are anticipated at this time. If new buildings, units or structures are planned, the proper notifications and permit application submittals will be made to the appropriate regulatory agencies.

C-5 Air emissions and water discharge NR 670.014(2)(x)2.b.(4)

WRR is an established facility. There will be no emissions or discharges associated with facility preparations and construction. Emissions and discharges during facility operations are regulated under the facility's Title V Air Permit and WPDES (Wisconsin Pollutant Discharge Elimination System). Emissions or discharges associated with closure are addressed in WRR's Closure Plan as required by NR 664.0179.

C-6 Other physical changes NR 670.014(2)(x)2.b.(5)

WRR is an established facility. No other physical changes are anticipated.

C-7 Maps and other materials NR 670.014(2)(x)2.b. (6)

Figure A.1 – Facility Site Plan shows the current conditions existing at the WRR facility.

Description of existing environment that may be affected NR 670.014(2)(x)2.c.

C-8 Physical environment NR 670.014(2)(x)2.c.(1)

Area Topography:
WRR is located at the eastern edge of an approximately ¾ mile-wide, relatively flat valley floor near the southern edge of the Chippewa River basin. The valley is flanked by eroded sandstone hills with elevations over 1,000 feet above mean sea level (msl) with the valley floor at approximately 880 feet above msl to approximately 840 feet msl. The WRR site is approximately 900 feet above msl.

Area Geology:
Generalized descriptions of the geology are provided in the United States Geological Survey (USGS) publication, "Water Resources of the Wisconsin-Chippewa River Basin" and the Wisconsin Geological and Natural History Survey (WGNHS) publication, "Field Trip Guidebook for Cambrian-Ordovician Geology of Western Wisconsin." Area geologic information was obtained from the WGNHS "WisLith" database. The Eau Claire or Mt. Simon Formation of the Elk Mound Group (Cambrian age) is the first bedrock unit encountered at the site and unconformably overlies the Precambrian basement rock in the region. A deep water supply well located approximately two miles from the former site of St. Bede's Priory indicates that the Eau Claire Formation is at least 50 feet in thickness and the underlying Mt. Simon Formation is approximately 255 feet in thickness. PreCambrian igneous and metamorphic rock was encountered at 310 feet below ground surface in the St. Bede's Priory well.

The Eau Claire Formation generally consists of moderately to poorly cemented sandstone, with some thin layers of shale. The Mt. Simon Formation is composed primarily of fine-coarse grained sandstone and is a major area municipal water supply aquifer.

Sands and silts derived from erosion of the Cambrian-age sandstones were deposited in the Lowes Creek pre-glacial bedrock valley. Lowes Creek is entrenched in these fine-grained deposits but is still estimated to be 40 to 60 feet above the Cambrian sandstone bedrock.

Surface Water Drainage Features:
Lowes Creek is entrenched approximately 40 feet into the valley floor, about ½ mile west of the WRR facility. Lowes Creek is approximately 840 feet above mean sea level (msl). The WRR site is approximately 900 feet above msl. Surface water in Lowes Creek flows northward to the Chippewa River.

Hydrogeologic Conditions:
Based on boring logs of the approximately 80 groundwater monitoring and recovery wells installed at and near the site since 1979, four hydro-stratigraphic units have been identified. These units include silty sand; a banded layer of sand, silt, and clay; a layer of silty sand; and, sandstone bedrock. The first unit, approximately 10 feet of silty sand, overlies the entire site and forms the unconfined zone.

The banded unit, also approximately 10 feet thick, acts as a confining layer and is continuous and present under almost the entire site. The confining unit appears to pinch out along the eastern edge of the site where sandstone outcrops just east of Highway 93 and to the west, where it grades into the silty sand unit.

A silty sand unit forms the mid-depth zone, is located under the confining layer, and fills most of the Lowes Creek preglacial valley. It is likely divided into several thin water bearing zones and confining layers and varies in thickness from less than 10 feet near the WRR site to more than 80 feet near Lowes Creek. Groundwater seeps have been identified in this unit along the east valley wall of Lowes Creek.

Cambrian sandstone, found at approximately 60 feet below ground surface (bgs) at the WRR site, makes up the fourth hydro-stratigraphic unit. Approximately 600 feet west of the site and near Lowes Creek, the sandstone drops off to approximately 100 feet bgs. A permeable, approximately 10 feet thick weathered sandstone interval overlies more cemented sandstone in this area. The sandstone likely rises further to the west where it forms the west wall of the Lowes Creek valley.

Depth to groundwater in the unconfined, shallow zone at the WRR site ranges from 5 to 15 feet bgs. Groundwater in the shallow zone appears to flow to the west, but flows radially in the location of WRR's 360,000-gallon reservoir due to a mounding effect.

Depth to groundwater in the confined, mid-depth zone ranges from 15 ft bgs at the WRR site to approximately 35 feet bgs near Lowes Creek. The mid-depth aquifer appears to flow to the west with a horizontal hydraulic gradient of 0.016 ft/ft.

Depth to groundwater in the sandstone bedrock aquifer ranges from 20-30 feet bgs at the WRR site depending on the ground surface elevation.

A comparison of the water levels recorded from nested wells across the site generally indicates a downward (recharge) vertical gradient between the shallow unconfined, mid-depth, and bedrock aquifers. However, near Lowes Creek, a significant upward (discharge) vertical gradient has been identified and likely reflects a boundary between recharge and discharge areas.

Air:
The Eau Claire area is not a non-attainment area for National Ambient Air Quality Standards (NAAQS) pollutants. The Air Quality Index (AQI) for Eau Claire is good to moderate.

Wetlands:
WRR is not located in a wetland. Map C.8 – Proximity to Wetland.

Groundwater Quality:
Three groundwater aquifers lie below the WRR facility. The shallow groundwater aquifer and mid-depth aquifer contain non-potable water. The regional drinking water aquifer, Mount Simon Aquifer, flows below these two aquifers.

Performance of Hazardous Waste Units:
The facility is not operated in a manner in which the management of hazardous waste will have a reasonable probability of having a detrimental effect on groundwater quality or will cause a violation of groundwater standards under ch. NR 140. Waste recycling process equipment is located inside a building with containment. The equipment used in the fuel blending process is inside a building with containment. Container storage is also located inside building structures with containment. Storage tanks are located in diked storage areas which are equipped with adequate containment.

C-9 Dominant species and habitat NR 670.014(2)(x)2.c.(2)

WRR is located within the Western Coulee and Ridges Ecological Landscape. Current vegetation in the Western Coulee and Ridges Ecological Landscape is a mix of forest, agriculture, and grassland with some wetlands in the river valleys. The parkland adjacent to WRR can be described as a Pine Barrens habitat. Bird species are dominated by the presence of several species of thrushes and sparrows. Mammals include species of small rodents such as rabbits, squirrels and mice with some larger mammals including white tail deer. There are no aquatic species in close proximity to WRR.

Map C.9 - Ecologically Significant Places shows the WRR facility in relationship to areas deemed ecologically significant by the Department.

C-10 Existing land use, dominant features and zoning NR 670.014(2)(x)2.c. (3)

At the time of this writing, the adjacent properties to WRR are zoned as follows:

To the North is a business owned by WRR that is a light manufacturing facility zoned as C3 – Highway Business.

To the East is light manufacturing and land for development zoned as C3 – Highway Business.

To the South of the WRR facility is a 7.7 acre lot owned by WRR zoned as I1 – Nonsewered Industrial.

To the West is Eau Claire County parkland zoned I1 and F2 – Nonsewered Industrial and Forestry.

Map C.10 – WRR Environmental Services Zoning Map shows the parcels adjacent to the facility.

C-11 Social and economic conditions NR 670.014(2)(x)2.c. (4)

WRR is located in the Town of Washington. Based on the 2010 Census, the racial makeup of the town was 94.3% Non-Hispanic White, 0.2% African American, 0.2% Native American, and 2.3% Asian. Hispanic or Latino was 1.7% of the population.

Based on the 2010 Census, 94.5% of the population 25 years or older is a high school graduate or higher.

The percentage of families whose income was below the poverty level was 4.4%, based on the 2010 Census.

C-12 Other special resources NR 670.014(2)(x)2.c. (5)

No agricultural, historical or archaeological areas have been identified adjacent to the WRR facility. The natural area bordering the WRR facility is Eau Clarie county owned parkland.

Probable beneficial and adverse impacts NR 670.014(2)(x)2.d.

C-13 Physical impacts NR 670.014(2)(x)2.d. (1)

WRR is an existing facility; there are no adverse or beneficial physical impacts associated with design and construction. In using good housekeeping and maintenance practices, WRR can maintain the appearance and integrity of the facility during its operating life. This will prevent adverse physical impactsfrom the continued operation of the facility. [1]

[1] Item# 15

C-14 Biological impacts NR 670.014(2)(x)2.d.(2)

WRR is an existing facility. There will be no destruction of habit or impacts to endangered or threaten species in the continued operation of the facility.

In 2001, WRR, SEH, and Environmental Forestry Consultants, LLC evaluated phytoremediation as a supplemental corrective action to remove VOCs from shallow groundwater. A field phase of a phytoremediation treatability study was initiated in June 2002. Between 2004 and 2007, approximately 2,520 poplar, willow, and cottonwood trees, along with prairie grasses and flowers, were planted on Lowes Creek County Park and WRR's property located west of the facility. An additional 405 trees were planted in 2007 in areas originally planted in 2005 and 2006. This planting was to replace trees that had died due to drought conditions in 2006 and damage from deer.

The phytoremediation plantings did result in an alteration of the physical environment around and in the WRR facility. The plant species involved in the WRR phytoremediation activities were chosen for not only their ability to uptake large amounts of groundwater but also for their already established presence as native species to the area. The addition of these plant species will not adversely impact other native plant or animal species living in the natural area bordering the WRR facility. In contrast, the plantings provide additional habitat for the native bird and animal species.[2]

C-15 Impacts on land use NR 670.014(2)(x)2.d.(3)

WRR is an existing facility with no physical changes to the facility planned. No adverse impacts on land use for the county-owned land or bordering businesses is anticipated with the continued operation of the facility.

As the phyto-remediation trees, grasses and flowers mature, they will provide additional beautification to the county-owned land adjoining the facility.[3]

C-16 Social and economic impacts NR 670.014(2)(x)2.d. (4)

WRR has a positive impact on the economic conditions of the area. WRR provides full-time employment to approximately 75 people from the surrounding area. As a manufacturing facility, WRR is the largest property and personal tax payer in the Town of Washington.

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[2] Item# 16
[3] Item# 17

Based on the 2000 census, 4.1% of the township's population was below the poverty line. The percentage of families whose income was below the poverty level was 4.4%, based on the 2010 Census.

Based on this information, the presence of the WRR facility has not had a detrimental effect on the socio-economic environment of the Town of Washington residents.

WRR provides viable and economic waste management services to small three person shops up to large corporate facilities employing over one hundred people. [4] Over 80% of the companies served by WRR are small to medium sized companies.

WRR also provides waste management options for municipalities and household hazardous waste collections for 14 counties.

C-17 Other resource impacts NR 670.014(2)(x)2.d. (5)

No agricultural, historical or archaeological areas have been identified adjacent to the WRR facility. The natural area bordering the WRR facility is Eau Claire county-owned parkland.

C-18 Probable adverse impacts NR 670.014(2)(x)2.d. (6)

WRR is carrying out remediation activities to restore groundwater quality. Current activities will not be performed in a manner in which the management of hazardous waste will have a reasonable probability of having a detrimental effect on groundwater quality or will cause a violation of groundwater standards under ch. NR 140. Waste recycling process equipment is located inside a building. The equipment used in the fuel blending process is inside a building with containment. Container storage is also located inside building structures with containment. Storage tanks are located in diked storage areas which are equipped with adequate containment.

WRR is not expanding its hazardous waste management activities beyond the established borders of the facility. There will be no further modifications of topography, any loss of agricultural or forest land, or displacement of wildlife. No new structures are planned that will have an adverse aesthetic impact for the people in and around the facility.

C-19 Feasible alternatives NR 670.014(2)(x)2.e.

WRR is an existing facility with established hazardous waste management activities and strategies for maintaining minimal impacts on the surrounding environment. WRR will not be requesting an expansion to its hazardous waste storage capacity or the types of waste management activities conducted at the facility in this renewal of the hazardous waste license.

[4] Item# 18

Since the last licensing, there has been a reduction in the amount of hazardous waste storage and the cessation of processing through the dry cleaner filter and rotary drum vacuum filtration equipment at the facility. Even with this reduction in storage and processing, WRR can provide continuity of necessary services to its customers.[5]

C-20 Needs determination required under s. 289.28, Stats. NR 670.014(2)(x)3.

WRR was founded in 1970 and provides services in the areas of solvent recycling, fuel blending, emergency spill response, remediation, community clean sweeps, and other hazardous waste treatment and management services to non-hazardous and hazardous waste generators. WRR does not handle radioactive or explosive wastes.

Activities at the WRR facility include the storage, recycling, and treatment of hazardous wastes. Hazardous wastes are stored at the facility in containers and above ground storage tanks. Treatment processes conducted at the facility include solvent recycling and purification, wastewater treatment and fuel blending. The hazardous waste materials that are not suitable for recycling are used in the fuel blending program to produce supplemental fuels for use in beneficial heat recovery or are sent off-site for incineration.

The reclamation of spent solvents is the predominant activity at the facility. 32.4 million pounds of solvent waste were reclaimed at WRR in 2011. This quantity represents 69.4% of the material that came into the WRR facility. In 2003, 44.7%, or 22.7 million pounds, of the waste that was received at the facility was sent through the recycling process.

Carbon sequestration can be defined as the process of removing carbon from the atmosphere and depositing it in a reservoir. While solvent recycling is not a direct method of carbon sequestration, it prevents the formation of additional CO2 from the thermal destruction of otherwise useable solvents. If the 32.4 million pounds of solvents were managed through energy recovery at a cement kiln, 30,000 tons of additional CO2 would have been emitted to the atmosphere.

The principal service area for WRR includes seven states in the mid-western United States and one Canadian province, Manitoba. The states include Wisconsin, Minnesota, Illinois, Iowa, Nebraska, Kansas, and Missouri. Industry sectors served by WRR include:

- Painting and coating manufacturers
- Electronics manufacturers
- Container manufacturers
- Automobile and automobile parts manufacturers
- Machine and equipment manufacturers
- Chemical manufacturers and distributors
- Furniture and plastics manufacturers

[5] Item# 19

- Autobody and machine shops
- Analytical laboratories
- Printing and ink manufacturers and end users
- Computer component manufacturers
- Pleasurecraft manufacturers
- Pharmaceutical and Biotech firms

Operating as a permanent Household Hazardous Waste collection facility per s. NR 666 subchapter HH, Wis. Adm. Code, WRR has worked with 14 Wisconsin counties to gather and manage over 1.6 million pounds of household hazardous waste in the past five years.

WRR's RESCO division provides spill response and environmental remediation services.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 1

Section D – Groundwater Protection

D-1. If all regulated units meet NR 664.0090(2), this Section is not applicable NR 670.014(3)

Not applicable.

D-2. Summary of groundwater monitoring data from interim license period NR 670.014(3)(a)

See Appendix E of Corrective Action Plan.

D-3. Uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, groundwater flow direction and rate, and basis of identification NR 670.014(3)(b)

See Section 2.3.3 of Corrective Action Plan.

D-4. Topographic map delineating waste management area, property boundary, point of compliance, and proposed locations of monitoring wells NR 670.014(3)(c)

See Figure 3 of Corrective Action Plan.

D-5. Description of contamination plume that entered the groundwater from a regulated unit at the time of the application, delineation of the extent of the plume on the topographic map, and identification of hazardous constituent concentrations in the plume NR 670.014 (3)(d)

See Figures 8 – 10 and Section 4.3 of Corrective Action Plan.

D-6. Detailed plans and engineering report describing the proposed groundwater monitoring program to be implemented per NR 664.0097 NR 670.014(3)(e)

See Appendix D and Section 6.5 of Corrective Action Plan.

D-7. If hazardous constituents have not been detected in the groundwater at the time of the license application, sufficient information, supporting data and analyses to establish a detection monitoring program which meets NR 664.0098 NR 670.014(3)(f)

Not applicable.

D-8. If hazardous constituents have been detected in the groundwater at the point of compliance at the time of the license application, sufficient information, supporting data and analyses to establish a compliance monitoring program meeting NR 664.0099 NR 670.014(3)(g)

See Sections 2 – 6 of Corrective Action Plan.

D-9. If hazardous constituents have been measured in the groundwater exceeding concentration limits in NR 664. 0094 Table 1 or if groundwater monitoring conducted at the time of the license application at the waste boundary indicates the presence of hazardous waste constituents from the facility, sufficient information, supporting data and analysis to establish a corrective action program meeting NR 664.0100 NR 670.014(3)(h)

See Corrective Action Plan attached to this Section as Appendix D-1.

Part 1

Section D – Groundwater Protection

Appendix D-1
Corrective Action Plan

This appendix contains the Corrective Action Plan prepared by Gannett Fleming for WRR Environmental Services Co., Inc.

Excellence Delivered As Promised

April 18, 2013
File #55929.002

Mr. Jim Hager, President
WRR Environmental Services, Co., Inc.
5200 State Road 93
Eau Claire, WI 54701-9807

Re: Corrective Action Plan for FPOR Submittal to WDNR

Dear Jim:

Gannett Fleming, Inc. is providing the Corrective Action Plan (CAP) for inclusion as part of WRR's Feasibility and Plan of Operations Report submittal to the Wisconsin Department of Natural Resources. The CAP was prepared at the request of WRR, as described in our January 30, 2013, Scope of Services.

I would like to personally thank you for retaining Gannett Fleming for these services and extend thanks to Jan, Becky, and Bob for all the support and assistance they provided during the last couple months.

We look forward to working with WRR to implement the CAP and obtaining regulatory site closure from the WDNR.

Regards,

GANNETT FLEMING, INC.

Dennis Kugle

Dennis Kugle
Senior Associate

DFK/jec
Encl.

cc: Jan Smit (WRR)
Becky Anderson (WRR)
Bob Fuller (WRR)

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Gannett Fleming

Excellence Delivered As Promised

Prepared for:

WRR ENVIRONMENTAL SERVICES, INC.

EAU CLAIRE, WISCONSIN

CORRECTIVE ACTION PLAN

WRR ENVIRONMENTAL SERVICES, INC.

EPA ID# WID990829475

FID# 618026530

PROJECT #55929.002

APRIL 2013

Office Location:

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Dennis F. Kugle

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APPENDICES

1.0 EXECUTIVE SUMMARY

This Corrective Action Plan (CAP) was prepared for WRR Environmental Services, Inc. (WRR) as part of its Feasibility and Plan of Operations Report (FPOR), which is needed as part of the renewal of WRR's hazardous waste permit to process and recycle chemical waste from industrial sources.

Since 1979, various investigative and remedial activities have been conducted to determine the extent of contaminants in the subsurface of the WRR site. Investigation activities included the collection and analyses of soil and/or groundwater samples from 38 Geoprobe borings and soil gas samples from 57 soil gas probes, the installation and sampling of 78 groundwater monitoring wells and piezometers, and the collection of surface water samples from 10 seeps located along the eastern banks of Lowes Creek. Remedial activities have included pumping and treating groundwater from nine recovery wells; the installation and operation of three air injection and soil vapor extraction (AI/SVE) systems; and the planting of hundreds of poplar, cottonwood, and willow trees downgradient of the site as part of the phytoremediation of the shallow groundwater. A more detailed summary of the investigation and remedial work that was completed through March 2013 is included with this CAP.

Based on the analytical results of groundwater samples collected from wells over the past 30 years, volatile organic compounds (VOC) concentrations in the groundwater on site have been, with minor exceptions that may be caused by fluctuations in the water table, steadily decreasing due to the various remedial activities that have been conducted to date. The decreasing VOC concentrations in the on-site groundwater indicate that it is unlikely that a new release of VOCs has occurred since initial investigation and remedial activities began. Therefore, we believe that the work that is needed to achieve closure of the site will focus primarily on determining current VOC concentrations in the soil and groundwater where hazardous waste has been handled and stored on site and determining which areas require additional remediation.

The following scope of work is anticipated to assess and remediate residual contaminants in the soil and groundwater at the WRR site and develop the database necessary to obtain regulatory closure from the WDNR:

- A site assessment (supplemental site investigation) consisting of collecting samples using a Geoprobe to determine current VOC concentrations in the soil and groundwater in or near areas of concern where hazardous materials have been handled or stored.
- An assessment of the need to operate the three AI/SVE systems based on the results of the supplemental site investigation.

- The installation of passive diffusion sample (PDS) bags into monitoring wells that are included in the groundwater monitoring program.
- The semi-annual collection of groundwater samples from the existing monitoring wells for VOC analyses.
- The replacement of monitoring wells that are either inappropriately screened or consistently dry.
- The assessment of the groundwater recovery wells and the associated pumping systems.
- Conducting an in-situ chemical oxidation pilot test using sodium persulfate in the former floor drain tank area.
- The as-needed redevelopment of two groundwater recovery wells, RW-6 and RW-7.
- The routine collection of samples from the groundwater recovery wells.
- If necessary, the collection of multiple groundwater samples from four off-site borings to document VOC concentrations at various depths downgradient of the WRR site where no monitoring wells exist.
- The preparation and submittal of WPDES permit-required discharge monitoring reports.
- The preparation and submittal of semi-annual Operations and Monitoring Reports to the Wisconsin Department of Natural Resources (WDNR).
- The preparation and submittal of a final conditional closure request to the WDNR. This includes, as necessary, the inclusion of those areas where contaminants remain on the WDNR's GIS registry.
- The abandonment of all groundwater monitoring and recovery wells after receiving WDNR approval.

A more detailed description of the proposed corrective action activities and a cost estimate and schedule to implement them are included with this CAP in Section 7.

2.0 INTRODUCTION

This CAP was prepared as a requirement of the FPOR that WRR is preparing as part of the renewal of its hazardous material operating license for storing and treating hazardous waste. The CAP specifically addresses environmental impacts that have resulted from previous activities associated with operations at WRR's facility in Eau Claire, Wisconsin. Figure 1 is a site location map, and Figure 2 is an aerial map.

Investigation activities began at WRR in 1979 after a letter from the City-County Health Department of Eau Claire dated August 15, 1978, indicated that groundwater samples collected in 1978 on the Eau Claire County property to the west of the site contained some of the same chemicals that were being used or processed as the WRR facility. Included with this report is a summary of investigation and remediation activities that have been conducted at the WRR facility from 1979 through March 2013.

As part of the preparation of this report, Gannett Fleming, Inc. reviewed available documents prepared by previous consultants that have been submitted to the WDNR. Because much of the background data has already been provided to the WDNR, Gannett Fleming will not reproduce that information in this report but will either reference it or attach the referenced passages or documents to this report as appendices, as necessary.

In addition to a summary of previous activities, this CAP provides a scope of work and estimated costs for investigation and remedial activities over the next 10 years of the facility's operation. This CAP specifically addresses the environmental issues that have resulted from previous releases of VOCs at the WRR site.

2.1 Facility Operational History and Solid Waste Management Units

Solvent reclamation and recycling activities began at the WRR site in 1970. According to a document prepared by Ayres Associates titled, "*Task 1 Description of Current Conditions*" that was submitted to the WDNR in March 1989, there were:

"over a dozen individual solid waste management (SWM) units. These include container storage areas, tank storage areas, waste handling and pumping areas, product loading and unloading areas, empty drum storage areas, surface water runoff collection system, residue and solid material handling areas, bulk tanker and trailer storage area, incinerator, and solvent reclamation units. Due to the large number of SWM units and their close proximity to one another, several units were evaluated together for purposes of the RCRA Preliminary

Assessment (PA), and for determining how to evaluate potential past releases of hazardous constituents to the environment…….For purposes of the PA, the site was segregated by the WDNR into six SWM units:

1. Drum storage sheds in the southeast corner of the site, and abandoned drum storage areas in the southeast corner of the site.
2. Trailer parking, product warehouse, and abandoned drum storage area in the northwest corner of the site,
3. Pole barn, cooling water discharge area, and abandoned drum storage area located along the site's western property line,
4. Abandoned surface water runoff lagoon, existing runoff collection sump, and runoff collection holding tank in the southwest corner of the site,
5. LUWA (E-I), reclamation (halogenated solvents) area (including the associated tank storage, drum storage, solvent handling and warehouse SWM units), located in the central and western portions of the site, and,
6. KONTRO (E-II), reclamation (non-halogenated ignitable solvents), area (including the associated tank storage, drum storage, solvent handling, sludge handling, incinerator, residue and solids handling, bulk solvent loading and unloading, underground tank and warehouse SWM units)." *[sic]*

A narrative prepared by Ayres Associates describing the SWM Units is included with this report as Appendix A, along with maps prepared by WRR showing their delineation. Figure 3 is a site plan prepared by Gannett Fleming that also shows the SWM units.

Based on a February 1985 report by Twin Cities Testing (TCT) titled *Evaluation of Previous Remedial Investigations and Discussion of Remedial Action Alternatives*, the following activities may have contributed to adverse impacts to the site soil and groundwater quality:

- Drum storage
- Process water disposal in unlined lagoon
- Uncontrolled site runoff
- Tanker loading and unloading in unpaved areas

TCT's February 1985 report indicated that the drum storage issue was addressed by:

- Construction of concrete storage pads with roofs;
- Construction of large volume storage tanks for the storage of bulk liquids, thereby reducing drum storage inventory;

- Implementation of spill control measures, including providing employees with training and appropriate equipment and materials for small volume spill recovery;
- Routine inspection of incoming inventory to detect and reject leaking and/or inappropriately containerized materials.

In 1981, a 360,000-gallon reservoir with four aeration sprayers was completed for the storage of excess plant process water. Six diffusers were added to the reservoir in August and September 2006 to facilitate aeration and volatilization of VOCs. A majority of the site, including the truck loading and unloading areas, was paved with berms, gutters, and transfer troughs on the west and south sides of the site so that surface water runoff drains to the 360,000-gallon reservoir.

WRR continues to operate the facility under hazardous waste licenses #3161 (tank storage), #4304 (tank treatment), #4305 (miscellaneous treatment), and #6005 (container storage). The current license expires on October 22, 2013.

2.2 Site Location and Surrounding Land Use

The WRR facility at 5200 Ryder Road in Eau Claire, Wisconsin, is located at 44°45’26” N, 91°27’28”W in the SW ¼ of the SE ¼ of Section 3, Township 26 North, Range 9 West, Town of Washington, County of Eau Claire.

WRR owns three adjoining properties:

- The northernmost parcel is composed of 4.52 acres zoned for industrial-manufactured land use and is occupied by WRR Northwest Enterprises Co Inc. (Parcel Identification Number 1802422609034309003), a metal parts fabrication facility.
- The central parcel is 8.3 acres where the WRR recycling facility is located (PIN 802422609034309004) and is also zoned for industrial manufacturing land use.
- The southernmost parcel is composed of 7.7 acres and is zoned as non-sewered industrial-vacant land use (PIN 1802422609101209000).

The site is bordered by Ryder Road and State Highway 93 to the east, undeveloped land to the south, Lowes Creek County Park to the west, and Northwest Enterprises, Inc. to the north. There are some commercial properties located along the eastern side of State Highway 93, with residential lots located further east of those commercial properties.

2.3 Local & Regional Hydrogeological Setting

2.3.1 Geologic Setting

The WRR site was built on relatively flat loamy sand of the Gotham and Plainfield series, which are considered to be excessively drained sands and loamy sands underlain by loamy sand and sand formed on stream terraces and outwash plains (*Soil Survey of Eau Claire County, Wisconsin* – USDA-SCS issued in November 1977). These soils were formed on ground moraine with varying amounts of silt and clays laid down during several glacial advances in the Wisconsin glacial episode (*Water Resources of Wisconsin – Chippewa River Basin; Hydrogeologic Investigations Atlas HA-386* - H.L. Young & S.M. Hindell – USGS, Washington D.C. – 1972).

Based on the boring logs of wells installed as part of the WRR investigation, there are several relatively sandy layers and silty clay layers interbedded beneath the site. The furthest glacial advances ended a few miles south of Eau Claire in an area of Wisconsin known as the "driftless area". As the glacier retreated, proglacial lakes formed between the driftless area and the edges of the glacier. Fine-grained sediment carried in the melt water from the glacier flowed into the pro-glacial lakes, leaving boulders, gravel and sand, progressively further from the point where they were released from the melting glacier. During winter months when the proglacial lakes froze, the fine-grained sediments in the water settled to the bottom of the lake, forming successive layers with each season. Most of these proglacial lakes were later drained as the glacier retreated and channels opened up to the larger Chippewa Valley River drainage basin. In some cases, the fine-grained sediments laid down beneath the proglacial lakes were later eroded by the streams and rivers that drained into the Chippewa River. It is within this complex geologic setting that the WRR site is located.

The unconsolidated sediments laid down during and after the last glacial advance are underlain by sandstone bedrock of the Mount Simon Formation-Elk Mound Group. Based on a geophysical study conducted in 2008 by University of Wisconsin – Eau Claire and boring logs of private water wells within 5 miles of the WRR site, the WRR facility is located near the eastern edge of a buried bedrock valley cut into the sandstone. The bedrock valley has a general north-south orientation similar to Lowes Creek and was likely formed by the advancing glacier and its melt water. The sandstone bedrock daylights just east of WRR and was encountered at a depth of 60 feet (approximately 840 feet MSL) in the boring for WRR's production well. Based on the boring logs of wells installed as part of the WRR investigation and well construction forms of area private wells, the bedrock valley is approximately 3,000 to 4,000 feet wide and the depth to the top of sandstone bedrock is greatest near Lowes Creek, where it ranges from approximately 736 ft MSL to 764 ft MSL. The sandstone bedrock is underlain by granite; however, there are no records of wells being extended to granite in the general vicinity of WRR. As part of its March 2009 *Groundwater Flow Model Transport Report*, SEH reviewed regional well logs and indicated that elevation of the granite bedrock varied from about 750 feet MSL to the east of WRR to 690 feet MSL to the west.

2.3.2 Surface Water Drainage

The elevation of the WRR site is approximately 900 feet above mean sea level and, as noted above, the site is paved with berms and gutters to capture precipitation and storm runoff and channel it to the 360,000-gallon reservoir. The land surface slopes gently to the west, and overland surface water outside of the WRR facility flows west to Lowes Creek, located approximately 2,000 feet west of the WRR site. Figure 3 and Drawing 1 show the ground surface contours based on a survey conducted by ECG, Inc. in 1994.

2.3.3 Depth to Groundwater and Flow Direction

Based on the boring logs and analytical data generated by other consultants as part of the WRR investigation, groundwater occurs in three aquifers – an upper unconfined shallow water aquifer and a mid-depth confined aquifer, both composed of silty sands, and a deep sandstone bedrock aquifer. A 10- to 20-foot-thick banded layer of sand, silt, and clay separates the upper and mid-depth aquifers. There are several discontinuous silt and clay layers of varying thickness within the mid-depth aquifer, and these layers likely mark eroded lacustrine deposits formed beneath proglacial lakes. According to SEH's March 2009 *Groundwater Flow Model Transport Report*, "the upper unconfined aquifer is controlled or contained by excavations to the northwest, west and south of the WRR site" that "cut below the base of the upper aquifer into the thick clay layer separating the upper and mid-depth aquifers."

Based on groundwater elevations measured in on- and off-site wells since the early 1980s, groundwater beneath the WRR site flows to the west. The depth to groundwater in the shallow aquifer beneath the main portion of the WRR facility ranges from 10 to 17 feet below the ground surface (bgs), 883 to 888 feet MSL. Immediately west and downgradient of the WRR site, the depth to groundwater varies from 10 to 20 ft bgs, although there are some marshy areas where the water table sits on relatively fine-grained soil with poor drainage and is relatively shallow (about 1 to 5 feet bgs). The water table becomes progressively deeper west of the WRR facility and ranges from 30 to 40 feet bgs (846 to 860 feet MSL) in wells 800 to 1,800 feet west of the site. There are several seeps along the eastern banks of Lowes Creek where the shallow groundwater discharges. Figures 4 through 6 show the groundwater contours and flow direction based on elevations measured in April 2012 (the most recent round of comprehensive measurements collected) in the shallow, mid-depth, and bedrock aquifer, respectively.

As shown on Figure 4, there appears to be mounding of the groundwater in the southwestern corner of the property beneath the 360,000-gallon reservoir. This mounding has been measured in previous monitoring events and may be due to leakage from the reservoir. Whatever the case, the mounding effect, combined with fluctuations in the depth of the water table causing it to periodically come in contact with soil with high VOC concentrations, may explain periodic spikes in VOC concentrations measured in wells W-5 and W-6 located sidegradient from the former floor drain tank area near TW-1. The mounding effect may also explain why groundwater with relatively low VOC concentrations has been measured periodically in "upgradient" wells W-3 and W-4 east of the WRR facility. The mounding effect is discussed in more detail later in this report. The general direction of groundwater flow in the shallow water off site is to the west. As shown on Figures 5 and 6, the groundwater flow direction both on site and off site in the mid-depth and deep/bedrock aquifers is to the west toward Lowes Creek. The hydraulic gradient measured in April 2012 varied from 0.007 ft/ft between MW-115 and MW-111 and 0.09 ft/ft between W-17 and MW-115. The hydraulic gradient measured in April 2012 in wells screened in the mid-depth aquifer ranged from 0.007 ft/ft between MW-115A and MW-111A to 0.018 ft/ft between wells W-3B and MW-115A. The hydraulic gradient measured in April 2012 in the deep/bedrock aquifer ranged from 0.004 ft/ft between W-17A and MW-111B to 0.017 ft/ft between W-2A and W-17A.

The elevation of Lowes Creek immediately west of the WRR site is approximately 840 feet MSL, which corresponds to about 60 feet bgs at the WRR facility. The elevation of the water table measured in well MW-111, approximately 200 feet east and upgradient of Lowes Creek, has ranged from 846.25 to 847.46 feet MSL since May 2010. The elevation of the groundwater measured in bedrock piezometer MW-111B within the MW-111 well nest has ranged from 849.36 to 851.44 feet MSL since May 2010 and has generally been about 3 feet higher than the water table during each monitoring event. The vertical gradient measured in April 2012 between MW-111B, screened in the deep/bedrock aquifer, and MW-111, screened in the shallow aquifer, was 0.06 ft/ft upward. Additionally, as shown on Figures 4 and 5, the elevation of the groundwater measured in wells MW-113 and MW-113A screened in the shallow and mid-depth aquifers, respectively, and located west of Lowes Creek has been approximately 2.5 to 3 feet higher than the elevation measured in wells MW-111 and MW-111A screened in the same corresponding aquifers. Based on the upward vertical gradient measured within the MW-111 well nest, the seeps along its banks, and the higher groundwater elevations measured in the MW-113 wells located west of it, Lowes Creek serves as the regional groundwater discharge surface water body. Lowes Creek flows north-northwest and empties into the Chippewa River approximately 4 miles northwest of the WRR facility. From its confluence with Lowes Creek, the Chippewa River flows southwest approximately 40 miles where it empties into the Mississippi River.

As part of its March 2009 *Groundwater Flow Model Transport Report*, SEH used data collected from slug tests in 2004 and 2007 on wells W-10, W-11, W-18, W-25, W-29, MW-113, MW-113A, and MW-113B. Based on the results of those slug tests, SEH calculated that the hydraulic conductivity of the shallow aquifer ranged from 0.5 to 1.1 ft/day, and the hydraulic conductivities in the mid-depth and bedrock aquifers were 5.4 ft/ and 50 ft/day, respectively. SEH conducted additional slug tests in April 2011 on wells MW-114, MW-114A, MW-114B, MW-115, MW-115A, MW-115B, and MW-116. Based on the 2011 slug tests, SEH calculated that the hydraulic conductivity of the shallow aquifer ranges from 0.75 to 5.6 ft/day and that the hydraulic conductivity in the mid-depth and bedrock aquifers ranges from 15.5 to 17.3 ft/day and 4.8 to 6.4 ft/day, respectively. Using hydraulic gradients of 0.002 ft/ft and 0.014 ft/ft measured in water table and mid-depth wells in April 2012, SEH calculated that the average linear velocity of the groundwater in the shallow aquifer was 12.6 ft/yr and 88.4 ft/yr in the mid-depth aquifer. The results of the April 2011 slug tests were submitted to the WDNR in March 2012.

3.0 SUMMARY OF PREVIOUS INVESTIGATION AND REMEDIAL ACTIVITIES

The following sections are based on Gannett Fleming's review of those documents prepared by previous consultants and WRR.

3.1 Summary of Previous Investigation Activities

Based on the results of soil and groundwater samples collected to date, there have been three suites of VOCs that have been released to the subsurface at this site – chlorinated solvents, petroleum-related compounds, and alcohols and ketones. Various consultants have conducted investigation and/or remedial activities beginning in 1979. Following is a summary of the work completed to date:

- 1979 through 1981 - Samples were collected from ten borings (B-1 through B-8, B-1A, and B-7A), which were converted to monitoring wells W-1 through W-8, W-1A, and W-7A.
- June 1981 - WRR replaced an unlined lagoon with a concrete reservoir. The site was also paved with concrete and asphalt with internal drainage directed to the reservoir.
- September and November 1981 - Wells W-9 through W-17, W-2A, W-2B, W-3A, W-3B, W-12A, W-12B, W-17A, and W-17B were installed.
- October 1985 – Five recovery wells (RW-1 through RW-5) were installed.
- November 1985 – Pumping from RW-5 began.
- December 1986 – Wells W-18 and W-18A and W-1D were installed.
- 1987 – Pumping from RW-4 began.
- June and July 1987 – Wells nests MW-101/A through MW-108/A and wells MW-109, MW-110, and W-10A were installed.
- October 1988 – Recovery wells RW-6 and RW-7 and monitoring wells W-19 through W-25 were installed.
- April 1989 – Pumping from RW-6 and RW-7 began. Continuous pumping of RW-6 was not achieved due to low yield; it was later redeveloped and restarted.
- July 1990 – Wells W-12, W-12A, W-12B, W-13, and W-14 were removed during excavation of clay for the county landfill.
- January 1994 – Wells W-26 and W-27 were installed.
- October 1994 – Soil gas survey was conducted throughout site using 57 borings (SG-1 through SG-57), and soil samples were collected from ten borings (GP-1 through GP-10).

- July 1996 – Wells W-28 and W-29 were installed.
- February 1997 – Recovery wells RW-8 and RW-9 were installed.
- July 1997 – Wells W-30A & W-30B were installed.
- December 1999 and April 2000 – Water samples collected from a seep near Lowes Creek by Eau Claire County Health Department contained low concentrations of 1,1-DCA, 1,1-DCE and vinyl chloride.
- July 2000 through December 2002 – WRR sampled seeps along Lowes Creek.
- June 2002 – Field phase of phytoremediation treatability study was initiated.
- September 2002 – Soil and groundwater samples were collected from six Geoprobe borings (GP-1 through GP-6). Soil samples were field screened for headspace gas concentrations only. Eight groundwater samples were collected from GP-5 to provide a vertical profile of VOCs in the area near RW-7.
- November 2002 – A bench-scale chemical oxidation study was conducted by Xpert Design and Diagnostics LLC (XDD). XDD recommended using a mixture of sodium persulfate and potassium permanganate for groundwater remediation.
- November and December 2003 – Wells MW-111, MW-111A, MW-111B, MW-112, MW-112A, and MW-112B were installed.
- October 2004 – Wells MW-113, MW-113A, and MW-113B were installed on county land west of Lowes Creek.
- December 2004 – An AI/SVE treatability study began in the southwestern corner of the site near the 360,000-gallon aboveground reservoir, using well W-1B (screened from 35 to 46 feet bgs) as the injection well and a shallow SVE well to remove VOCs from the soil. This was later referred to as the southern AI/SVE system.
- May 2005 – May 2007 – Hundreds of willow, cottonwood, and poplar trees and prairie grasses and wildflowers were planted on Eau Claire County property near Lowes Creek, the walking trail, and the power line just west of WRR as part of phytoremediation of shallow groundwater.
- August 2006 – An AI/SVE system began in the area near RW-5 using W-8 and then well RW-5 as an SVE well and five air sparge wells (AS-6 through AS-10). This system was later referred to as the northern AI/SVE system.
- September 2006 – An AI/SVE system began in the area where high VOC concentrations were measured in field headspace samples and adjacent monitoring wells. The AI/SVE system consisted of five air sparge wells (AS-1 through AS-5) and one SVE well (SVE-2). This system was later referred to as the middle AI/SVE system.

- January 2006 – Well TW-1 was installed near the former floor drain tank. High VOC concentrations were measured in the groundwater samples collected from TW-1.
- June 2007 – A fire resulted in significant damage to on-site buildings. Water used to suppress the fire ran off along southwestern portions of site.
- July 2007 – Groundwater samples were collected from shallow aquifer wells W-1, W-5, W-11, W-18, and W-29, and soil and groundwater samples were collected from Geoprobe borings GP-7 through GP-27. These wells and borings were located off site in the area near the southwestern corner of the site where the water used to suppress the June 2007 fire drained. The analytical results of the samples collected indicated there was little, if any, impact to the soil or water created from the fire water.
- May 2010 – Wells MW-114, MW-114A, MW-114B, MW-115, MW-115A, MW-115B, and MW-116 were installed.

Figure 3 shows the locations of monitoring and recovery wells on site. Drawing 1 shows the on-site and off-site well and seep sample locations.

In addition to the work listed above, semi-annual groundwater samples have been routinely collected from the site wells and submitted to the WDNR. The most recent round of samples was collected in October 2012 to analyze for VOCs. Several soil and groundwater samples were collected early in the project for analyses of pesticides, metals, PCBs, and semi-volatile compounds. These compounds were determined not to be contaminants of concern and were later dropped from the site groundwater monitoring program.

3.2 Summary of Previous Remedial Activities

3.2.1 Groundwater Recovery & Treatment System

3.2.1.1 Installation and Operation of Recovery Wells

As noted above, a total of nine groundwater recovery wells (RW-1 through RW-9) was installed between October 1985 and February 1997. Well RW-1 was apparently never used because of a low yield and not being located in an area with high VOC concentrations. Pumping of groundwater began in November 1985 with recovery well RW-5 being the first well brought on line. Well RW-4 began pumping in 1987 and operated until early 1989 when it was turned off because of a low flow rate. Well RW-6 began pumping in 1990, and RW-7 began pumping in 1995.

Based on Eder Associates' July 29, 1996, *Additional Hydrogeological Studies and Proposed Remediation System Enhancements* report, wells RW-2 through RW-5 were redeveloped in 1996 but were only able to sustain a combined yield of about 1.8 gpm. In the fall of 1997, recovery wells RW-8 and RW-9 were installed, and a vacuum-enhanced pumping system was added to RW-2 through RW-5 and new wells RW-8 and RW-9 to increase their pumping rates. Wells RW-2 through RW-5, RW-8, and RW-9 began pumping again in late 1997. Available records are incomplete, but recovery wells RW-2 through RW-9 appear to have pumped continuously, with some minor downtime, from January 1998 through December 2003. No pumping data are available for the time period between January 2004 and December 2006. Appendix D of SEH's 2008 work plan included the hours and minutes of operation that recovery wells RW-2, RW-4, and RW-5 operated between January and the fire at the plant in June of 2007, but unfortunately, did not include the volume of water pumped from the wells. WRR's copy of that report is incomplete; however, based on the available data, it appears that RW-6 operated from January through mid-February in 2007 before being turned off and that all of the other recovery wells (RW-1, RW-3, and RW-7 through RW-9) were not pumping between January and June 2007.

No groundwater pumping occurred between June 2007 and July 2012. Recovery well RW-7 was repaired and restarted on July 20, 2012, and has been operating continuously since then with minor down time for repairs.

3.2.1.2 Treatment of Pumped Water

Starting in 1985, pumped groundwater was stored and treated in tanks on site and then transported to the Town of Bloomer for disposal in its wastewater treatment plant. The WDNR issued a WPDES permit to WRR on September 27, 1996, that allowed the treated water to be discharged to a seepage ditch (a.k.a. adsorption pond) on WRR's property located south of the facility. An air stripper was installed in 1997 to treat the pumped groundwater on site. The treated groundwater was discharged to a 360,000-gallon aerated reservoir where it mixed with approximately 2,500 gallons per day of non-contact cooler, boiler blow down and condensate water, and water flushed during softener treatment water, along with up to 8,500 gallons per day of storm water runoff. Water in the reservoir is discharged to the adsorption pond located just south of the WRR facility. The WDNR reissued WPDES permit No. WI-0058718-04-0 to WRR on November 27, 2012, for the time period January 1, 2013, through December 31, 2017.

3.2.1.3 Volume of Water Treated and Mass of VOCs Removed by Recovery Wells

As part of the evaluation of the groundwater recovery wells and treatment system, Gannett Fleming used pumping records for the recovery wells combined with VOC concentrations measured in those wells to determine the estimated mass of VOCs removed to date. As indicated above, some of the early pumping data is either not available and/or incomplete. The total volume of water pumped for each well during each month or year was presented in early reports, but a running total of the meter readings was apparently not recorded, so it is not possible to tell if all of the volume of water pumped from a well was accounted for and accurately recorded. Additionally, because they were all connected to the same well head after 1997, it is impossible to determine the volume of water and mass of VOCs removed by individual wells RW-2 through RW-5, RW-8, and RW-9, except for the period before 1997 when RW-4 and RW-5 had separate meters before the wells were retrofitted with a vacuum-enhanced pumping system. Despite those limitations, it is still possible to estimate the approximate volume and mass of VOCs removed by the groundwater remediation system.

Tables 1 and 2 present the total volume of water and mass of VOCs removed by RW-4 and RW-5, respectively, from 1985 through 1996. Table 3 presents the total volume of water and mass of VOCs removed by wells RW-2 through RW-5, RW-8, and RW-9 from 1997 through June 2007. Table 4 presents the total volume of water and mass of VOCs removed by RW-6 from 1989, when it began operating, through December 2003. Table 5 presents the total volume of water (only) pumped by RW-7 from 1989 through 2003. Table 6 presents the total volume of water pumped by RW-7 from July 2012 through March 2013 based on daily meter reading recorded by WRR. Table 7 presents the total mass of VOCs removed by RW-7 through March 2013. **Note that some of the tables that were included in earlier reports prepared by Eder Associates and SEH did not include some early pumping data recently found in WRR files and therefore listed incorrect volumes of water pumped by the recovery wells.** Additional records were found while reviewing WRR's and SEH's files, and that data was included in Tables 1 through 6.

Based on the available data, wells RW-4 and RW-5 pumped a total of 63,225 and 619,000 gallons of water, respectively, through December 1996; wells RW-2 through RW-5, RW-8, and RW-9 pumped a combined total over 6.7 million gallons from 1997 through June 2007; well RW-6 pumped a total over 15.3 million gallons from 1995 through December 2003; and well RW-7 pumped a total over 16.7 million gallons through December 2003 and another 3.2 million gallons from July 2012 through March 2013. Following is a summary of the estimated total mass of VOCs removed by each of the wells based on the volume of water pumped and the total concentration of VOCs measured during a given time period by each well – or system of wells:

Recovery Well(s)	Time Period	Total Volume of Water Pumped (gal)	Estimated Total Mass of VOCs Removed (lbs)
RW-4	1987-89	63,225	239
RW-5	11/85 – 12/96	619,001	10,078
RW-2 – RW-5, RW-	12/97 – 12/03	6,718,052	24,361

Recovery Well(s)	Time Period	Total Volume of Water Pumped (gal)	Estimated Total Mass of VOCs Removed (lbs)
8 & RW-9			
RW-6	4/89 – 12/03	15,377,614	31,691
RW-7	4/89 – 3/13	19,793,976	20,617
	Totals	**42,571,868**	**86,986**

Note that the volume of water pumped by each well was often not recorded on specific dates on which the samples were collected, so in those cases, the date that each well was sampled is matched with the closet total volume data. See the footnotes of the tables for the source of the data used to prepare Tables 1 through 7 and examples of the calculations used to determine the incremental and total mass of VOCs removed. Based on the available data that were used to prepare Tables 1 through 7, the groundwater recovery system had pumped over 42.5 million gallons of water containing an estimated 87,000 lbs of VOCs between 1985 and March 2013.

3.2.2 Phytoremediation Activities

In 2001, WRR, SEH, and Environmental Forestry Consultants, LLC evaluated phytoremediation as a supplemental corrective action to remove VOCs from shallow groundwater. A field phase of a phytoremediation treatability study was initiated in June 2002. Between 2004 and 2007, approximately 2,520 poplar, willow, and cottonwood trees, along with prairie grasses and flowers, were planted on Lowes Creek County Park and WRR's property located west of the facility. An additional 405 trees were planted in 2007 in areas originally planted in 2005 and 2006 to replace trees that had died due to drought conditions in 2006 and damage from deer. Appendix B contains a fact sheet prepared by SEH in April 2008 summarizing the phytoremediation activities and providing a map showing the locations where the trees and grasses were planted between 2004 and 2007.

3.2.3 Air Injection and Soil Vapor Extraction (AI/SVE) Systems

Based on SEH's July 2007 *Evaluation of Supplemental Corrective Measures and Plan of Activities – Revision 002*, three AI/SVE systems were installed as part of a treatability study to supplement the groundwater recovery and treatment system. Figure 7 shows the locations of the northern, middle, and southern AI/SVE systems. Following is a summary of the construction and operational history of each of the three AI/SVE systems.

The southern AI/SVE system was constructed in December 2004 in the southwestern corner of the WRR property using mid-depth well W-1B (screened from 35 to 46 feet bgs) as the air injection well and installing vent well SVE-1 to remove VOCs from the unsaturated soil above the water table. The southern AI/SVE system was constructed near the southwestern corner of the WRR property to remove VOCs from the shallow and mid-depth groundwater where elevated levels of VOCs had historically been measured. The southern AI/SVE system began operating in December 2004 and ran until June 2007, when it was damaged in the fire. It was later repaired and restarted on November 2, 2011.

Wells SVE-2 and AS-1 through AS-5 were installed as part of the middle AI/SVE system. Wells AI-1, AI-3, AI-4, and AI-5 were screened from 16 to 18 feet bgs; well AI-2 was screened from 11 to 13 ft bgs; and SVE-2 was screened from 4.6 to 12.6 ft bgs. Well AI-1 was used for groundwater monitoring, not air injection. Based on SEH's July 2007 report, the middle AI/SVE system was installed where "high concentrations of VOCs in groundwater samples collected from monitoring points in this area" were measured. However, Gannett Fleming was unable to locate any maps, tables, or other information indicating that groundwater samples were collected in this area prior to the AI/SVE system being built. The closest monitoring wells are W-6 and TW-1, located approximately 50 feet northeast and southwest of the middle AI/SVE system, respectively. However, high total VOC concentrations ranging from 10,000 to 50,000 ppb were measured in groundwater samples collected from SVE-2 between September 2006 and January 2007. The middle AI/SVE system began operating in September 2006 and ran until early December 2006, when it was turned off because of frozen air injection lines. The middle AI/SVE system was damaged in the June 2007 fire but later repaired and restarted on September 9, 2011.

The northern AI/SVE system was constructed with five air injection wells, AS-6 through AS-10. Wells AI-6, AI-8, and AI-9 were screened from 22 to 24 ft bgs; well AI-7 was screened from 20.7 to 22.7 ft bgs; and well AI-10 was screened from 21.4 to 23.4 ft bgs. Well W-8 was originally used as the SVE well. Well RW-5 was later converted for use as the SVE well (in addition to a groundwater recovery well) for the northern AI/SVE system because of silting up of W-8. Well AS-9 was not used for air injection, but only groundwater monitoring to assess the effectiveness of the northern AI/SVE system. The northern AI/SVE system was installed where light non-aqueous phase liquid product (LNAPL) and high VOC concentrations had been historically measured in wells near the product tanker loading area (SWM unit #2).

Based on WRR's October 2009 and November 2011 *Groundwater O & M Reports* and other available data, the following are details of the operational history of the northern AI/SVE system:

- The northern AI/SVE system began operating in August 2006 and operated until January 2007.

- The entire system was off from January 2007 to November 20, 2008.
- The SVE portion of the system was restarted on November 20, 2008, and the air injection portion of the system restarted on December 3, 2008.
- The entire system was off in late April 2009 to allow the aquifer to equilibrate before a groundwater sample was collected from RW-5 in May 2009.
- The entire system was turned on again on May 21, 2009.
- The entire system was off from August 17 to September 10, 2010.
- The entire system was turned on again on September 10, 2010, and operated until February 11, 2013, when it was turned off in anticipation of collecting an air sample from the SVE exhaust.

All three AI/SVE systems operated continuously from November 2, 2011, until February 11, 2013, when they were turned off to allow any VOCs remaining in the subsurface to volatilize and equilibrate. Air samples were collected on February 25, 2013, in tedlar bags and shipped via overnight delivery to ALS Environmental Laboratory Group in Holland, Michigan, for VOC analyses using Method 8260. No VOCs were detected in the air samples collected from the exhaust of the northern and southern SVE systems, and only low concentrations of 1,1,1-TCA (1.5 ppb) and 1,1-DCA (1.7 ppb) were detected in the middle SVE system. The laboratory report and chain of custody record for the air samples collected in February 2013 were submitted to the WDNR on March 14, 2013. Based on February 2013 air sample results, we believe the AI/SVE systems have reduced or removed VOCs from the soil and groundwater within their radius of influence to the extent possible/practical. The AI/SVE systems were turned off on March 4, 2013, and are likely to remain off unless future results of soil and/or groundwater samples from those areas indicate that additional remediation is necessary.

Between July 2012 and February 2013, WRR periodically measured vacuums, air flow rates, and the total VOC concentrations using a photo-ionization detector (PID) in each of the three AI/SVE systems. The air flow rates and PID readings measured between July 18, 2012, and November 7, 2012, were used to estimate an emissions rate for the combined SVE systems of between 2.2 to 7.2 lbs of VOCs per year. SEH's January 29, 2013, letter to the WDNR provides more information pertaining to the emissions from the SVE systems during that monitoring period. Note that because individual VOC concentrations were not measured in any of the SVE wells until the air samples were collected in February 2013, we cannot estimate the total mass of VOCs that was removed by the AI/SVE systems during their operation.

3.3 Current Status of Remediation Systems

3.3.1 Groundwater Recovery and Treatment System

As mentioned above, recovery well RW-7 was restarted on July 20, 2012, and has been operating continuously since then, with minor downtime for repairs or maintenance.

Current remedial activities include the pumping of groundwater from RW-7 at a rate of approximately 10 to 13 gallons per minute. Before January 21, 2013, the pumped water was treated with an air stripper and then discharged to a sump where it mixed with storm water and non-contact cooling and boiler water before being directed to the 360,000-gallon aerated reservoir. The reservoir water is discharged to the adsorption pond south of the reservoir under WPDES permit No. WI-0058718-04-0.

WRR requested from Jim Boettcher of the WDNR approval to direct the water pumped from RW-7 into the 360,000-gallon aerated reservoir without first passing through the air stripper. On February 7, 2013, Jim sent WRR an email indicating that the WPDES permit did not need to be modified to bypass the air stripper; Outfall 002 discharge quality just needed to remain below the effluent limits in Section 1.2.1 of the WPDES permit. The air stripper was turned off on January 21, 2013, and has remained off since then. Samples collected in March 2013 were analyzed for a full scan of VOCs, and none of the compounds listed in the WPDES permit were measured in Outfall 002 at concentrations above permit limits. Based on the total flow and VOC concentrations measured in the, water pumped from RW-7 has contained approximately 34 lbs of VOCs since it was restarted in July 2012.

As part of the assessment of the groundwater remediation system, samples will be collected from each of the non-operating recovery wells. The results of those samples and the supplemental site investigation will be used to determine if and where additional groundwater pumping is necessary. Before any recovery well is restarted, it will be assessed and repaired or redeveloped, as necessary. Each recovery well will operate until the concentrations of VOCs in groundwater samples collected from it and monitoring wells near or upgradient of it are below the NR 140 Enforcement Standard (ES) or other site-specific cleanup criteria that may be developed later for two consecutive monitoring periods.

3.3.2 Air Injection and Soil Vapor Extraction Systems

As noted above, the AI/SVE systems were turned off on March 4th and will likely remain off unless soil or groundwater samples collected near them during the supplemental site investigation indicate that additional remediation is warranted. **For the scope of work and cost estimates going forward, it was assumed that the AI/SVE systems will no longer be needed.**

4.0 CURRENT EXTENT OF VOC CONTAMINATION

4.1 Soil Gas

A soil gas survey was conducted in October 1994 that consisted of collecting soil gas samples from 57 borings on site. Maps showing the 1994 soil gas and boring locations and tables of the analytical results that were included in Eder Associates January 2, 1996, *Soil Gas Survey and Soil Sampling* report are included with this report as Appendix C.

As mentioned in Section 3.2.3 of this report, air samples were collected from the SVE wells of the three AI/SVE systems in February 2013. No VOCs were measured in the air samples collected from the northern and southern SVE wells, and only low concentrations of two VOCs were measured in the air sample collected from the middle SVE well. Soil and groundwater samples will be collected during the supplemental site investigation from each of the areas where the three AI/SVE systems were located, and total VOC concentrations will be measured in the soil samples using a PID. The analytical results of the soil and soil gas headspace samples will be used to determine if and where additional investigation or remediation is needed to reduce VOC concentrations in the soil gas, soil, or groundwater. Note that because WRR both uses and recycles several VOCs, it may not be possible to determine the source of VOCs in certain areas. If necessary, soil gas samples can be collected from groundwater monitoring wells screened above the water table and analyzed to determine VOC concentrations in the soil gas near buildings; however, we do not recommend collecting any soil gas samples until after the supplemental site investigation has been completed and areas with high VOC concentrations in the soil or groundwater are identified.

4.2 Soil

Based on available data, there has only been a limited number of soil samples collected on site, with the most recent samples collected from ten borings, GP-1 through GP-10 by Eder Associates in October 1994. Nine of the soil borings, GP-1 through GP-8 and GP-10, were located near areas where high VOC concentrations were measured in the soil gas samples, and soil samples from these borings were analyzed for VOCs. Soil samples from borings GP-2, GP-5, and GP-6 were also analyzed for semi-volatile organic compounds (SVOCs) and RCRA metals. The tenth boring, GP-9, was located south of the WRR facility and was only sampled for metals to provide background concentrations of metals. Table 1 in Eder's January 1996 report included in Appendix C contains the analytical results of the soil samples collected in October 1994. Based on a review of available reports, no soil samples have been collected since October 1994. Additional soil samples are planned for collection as part of the supplemental site investigation described in Section 6 of this report. Several of the proposed borings will be located where high concentrations of VOCs were measured in the soil gas or soil samples collected in 1994 to determine the current status of VOCs in those areas.

4.3 Groundwater

As part of the investigation and ongoing monitoring of the VOC plume, groundwater samples have been collected from 13 borings, 81 wells on and downgradient of the WRR facility (78 monitoring wells and piezometers, the production and drinking water well on the WRR property, and Eau Claire County's hand-pump well west of Lowes Creek), and 10 seeps along the eastern banks of Lowes Creek. Several of the groundwater monitoring wells have since been abandoned or are no longer routinely sampled. The current monitoring program includes the collection of groundwater samples are collected on a semi-annual or annual basis from 49 wells. Appendix D contains the current groundwater monitoring schedule that was included with WRR's September 10, 2012, *Groundwater O&M Report*.

The most recent round of groundwater samples was collected in October 2012. Tables prepared by WRR with the analytical results of groundwater samples collected between May 2009 and October 2012 are included with this report as Appendix E. Figures 8 through 10 show the estimated extent of VOCs at concentrations above their respective NR 140 ESs in the shallow, mid-depth, and deep/bedrock aquifers, respectively, based on the analytical results of groundwater samples collected through October 2012 or the most recent sampling date for wells that were not sampled in October 2012. Tables listing the concentrations of compounds measured above the NR 140 preventative action limits (PALs) in each of the aquifers are included on Figures 8 through 10 for reference.

4.3.1 Shallow Aquifer

As shown on Figure 8, VOCs were measured in groundwater samples collected from wells screened in the shallow aquifer at concentrations above the NR 140 ESs in the following three areas:

- The northwest corner of the WRR facility in well W-2 (SWM unit #2). PCE at 68 μg/ℓ and TCE at 18 μg/ℓ were measured in W-2 when it was last sampled in May 2011.
- The south-central portion of the site in wells TW-1, W-5, and W-7 (SWM units #4 and #6).
- In off-site wells MW-114 and MW-115.

Several VOCs were measured in October 2012 in TW-1 and MW-115 at concentrations between one to two orders of magnitude above their respective NR 140 ESs, and the estimated extent of VOCs at that magnitude in those areas is shown on Figure 8. TW-1 is located near the former floor drain underground tank, and additional samples will be collected from this area during the supplemental site investigation to determine the extent of high VOC concentrations in the soil and groundwater and to provide the information necessary to conduct the in-situ chemical oxidation (ISCO) pilot test described in Section 6.4.

As discussed in Section 2.3.3 and shown on Figure 4, there is a mounding of the groundwater in the area of the reservoir located on the southwestern portion of the site. Due to the mounding effect, groundwater in some portions of the shallow aquifer on site flows radially away from the reservoir. The radial flow, combined with fluctuations in the depth of the water table, appears to have caused groundwater in the floor drain tank areas near TW-1 with high concentrations of VOCs to spread to the southeast and impact wells W-5 and W-7. This radial effect may also have caused impacts to well W-6 earlier in the project and other low-level impacts to "upgradient" wells W-3 and W-4 located east of the facility.

4.3.2 Mid-Depth Aquifer

As shown on Figure 9, VOCs in the groundwater at concentrations above their NR 140 ESs occur in several wells on the WRR site and extend approximately 2,500 feet west to Lowes Creek. Though the extent of VOCs at concentrations above the NR 140 ESs in the mid-depth aquifer is relatively widespread, the overall concentrations of VOCs within the plume are relatively low, with only wells W-1A, W-1D, and W-19 (located in the southwestern corner of the site [SWM unit #4]) containing VOCs at concentrations more than one order of magnitude greater than their respective NR 140 ESs. The estimated extent of groundwater in the mid-depth aquifer containing VOCs at concentrations between one to two orders of magnitude greater than their respective NR 140 ESs is also shown on Figure 9. The portion of the mid-depth aquifer with the highest VOC concentrations is located upgradient and/or near recovery well RW-6, which will be restarted after determining if it needs repairs or redevelopment. The relatively large area of groundwater that contains VOCs at concentrations above an NR 140 ES is shown on Figure 9 and is primarily due to the presence of relatively low concentrations of vinyl chloride ranging from 0.32 ppb to 6.7 ppb. Because vinyl chloride has a very low NR 140 ES of 0.2 ppb, the depiction shown on Figure 9 may give a somewhat skewed visual impression of the magnitude of groundwater impacts.

4.3.3 Deep/Bedrock Aquifer

As shown on Figure 10, VOCs in the groundwater at concentrations above their NR 140 ESs occur within the deep and bedrock aquifer in WRR production well PW-1 and off-site wells W-17A and MW-111B. Vinyl chloride and 1,2-DCA were measured in W-17A at concentrations that were one to three orders of magnitude above their respective NR 140 ESs. The VOCs detected at concentrations above their NR 140 ESs in the other wells in the deep/bedrock aquifer were present in relatively low concentrations. PW-1 contained 9.9 µg/ℓ of PCE and MW-111B contained TCE at 10 µg/ℓ and vinyl chloride at 3 µg/ℓ. Based on the relatively steep upward vertical gradient of 0.06 measured between deep piezometer MW-111B and water table well MW-111 in April 2012, the VOC plume in the deep portion of the aquifer also discharges to Lowes Creek.

5.0 REMEDIAL OBJECTIVES

A release of contaminants to groundwater was documented by the analytical results of samples collected on county land west of the WRR facility in 1978. WRR initiated corrective measures in the early 1980s through March 2013, and an estimated 87,000 lbs of VOCs have been removed from the groundwater by various remedial activities during that time. Based on the relatively low VOC concentrations in recently collected groundwater samples from on- and off-site wells, much of the groundwater contamination has been remediated with only a few areas likely requiring additional or ongoing remediation.

WRR anticipates that final site closure will include soil and groundwater use notifications (WDNR GIS Registry) and placement and/or maintenance of pavement (engineered controls) over areas of remaining impacted soil to prevent direct contact. WRR's remedial objectives will protect human health and safety and the environment.

5.1 Soil Gas and Indoor Air

The WRR facility has been storing and handling hazardous waste and materials since the 1970s. Because of this, it is not possible to determine if the presence of VOCs in indoor air are from intrusion of VOCs that may be present in the soil gas or from routine storage and processing of VOC-containing wastes and materials. As part of Occupational Health and Safety Administration requirements, WRR personnel are required to wear protective breathing apparatus in buildings where hazardous materials and waste are handled. Additionally, the fuels blending building operates with negative air pressure, and all air emissions from this building are routed through a carbon treatment system before being released to the atmosphere.

The results of the supplemental site investigation will be used to determine if VOCs are present in the soil or groundwater above regional screening levels (RSLs) for the indoor worker inhalation pathway. Potential indoor air concentrations will be calculated using the USEPA Region 3 calculator (http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search). Areas where VOC concentrations are present in the soil at concentrations above the RSLs will be evaluated to determine if there are any underground utilities that could allow vapors in the soil to migrate into nearby buildings. This information will be used to determine if vapor intrusion is an issue that needs to be addressed.

5.2 Soil

The VOC concentrations measured in the soil samples collected during the supplement site investigation will be compared to the USEPA Region 3 RSLs for direct contact, indoor worker inhalation, and the soil to groundwater pathways. Various remedial activities, including excavation and off-site disposal, in-situ treatment using passive or active SVE systems, and/or installing an engineered barrier (i.e. pavement) over the contaminated soil, will be used to address each area where VOCs are present in the soil at concentrations above one or more RSLs for the pathways listed above. Land use restrictions and placement on the WDNR registry of areas where VOC concentrations remain above one or more RSLs will be used where soil remediation is technically impracticable.

5.3 Groundwater

The operation of the groundwater recovery wells over the last 30 years has removed about 87,000 lbs of VOCs from the groundwater. This total does not include any VOCs removed by the three AI/SVE systems, which was likely substantial given that LNAPL were present in well W-8 when the northern AI/SVE system started operating in 2006. With minor exceptions, VOC concentrations in the groundwater throughout the plume have been steadily decreasing, and we expect that trend to continue with the continued operation of recovery well RW-7 and other recovery wells. An ISCO pilot test is planned for the area near well TW-1 where high VOC concentrations have recently been measured. If successful, ISCO may be used to address any other areas of high VOC concentrations identified by the supplemental investigation.

Given the relatively widespread extent of VOCs throughout the upper and mid-depth aquifers, we do not believe it is technically or economically feasible to reduce VOC levels to concentrations below NR 140 ESs throughout the entire plume. We do not believe this level of groundwater remediation is necessary because, based on historical sampling data, the plume likely discharges into downgradient Lowes Creek. WRR plans to conduct the ISCO pilot test and operate the groundwater recovery wells until VOC concentrations are asymptotically low and then request a groundwater use restriction (GIS Registry) for all areas containing VOCs at concentrations above the NR 140 PALs.

6.0 PROPOSED SCOPE OF WORK

6.1 Supplemental Site Investigation

Based on the WDNR's May 14, 2008, letter to WRR and SEH's March 2009 work plan, a supplemental site assessment (investigation) needs to be conducted in five of the six Solid Waste Management Units (SWMUs) [1-4 and 6] where hazardous materials were previously handled or stored. Gannett Fleming plans to use a Geoprobe to collect soil and groundwater samples from an initial 30 borings. Figure 11 shows the locations of the 30 proposed borings. The locations of the borings were based on the proximity to potential source areas where hazardous materials have been or are being handled or stored and those areas where high concentrations of VOCs were previously measured in the soil or groundwater. **Note that because of safety and/or accessibility issues, no borings will be located in areas inside of diked areas where aboveground storage tanks and underground piping are present.** Samples collected from borings located just outside those areas will be used to characterize the soil and groundwater in those areas and determine if they were the source of a release.

In WDNR's April 5, 2013, letter to Gannett Fleming, WDNR requested that ongoing site activities and processes be evaluated to determine if they may be contributing sources of contamination to the groundwater. Gannett Fleming recommends that the WDNR, WRR, and Gannett Fleming conduct a walkthrough of the WRR facility to determine if and where additional borings are necessary after the results of the first round of samples are submitted and reviewed by the WDNR.

Gannett Fleming proposes to collect soil samples continuously in 4-foot cores in each boring to a depth of 12 feet or the water table, whichever is encountered first. Each core will be divided horizontally into 2-foot sections, and each 2-foot section will be divided in half vertically. One half of each 2-foot section will be placed in a plastic Zip-Loc bag, sealed, kneaded to break up soil clods, allowed to warm to room temperature, and then field screened for VOCs with a photo-ionization detector (PID). The other portion of each 2-foot section will be placed in a Zip-Loc bag, sealed, and placed in a cooler with ice for possible laboratory analyses, pending the results of the PID readings.

Following collection of the soil samples, each boring will be advanced so that groundwater samples can be collected from the upper 4 feet of the water table. Two sets of groundwater samples will be collected for VOC analyses from each boring; one set of samples will be submitted to WRR's laboratory for analyses of VOCs, the other set of samples will be placed in a cooler with ice for possible analyses by a Wisconsin-certified laboratory.

Up to two soil samples from each boring will be submitted to a Wisconsin-certified laboratory for analyses of VOCs using Method 8260 – the sample with the highest PID reading and the deepest sample collected. If the analytical results of the groundwater samples analyzed by WRR's laboratory contain no detectable or low concentrations of VOCs (less than the NR 140 ES for all compounds), then the other set of groundwater samples from that boring will be submitted to an off-site laboratory for analysis to document the low VOC concentrations in that portion of the aquifer. Only one soil sample from each boring (the one with the highest PID reading) will be submitted for off-site laboratory analyses. If no or relatively low (<2.0 ppm) PID readings are measured in all of the soil samples from one boring, then a sample from the upper 4 feet will be submitted for laboratory analyses, along with the groundwater sample. All soil samples submitted for laboratory analyses of VOCs will be preserved using Method 5035 and analyzed using Method 8260.

Note that the sampling program will be slightly modified in the following areas:

- No groundwater samples will be collected from Geoprobe borings in areas where a water table monitoring well is located within 15 feet.
- Additional samples will be collected from the borings located in and adjacent to the floor drain tank area. This includes at least one sample from the upper 4 feet of soil to document VOC concentrations with respect to the direct contact pathway. The results of the samples collected in that area will be used to determine the mass and extent of VOCs in that area and to develop a plan for the ISCO pilot test.
- After collecting the soil and shallow groundwater samples, the three easternmost borings will be extended to the top of the lower confining layer (or bedrock surface if no confining layer is encountered), and then another set of groundwater samples will be collected. Each of the deep groundwater samples will be analyzed for VOCs by WRR and an off-site laboratory. The results of these samples will be used to determine if solvents in the form of LNAPLs are present and/or if groundwater with high VOC concentrations has migrated upgradient to the east along the lower confining layer or bedrock surface. These samples are being collected in lieu of installing replacement wells for W-3 and W-4 along the eastern property boundary. The need to install replacement wells for W-3 and W-4 will be assessed after reviewing the analytical results of the samples collected from the initial three borings along the eastern portion of the property and any step-out borings sampled in that area.
- No soil samples will be collected from the boring located northeast of the 360,000-gallon reservoir. That boring is located downgradient from the floor drain tank and well TW-1 where high concentrations of VOCs have previously been measured. The groundwater samples collected from that boring will help determine the extent and magnitude of VOCs in that area prior to the ISCO pilot test described in Section 6.4.

- Only soil samples will be submitted for laboratory analyses from the boring located in the southwestern corner of the property near the southern AI/SVE system due to the proximity of well W-1. The soil samples from that boring and groundwater samples collected from W-1 will be used to determine residual VOC concentrations in the unsaturated soil and capillary fringe of the water table and if the shallow soil and groundwater has been remediated by the southern AI/SVE system to the extent practical.
- Groundwater samples will be collected from wells RW-1 through RW-6, RW-8, and RW-9 to determine current VOC concentrations at their locations as part of the assessment of the groundwater remediation system.

Soil and groundwater samples collected from borings and wells near the northern and middle AI/SVE systems will be used to determine the extent of remediation that has occurred in those areas and whether additional remediation is needed.

The analytical results of the soil and groundwater samples collected from the initial 30 borings will be used to determine if additional borings or samples are necessary to define the extent of contamination in any areas where hazardous materials were or are stored or handled. Any step-out borings will be sampled in a similar fashion as the initial borings.

The results of the first round of samples would be submitted to the WDNR for review, and then a walkthrough of the facility by WDNR, WRR, and Gannett Fleming would be conducted to determine if there are any additional areas that can and should be sampled. The supplemental site investigation work will be summarized and include tables showing the results of VOC concentrations measured in the soil and groundwater samples, boring logs and abandonment forms, and maps showing the estimated extent of VOCs in the soil and groundwater requiring remediation, if applicable. The supplemental site investigation is scheduled to be conducted during the summer and fall of 2013. Based on the other work that needs to be conducted, we plan to combine the results of the supplemental site investigation and the October 2013 groundwater sample results with the first *Evaluation of Supplemental Corrective Measures and Plan of Activities* that would be submitted to WDNR in late 2013 or early 2014.

6.2 Remediation Systems Assessment

6.2.1 Air Injection & Soil Vapor Extraction (AI/SVE) Systems

The southern and middle AI/SVE systems began operating in December 2004 and September 2006 and continued operations until June 2007 and December 2006, respectively. Both the southern and middle AI/SVE systems were damaged in the June 2007 fire at the WRR facility and remained off until the fall of 2011 when they were repaired. The northern AI/SVE system operated intermittently from August 2006 until the fall of 2011. All three AI/SVE systems operated continuously from November 2, 2011, until February 11, 2013, when they were turned off to allow VOCs in the subsurface to volatilize and equilibrate.

Air samples were collected on February 25, 2013, from each of the SVE wells and analyzed for VOCs using method 8260. No VOCs were detected in any air samples with the exception of low concentrations of 1,1,1-TCA (1.5 ppb) and 1,1-DCA (1.7 ppb) measured in the air sample collected from the middle AI/SVE system. Based on the February 2013 air sample results, we believe that the three AI/SVE systems have likely remediated the soil and groundwater in those areas to the extent practical. The AI/SVE systems were turned on again on February 26, 2013, after the air samples were collected but turned off on March 1, 2013, after the air sampling results were received. Soil and groundwater samples will be collected near the AI/SVE systems during the supplemental site investigation and used to determine if the systems can remain off or if additional remediation in those areas is still required.

6.2.2 Groundwater Recovery Wells and Treatment System

RW-7 was restarted on July 23, 2012, and has been operating continuously since then with minor downtime for repairs or maintenance. WRR requested and received permission from Jim Boettcher of the WDNR to direct the water pumped from RW-7 into the 360,000-gallon aerated reservoir without first being treated with the air stripper. The air stripper was turned off on January 21, 2013, and after that date the water pumped from RW-7 has been directed into the 360,000-gallon reservoir, where it mixes with non-contact process water and storm water. Influent (RW-7) and effluent samples (discharge from reservoir – Outfall 002) were collected on March 7, 2013, and analyzed by Northern Lakes Services laboratory of Crandon, Wisconsin, for a full suite of VOCs using method 8260. The analytical results of those samples indicate that VOC concentrations were reduced by 95 percent in the aerated reservoir, and all compounds detected in the effluent sample were at concentrations well below the WPDES permit limits. Copies of the March 7, 2013, influent and effluent samples are included with this report as Appendix F.

Pumping tests were proposed in SEH's March 2009 Work Plan for the facility Production Well and recovery wells RW-1, RW-5, RW-6, and RW-7. It was noted by SEH and WDNR that pumping tests conducted on RW-1 and RW-5 may be affected by their close proximity to sandstone bedrock, which would represent a potential hydrogeological barrier boundary. RW-5 may also be dry or need redevelopment. As described in Section 6.1, Gannett Fleming plans to collect groundwater samples during the source area assessment to supplement the current data from on-site monitoring wells. The need for conducting pumping tests on recovery wells will be reassessed after the source area investigation has been completed, since some of the recovery wells may no longer be needed to remediate the groundwater in certain areas.

Groundwater samples will also be collected from each of the recovery wells during the supplemental site investigation to determine current VOC concentrations in each. Any recovery well with VOC concentrations greater than one order of magnitude above an NR 140 ESs will be turned on to assess its operational status. An assessment of the groundwater remediation system will be included in the *Evaluation of Supplemental Corrective Measures and Plan of Activities* that will be submitted to the WDNR at the end of 2013 or early 2014. That report will also contain the results of the supplemental site investigation and October 2013 groundwater sample results.

6.3 Groundwater Remediation System Operation and Maintenance

Based on the current degree and extent of VOCs in the groundwater, WRR intends to redevelop and operate RW-6 to capture VOCs in the mid-depth aquifer downgradient of the site. Recovery well RW-7 will continue to operate. As noted in the previous section, the need to restart any other recovery wells will be assessed after the supplemental site investigation is completed.

Each recovery well will operate until VOC concentrations in the well and in upgradient monitoring wells are below NR 140 ESs for two consecutive monitoring periods. As described in Section 5.3, the site will likely be conditionally closed with some residual VOC concentrations in the groundwater. No recovery wells will be turned off without prior approval from the WDNR.

The routine operation and maintenance of the groundwater remediation system will be conducted by WRR staff, including the collection of WPDES permit-required samples and the preparation and submittal of the monthly WPDES discharge monitoring reports.

6.4 In-Situ Chemical Oxidation (ISCO) Pilot Test

An ISCO pilot test is expected to be conducted in the area where the floor drain underground storage tank was formerly located. At this time, we believe the ISCO pilot test would be conducted using sodium persulfate and sodium hydroxide. As a safety precaution, the oxidation chemicals would be mixed on the southwestern portion of the site near the groundwater remediation building to keep them away from other chemicals handled or stored at the WRR facility. The oxidants would be injected using hollow-stemmed rods and a Geoprobe drill rig into several borings within the area of the floor drain tank. Additional soil and groundwater samples from this area would be collected during the supplemental site investigation and used to determine the extent and mass of VOCs in the floor drain area. If the data indicate the need for remediation in this area, a work plan for the pilot test would be submitted to the WDNR for approval. That work plan would include maps showing the number and locations of the proposed injection borings, a description of what chemicals would be used in the pilot test, a health and safety plan, and a description of the sampling that would be conducted following the pilot test to determine its effectiveness.

6.5 Groundwater Monitoring Program

The table provided in Appendix D contains the current groundwater monitoring program. The following activities are scheduled for the next round of sampling in May 2013:

- Groundwater elevations would be measured in all wells, including those not routinely sampled or sampled during this round, so that comprehensive groundwater contour maps showing the groundwater flow direction in the shallow, mid-depth, and deep/bedrock aquifers can be included with the next report.
- Remediation by natural attenuation (RNA) parameters (dissolved oxygen, pH, temperature, conductivity, and oxygen-reduction potential) would be measured during and after the purging process in all of the wells sampled in May 2013. A discussion of the RNA parameters and recommendations regarding their continued measurement would be included in the semi-annual report following the May 2013 sampling round.
- If approved by WDNR, passive diffusion sample (PDS) bags would be installed into each of the wells that are sampled during this round. See discussion below regarding the use of PDS bags to collect groundwater samples.
- Duplicate samples will be collected from wells TW-1, W-7A, W-17A, MW-111B, and MW-115.
- All wells will be sampled for VOCs only and analyzed by Pace Analytical Laboratory in Green Bay.

In our March 14, 2013, letter to the WDNR, Gannett Fleming requested approval for the following changes to the groundwater monitoring program:

- **Increasing the sampling frequency for well W-2 from annually to semi-annually** due to elevated concentrations of PCE (68 ppb) and TCE (18 ppb) measured in the October 2012 groundwater samples.
- **Decreasing the sampling frequency for wells W-18, MW-114, MW-114A, and MW-114B from semi-annually to annually**. In general, VOC concentrations in these four wells are very low and decreasing. No VOCs have been measured in W-18, and only one compound

(TCE at 1.9 ppb) was measured in MW-114B above an NR 140 PAL over the last four years of sampling. Concentrations of VOCs in MW-114A and MW-114B are also very low, with TCE being the only compound measured above its NR 140 PAL during the October 2012 sampling event.

The tables showing groundwater sample results are in Appendix E.

In addition to the changes listed above, in our March 14th letter, we also proposed that PDS bags be installed to collect groundwater samples from wells that are routinely sampled. The PDS bags would be installed in the wells following the next sampling round in May 2013 and then used to collect the VOC samples thereafter. The PDS bags would be installed halfway between the water table surface and the bottom of the well in shallow water table wells. The PDS bags would be installed at the mid-point of the screened intervals in all piezometers.

In the WDNR's April 5th letter responding to Gannett Fleming's March 14th letter, Mae Willkom indicated that samples collected using PDS bags tended to have poor correlation with the actual concentrations of certain suites of compounds in the groundwater. However, we would still like to install the PDS bags after the next round of samples is collected, because the compounds collected using PDS bags that tend to have poor correlation (ketones and alcohols) are only present in a few wells at concentrations above NR 140 PALs. The following observations are based on the results of the October 2012 sampling round:

- Methyl isobutyl ketone (MIBK) was only measured in one well at a concentration above its NR 140 ES of 500 ppb – well MW-115 contained 2,800 ppb of MIBK. No other ketones or alcohols were measured above their NR 140 ESs in any of the other wells sampled in October 2012.
- Acetone (4,000 ppb), methyl ethyl ketone (MEK at 1,600 ppb,) and MIBK (440 ppb) were all measured above their respective NR 140 PALs of 1,800 ppb, 800 ppb, and 50 ppb, but in only one well - W-17A.
- No other ketones or alcohols were measured in any of the other wells at concentrations above their NR 140 PALs except for those compounds listed above in wells MW-115 and W-17A.

Due to the small number of wells that contain ketones and alcohols and the relatively high NR 140 ESs and PALs for those compounds, we would still like to install PDS bags in all of the wells that are routinely sampled, including MW-115 and W-17A, because it will eliminate the generation of purge water and significantly reduce the time and therefore costs of sampling. The PDS bags would be installed after the May 2013 round of samples are collected. The first round of samples would be collected from the PDS bags in October 2013. To verify VOC concentrations measured in samples collected from the PDS bags, duplicate samples would be collected in October 2013 from the following wells that contained relatively high VOC concentrations using either low-flow purge methods and/or hydra-sleeves:

- Shallow water table wells – TW-1 and MW-115
- Mid-depth well – MW-115A
- Deep well – MW-17A

The results of these samples would be included in the fall 2013 semi-annual report and used to determine if there is a significant difference in the VOC concentrations based on the sampling methods used. Recommendations for future collection methods and duplicate samples during the spring 2014 sampling round will be included in the fall 2013 report to WDNR.

6.6 Replacement of Wells

In numerous correspondence with WRR and SEH, the WDNR requested that wells W-2, W-3, W-4, W-7, and W-19 be abandoned or replaced because they were dry on several occasions and/or were constructed as well-points with 5-foot-long screens (W-2 through W-4). Our recommendations for wells W-2, W-3, W-4, W-7 and W-19 follow.

Groundwater samples collected in May 2011 from well W-2 contained PCE (68 ppb) and TCE (18 ppb) at concentrations substantially above their NR 140 ESs of 5 ppb. W-2 is screened from 9 to 14 feet below ground surface (bgs) but has been dry on several occasions over the last few years. W-2 will be replaced with a water table well constructed with a 10-foot-long screen placed between 9 and 19 feet bgs to intersect the water table.

Well W-3 is screened from 10 to 15 feet; well W-3B is screened 5 feet into the sandstone bedrock from 56 to 61 feet; and W-3A is screened from 108 to 113 feet, 52 to 57 feet below the bedrock surface. Two confining layers were encountered during the installation of the W-3 well nests – one confining layer extending from 12 to 23 ft bgs and the lower confining layer extending from 33 to 48 feet bgs. In Mae Willkom's June 2012 meeting notes, she indicated that W-3 should be replaced with a piezometer appropriately screened to assess the potential for migration of LNAPLs or groundwater with high VOC concentrations to the northeast (upgradient with respect to groundwater flow) along the surface of the lower confining layer. Ms. Willkom also indicated that this work should be conducted because significant PCE concentrations were measured in groundwater samples collected from W-2 and increasing VOC concentrations were measured in bedrock well W-7A. Groundwater samples collected from W-3 in May 2011 and W-3A and W-3B in May 2012 contained relatively low concentrations of acetone (up to 9 ppb), isopropyl alcohol (IPA - up to 44 ppb), PCE (up to 0.35 ppb), and TCE (up to 0.27 ppb), with the highest concentrations of acetone, IPA, and PCE being measured in shallow well W-3.

As described in Section 6, groundwater samples would be collected from three borings along the eastern portion of the WRR facility as part of the supplemental site investigation to determine VOC concentrations in that area. Groundwater samples would be collected at the water table surface and from 28 to 33 feet bgs at the surface of the lower confining layer. If high concentrations of VOCs are measured in the deeper groundwater samples, a new well will be installed near the W-3 well nest and screened from 28 to 33 feet bgs. Well W-3 will be retained for collecting samples from the water table surface.

Like the W-3 well nest, W-4 is also located along the eastern side of the WRR facility, upgradient of the site. Groundwater samples collected from W-4 in May 2011 and May 2012 contained PCE at concentrations of 2.9 ppb and 0.61 ppb, above its NR 140 PAL of 0.5 ppb but below its NR 140 ES of 5.0 ppb. The only other compounds measured in W-4 in 2011 and 2012 were acetone (up to 34 ppb, far below its NR 140 PAL of 1,800 ppb) and IPA (up to 45 ppb – IPA does not have a PAL). Well W-4 is screened from 14 to 19 feet bgs. A groundwater sample collected from 15 to 19 feet bgs in Geoprobe boring GP-6 in September 2002 contained no VOCs except for a trace (0.34 ppb) of toluene. Given the relatively low concentrations of the compounds measured in GP-6 and W-4, we do not think that the installation of a replacement well for W-4 in this area will yield very useful information.

As mentioned previously, groundwater samples would be collected from borings along the eastern portion of the WRR facility. After collecting groundwater samples at the water table surface in the boring near W-4, the boring would be extended to the top of the lower confining layer or bedrock, whichever is encountered first. Deeper groundwater samples would then be collected to determine if LNAPLs or groundwater with high VOC concentrations migrated along the surface of the lower confining layer or bedrock. As with W-3, if high concentrations of VOCs are measured in the deeper sample collected from the boring near W-4, a new well will be installed at that depth near W-4. Well W-4 will be retained for collecting samples from the water table surface.

Notes from the WDNR's April and June 2012 meetings with WRR indicated that W-7 had been dry on several occasions and may have filled with silt. WRR checked well W-7 and found that it was not filled with silt. Well W-7 is screened from 12.5 to 22.5 feet bgs and has been sampled semi-annually since October 2010. As indicated in the WDNR's April 5, 2013, letter, a replacement well for W-7 is not necessary.

Well W-19 is screened from 33.5 to 75 ft bgs and has not been sampled since October 2011 because a bailer is stuck in the riser pipe above the screened interval, and it is suspected that its galvanized screen may have collapsed. Gannett Fleming will assess the status of W-19 as part of the overall assessment of the groundwater monitoring and remediation system and determine if the bailer can be removed and the well redeveloped. If portions of the screened interval are open, Gannett Fleming will determine if that portion of the well can provide valuable data regarding VOC concentrations in the groundwater at that location and depth. If W-19 cannot be redeveloped and the screened portion of the well is obstructed, W-19 will be abandoned. If a replacement well is deemed necessary, vertical profiling in that area would be conducted with a Geoprobe to determine the appropriate screened interval of a replacement well. Groundwater samples would be collected from the following intervals to determine the appropriate depth of a replacement well: 33.5 to 38.5 ft bgs; 40 to 45 ft bgs; 47.5 to 52.5 ft bgs; 55 to 60 ft bgs; 62.5 to 67.5 ft bgs; and 70 to 75 ft bgs. All groundwater samples will be submitted to an off-site laboratory for analyses of VOCs using method 8260. The results of the vertical profiling samples will be submitted to WDNR with a proposal for the location and screened depth of a replacement well.

6.7 Abandonment of Wells

As discussed in Gannett Fleming's March 14, letter, to the WDNR and subsequent correspondence, WDNR approved abandonment of wells W-9, W-16, and MW-101 in 2006. These wells are screened across the water table, are located south and sidegradient of the WRR site, and have never contained any VOCs at concentrations above the NR 140 preventative action limits (PALs). As a condition of the WPDES permit, these wells are required to be sampled until they are abandoned or replaced. WRR plans to move ahead with abandonment of wells W-9, W-16, and MW-101.

"Long-screened" wells W-20 through W-22 were approved for abandonment in the WPDES permit reissued on November 22, 2012, and effective January 2013. These mid-depth wells have screens approximately 30 to 50 feet in length and are also required, as a condition of the WPDES permit, to be sampled until they are abandoned or replaced. Groundwater samples collected from these wells have contained relatively low and decreasing concentrations of VOCs over the past four years. Our recommendations for wells W-20 through W-22 follow:

- Well W-21 is located near recovery well RW-7 and screened at the same approximate depth. In May 2010, wells MW-114, MW-114A, and MW-114B were installed next to W-21. Groundwater samples collected from the MW-114 well nest provide a profile of VOC concentrations in the shallow, mid-depth, and deep portions of the aquifer near RW-7. WRR plans to move ahead with abandonment of W-21.

- Water table well MW-116 was installed next to W-22 in May 2010. Wells W-20 and W-22 are located within 200 feet of recovery well RW-6 and RW-7, respectively. Recovery well RW-7 was restarted and has been operating continuously since mid-July 2012, with minor downtime for repairs. RW-6 is scheduled to be redeveloped and then brought back on line this year as part of the proposed corrective action. Gannett Fleming recommends keeping wells W-20 and W-22, for the time being, to monitor VOC concentrations in the mid-depth portion of the aquifer near recovery wells RW-6 and RW-7. If VOC concentrations continue to decrease in W-20 and W-22, a request to abandon these wells would be submitted to the WDNR.

6.8 Vapor Intrusion Assessment

As discussed previously, volatile hazardous materials are stored and handled in or near many buildings within the WRR facility, which would make it very difficult to determine the source of any VOCs in indoor air. Soil samples collected during the supplemental site investigation will be compared to risk-based screening levels for the soil to indoor air inhalation pathway. A discussion of the concentrations of VOCs in the soil and their potential significance to indoor air quality at the WRR facility will be included in the *Evaluation of Supplemental Corrective Measures and Plan of Activities* report.

6.9 Reporting

6.9.1 Monthly WPDES Discharge Monitoring Reports

All WPDES permit-required samples will be analyzed by an off-site laboratory certified in the state of Wisconsin. All monthly WPDES Discharge Monitoring Reports will be prepared by WRR and will include the volume of groundwater pumped and the results of the permit-required effluent samples.

6.9.2 Semi-Annual Operation & Maintenance Report

WRR and Gannett Fleming will coordinate preparation of the semi-annual O&M reports. Those reports will include tables listing the analytical results of groundwater samples collected during the previous monitoring event, the status of any remediation systems, and maps showing the groundwater flow direction and estimated extent of VOCs at concentrations above the NR 140 ES in the shallow, mid-depth, and deep/bedrock aquifers. The semi-annual O&M reports will also include a section discussing the proposed work to be conducted during the next reporting period. That section will include any changes to the groundwater monitoring program.

As described in Section 6.1 above, the fall 2013 O&M report data will likely be combined with the supplemental site investigation data, and both will be included with the first *Evaluation of Supplemental Corrective Measures and Plan of Activities* report discussed below.

6.9.3 Evaluation of Supplemental Corrective Measures and Plan of Activities

As required by the 2003 RCRA operating license and unless not included in WRR's reissued operating license, an *Evaluation of Supplemental Corrective Measures and Plan of Activities* report would be prepared, at a minimum, every three years. These reports would discuss the operational status of the remediation systems, the results of any other samples collected since the previous reporting period, the mass of VOCs removed by the systems, and proposed work to be completed during the next reporting period. The *Evaluation of Supplemental Corrective Measures and Plan of Activities* reports would also summarize the results of any areas treated using ISCO.

6.9.4 Final Closure Request

As described in Section 5, WRR intends to submit a final closure request to the WDNR when the following conditions have been met:

- The extent of any new sources of VOCs identified during the supplement site investigation has been defined.
- No new releases have occurred that would serve as a continuing source of contaminants to the groundwater.
- VOC concentrations in the soil have been reduced to concentrations below the direct contact, vapor inhalation, and soil to groundwater regional screening levels by remedial efforts where practicable and if technically feasible.
- Those areas where elevated VOC concentrations remain in the soil can be addressed by institutional controls such as deed restrictions or GIS registry and/or engineered controls such as pavement or impermeable membranes.
- VOC in the groundwater have been either reduced to concentrations below the NR 140 ESs in all on-site and off-site wells, or reduced to asymptotically low concentrations, indicating that the remediation has been completed to the extent practical. Areas where VOC concentrations in the groundwater remain above the NR 140 ESs would be included on the GIS registry.

7.0 SCHEDULE AND COST ESTIMATE

7.1 Basis for Schedule and Cost Estimate

The following were used as the basis for preparing a schedule and cost estimate to achieve regulatory closure of the WRR site:

- The supplemental site investigation described in Section 6 will be adequate to define the extent of impacted soil and groundwater.
- No new significant source areas will be identified by the supplemental investigation. As stated previously, based on the relatively low and decreasing VOC concentrations measured in groundwater samples collected on site over the past 4 years, we do not believe that additional releases have occurred since the initial remedial activities began. The occasional spikes in VOC concentrations measured in groundwater samples collected from some on-site wells are likely due to fluctuations in the water table and the groundwater coming in contact with residual contaminants from previous releases in the soil. The mounding of water historically measured in the southwest corner of the property near the reservoir and the fluctuations in the water table also likely caused fluctuations in the groundwater flow direction. These combined occurrences (i.e. the radial flow by the reservoir and changes in groundwater flow direction dependent on the depth of the water table) may have caused groundwater with high VOC concentrations in the floor drain UST source area, and possibly other previously-identified source areas, to flow toward and impact "sidegradient and upgradient" wells W-2 through W-7.
- Remediation activities will consist of the following:
    - Restarting and operation of recovery wells RW-6 through RW-9 through June 2017.
    - Conducting In-Situ Chemical Oxidation (ISCO) using sodium persulfate and sodium hydroxide to remediate the soil and groundwater in the area near the former floor drain UST.
    - Conducting one additional round of ISCO to remediate areas identified during the supplemental site investigation where high residual concentrations of VOCs remain in the soil and groundwater from initial releases in the 1970s.
- Operation of recovery wells RW-1 through RW-5 and the three AI/SVE systems will not be necessary.
- Groundwater monitoring activities will continue through June 2018, at which time the conditions necessary for closure described in Section 5 of this CAP will have been met.

- Other than the wells scheduled for replacement listed in Section 6.6 of this CAP, only one new well will be required to monitor groundwater at a location with high VOCs identified during the supplemental site investigation.
- No new releases occur during the next ten-year period that would result in impacts to soil and groundwater that require remediation.
- No soil gas or indoor air samples are required as part of the vapor intrusion assessment. The assessment will be limited to determining if VOC concentrations in shallow soil and groundwater samples near and beneath buildings pose a viable threat to human health or safety, given the presence of solvents and other hazardous materials in those buildings.

7.2 Schedule

The following activities are presented in the general chronological order that they would be conducted.

7.2.1 Groundwater Monitoring

PDS bags will be installed in the monitoring wells before the next round of samples (October 2013) is collected and then will be used to collect groundwater samples thereafter. Groundwater monitoring will continue on a semi-annual basis in the spring and fall of each year through June 2018. This schedule is based on VOC concentrations in the soil and groundwater meeting the criteria described in Section 5 by June 2017, that the recovery wells are turned off at that time, and the next two rounds of semi-annual groundwater sampling indicate that the recovery wells do not need to be restarted and the site meets WDNR requirements for regulatory closure.

7.2.2 Abandonment of Monitoring Wells

The monitoring wells listed in Section 6.7 that are already approved by the WDNR for abandonment will be abandoned in the spring or summer of 2013.

7.2.3 Supplemental Site Investigation

The supplemental site investigation will be conducted in two phases in the summer and fall of 2013. The results of the first round of samples will be submitted to the WDNR, followed by a walkthrough of the facility by WDNR, WRR, and Gannett Fleming to identify additional areas to be sampled. The results of the supplemental site investigation will be included with the first Evaluation *of Supplemental Corrective Measures and Plan of Activities* report, along with the results of the groundwater samples collected in the fall of 2013.

7.2.4 Evaluation and Restarting of Groundwater Recovery Wells

The results of the supplemental investigation will be used to determine which of the existing recovery wells are necessary to control the off-site migration of groundwater containing high concentrations of VOCs. The operational status of recovery wells RW-6, RW-8, and RW-9 will be assessed during the summer of 2013. Recovery well RW-6 will be redeveloped and repaired (if necessary) and is expected to be operational in mid-2013. The need to restart wells RW-8 and RW-9 will be based on the VOC concentrations measured in groundwater samples collected from them and other wells in the spring and fall of 2013 and during the supplemental site investigation. The work conducted on the recovery wells and groundwater remediation system will be included in the first *Evaluation of Supplemental Corrective Measures and Plan of Activities* report, along with any recommendations for additional remedial activities or augmentation to the existing systems.

7.2.5 In Situ Chemical Oxidation Pilot Test

The results of samples collected from the floor drain UST source area during the first phase of the supplemental investigation will be used to determine the area where the ISCO pilot test will occur. A work plan for the ISCO pilot test will be submitted to the WDNR for review by the fall of 2013, after receipt of the results of the samples collected near the floor drain area. The ISCO pilot test is expected to be completed in late 2013 or the spring of 2014. If necessary, additional ISCO will be conducted in other areas where high concentrations of VOCs remain in the groundwater. This would likely occur in the fall of 2014 or early 2015.

7.2.6 Replacement of Monitoring Wells

The replacement of monitoring wells will occur after the results of the supplemental site investigation have been evaluated. This includes:

- An evaluation of the integrity of the screen for well W-19.
- Whether the water table has risen enough so that groundwater samples can be collected from W-2. The drought conditions spanning the summer of 2011 through the fall of 2012 have likely ended due to the relatively wet winter and spring of 2012-13, and the water table has likely risen back to its “normal” elevation. If samples can be collected from W-2, it will not be replaced. If the water table is below the screened interval of W-2, it will be replaced.
- The collection of groundwater samples during vertical profiling of VOC concentrations in the mid-depth aquifer near W-19.

The replacement of monitoring wells would likely occur in the spring of 2014.

7.2.7 Reporting

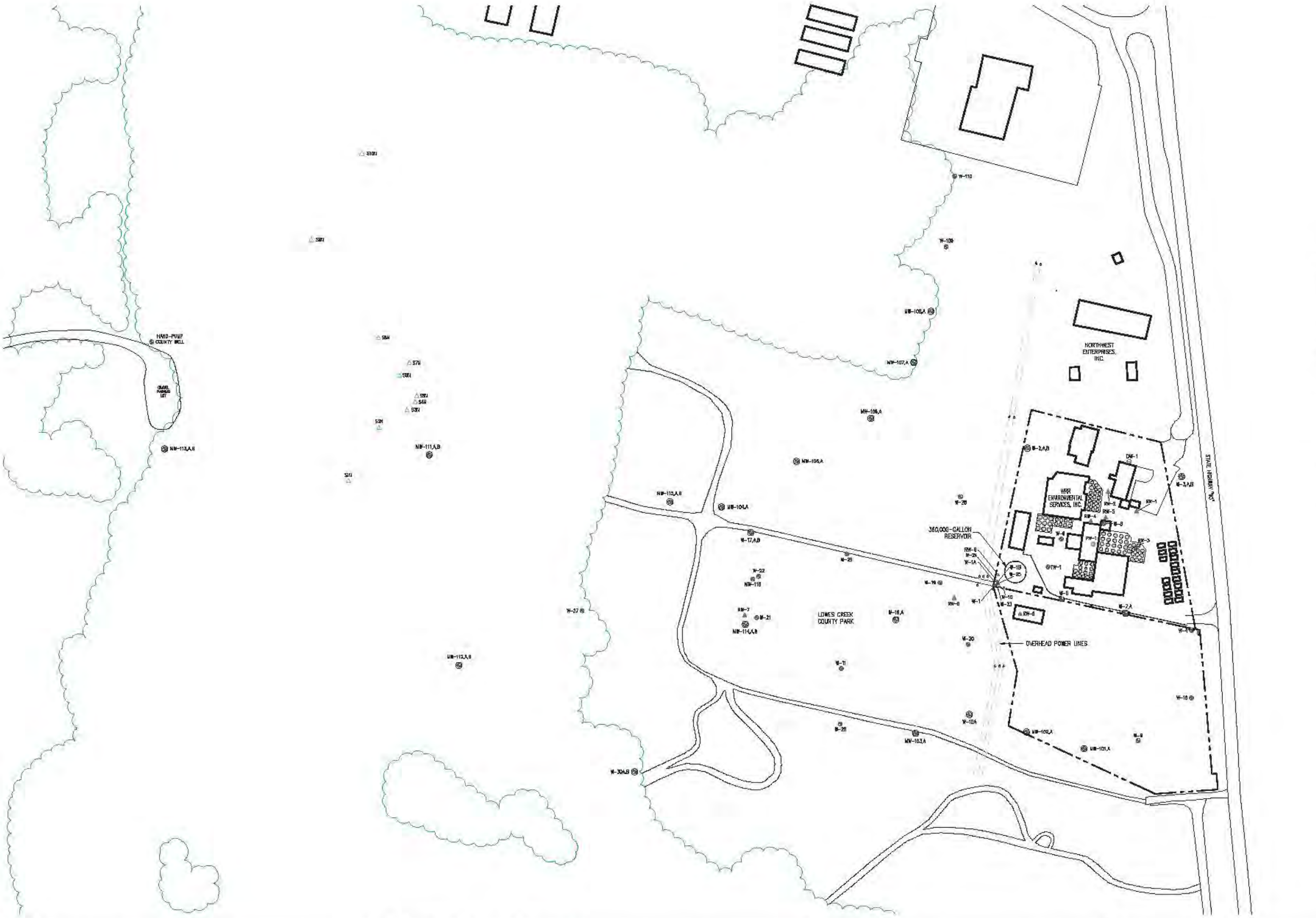
WPDES permit-required discharge monitoring reports will be submitted to the WDNR monthly. Reports summarizing the status and operation of the groundwater recovery wells and remediation system and the results of the semi-annual groundwater monitoring events will be submitted to the WDNR approximately 2 to 3 months after receipt of the laboratory results of the groundwater samples collected in the spring and fall each year.

The first *Evaluation of Supplemental Corrective Measures and Plan of Activities* report will be submitted in late 2013 or early 2014 and will include the results of the supplemental site investigation, an evaluation of the various remedial systems on site, and results of the fall 2013 groundwater samples. The semi-annual status reports will include sections discussing the operational status of the groundwater remedial systems; the extent of VOCs in the shallow, mid-depth, and deep/bedrock aquifers; and future remedial and monitoring activities. A closure request report is expected to be submitted to the WDNR in late 2018 or early 2019.

7.3 Cost Estimate

Based on the remedial objectives described in Section 5, the proposed Scope of Work in Section 6, the basis for the schedule in Section 7.1, and the schedule in Section 7.2, the estimated investigation and remedial costs through expected site closure no later than June 2019 is $467,400. A breakdown of the costs for each of the Scope of Work tasks is summarized in Table 8.

An updated groundwater investigation and remedial cost was provided Gannett Fleming by on February 28, 2014. The updated cost table has replaced the original Table 8 in the April 18, 2013 Corrective Action Plan. The investigative and remedial costs are expected to be $916,205.



0 150
APPROXIMATE SCALE IN FEET

LEGEND

- MONITORING WELL
- MONITORING WELL NEST
- RECOVERY WELL
- PRODUCTION WELL
- DRINKING WATER WELL
- SEEP LOCATION
- ABOVEGROUND STORAGE TANK (APPROXIMATE LOCATION)
- POWER POLE
- LIGHT POLE
- FENCE
- TREE LINE
- UNPAVED TRAIL
- GRADE CONTOUR

NOTES:

1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 8-18-94.
2. SITE FEATURES ARE APPROXIMATE.
3. THE LOCATIONS OF TANKS ARE APPROXIMATE AND THE SURVEYED LOCATIONS ARE SHOWN ON THE DRAWINGS IN THE FEASIBILITY AND PLAN OF OPERATION REPORT.

ENGINEER		NO	REVISION NOTES	DATE	REVIEWED	DRAWN	SCALE
	THIS DRAWING IS AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING ENGINEERS AND PLANNERS: REUSE ON PROJECT EXTENSIONS OR ANY OTHER PROJECT, OR ALTERATIONS OR ADDITIONS TO THIS PROJECT SHALL BE AT THE USER'S SOLE RISK, AND WITHOUT LIABILITY TO GANNETT FLEMING ENGINEERS AND PLANNERS.	1	NOTE #3 ADDED	04-17-13	PS	PS	1"=100'
						DESIGNED: AWM	JOB No.: 55929.002
						APPROVED: DFK	DATE: APRIL 2013

Gannett Fleming

HARRISBURG, PENNSYLVANIA MADISON, WISCONSIN

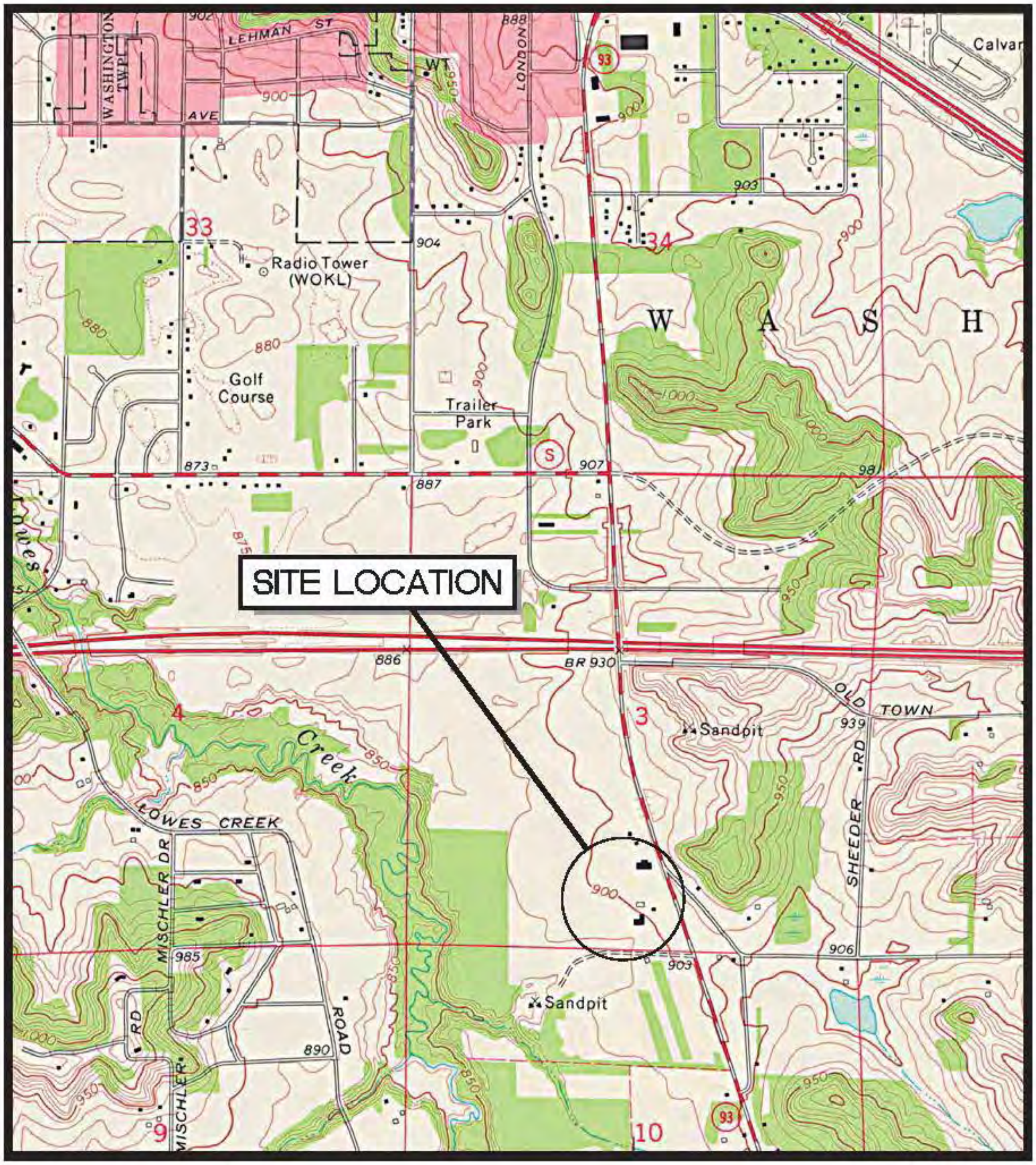
PROJECT: WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TITLE: SITE PLAN WITH WELL LOCATIONS

DRAWING No. 1

Gannett Fleming

FIGURE 1



SCALE: 1 INCH = 24,000 FEET

7.5 MIN TOPOGRAPHIC MAP
EAU CLAIRE EAST, WISCONSIN
1972

LOCATION MAP

WRR ENVIRONMENTAL
SERVICES, INC.
EAU CLAIRE, WISCONSIN

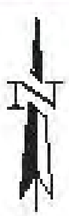
041813
awm_R55929-002_2013_0412_F01

Gannett Fleming

FIGURE 2

NOT TO SCALE

esri/ArcGIS EXPLORER



AERIAL MAP

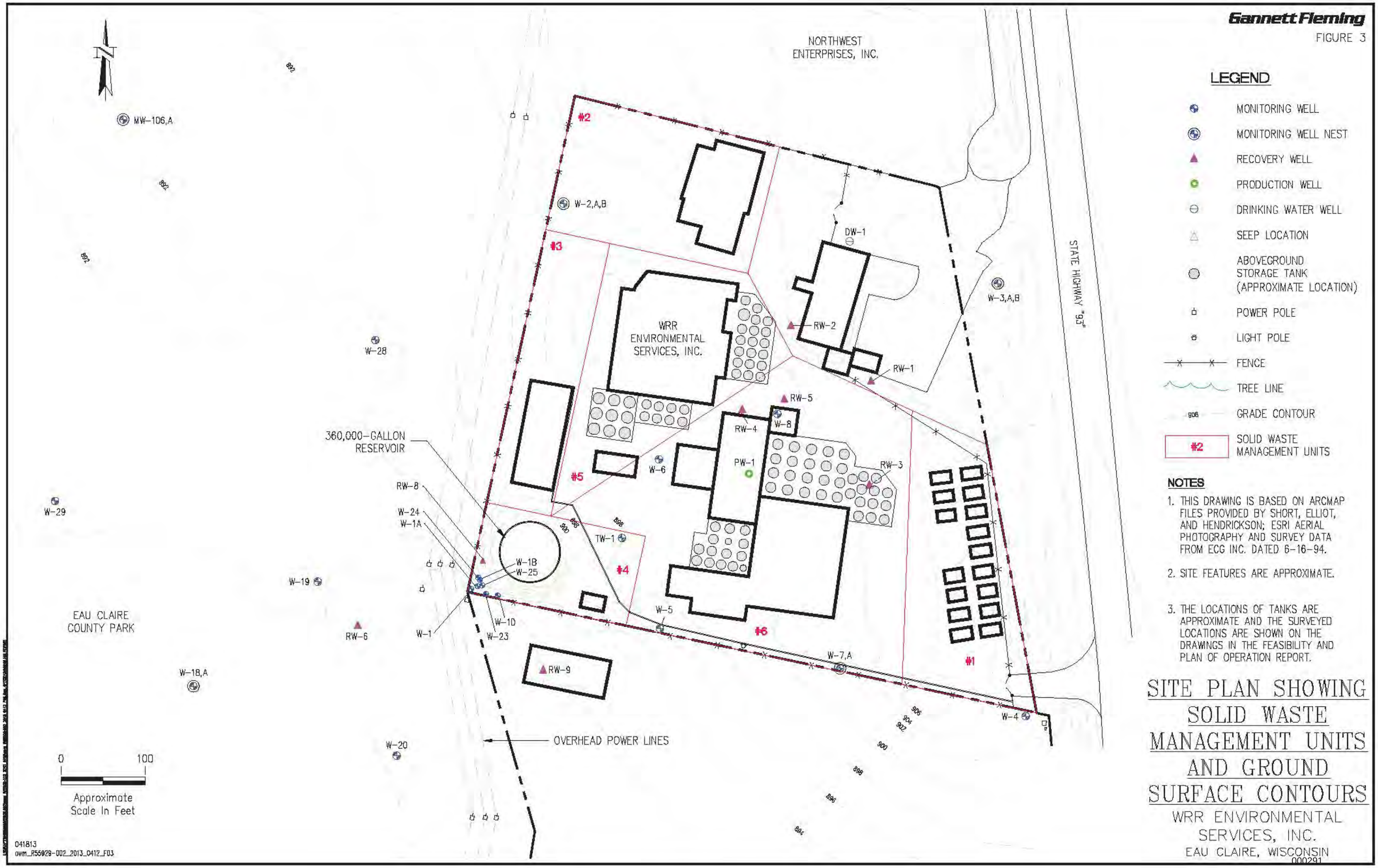
WRR ENVIRONMENTAL SERVICES, INC.

EAU CLAIRE, WISCONSIN

041813

[illegible]_002_2013_0412_F02

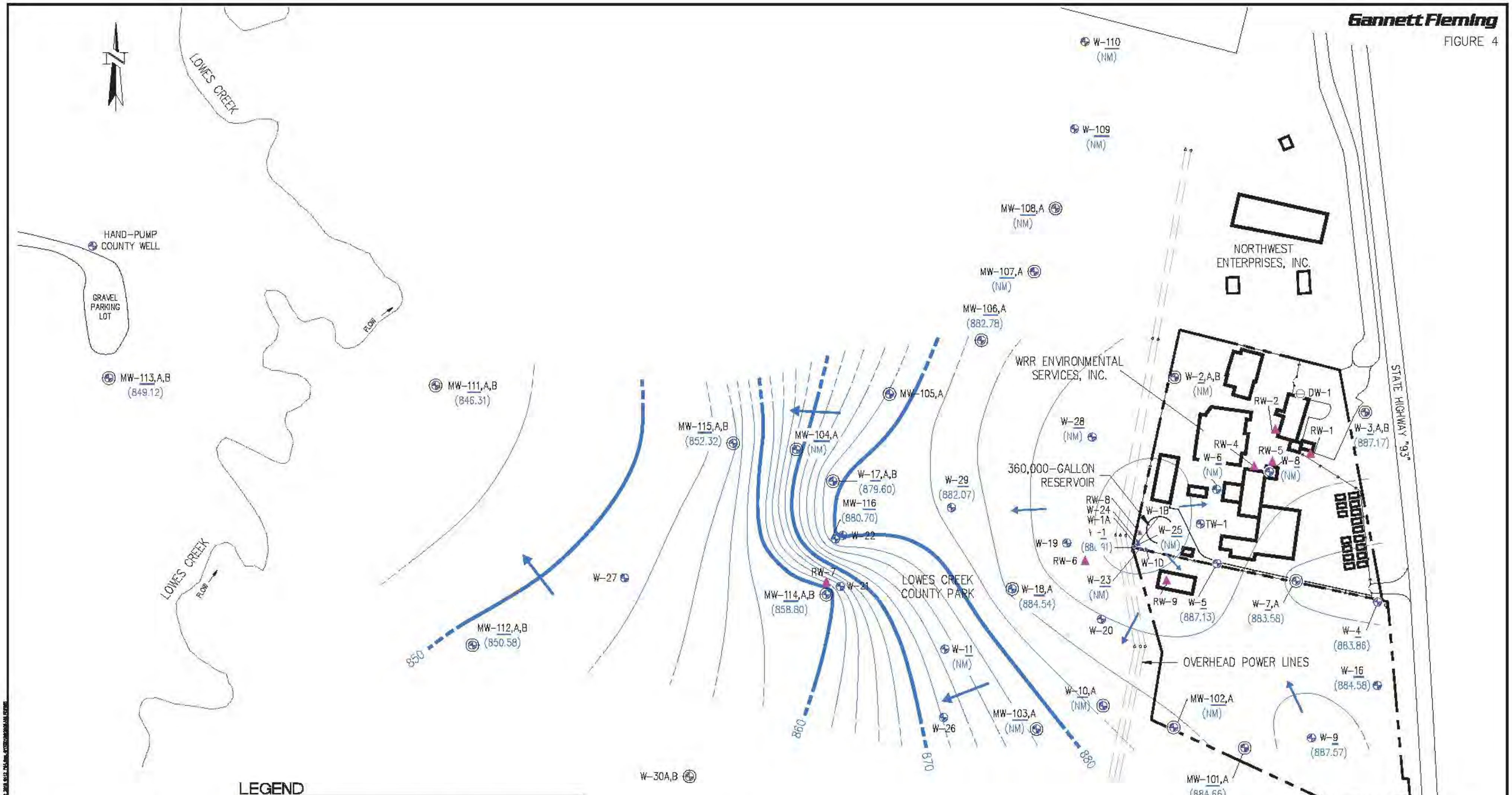
000290


Gannett Fleming
FIGURE 3
LEGEND
MONITORING WELL
MONITORING WELL NEST
RECOVERY WELL
PRODUCTION WELL
DRINKING WATER WELL
SEEP LOCATION
ABOVEGROUND STORAGE TANK (APPROXIMATE LOCATION)
POWER POLE
LIGHT POLE
FENCE
TREE LINE
GRADE CONTOUR
SOLID WASTE MANAGEMENT UNITS
NOTES
1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. SITE FEATURES ARE APPROXIMATE.
3. THE LOCATIONS OF TANKS ARE APPROXIMATE AND THE SURVEYED LOCATIONS ARE SHOWN ON THE DRAWINGS IN THE FEASIBILITY AND PLAN OF OPERATION REPORT.
NORTHWEST ENTERPRISES, INC.
WRR ENVIRONMENTAL SERVICES, INC.
STATE HIGHWAY "93"
EAU CLAIRE COUNTY PARK
360,000-GALLON RESERVOIR
OVERHEAD POWER LINES
MW-106,A
W-2,A,B
W-3,A,B
W-28
W-29
W-19
W-18,A
W-20
W-6
W-5
W-7,A
W-4
W-8
TW-1
DW-1
PW-1
RW-1
RW-2
RW-3
RW-4
RW-5
RW-6
RW-8
RW-9
W-24
W-1A
W-1B
W-25
W-1
W-1D
W-23
#1
#2
#3
#4
#5
#6
0
100
Approximate Scale In Feet
041813
SITE PLAN SHOWING SOLID WASTE MANAGEMENT UNITS AND GROUND SURFACE CONTOURS
WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

000291

Gannett Fleming

FIGURE 4



LEGEND

0 250

Approximate Scale In Feet

870 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION

(888.91) GROUNDWATER ELEVATION

MONITORING WELL

MONITORING WELL NEST

DRINKING WATER WELL

POWER POLE

LIGHT POLE

FENCE

NOTES

1. GROUNDWATER CONTOURS ARE BASED ON ELEVATIONS MEASURED IN APRIL 2012 WITH NO RECOVERY WELLS OPERATING.
2. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
3. SITE FEATURES ARE APPROXIMATE.

SURFACE AQUIFER GROUNDWATER CONTOUR MAP (APRIL 2012)

WRR ENVIRONMENTAL SERVICES, INC.

EAU CLAIRE, WISCONSIN

041513

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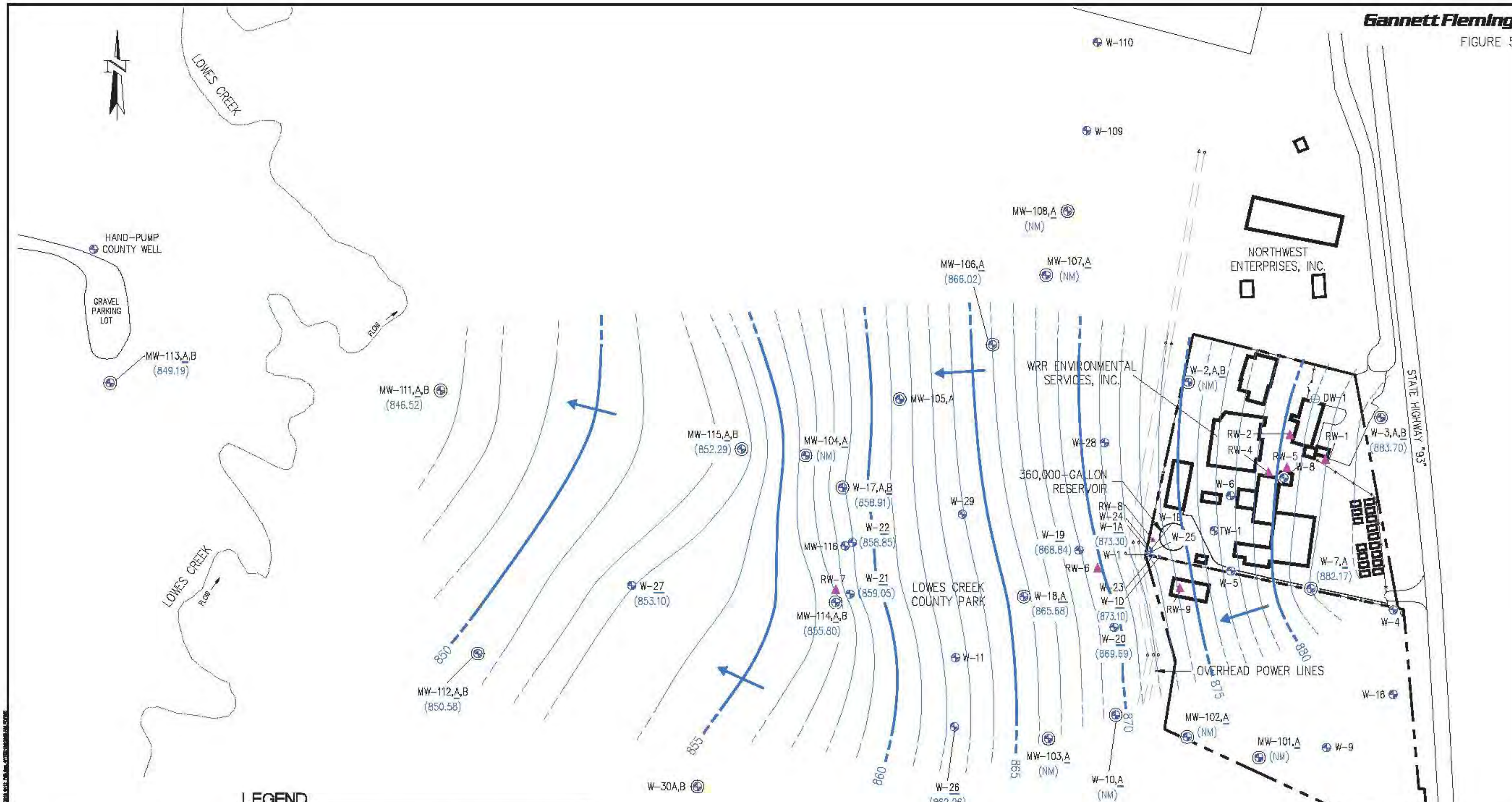
000292

Gannett Fleming

FIGURE 5



LEGEND

0 250

Approximate Scale In Feet

870	GROUNDWATER CONTOUR (DASHED WHERE INFERRED)		MONITORING WELL NEST
	GROUNDWATER FLOW DIRECTION		DRINKING WATER WELL
(888.91)	GROUNDWATER ELEVATION		POWER POLE
	MONITORING WELL		LIGHT POLE
			FENCE

NOTES

1. GROUNDWATER CONTOURS ARE BASED ON ELEVATIONS MEASURED IN APRIL 2012 WITH NO RECOVERY WELLS OPERATING.
2. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
3. SITE FEATURES ARE APPROXIMATE.

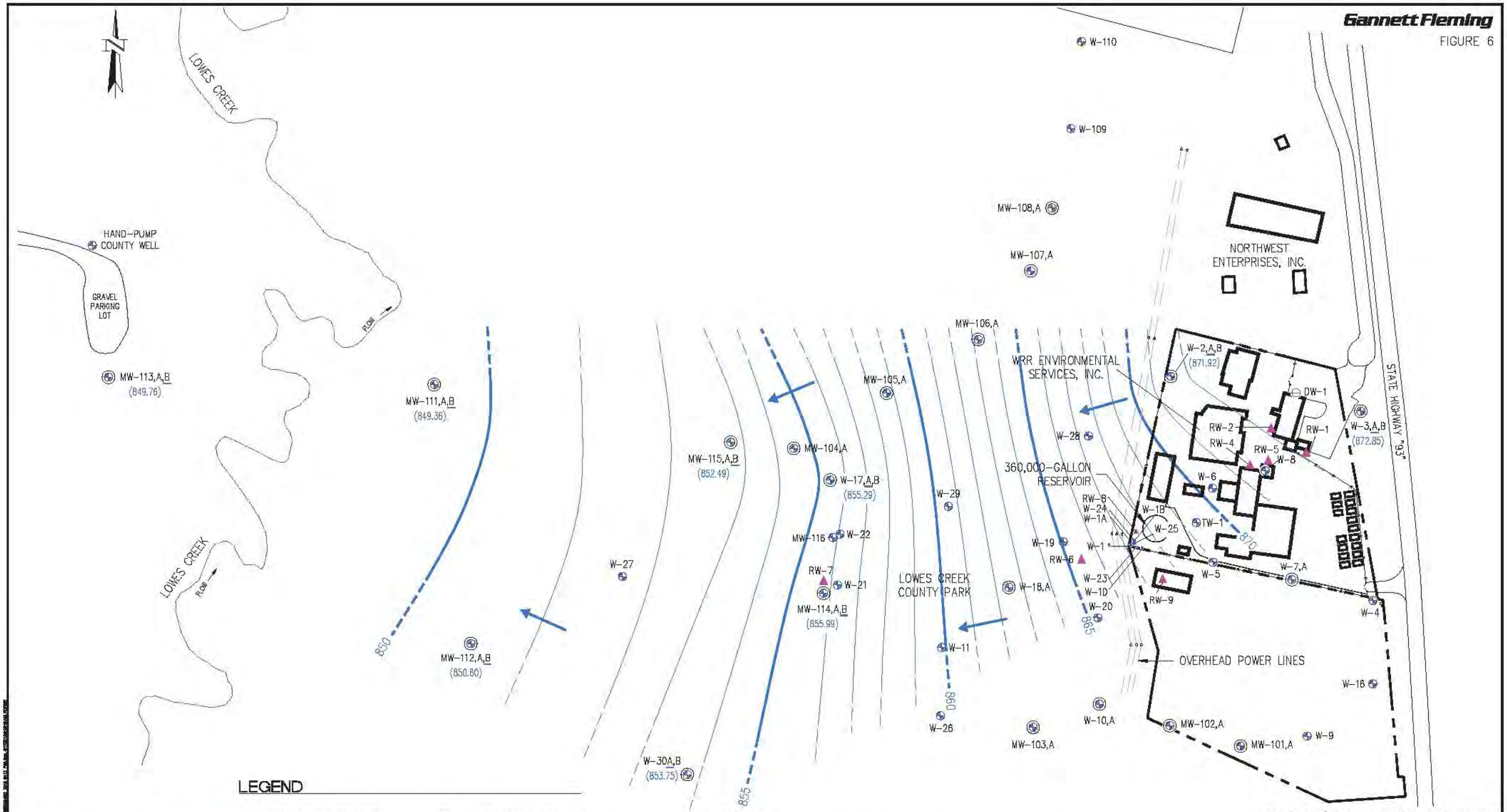
MID-DEPTH AQUIFER GROUNDWATER CONTOUR MAP (APRIL 2012)

WRR ENVIRONMENTAL SERVICES, INC.

EAU CLAIRE, WISCONSIN

000293

041513
gwm_R55929-002_2013_0412_F05



LEGEND

0 250
Approximate Scale In Feet

870	GROUNDWATER CONTOUR (DASHED WHERE INFERRED)		MONITORING WELL NEST
	GROUNDWATER FLOW DIRECTION		DRINKING WATER WELL
(888.91)	GROUNDWATER ELEVATION		POWER POLE
	MONITORING WELL		LIGHT POLE
			FENCE

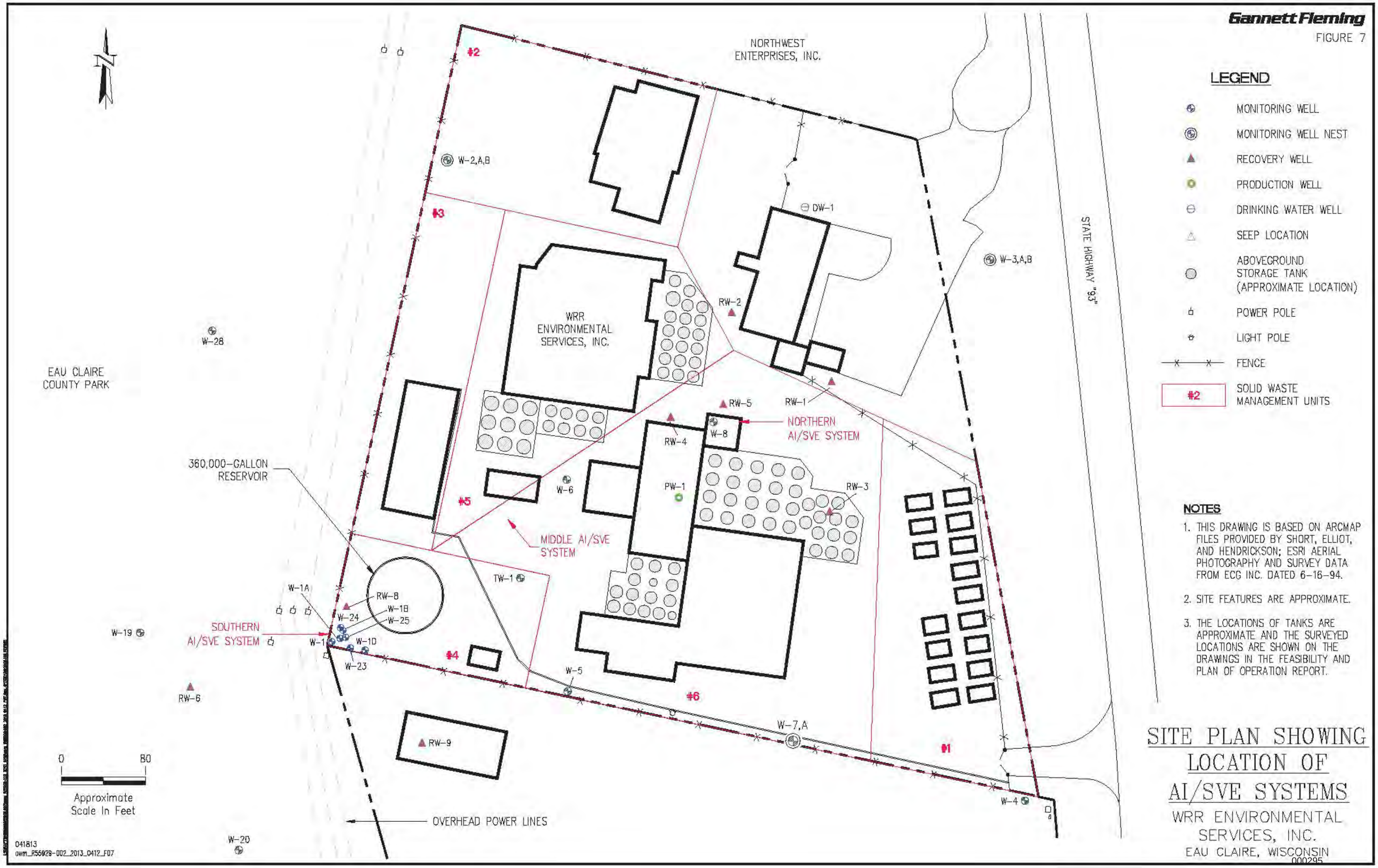
041813
GWM_R55929-002_2013_0412_F06

NOTES

1. GROUNDWATER CONTOURS ARE BASED ON ELEVATIONS MEASURED IN APRIL 2012 WITH NO RECOVERY WELLS OPERATING.
2. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
3. SITE FEATURES ARE APPROXIMATE.

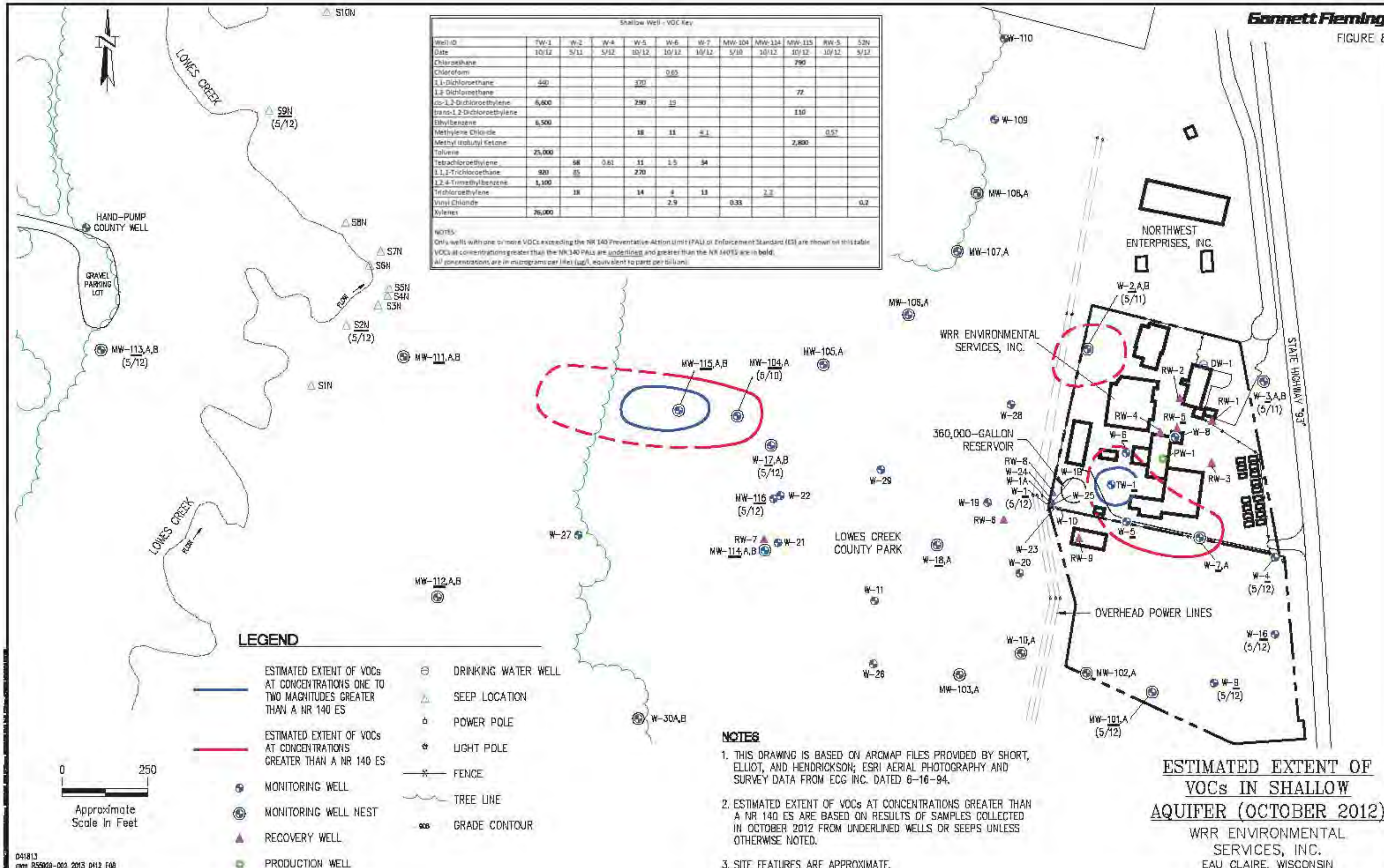
DEEP/BEDROCK AQUIFER GROUNDWATER CONTOUR MAP (APRIL 2012)

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN


Gannett Fleming
FIGURE 7
NORTHWEST ENTERPRISES, INC.
LEGEND
MONITORING WELL
MONITORING WELL NEST
RECOVERY WELL
PRODUCTION WELL
DRINKING WATER WELL
SEEP LOCATION
ABOVEGROUND STORAGE TANK (APPROXIMATE LOCATION)
POWER POLE
LIGHT POLE
FENCE
#2
SOLID WASTE MANAGEMENT UNITS
#2
#3
#4
#5
#6
#1
W-2,A,B
DW-1
W-3,A,B
STATE HIGHWAY "93"
RW-2
WRR ENVIRONMENTAL SERVICES, INC.
W-28
EAU CLAIRE COUNTY PARK
RW-5
RW-1
NORTHERN AI/SVE SYSTEM
RW-4
W-8
360,000-GALLON RESERVOIR
W-6
PW-1
RW-3
MIDDLE AI/SVE SYSTEM
TW-1
W-1A
RW-8
W-1B
W-24
W-25
W-19
SOUTHERN AI/SVE SYSTEM
W-1
W-1D
W-23
W-5
RW-6
W-7,A
RW-9
W-4
0
80
Approximate Scale In Feet
OVERHEAD POWER LINES
W-20
041813
GWM_R55929-002_2013_0412_F07
NOTES
1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. SITE FEATURES ARE APPROXIMATE.
3. THE LOCATIONS OF TANKS ARE APPROXIMATE AND THE SURVEYED LOCATIONS ARE SHOWN ON THE DRAWINGS IN THE FEASIBILITY AND PLAN OF OPERATION REPORT.
SITE PLAN SHOWING LOCATION OF AI/SVE SYSTEMS
WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN
000295

Gannett Fleming

FIGURE 8



Shallow Well - VOC Key

Well ID	TW-1	W-2	W-4	W-5	W-6	W-7	MW-104	MW-114	MW-115	RW-5	S2N
Date	10/12	5/11	5/12	10/12	10/12	10/12	5/10	10/12	10/12	10/12	5/12
Chloroethane									790		
Chloroform					0.65						
1,1-Dichloroethane	440			370							
1,2-Dichloroethane									77		
cis-1,2-Dichloroethylene	6,600			290	19						
trans-1,2-Dichloroethylene									110		
Ethylbenzene	6,500										
Methylene Chloride				18	11	4.1				0.57	
Methyl isobutyl Ketone									2,800		
Toluene	25,000										
Tetrachloroethylene		68	0.61	11	1.5	34					
1,1,1-Trichloroethane	920	85		270							
1,2,4-Trimethylbenzene	1,100										
Trichloroethylene		18		14	4	13		2.2			
Vinyl Chloride					2.9		0.33				0.2
Xylenes	26,000										

NOTES:
Only wells with one or more VOCs exceeding the NR 140 Preventative Action Limit (PAL) or Enforcement Standard (ES) are shown on this table.
VOCs at concentrations greater than the NR 140 PALs are underlined and greater than the NR 140 ES are in **bold**.
All concentrations are in micrograms per liter (ug/l, equivalent to parts per billion).

LEGEND

- ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS ONE TO TWO MAGNITUDES GREATER THAN A NR 140 ES
- ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS GREATER THAN A NR 140 ES
- MONITORING WELL
- MONITORING WELL NEST
- RECOVERY WELL
- PRODUCTION WELL
- DRINKING WATER WELL
- SEEP LOCATION
- POWER POLE
- LIGHT POLE
- FENCE
- TREE LINE
- GRADE CONTOUR

0 250
Approximate Scale In Feet

041813
mm_R55928-002_2013_0412_F08

NOTES

1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS GREATER THAN A NR 140 ES ARE BASED ON RESULTS OF SAMPLES COLLECTED IN OCTOBER 2012 FROM UNDERLINED WELLS OR SEEPS UNLESS OTHERWISE NOTED.
3. SITE FEATURES ARE APPROXIMATE.

ESTIMATED EXTENT OF VOCs IN SHALLOW AQUIFER (OCTOBER 2012)

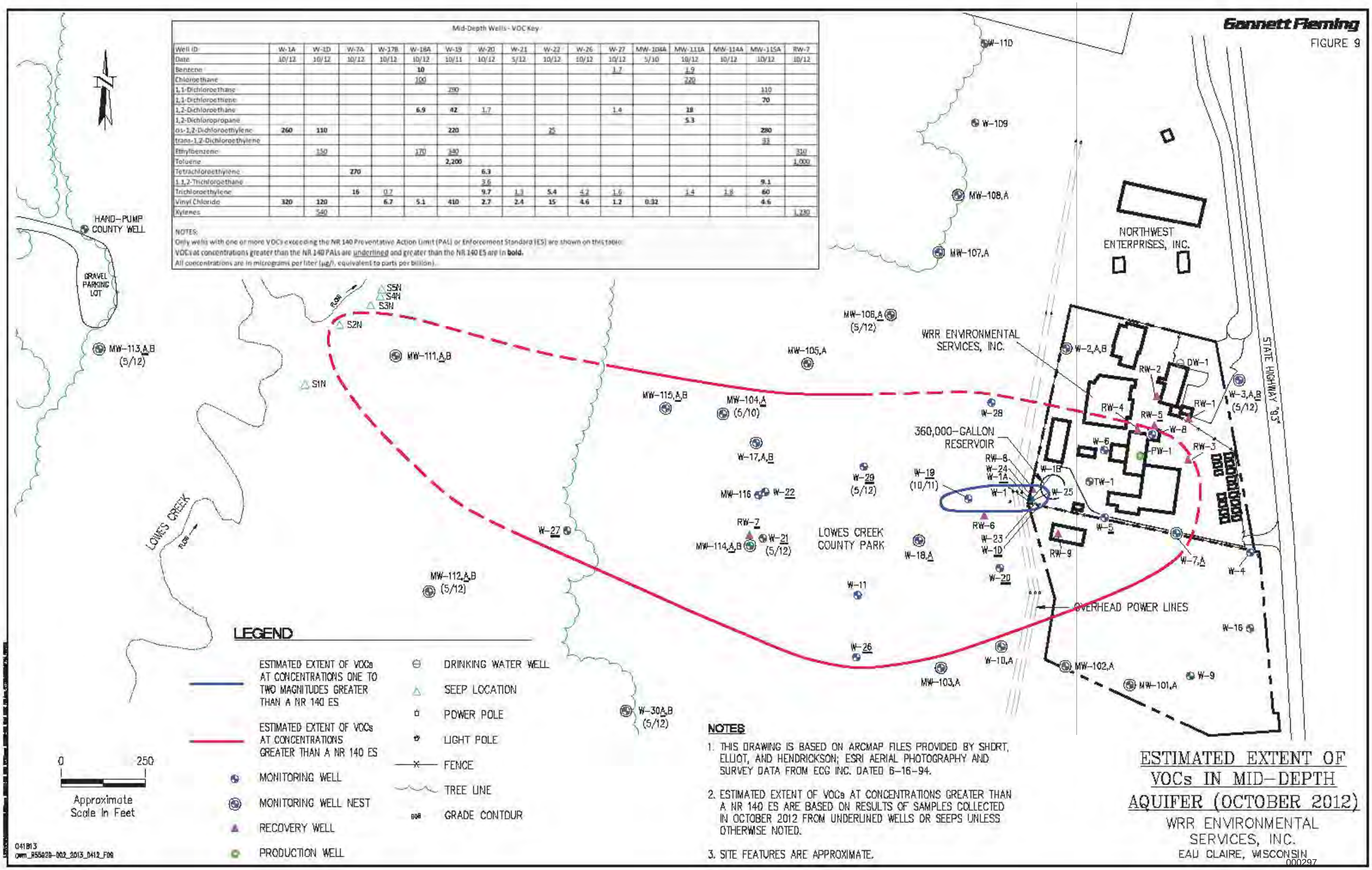
WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

000296

Mid-Depth Wells - VOC Key

Well ID	W-1A	W-1D	W-7A	W-17B	W-18A	W-19	W-20	W-21	W-22	W-26	W-27	MW-104A	MW-111A	MW-114A	MW-115A	RW-7
Date	10/12	10/12	10/12	10/12	10/12	10/11	10/12	5/12	10/12	10/12	10/12	5/10	10/12	10/12	10/12	10/12
Benzene					**10**						1.7		1.9			
Chloroethane					100								220			
1,1-Dichloroethane						290									110	
1,1-Dichloroethene															**70**	
1,2-Dichloroethane					**6.9**	**42**	1.7				1.4		**18**			
1,2-Dichloropropane													**5.3**			
cis-1,2-Dichloroethylene	**260**	**110**				**220**			25						**280**	
trans-1,2-Dichloroethylene															33	
Ethylbenzene		150			170	340										310
Toluene						**2,200**										1,000
Tetrachloroethylene			**270**				**6.3**									
1,1,2-Trichloroethane							3.6								**9.1**	
Trichloroethylene			**16**	0.7			**9.7**	1.3	**5.4**	4.2	1.6		1.4	1.8	**60**	
Vinyl Chloride	**320**	**120**		**6.7**	**5.1**	**410**	**2.7**	**2.4**	**15**	**4.6**	**1.2**	0.32			**4.6**	
Xylenes		540														1,230

NOTES:
Only wells with one or more VOCs exceeding the NR 140 Preventative Action Limit (PAL) or Enforcement Standard (ES) are shown on this table.
VOCs at concentrations greater than the NR 140 PALs are underlined and greater than the NR 140 ES are in **bold.**
All concentrations are in micrograms per liter (µg/l, equivalent to parts per billion).



NOTES

1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS GREATER THAN A NR 140 ES ARE BASED ON RESULTS OF SAMPLES COLLECTED IN OCTOBER 2012 FROM UNDERLINED WELLS OR SEEPS UNLESS OTHERWISE NOTED.
3. SITE FEATURES ARE APPROXIMATE.

ESTIMATED EXTENT OF VOCs IN MID-DEPTH AQUIFER (OCTOBER 2012)

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

041813
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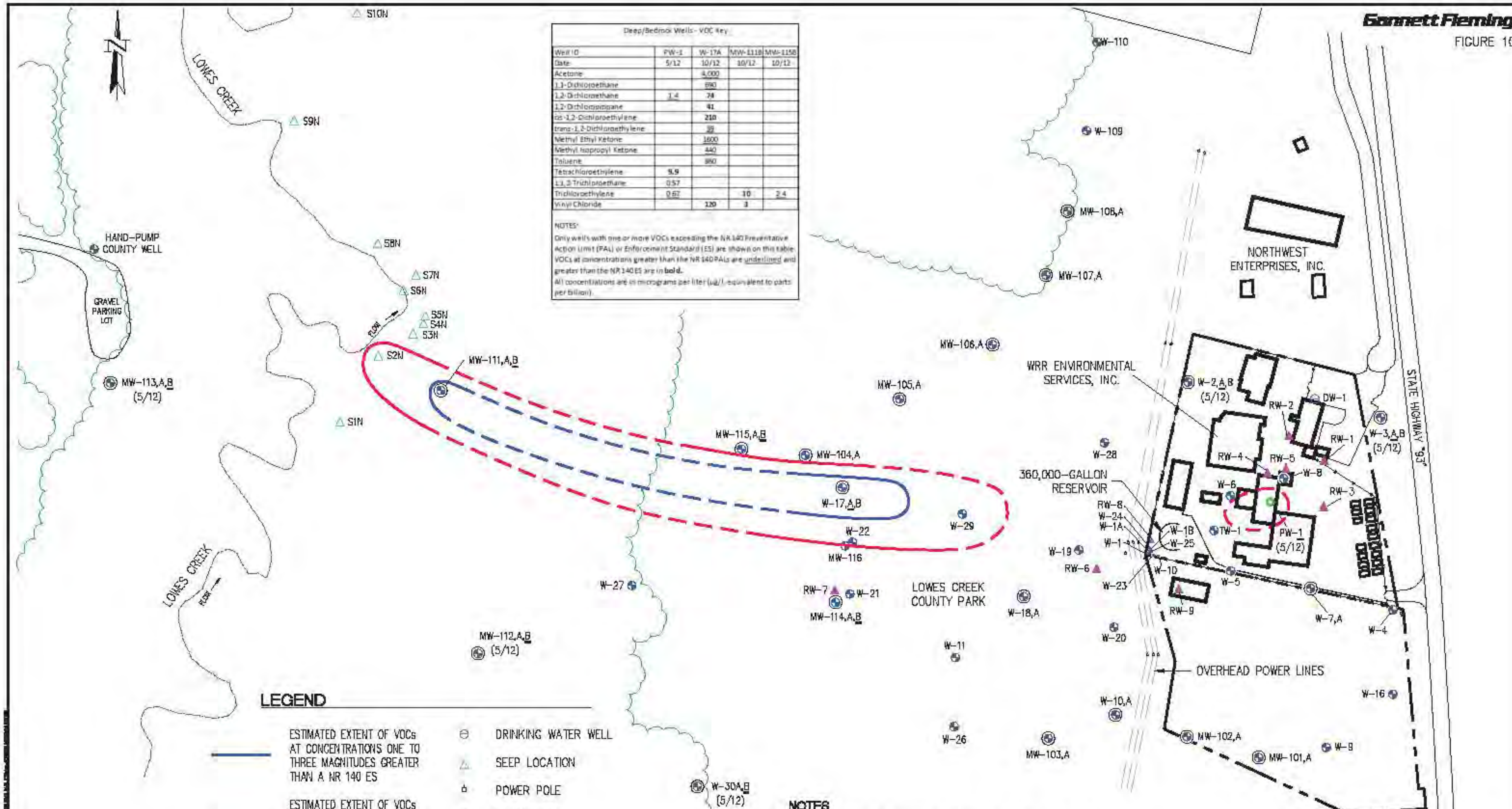
000297



Deep/Bedrock Wells - VOC Key				
Well ID	PW-1	W-17A	MW-111B	MW-115B
Date	5/12	10/12	10/12	10/12
Acetone		4,000		
1,1-Dichloroethane		690		
1,2-Dichloroethane	1.4	**74**		
1,2-Dichloropropane		**41**		
cis-1,2-Dichloroethylene		**210**		
trans-1,2-Dichloroethylene		39		
Methyl Ethyl Ketone		1600		
Methyl Isopropyl Ketone		440		
Toluene		980		
Tetrachloroethylene	**9.9**			
1,1,2-Trichloroethane	0.57			
Trichloroethylene	0.67		**10**	2.4
Vinyl Chloride		**120**	**3**	

NOTES:
Only wells with one or more VOCs exceeding the NR 140 Preventative Action Limit (PAL) or Enforcement Standard (ES) are shown on this table.
VOCs at concentrations greater than the NR 140 PALs are underlined and greater than the NR 140 ES are in **bold.**
All concentrations are in micrograms per liter (µg/L equivalent to parts per billion).

LEGEND

- ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS ONE TO THREE MAGNITUDES GREATER THAN A NR 140 ES
- ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS GREATER THAN A NR 140 ES
- MONITORING WELL
- MONITORING WELL NEST
- RECOVERY WELL
- PRODUCTION WELL
- DRINKING WATER WELL
- SEEP LOCATION
- POWER POLE
- LIGHT POLE
- FENCE
- TREE LINE
- 808 GRADE CONTOUR

0 250
Approximate Scale In Feet

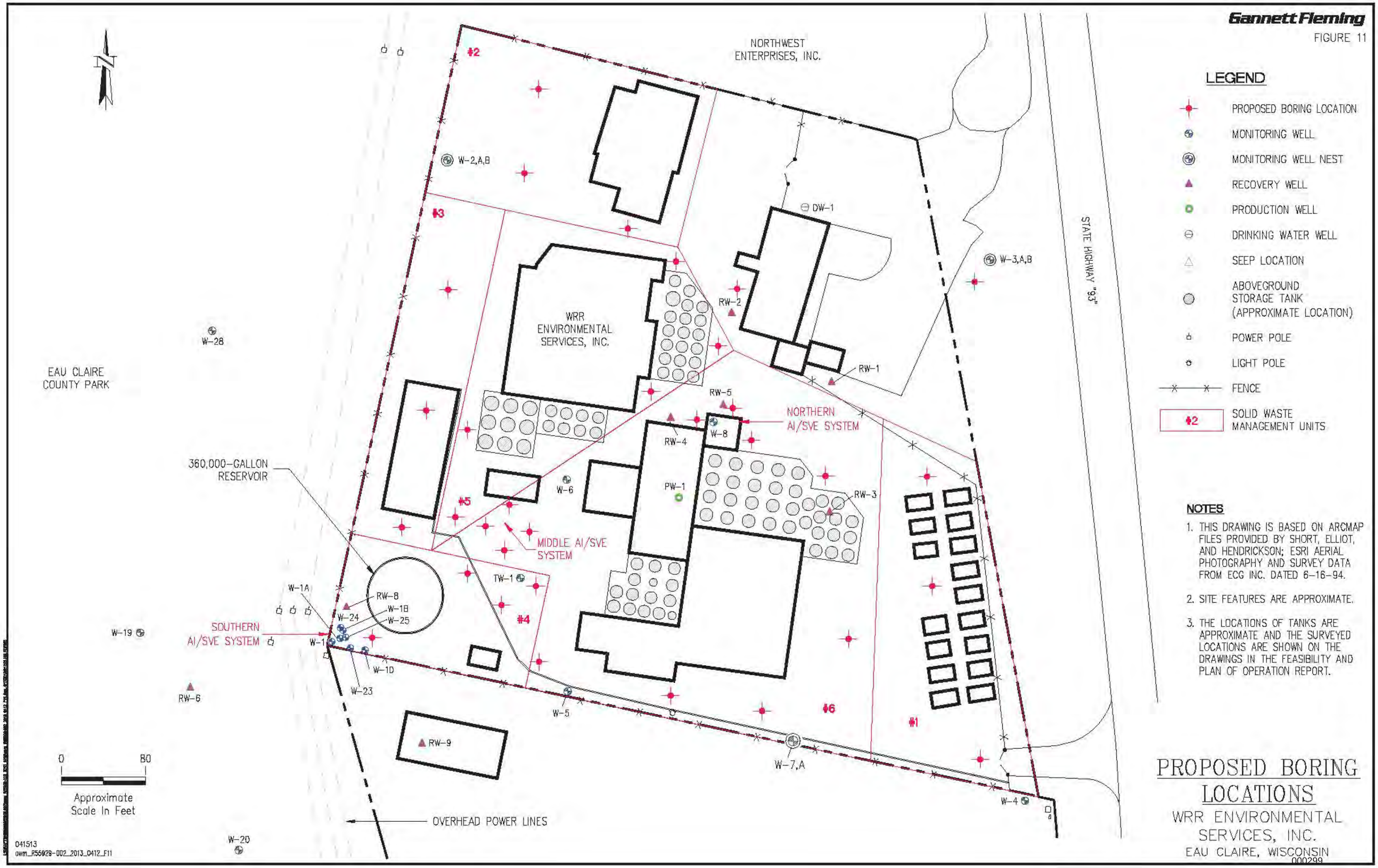
NOTES

1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. ESTIMATED EXTENT OF VOCs AT CONCENTRATIONS GREATER THAN A NR 140 ES ARE BASED ON RESULTS OF SAMPLES COLLECTED IN OCTOBER 2012 FROM UNDERLINED WELLS OR SEEPS UNLESS OTHERWISE NOTED.
3. SITE FEATURES ARE APPROXIMATE.

ESTIMATED EXTENT OF VOCs IN DEEP/BEDROCK AQUIFER (OCTOBER 2012)

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

041713
gmm_R55928-002_2013_0412_F10



Gannett Fleming
FIGURE 11
N
NORTHWEST ENTERPRISES, INC.
LEGEND
PROPOSED BORING LOCATION
MONITORING WELL
MONITORING WELL NEST
RECOVERY WELL
PRODUCTION WELL
DRINKING WATER WELL
SEEP LOCATION
ABOVEGROUND STORAGE TANK (APPROXIMATE LOCATION)
POWER POLE
LIGHT POLE
FENCE
SOLID WASTE MANAGEMENT UNITS
#2
#3
#4
#5
#6
#1
W-2,A,B
DW-1
W-3,A,B
STATE HIGHWAY "93"
WRR ENVIRONMENTAL SERVICES, INC.
RW-2
RW-1
RW-5
RW-4
W-8
NORTHERN AI/SVE SYSTEM
W-28
EAU CLAIRE COUNTY PARK
360,000-GALLON RESERVOIR
W-6
PW-1
RW-3
MIDDLE AI/SVE SYSTEM
TW-1
W-1A
RW-8
W-1B
W-24
W-25
SOUTHERN AI/SVE SYSTEM
W-19
W-1
W-10
W-23
RW-6
W-5
W-7,A
RW-9
W-4
0
80
Approximate Scale In Feet
OVERHEAD POWER LINES
041513
GWM_R55929-002_2013_0412_F11
W-20
NOTES
1. THIS DRAWING IS BASED ON ARCMAP FILES PROVIDED BY SHORT, ELLIOT, AND HENDRICKSON; ESRI AERIAL PHOTOGRAPHY AND SURVEY DATA FROM ECG INC. DATED 6-16-94.
2. SITE FEATURES ARE APPROXIMATE.
3. THE LOCATIONS OF TANKS ARE APPROXIMATE AND THE SURVEYED LOCATIONS ARE SHOWN ON THE DRAWINGS IN THE FEASIBILITY AND PLAN OF OPERATION REPORT.
PROPOSED BORING LOCATIONS
WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN
000299

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 1

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-4
1987 THROUGH 1989

Date	**Volume Removed**	**Total Pumped**(1)	**Total VOC Concentration**(2) **(µg/ℓ)**	**Sample Date**(3)	**Incremental Mass of VOCs Removed (lbs)**	**Estimated Total Mass of VOCs Removed (lbs)**
1987	23,719	23,719	512,150	(4/86 +4/88)/2	50.7	50.7
1988	39,312	63,031	629,830	(4/88 + 10/98)/2	187.3	238.0
1989	194	63,225	702,360	10/98	1.1	239.1

FOOTNOTES:

(1) Annual pumping totals taken from Table 4 of SEH's September 2001 *Evaluation of Supplemental Corrective Action Measures and Plan of Activities report.*

(2) Total VOC concentrations based on table included with Eder Associates' (nka Gannett Fleming) *Status of Groundwater Monitoring and Remediation at Waste Research & Reclamation* - August 1986 and WRR laboratory reports for April and October 1988.

(3) No groundwater samples were collected from RW-4 in 1987; the total VOC concentration for 1987 is based on the average of samples collected in April 1986 and April 1988. The total VOC concentration for 1988 is the average VOC concentration measured in samples collected in April and October 1988. The total VOC concentration for 1989 is based on the groundwater sample collected from RW-4 in October 1988.

Calculation of Incremental Mass of VOCs Removed:

$[(V_2 - V_{1)}\ x\ (C_2 + C_1)/2\ x\ 3.785\ l/gal]\ x\ 1\ lb/453,600,000\ \mu g$

Where: V_2 = total volume of water pumped on date of sample in gallons
V_1 = total volume of water pumped on date of previous sample used in calculation in gallons
C_2 = total VOC concentration measured on date of sample in µg/l
C_1 = total VOC concentration measured on previous sample date in µg/l

With the exception of the first sample date shown on the table, all VOC concentrations used to calculate the incremental mass of VOCs removed during a given time period are the average of the total VOC concentrations measured on the current and previous sample dates.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 2

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-5
1985 THROUGH 1996

Date	Data Source	Volume Since Previous Measurement	Total Pumped	Total VOC Concentration (µg/ℓ)	Data Source	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
11/85	A	2,054	2,054	3,969,800	E	34.02	34
12/85	A	13,949	16,003				
01/86	A	11,986	27,989				
02/86	A	7,688	35,677	1,888,140	E	821.76	856
03/86	A	6,989	42,666				
04/86	(B-A)/9	14,660	57,326	3,386,000	E	476.38	1,332
05/86	(B-A)/9	14,660	71,986				
06/86	(B-A)/9	14,660	86,646				
07/86	(B-A)/9	14,660	101,306				
08/86	(B-A)/9	14,660	115,966				
09/86	(B-A)/9	14,660	130,626				
10/86	(B-A)/9	14,660	145,286				
11/86	(B-A)/9	14,660	159,946				
12/86	(B-A)/9	14,660	174,606	1,224,900	E	2,256.17	3,588
01/87	B/12	13,274	187,880				
02/87	B/12	13,274	201,154	1,237,500	E	272.74	3,861
03/87	B/12	13,274	214,428				
04/87	B/12	13,274	227,702				
05/87	B/12	13,274	240,976				
06/87	B/12	13,274	254,250				
07/87	B/12	13,274	267,524				
08/87	B/12	13,274	280,798				
09/87	B/12	13,274	294,072				
10/87	B/12	13,274	307,346				
11/87	B/12	13,274	320,620				
12/87	B/12	13,274	333,894				
01/88	B/12	2,796	336,690				
02/88	B/12	2,796	339,486				
03/88	B/12	2,796	342,282				
04/88	B/12	2,796	345,078	1,943,560	F	1,910.15	5,771
05/88	B/12	2,796	347,874				
06/88	B/12	2,796	350,670				
07/88	B/12	2,796	353,465				
08/88	B/12	2,796	356,261				
09/88	B/12	2,796	359,057				
10/88	B/12	2,796	361,853	2,847,550	G	335.33	6,107
11/88	B/12	2,796	364,649				
12/88	B/12	2,796	367,445				
01/89 - 03/89	C	2,188	369,633				
04/89 - 05/89	C	1,913	371,546				
06/89	(B - C)/7	997	372,543				
07/89	(B - C)/7	997	373,540				
08/89	(B - C)/7	997	374,537				
9/89	(B - C)/7	997	375,534				
10/89	(B - C)/7	997	376,531	8,994,500	G	725.19	6,832
11/89	(B - C)/7	997	377,528				

TABLE 2

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-5
1985 THROUGH 1996

Date	Data Source	Volume Since Previous Measurement	Total Pumped	Total VOC Concentration (µg/ℓ)	Data Source	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
12/89	(B - C)/7	997	378,525				
1/90	C/7	700	379,225				
2/90	C/7	700	379,925				
3/90	C/7	700	380,625				
4/90	C/7	700	381,325	5,065,500	G	281.22	7,113
5/90	C/7	700	382,025				
6/90	C/7	700	382,725				
07/90	C/7	4,902	387,627				
10/90	C	4,134	391,761	4,117,800	F	399.85	7,513
11/90	C	2,482	394,243				
12/90	B - C	9,400	403,643				
01/91	(B - C)/3	3,877	407,520				
02/91 & 03/91	C	1,207	408,727				
04/91 & 05/91	C	4,271	412,998				
06/91	C/2	2,737	415,735				
07/91	C/2	2,737	418,472	1,779,000	G	657.16	8,170
08/91 & 09/91	[(B - C)/3] x 2	7,754	426,226				
10/91 & 11/91	C	7,079	433,305				
12/91	C	3,958	437,263				
01/92	[(B - C)/5] x 3	2,800	440,063				
02/92 - 03/92	C	4,627	444,690				
04/92	C/2	2,992	447,682	2,320,200	G	499.57	8,670
05/92	C/2	2,992	450,674				
06/92 & 07/92	[(B - C)/5] x 2	5,600	456,274				
08/92 & 09/92	C	6,616	462,890				
10/92 & 11/92	C	2,415	465,305				
12/92 & 1/93	C	2,006	467,311				
02/93 & 03/93	C	2,457	469,768				
4/93	C/2	3,072	472,840	981,500	G	346.56	9,016
5/93	C/2	3,072	475,912				
6/93 & 7/93	C	11,425	487,337				
8/93 & 9/93	C	12,844	500,181				
10/93	(B - C)/3	11,802	511,983				
11/93	(B - C)/3	11,802	523,785				
12/93	(B - C)/3	11,802	535,587	1,513,700	G	653.22	9,669
01/94	D - C	4,872	540,459				
2/94 & 3/94	C	9,676	550,135				
4/94	C/2	4,391	554,526				
5/94	C/2	4,391	558,917	532,300	F	199.15	9,868
6/94 & 7/94	C	11,737	570,654				
8/94 & 9/94	C	11,339	581,993				
10/94	C/2	4,634	586,627				
11/94	C/2	4,634	591,261	341,300	H	117.89	9,986
12/94	C	1,260	592,521				
1/95	C	1,542	594,063				
2/95 & 3/95	C	3,783	597,846				
4/95	C/2	271	598,117				
5/95	C/2	271	598,388	236,860	H	17.19	10,004
6/95 & 7/95	C	6,967	605,355				
8/95 & 9/95	C	8,074	613,429				

TABLE 2

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-5
1985 THROUGH 1996

Date	Data Source	Volume Since Previous Measurement	Total Pumped	Total VOC Concentration (µg/ℓ)	Data Source	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
10/95	(B - C)/3	563	613,992	437,500	H	43.90	10,047
11/95	(B - C)/3	563	614,555				
12/95	(B - C)/3	563	615,118				
1/96 - 12/96	B	3,883	619,001	1,005,130	H	30.15	10,078

Data Sources:

A - Pumping totals from November 1985 through March 1986 are based on daily pumping total data sheets included with Eder Associates *Status of Groundwater Monitoring and Remediation at Waste Research & Reclamation* - August, 1986

B - Annual pumping totals from 1986 through 1991 taken from Table 4 of SEH's September 2001 *Evaluation of Supplemental Corrective Action Measures and Plan of Activities Report.*

C - Pumping totals based on Bi-Monthly Progress Reports prepared by WRR and submitted to USEPA between April 1989 and March 2001. Record is incomplete.

D - Handwritten notes by Eder Associates - estimated date December 1994.

E - Table 4 of Eder Associates' April 1987 *Site Investigation Results From Work Conducted in December 1986* report.

F - WRR Laboratory Reports dated 4/18/88, 11/8/88, 10/3/90, and 5/5/94.

G - Untitled WRR internal table - likely summary of samples analyzed by WRR's laboratory.

H - Table 9 of Eder Associates' *RCRA Facility Investigation Report* - December 1996.

Calculation of Incremental Mass of VOCs Removed:

$[(V_2 - V_1) \times (C_2 + C_1)/2 \times 3.785 \text{ l/gal}] \times 1 \text{ lb}/453{,}600{,}000 \text{ µg}$

Where: V_2 = total volume of water pumped on date of sample in gallons
V_1 = total volume of water pumped on date of previous sample used in calculation in gallons
C_2 = total VOC concentration measured on date of sample in µg/l
C_1 = total VOC concentration measured on previous sample date in µg/l

With the exception of the first sample date shown on the table, all VOC concentrations used to calculate the incremental mass of VOCs removed during a given time period are the average of the total VOC concentrations measured on the current and previous sample dates.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 3

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-2 through RW-5, RW-8 & RW-9
1997 THROUGH 2003

Date	Volume Since Previous Measurement	Total Pumped	Total VOC Concentration (µg/l)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
12/97	11,832	11,832	613,040	60.53	60.53
01/98	31,560	43,392			
02/98	25,380	68,772			
03/98	20,540	89,312			
04/98	46,060	135,372			
05/98	153,160	288,532			
06/98	142,970	431,502			
07/98	176,900	608,402			
08/98	231,320	839,722			
09/98	172,980	1,012,702			
10/98	138,220	1,150,922			
11/98	158,070	1,308,992			
12/98	92,940	1,401,932			
01/99	38,030	1,439,962			
02/99	10,020	1,449,982			
03/99	76,840	1,526,822			
04/99	97,080	1,623,902			
05/99	77,380	1,701,282			
06/99	106,900	1,808,182			
07/99	148,510	1,956,692			
08/99	140,810	2,097,502			
09/99	19,470	2,116,972			
10/99	191,850	2,308,822			
11/99	180,130	2,488,952			
12/99	148,080	2,637,032	613,040	13,429	13,490
01/00	85,740	2,722,772			
02/00	108,710	2,831,482			
03/00	150,120	2,981,602			
04/00	113,200	3,094,802			
05/00	102,010	3,196,812	526,500	2,661	16,151
06/00	90,050	3,286,862			
07/00	95,980	3,382,842			
08/00	80,670	3,463,512			
09/00	66,060	3,529,572			
10/00	109,200	3,638,772			
11/00	100,200	3,738,972			
12/00	49,441	3,788,413			
01/01	36,519	3,824,932			
02/01	34,870	3,859,802			
03/01	79,357	3,939,159			
04/01	86,443	4,025,602	246,480	2,673	18,824
05/01	104,010	4,129,612			
06/01	101,203	4,230,815			
07/01	97,727	4,328,542			
08/01	39,170	4,367,712			
09/01	149,737	4,517,449			
10/01	295,273	4,812,722			
11/01	248,690	5,061,412			
12/01	234,260	5,295,672			

TABLE 3

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-2 through RW-5, RW-8 & RW-9
1997 THROUGH 2003

Date	Volume Since Previous Measurement	Total Pumped	Total VOC Concentration (µg/l)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
01/02	144,430	5,440,102			
02/02	142,260	5,582,362			
03/02	103,750	5,686,112			
04/02	96,430	5,782,542			
07/02	92,740	5,875,282			
08/02	77,910	5,953,192			
09/02	105,550	6,058,742			
10/02	117,460	6,176,202			
11/02	68,410	6,244,612			
12/02	54,990	6,299,602			
01/03	33,600	6,333,202			
02/03	20,610	6,353,812			
03/03	16,260	6,370,072			
05/03 & 06/03	137,780	6,507,852			
07/03	86,680	6,594,532			
08/03	60,330	6,654,862			
09/03	30,130	6,684,992			
10/03	18,160	6,703,152			
11/03	13,850	6,717,002			
12/03	1,050	6,718,052	246,480	5,538	24,361

NOTES:
Pumping totals from 1997 through July 2001 based on Table 4 included with SEH's *Evaluation of Supplemental Corrective Measures and Plan of Activities* - September 2001.

Pumping totals from August 2001 through December 2003 based on an untitled table prepared by Mae Willkom of WDNR using volumes provided in bi-monthly discharge reports prepared by WRR.

Total VOC concentrations for December 1999, May 2000, and April 2001 based on Table A-3 included with SEH's *Evaluation of Supplemental Corrective Measures and Plan of Activities* - September 2001.

Total VOC concentrations for December 1997 and December 2003 based on concentrations measured in December 1999 and April 2001, respectively.

Calculation of Incremental Mass of VOCs Removed:

$[(V_2 - V_{1)}$ x $(C_2 + C_1)/2$ x 3.785 l/gal] x 1 lb/453,600,000 µg

Where: V_2 = total volume of water pumped on date of sample in gallons
V_1 = total volume of water pumped on date of previous sample used in calculation in gallons
C_2 = total VOC concentration measured on date of sample in µg/l
C_1 = total VOC concentration measured on previous sample date in µg/l

With the exception of the first sample date shown on the table, all VOC concentrations used to calculate the incremental mass of VOCs removed during a given time period are the average of the total VOC concentrations measured on the current and previous sample dates.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 4

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-6
1989 THROUGH 2003

Date	Volume Since Previous Measurement(1)	Total Pumped	Total VOC Concentration(2) (µg/ℓ)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
4/89 & 5/89	1,096	1,096	1,184,030	11	11
7/13/89 &7/14/89	10,850	11,946			
7/25/89 & 7/26/89	10,410	22,356			
12/89	53,250	75,606	1,159,700	729	739
06/90	43,860	119,466	1,118,970	417	1,156
07/90	65,620	185,086			
09/90	32,020	217,106			
10/90	44,730	261,836	1,476,900	1,542	2,698
11/90	27,050	288,886			
12/90	99,110	387,996			
01/91	15,233	403,229			
2/91 & 3/91	76,500	479,729			
4/91 & 5/91	29,150	508,879			
6/91 & 7/91	190	509,069	751,000	2,298	4,996
10/91 & 11/91	15,786	524,855			
12/91	13,358	538,213			
1/92 & 3/92	89,067	627,280			
4/92 & 5/92	64,650	691,930	1,085,000	1,401	6,397
6/92 & 7/92	59,378	751,308			
8/92 & 9/92	111,038	862,346			
10/92 & 11/92	94,190	956,536			
12/92 & 1/93	39,931	996,467			
2/93 & 3/93	24,337	1,020,804			
4/93 & 5/93	78,322	1,099,126	493,000	2,681	9,078
6/93 & 7/93	105,931	1,205,057			
8/93 & 9/93	10,509	1,215,566			
10/93 - 12/93	44	1,215,610	1,325,300	884	9,962
1/94 to 3/94	36,786	1,252,396			
4/94 & 5/94	116,633	1,369,029	321,300	1,054	11,016
6/94/ & 7/94	122,665	1,491,694			
8/94 & 9/94	33,906	1,525,600			
10/94 & 11/94	117,241	1,642,841	118,700	503	11,518
12/31/94	10,166	1,653,007			
2/95 & 3/95	99,280	1,752,287			
4/95 & 5/95	165,261	1,917,548	65,129	211	11,729
6/95 & 7/95	143,925	2,061,473			
8/95 & 9/95	29,251	2,090,724			
12/97	266,670	2,357,394	529,708	1,092	12,821

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 4

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-6
1989 THROUGH 2003

Date	Volume Since Previous Measurement[1]	Total Pumped	Total VOC Concentration[2] (µg/ℓ)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
01/98	234,870	2,592,264			
02/98	211,980	2,804,244			
03/98	335,100	3,139,344			
04/98	354,530	3,493,874			
05/98	249,110	3,742,984	294,920	4,767	17,588
06/98	187,010	3,929,994			
07/98	316,310	4,246,304			
08/98	281,040	4,527,344			
09/98	171,810	4,699,154			
10/98	134,790	4,833,944			
11/98	215,890	5,049,834			
12/98	208,160	5,257,994			
01/99	303,990	5,561,984			
02/99	213,070	5,775,054			
03/99	198,670	5,973,724			
04/99	318,860	6,292,584			
05/99	336,920	6,629,504			
06/99	388,250	7,017,754			
07/99	170,860	7,188,614			
08/99	95,110	7,283,724			
09/99	129,620	7,413,344			
10/99	241,240	7,654,584			
11/99	171,000	7,825,584			
12/99	183,370	8,008,954	98,237	6,998	24,585
01/00	211,560	8,220,514			
02/00	289,540	8,510,054			
03/00	98,330	8,608,384			
04/00	145,730	8,754,114			
05/00	168,200	8,922,314	232,390	1,260	25,845
06/00	120,450	9,042,764			
07/00	123,950	9,166,714			
08/00	163,960	9,330,674			
09/00	75,040	9,405,714			
10/00	225,520	9,631,234			
11/00	260,080	9,891,314			
12/00	199,670	10,090,984			

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 4

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-6
1989 THROUGH 2003

Date	Volume Since Previous Measurement(1)	Total Pumped	Total VOC Concentration(2) (µg/ℓ)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
01/01	212,470	10,303,454			
02/01	71,720	10,375,174			
03/01	170,610	10,545,784			
04/01	148,270	10,694,054	73,720	2,263	28,108
05/01	122,720	10,816,774			
06/01	218,227	11,035,001			
07/01	307,193	11,342,194			
08/01	218,060	11,560,254			
09/01	169,960	11,730,214			
10/01	187,750	11,917,964			
11/01	132,210	12,050,174			
12/01	227,130	12,277,304			
01/02	282,960	12,560,264			
02/02	199,370	12,759,634			
03/02	238,380	12,998,014			
04/02	183,510	13,181,524			
5/02 - 7/02	209,240	13,390,764	98,960	1,943	30,051
08/02	197,400	13,588,164			
09/02	184,140	13,772,304			
10/12	170,690	13,942,994			
11/12	158,130	14,101,124			
12/02	179,330	14,280,454			
01/03	186,340	14,466,794			
02/03	160,580	14,627,374			
03/03	16,690	14,644,064			
5/03 & 6/03	102,140	14,746,204			
07/03	160,310	14,906,514			
08/03	151,810	15,058,324			
09/03	83,650	15,141,974			

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 4

TOTAL GALLONS PUMPED AND ESTIMATED MASS OF VOCs REMOVED FROM RW-6
1989 THROUGH 2003

Date	Volume Since Previous Measurement[1]	Total Pumped	Total VOC Concentration[2] (µg/ℓ)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
10/03	74,630	15,216,604			
11/03	93,250	15,309,854			
12/03	67,760	15,377,614	98,960	1,641	31,691

FOOTNOTES:

(1) Volumes pumped from 1989 through 2003 are based on Bi-Monthly Progress Reports prepared by WRR and submitted to USEPA; Table 4 of SEH's September 2001 *Evaluation of Supplemental Corrective Action Measures and Plan of Activities* report; and untitled table prepared by Mae Willkom (WDNR) using monthly pumping volumes reported by WRR to USEPA.

(2) Total VOC concentrations for October 1990 and April 1993 based on lab reports of samples analyzed by WRR's laboratory; other Total VOCs from 4/89 through 11/94 based on untitled table provided by WRR (most likely internal lab results); Total VOC concentrations for May 1994 through May 1995 based on Table 10 of Eder Associates December 1996 *RCRA Facility Investigation* report; Total VOC concentrations for May 1997 through April 2001 based on Table A-3 included with SEH's September 2001 *Evaluation of Supplement Corrective Measures and Plan of Activities* report; Total VOC concentrations for May 2002 based on Table 4 prepared and provided by WRR (unpublished - likely update of Table 2 of SEH's September 2001 report); Total VOC concentration for December 2003 and February 2007 equal to May 2002 total VOC concentration.

Calculation of Incremental Mass of VOCs Removed:

$[(V_2 - V_{1)}$ x $(C_2 + C_1)/2$ x 3.785 l/gal] x 1 lb/453,600,000 µg

Where: V_2 = total volume of water pumped on date of sample in gallons
V_1 = total volume of water pumped on date of previous sample used in calculation in gallons
C_2 = total VOC concentration measured on date of sample in µg/l
C_1 = total VOC concentration measured on previous sample date in µg/l

With the exception of the first sample date shown on the table, all VOC concentrations used to calculate the incremental mass of VOCs removed during a given time period are the average of the total VOC concentrations measured on the current and previous sample dates.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 5

TOTAL GALLONS PUMPED FROM RW-7
1989 THROUGH 2003

Date	Volume Since Previous Measurement	Total Pumped
4/89 & 5/89	5,925	5,925
12/89	60,310	66,235
6/91 & 7/91	282	66,517
12/94	10,292	76,809
8/95 & 9/95	81,634	158,443
12/95	31,634	190,077
12/96	23,100	213,177
12/97	282,920	496,097
01/98	321,890	817,987
05/98	238,580	1,056,567
03/98	283,660	1,340,227
04/98	296,590	1,636,817
05/98	166,930	1,803,747
06/98	129,270	1,933,017
07/98	165,480	2,098,497
08/98	136,170	2,234,667
09/98	118,740	2,353,407
10/98	194,900	2,548,307
11/98	285,210	2,833,517
12/98	311,030	3,144,547
01/99	403,100	3,547,647
02/99	215,240	3,762,887
03/99	297,000	4,059,887
04/99	275,140	4,335,027
05/99	306,010	4,641,037
06/99	286,790	4,927,827
07/99	203,860	5,131,687
08/99	233,090	5,364,777
09/99	130,260	5,495,037
10/99	276,650	5,771,687
11/99	192,170	5,963,857
12/99	334,490	6,298,347
01/00	322,460	6,620,807

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 5

TOTAL GALLONS PUMPED FROM RW-7
1989 THROUGH 2003

Date	Volume Since Previous Measurement	Total Pumped
02/00	310,050	6,930,857
03/00	191,470	7,122,327
04/00	149,650	7,271,977
05/00	174,700	7,446,677
06/00	115,920	7,562,597
07/00	147,480	7,710,077
08/00	170,210	7,880,287
09/00	318,980	8,199,267
10/00	334,630	8,533,897
11/00	284,050	8,817,947
12/00	181,250	8,999,197
01/01	165,310	9,164,507
02/01	219,560	9,384,067
03/01	131,770	9,515,837
04/01	229,039	9,744,876
05/01	93,690	9,838,566
06/01	234,760	10,073,326
07/01	315,260	10,388,586
08/01	199,250	10,587,836
09/01	217,307	10,805,143
10/01	301,613	11,106,756
11/01	253,750	11,360,506
12/01	290,800	11,651,306
01/02	178,090	11,829,396
02/02	292,040	12,121,436
03/02	314,730	12,436,166
04/02	290,940	12,727,106
07/02	315,820	13,042,926
08/02	291,010	13,333,936
09/02	175,150	13,509,086
10/02	317,200	13,826,286
11/02	293,460	14,119,746
12/02	334,830	14,454,576

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 5

TOTAL GALLONS PUMPED FROM RW-7
1989 THROUGH 2003

Date	Volume Since Previous Measurement	Total Pumped
01/03	273,160	14,727,736
02/03	218,910	14,946,646
03/03	127,000	15,073,646
06/03	524,250	15,597,896
07/03	225,460	15,823,356
08/03	227,160	16,050,516
09/03	236,990	16,287,506
10/03	216,770	16,504,276
11/03	162,140	16,666,416
12/03	98,070	16,764,486

NOTE:

Volumes pumped from 1989 through 2003 are based on Bi-Monthly Progress Reports prepared by WRR and submitted to USEPA; Table 4 of SEH's *September 2001 Evaluation of Supplemental Corrective Action Measures and Plan of Activities* report; and untitled table prepared by Mae Willkom (WDNR).

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 6

TOTAL GALLONS PUMPED FROM RW-7
JULY 2012 -MARCH 2013

Date	Meter Reading	Volume Pumped Since Previous Measurement	Total Volume Pumped From RW-7
07/19/12	17,227,120	0	16,764,486
08/06/12	17,388,920	161,800	16,926,286
09/10/12	17,861,640	472,720	17,399,006
10/22/12	17,914,680	53,040	17,452,046
11/08/12	18,168,660	253,980	17,706,026
12/05/12	18,663,340	494,680	18,200,706
01/09/13	19,113,960	450,620	18,651,326
02/06/13	19,467,630	353,670	19,004,996
03/11/13	19,946,350	478,720	19,483,716
04/01/13	20,256,610	310,260	19,793,976

NOTES:
Pumping totals based on daily field sheet data recorded by WRR.
RW-7 restarted on July 20, 2012, after being off since December 2003.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 7

ESTIMATED MASS OF VOCs REMOVED FROM RW-7

Sample Date(1)	Meter Reading Date (2)	Total Volume of Water Removed (gallons)	Total VOC Concentration(3) (µg/ℓ)	Incremental Mass of VOCs Removed (lbs)	Estimated Total Mass of VOCs Removed (lbs)
10/90	07/91	66,517	1,235,300	686	686
11/94	12/94	76,809	48,675	55	741
05/95	09/95	158,443	2,648	17	758
10/95	12/95	190,077	155,000	21	779
04/96	12/96	213,177	219,870	36	815
05/97	12/97	496,097	83,770	358	1,174
05/98	05/98	1,803,747	117,732	1,099	2,273
12/99	12/99	6,298,347	113,868	4,343	6,616
05/00	05/00	7,446,677	468,520	2,790	9,406
04/01	04/01	9,744,876	103,380	5,484	14,890
05/02	07/02	13,042,926	142,110	3,378	18,268
05/03	06/03	15,597,896	39,230	1,933	20,201
	12/03	16,764,486	39,230	382	20,583
08/12	08/12	16,926,286	1,817	2	20,585
09/12	09/12	17,399,006	1,317	6	20,591
10/12	10/12	17,452,046	2,540	1	20,592
11/12	11/12	17,706,026	1,330	4	20,596
12/12	12/12	18,200,706	1,088	5	20,601
01/13	01/13	18,651,326	299	3	20,604
02/13	02/13	19,004,996	2,471	4	20,608
03/13	03/13	19,483,716	2,164	9	20,617

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 7

ESTIMATED MASS OF VOCs REMOVED FROM RW-7

FOOTNOTES:

(1) Meter readings were often not recorded when samples were collected early in the operation of RW-7. In those cases, the next available meter reading was used to calculate the incremental mass of VOCs removed from by RW-7.

(2) There was a 462,634-gallon discrepancy between the calculated volume of water pumped through December 2003 and the actual meter reading on July 20, 2012, before RW-7 was restarted. To account for the discrepancy during that time period, the total VOCs measured in RW-7 in June 2004 was used even though there is no record of RW-7 operating between December 2003 and July 2012. Records of RW-7 operational history are not complete.

(3) Total VOC concentrations for October 1990 based on lab report of samples analyzed by WRR's laboratory; Total VOC concentrations for November 1994 through May 1995 based on Table 10 of Eder Associates December 1996 *RCRA Facility Investigation* report - total VOC concentration for 11/94 based on average of VOC concentrations measured in 5/94 (2,074 ppb), 11/94 (143,000 ppb), & 12/94 (951 ppb); Total VOC concentrations for May 1997 through April 2001 based on Table A-3 included with SEH's September 2001 *Evaluation of Supplement Corrective Measures and Plan of Activities* report; Total VOC concentrations for May 2002 based on Table 4 prepared and provided by WRR (unpublished - likely an update of Table 2 of SEH's September 2001 report); Total VOC concentrations for May 2003 based on concentration measured in nearby well W-21 (RW-7 not sampled in 2003).

Calculation of Incremental Mass of VOCs Removed:

$[(V_2 - V_{1)}$ x $(C_2 + C_1)/2$ x 3.785 l/gal] x 1 lb/453,600,000 µg

Where: V_2 = total volume of water pumped on date of sample in gallons
V_1 = total volume of water pumped on date of previous sample used in calculation in gallons
C_2 = total VOC concentration measured on date of sample in µg/l
C_1 = total VOC concentration measured on previous sample date in µg/l

With the exception of the first sample date shown on the table, all VOC concentrations used to calculate the incremental mass of VOCs removed during a given time period are the average of the total VOC concentrations measured on the current and previous sample dates.

WRR ENVIRONMENTAL SERVICES, INC.
EAU CLAIRE, WISCONSIN

TABLE 1 TABLE 8

ESTIMATED COSTS FOR REMEDIAL ACTIVITIES (OCTOBER 2013 THROUGH OCTOBER 2019)

Task	GF Office	GF Field	Private Utility Locator	Outside Lab	Driller	Misc	Subtotal	Project Total
Semi-Annual Groundwater Sampling (10)	$1,250	$8,750		$3,100			**$13,100**	**$131,000**
Supplemental On-Site Investigation	$1,500	$19,500	$800	$11,000	$18,500		**$51,300**	**$51,300**
Supplemental Off-Site Investigation	$7,500	$13,500	$800	$4,500	$21,000		**$47,300**	**$47,300**
Private Well Sampling (2)	$3,000	$3,600		$1,250			**$7,850**	**$15,700**
Connecting RW-2 through RW-5 to Turbostripper	$1,500	$3,500				$7,500	**$12,500**	**$12,500**
Groundwater Remediation System O&M and Repairs & Redevelopment of Recovery Wells (4)	$1,250	$3,000			$3,500	$7,100	**$14,850**	**$59,400**
Installation of Replacement Wells for W-2 & W-19	$2,500	$7,500		$1,500	$10,500	$2,500	**$24,500**	**$24,500**
Installation of 2 Off-Site Well Nests (3 wells each)	$2,500	$13,500		$1,500	$45,000	$3,500	**$66,000**	**$66,000**
Pumping Tests - RW-6, RW-7, & PW-1	$5,500	$9,500				$2,500	**$17,500**	**$17,500**
Quarterly Sampling of up to 6 Recovery Wells for Evaluation of Remedial Efforts (20)	$250	$500		$500			**$1,250**	**$25,000**
Preparation of Monthly WPDES Discharge Reports (50)	$500						**$500**	**$25,000**
Semi-Annual Status Reports (10)	$7,500						**$7,500**	**$75,000**
Implementation of Supplemental Remedial Activities	$25,000	$25,000	$2,000	$10,000	$25,000	$63,000	**$150,000**	**$150,000**
Evaluation of Corrective Measures & Plan of Activities Reports (2)	$16,000					$750	**$16,750**	**$33,500**
Closure Report, GIS Registry, Deed Restrictions	$25,000					$2,500	**$27,500**	**$27,500**
Well Abandonment - All Site Wells	$1,500	$2,500			$31,500		**$35,500**	**$35,500**
							Subtotal	**$796,700**
							15 % Contingency	$119,505
							Total Estimate Through October 2023	**$916,205**

NOTES:
(2) = Number of events for each task.
GF field includes the use and/or rental of field equipment (PID, YSI meter, water meter, protective gloves) transportation, & sustenance.
ASSUMPTIONS:
All cost estimates based on Gannett Fleming or its subcontractors conducting all work.
All costs are in 2014 US dollars and were not adjusted for inflation.
Routine sampling and reporting activities cease at the end of 2018. Site closed in mid-2019.
MISCELLANEOUS COSTS INCLUDE THE FOLLOWING:
Connecting RW-2 through RW-5 to Turbostripper - Plumber and piping.
Groundwater Remediation Repair & Redevelopment - Field equipment, chemicals for redevelopment, & disposal of purged development water; electrical costs for pumps.
Installation of Replacement Wells - soil characterization and disposal.
Installation of 2 Well Nests - soil characterization and disposal.
Pumping Tests - Rental of data logger.
Implementation of Supplemental Remedial Activities - Subcontractor costs for injected chemicals, soil excavation & off-site disposal, trenching and piping to connect new recovery wells to Turbostripper, etc.
Evaluation of Corrective Measures & Preliminary Assessment Report - WDNR review fee.
Closure Report, GIS Registry, Deed Restrictions - WDNR Fees.

000316

APPENDIX A

SOLID WASTE MANAGEMENT UNITS AT WRR SITE

B. Nature And Extent of Contamination

1. Possible Source Areas of Contamination:

The WDNR has determined that Solid Waste Management Units (SWMUs) at WR&R site be separated in six units as shown in Fig. B.2A. The summary to follow is based on the "RCRA Preliminary Assessment Narrative Summary" prepared by WDNR and the additional information gathered since the asessment was written

OVERVIEW:

Waste Research & Reclamation Co., Inc. (WR&R), is a solvent reclamation facility which began operations in 1970. The facility occupies approximately 8.2 acres in a rural area located 0.6 miles south of the Eau Claire city limits.

The facility submitted RCRA Part A and notification forms on October 10, 1980. These forms listed 400,000 gallons of container storage and 700,000 gallons of tank storage as the permitted processes at WR&R. In addition, a 40,000 gallon per day solvent reclamation system and an incinerator used to burn nonhalogenated distillation residue were mentioned as exempted processes. (Hazardous waste types F001, F002, F003 and F005 were listed with a total estimated quantity handled of 29 million pounds, or roughly 3.5 million gallons annually.)

The RCRA Part B application for WR&R was called in on August 5, 1982. After several incompleteness letters to the facility and their subsequent responses, the application was found to be complete on May 15, 1984. A technical inadequacy letter (the third) was sent to WR&R on August 27, 1985. The U.S. EPA Region V office agreed to assist WR&R with the required revisions. EPA transmitted a revised and reorganized copy of WR&R's Part B application to WDNR for comment on January 21, 1986. However, the Wisconsin DNR received final authorization for its hazardous waste management program on January 30, 1986, and therefore did not review this most recent submittal. However, it should be noted that the updated Part A forms, which were included with that January, 1986 submittal, listed the same hazardous waste types (F001, F002, F003, F005, D001, F500, D007, D008, F006), and annual quantities as had been listed on the 1980 Part A forms. The same storage capacity and reclamation capacity were also listed. The capacity of the incinerator was listed as 100 gallons per hour.

On April 7, 1986, the WDNR received the facility's NR 181 licensure submitted which included:

1) Feasibility and Plan of Operation Report for storage and treatment,

2) Feasibility and Plan of Operation Report for the incinerator,

3) Environmental Assessment, and

4) Review fee

The Plan of Operation Report is presented in Part B format. WR&R has well over a dozen individual solid waste management (SWM) units. These include container storage areas, tank storage areas, waste handling and pumping areas, product loading and unloading areas, empty drum storage areas, surface water runoff collection system, residue and solid materials handling areas, bulk tanker and trailer storage area, incinerator, and solvent reclamation units. Due to the large number of SWM units and their close proximity to one another, several units were evaluated together for purposes of the RCRA Preliminary Assessment (PA), and for determining how to evaluate potential past releases of hazardous constituents to the environment.

The accompanying plan view (Figures B.2A and B.2B), of the WR&R site illustrates the various SWM units and where they are located on the site. For purposes of the preliminary assessment (PA), the site was segregated by the WDNR into six solid waste management areas:

1) Drum storage sheds in the southeast corner of the site, and abandoned drum storage areas in the southeast corner of the site.

2) Trailer parking, product warehouse, and abandoned drum storage area in the northwest corner of the site,

3) Pole barn, cooling water discharge area, and abandoned drum storage area located along the site's western property line,

4) Abandoned surface water runoff lagoon, existing runoff collection sump, and runoff collection holding tank in the southwest corner of the site,

5) LUWA (E-I), reclamation (halogenated solvents) area (including the associated tank storage, drum storage, solvent handling and warehouse SWM units), located in the central and western portions of the site, and,

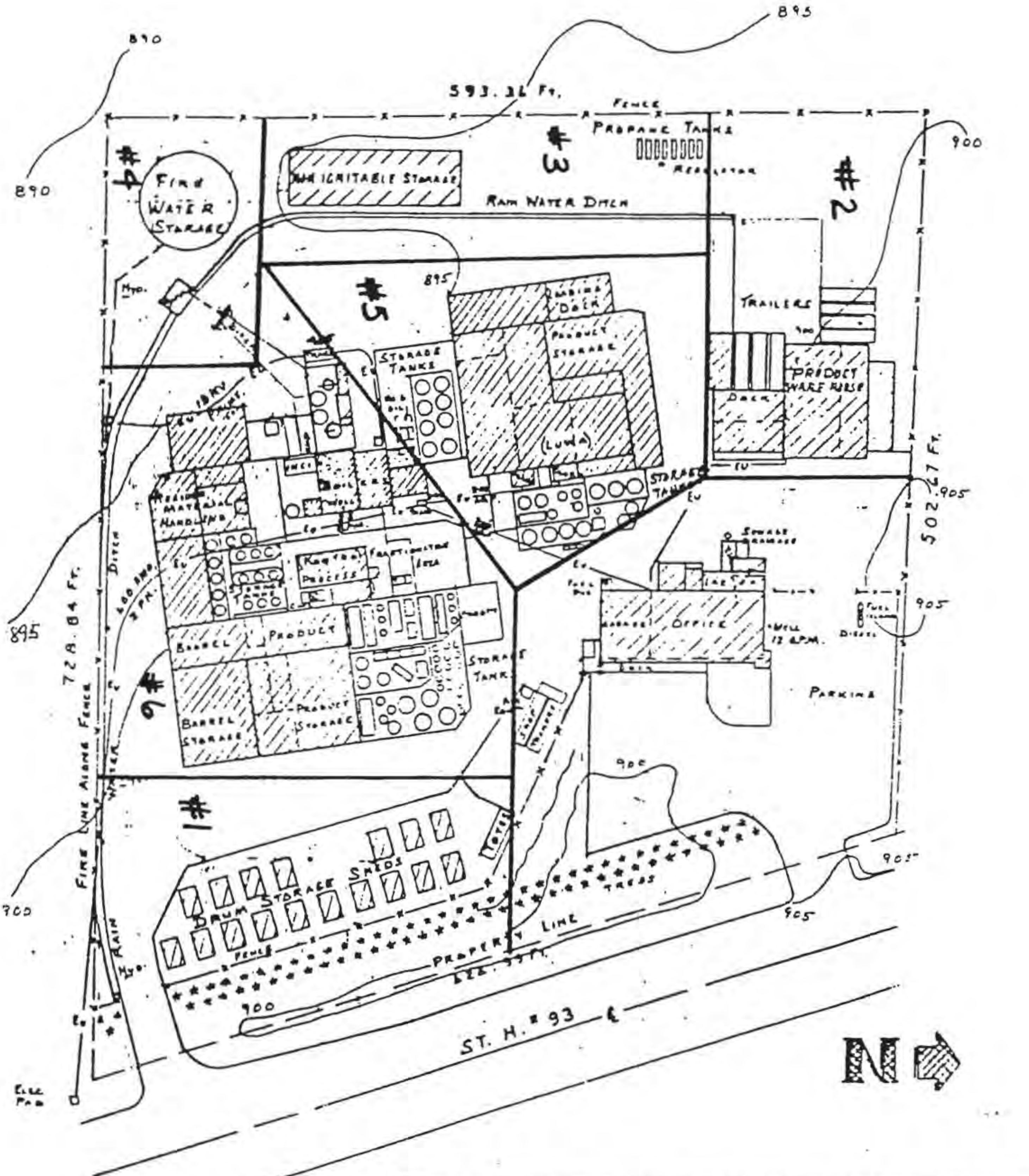
6) KONTRO (E-II), reclamation (non-halogenated ignitable solvents), area (including the associated tank storage, drum storage, solvent handling, sludge handling, incinerator, residue and solids handling, bulk solvent loading and unloading, underground tank and warehouse SWM units).

These areas and individual SWM units will be discussed in the following "Unit Description" section.

WR&R submitted the HSWA "Certification Regarding Potential Releases" response on June 28, 1985. Their responses identified four SWM units: a surface water runoff collection lagoon and three container storage areas. The response also listed three types of release incidents:

1) Leakage of organic solvents from old drum storage areas (1970 to 1981),

2) Overflow and spillage of organic solvents from the tanker and tank



WASTE RESEARCH & RECLAMATION CO., INC.

Route 7 | EAU CLAIRE, WISCONSIN 54701 | PHONE: (715) 834-9624

WRR

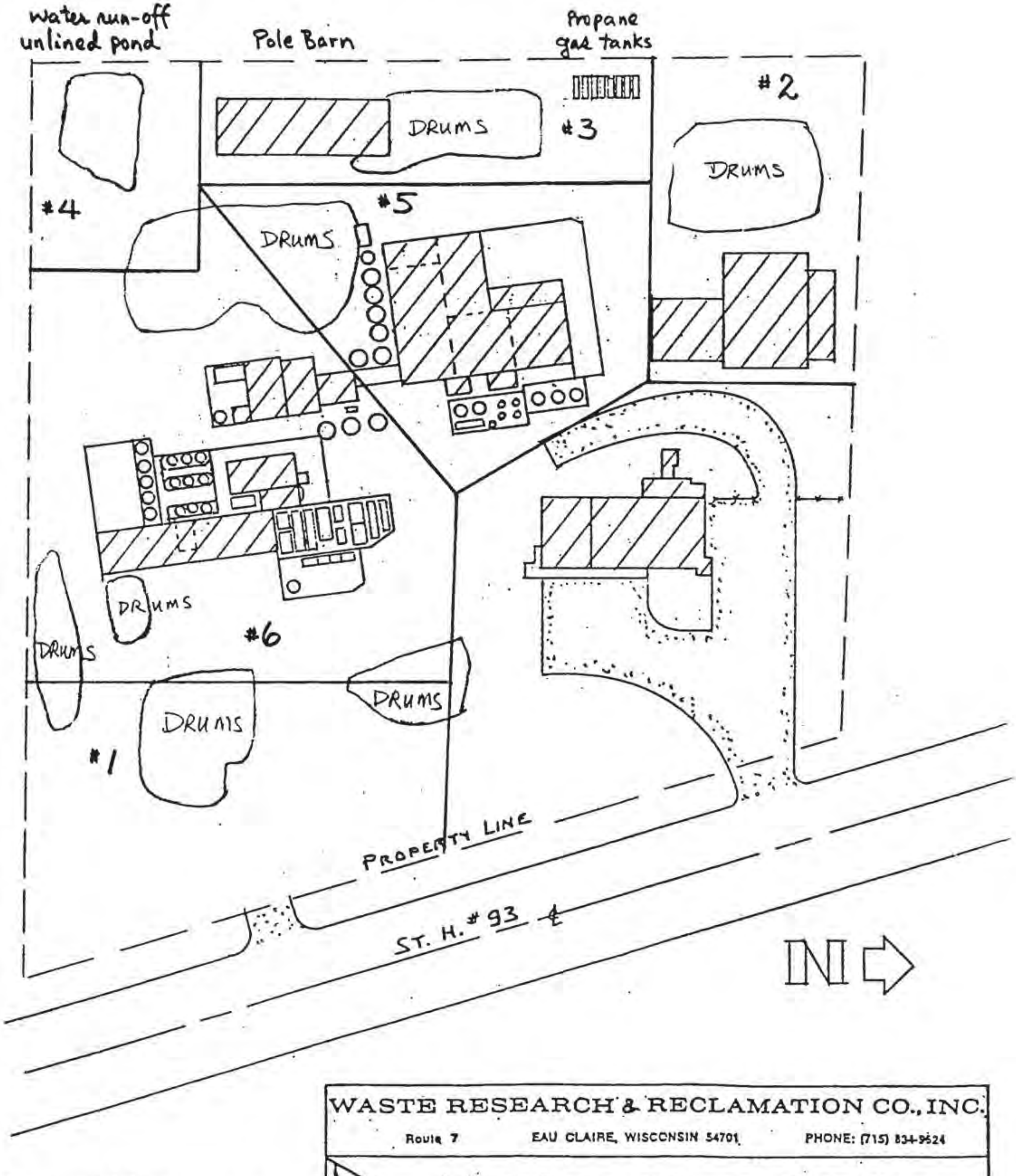
WASTE RESEARCH PLANT — PLOT PLAN

SCALE 1" = 100'	DRAWN BY R.M.	DRAWING NUMBER 1055-A-TOP-2
DATE 12-1-82	APPROVED BY	

TOWN OF WASHINGTON,
EAU CLAIRE COUNTY

Fig. B.2A

000320



WASTE RESEARCH & RECLAMATION CO., INC.		
Route 7	EAU CLAIRE, WISCONSIN 54701	PHONE: (715) 834-9524
WRR	WASTE RESEARCH PLANT – PLOT PLAN	
SCALE 1" = 100'	DRAWN BY R.M.	DRAWING NUMBER: 1055-A-PP-7a
DATE: 5-1-79	APPROVED BY:	

TOWN OF WASHINGTON,
EAU CLAIRE COUNTY

Fig. B.2.B

Updated on May 27, 1988 by J-Y Lee

000321

loading area (1970 to 1979),

3) Overflow and seepage of surface water runoff, which was contaminated with organic solvents, from the unlined collection lagoon (1970 to 1981).

From a WR&R photograph taken in 1979 by the DNR and on file at WDNR, additional drum storage areas were identified and are shown in Figure B.2B.

Groundwater and soil investigations have been conducted since 1979 for WR&R by several consulting firms. The first documentation that mentioned contaminated groundwater is dated August 15, 1978, and was authored by the City-County Health Department of Eau Claire. That letter states that groundwater samples were collected beneath the adjacent property which is owned by Eau Claire County, and that lab analyses indicated that groundwater contamination has occurred. The chemicals identified in the groundwater samples were the same chemicals identified in samples from the WR&R runoff lagoon and ponded surface water. Additional samples were collected on September 13, 1979, from the four corner wells (W1, W2, W3, W4), and two water supply wells located on the facility's property. Of these six samples, only the well in the site's southwest corner (W1), contained significant concentrations of organics (toluene, xylene, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, and methyl isobutyl ketone).

More recently, two major areas of groundwater contamination have been identified. They are the site's southwestern corner and near the center of the site. Groundwater beneath the southwestern corner is contaminated with organic solvents due to overflow and seepage from the old, unlined surface water runoff lagoon. In June of 1981, the unlined lagoon was replaced by a lined concrete block tank, thus preventing continued infiltration of contaminated runoff waters. Groundwater beneath the center of the site is also contaminated with organic solvents. These solvents are believed to have been released from the bulk solvent loading and unloading area. WR&R submitted a "Proposed Work Plan" on September 30, 1985, for remedial activities in this area. Five wells were installed in the immediate area. The facility had extracted and disposed of 446,524 gallons of groundwater between November, 1985 and December, 1988. Soils below the site are fine to medium sands with horizontal lenses of silty clay. The existing monitoring and recovery well locations are given in Fig. 1.2.

UNIT DESCRIPTIONS:

The WR&R facility has many solid waste management units which should be individually addressed. The WDNR, in their PA, agreed that due to the large number of these units and the close proximity of these units to one another, separate assessments of the individual SWM units could not be performed, nor could releases from the individual units be evaluated. Therefore, the individual SWM units have been spatially grouped. This method of grouping and the following descriptions of these groups will allow for improved and focused site and remedial investigations. The identification of these groups has already been briefly described in the "overview" section. The following six items are a more detailed description of the six SWM groups.

1) Drum storage sheds in the southeast corner of the site:

This area consists of 17 storage sheds. Each shed is roughly 12 feet by 20 feet, has a curbed concrete base which is sloped toward a sump, and a corrugated metal roof and enclosed walls. Each shed is designed to store 106 (50 gallon) drums and provide for 657 gallons of secondary containment.

Incoming drums are tested, segregated, and may be stored in this area (depending on waste type). Generally, only ignitable wastes are stored in this area. The drums would be transferred to the pump-up area where the contents are then pumped into waste tanks prior to processing through the KONTRO unit. Several abandoned drum storage areas are identified in Area 1 of Figure B.2B. Soil gas and soil sampling and analysis around this area are being proposed in Task III.

2) Trailer parking, product warehouse, and abandoned drum storage area in the northwest corner of the site:

This area occupies roughly 40,000 square feet near the northwest corner of the facility. The warehouse is used for container storage of product. Releases are not known or seriously suspected from this building or the adjacent trailer storage area. However, a drum storage area existed immediately west of the warehouse prior to 1981. This storage area was outdoors, had a gravel base, and did not have secondary containment. Releases which could have been caused by leaking drums have not been documented from this specific area. Preliminary soil sampling and testing taken in December, 1986, around this area have shown only very low levels of contamination (0.6 - 0.9 ppm trichloroethylene). Soil gas and soil sampling and analysis in this area are being proposed in Task III.

3) Pole barn, cooling water discharge area, and abandoned drum storage area located along the site's western property line:

The pole barn is used to store empty overpack drums and other equipment, and had been used to store hazardous waste drums during 1978. The pole barn is roughly 40 feet by 100 feet long. As indicated in a 1978 inspection, releases are known to have occurred in this building area. Immediately west of the pole barn is a discharge bed which had been used to discharge cooling water from the boilers. The boilers are located near the incinerator and KONTRO reclamation unit. However, the cooling water was tested and was determined to be noncontact cooling water which would not be contaminated under normal circumstances. An abandoned drum storage area was identified by WR&R in their HSWA Corrective Action Response. Releases may have occurred in this area. The specific types and quantities are unknown. Soil gas and soil sampling and analysis around this area are being proposed in Task III.

4) Abandoned lagoon, existing holding tank, and existing collection sump for surface water runoff:

These three solid waste management units occupy roughly 15,000 square feet in the southwest corner of the WR&R site. The old, abandoned, unlined lagoon was used prior to June 1981, to collect surface water runoff. The lagoon has a history of inspections which found solvent odors or oily film on the collected runoff water. The lagoon was operated as a seepage pond (approximately 50 feet by 100 feet by 3.5 feet deep), where collected runoff was allowed to seep into the ground and migrate downward toward the water table. On several inspections, water was observed overflowing from the lagoon and onto the adjacent property surfaces. Groundwater samples have been found to be contaminated with toluene, trichloroethylene, 1,1,1-trichloroethane, 1,2-dichloroethane, and other organics at parts per million levels. The unlined lagoon was replaced by a 360,000 gallon concrete holding tank during June, 1981. No soil testing or closure documentation exists in WDNR files for the excavation and construction work. At about the same time, WR&R covered much of the facility's surface area with concrete or black-top and graded the site to allow surface runoff to flow toward the site's southwest corner. Concrete drainage ditches directed runoff toward the existing concrete collection sump which could pump runoff into the holding tank. The collected water was periodically transported to a discharge point in the Altoona sewage system (a municipal wastewater interceptor to Eau Claire POTW), from 1981 to 1987. The excess water is now transported to and discharged to the Chippewa River, downstream from the City of Eau Claire.

Groundwater in this area had been impacted by seepage and overflow from the unlined lagoon. Soil samples taken during the drilling of well 1D in December, 1986, have indicated high levels of solvent contamination from 35 - 56 feet below the ground level. This area may be a major source of past contamination of the confined zone. Soil gas and soil sampling and analysis in this area are being proposed in Task III.

5) LUWA reclamation area located in the central and western portions of the site:

The LUWA solvent reclamation area consists of several solid waste management units. These units have been grouped together because of their close proximity to one another, and because of the difficulty in determining whether or not a release may have occurred from any individual unit. These units include the LUWA evaporator, batch fractionation tower, several contiguous and diked tank storage areas, a nonflammable waste segregation and staging warehouse, an adjacent loading dock and an abandoned drum storage area.

The entire area occupies roughly 40,000 square feet in the west-central area of the site. There have been no known releases from this LUWA area or the adjacent solid waste management units. The only soil samples taken were from the drilling of recovery wells RW 2 and RW 4. At RW 2, soil samples from 20 to 31 feet have slight solvent odor. At RW 4, soil samples from 5 to 11.5 feet have slight odor, from 15 to 26.5 feet have solvent odor. The groundwater samples at RW 2 and especially at RW 4 indicated contamination by various chlorinated solvents. Soil gas and soil sampling and analysis are being proposed in Task III for areas around the building.
Incinerator ash was put in 55 gallon steel drums, and up to 1500 drums

were stored near the powerhouse area until 1979.

6) KONTRO reclamation area located in the south-central portions of the site:

The KONTRO solvent reclamation area consists of several solid waste management units which have been grouped together for previously specified reasons. These units include the KONTRO evaporator, batch fractionation pots and columns, bulk liquid loading and unloading area, several contiguous and diked tank storage areas, flammable waste segregation and staging warehouse, residue and solids handling area, boiler area, incinerator area, underground storage tank for runoff collection from the KONTRO processing area, and abandoned drum storage areas. Taken together, these SWM units occupy roughly 60,000 square feet at the site. The old drum storage areas was identified as a potential source of past hazardous waste releases by WR&R in their HSWA Corrective Action Response. Near the bulk liquid loading and unloading area, several groundwater elevation wells and five water recovery wells have been installed. This area was also listed as a potential source of past releases by WR&R. Although wells W6 and W8 are not monitoring wells, groundwater samples were collected from W8 during March, 1984, and have shown 310,000 ppb toluene and 220,000 ppb xylenes in addition to lower concentrations of several halogenated organics. The only soil samples taken were from the drilling of recovery wells RW 3 and RW 5. At RW 3, northeast end of the area, soil samples from 10 feet and 21.5 feet have slight odor, and from 15 - 16.5 feet have solvent odor. At RW 5, tanker loading area, soil samples from 5 to 6.5 feet have a strong solvent odor and from 10 to 26.5 feet have a solvent odor. The water removed from RW 5 has high levels of solvent contamination (1,500 to 3,000 ppm). This area was a major source of groundwater contamination. Soil gas and soil sampling and analysis are being proposed in Task III for areas around the building.

KNOWN and/or SUSPECTED RELEASES

Groundwater samples collected during 1984 and 1988 show that the groundwater is contaminated with various organic solvents at several locations on-site. The sources of these contaminants were identified as follows:

1. Southwestern Corner of Facility

During the 1970's and until June of 1981, all surface water runoff from most of the site drained to a low area in the southwestern corner of the facility. This pond or lagoon area was unlined and had dikes made of sand. During several inspections prior to 1981, surface water in the plant area and ponded runoff water were observed to have an oily film on their surfaces. However, documentation does not exist concerning samples or lab analyses. Dirt and sand adjacent to the unlined lagoon were noted as having an oily or greasy coating. The WDNR believes that surface water runoff became contaminated with solvents from the process and storage areas, flowed overland to the unlined lagoon, and either percolated downward through the lagoon soils or overflowed from the lagoon. In either of these two cases, organic solvents could have contaminated the underlying groundwater due to the permeable nature of the soils.

APPENDIX B

PHYTOREMEDIATION FACT SHEET

Fact Sheet

April 2008

WRR Environmental Services Co., Inc. Corrective Action Update

This Fact Sheet has been prepared to inform the Eau Claire County Parks & Forest Department and other interested parties about ongoing Corrective Action measures at WRR's facility at 5200 Ryder Road in Eau Claire, Wisconsin.

WRR continues to evaluate and modify numerous corrective action measures. This Fact Sheet focuses primarily on WRR's ongoing phytoremediation and source control/treatment projects.

Remind me of the project history

Due to historic solvent (volatile organic compounds – VOCs) releases to the site soil and groundwater, WRR has been performing corrective action measures. The measures have included pumping and treating over 30 million gallons of groundwater from shallow and mid-depth groundwater aquifers underlying the WRR and adjacent Lowes Creek County Park properties.

WRR voluntarily submitted an *Evaluation of Supplemental Corrective Measures and Plan of Activities Report* (Action Plan) to the United States Environmental Protection Agency (USEPA) and Wisconsin Department of Natural Resources (WDNR). The objectives of the Action Plan continue to be:

- Summarize WRR's activities to evaluate the effectiveness of the existing remediation efforts
- Detail alternative remediation technologies and possible enhancements to the existing remediation efforts
- Propose long term supplemental corrective measure goals
- Recommend supplemental corrective measures

The Action Plan documents phytoremediation (using plant materials) and source area treatment as two primary corrective measures being implemented.

What phytoremediation actions have been taken?

WRR, in conjunction with Short Elliott Hendrickson Inc. (SEH®) and Environmental Forestry Consultants, LLC (EFC, LLC), began evaluating phytoremediation as a supplemental corrective measure in 2001.

The following phytoremediation activities have been implemented for three primary reasons:

- Groundwater uptake/hydraulic control
- Water quality improvement of the shallow aquifer
- Development of a beneficial natural resource

<u>2002:</u> Phase I of the treatability study included studies of hybrid and native species of poplars, willows and grasses under controlled conditions (tank study, pictured below). Phase I evaluated plant growth, hydraulic uptake and water quality.

<u>2003:</u> Phases II and III of the treatability study included a tank study and adjacent in-ground planting area. These phases were conducted to refine the design under more representative field conditions and obtain additional performance data on hydraulic uptake and contaminant reduction/removal.

<u>2004:</u> The in-ground planting area was maintained to assess plant growth and mortality after a winter and second growing season. Several rows of trees were also planted on County property to the west of WRR's site to assess growth in less controlled situations (i.e., no fence, no irrigation).

WRR worked with the WDNR, USEPA and the Eau Claire County Parks & Forest Department to expand the phytoremediation planting onto Lowes Creek County Park property.

<u>2005:</u> Approximately 770 poplar, willow and cottonwood trees as well as a mix of prairie grasses and wildflowers were planted, primarily on County property.

<u>2006:</u> Approximately 700 poplar, willow and cottonwood trees as well as prairie grasses were planted on County property.

<u>2007:</u> Approximately 1,050 poplar, willow and cottonwood trees were planted on County property. In addition, 405 trees were replanted in areas originally planted in 2005 and 2006. The replanting was to replace trees that died, primarily due to drought conditions in 2006 and deer damage. Several areas of previously planted prairie grass were reseeded.

WRR Environmental Services Co., Inc.

The figure on Page 3 shows the areas planted each year. The areas along the walking trail have been planted primarily for visual block, aesthetic and habitat establishment purposes. Other areas nearer WRR's site have been planted primarily for hydraulic control and groundwater treatment purposes.

What other Corrective Action Measures has WRR undertaken?

From 2004 through June 2007, WRR performed air sparge/soil vapor extraction (AS/SVE) treatability studies at three locations on site. The treatability studies were designed to obtain data to help assess the feasibility of utilizing air sparging as a potential source area treatment technology.

Air sparging provides air to the groundwater to remove or reduce contaminants in groundwater. Soil vapor extraction removes volatilized contaminants from groundwater and soil.

The first two treatability studies utilized electric-powered remediation equipment to produce air to inject via the AS system and to recover soil vapor with the SVE system. The third treatability study utilized two windmills to power the AS/SVE treatability equipment.

Groundwater data collected from monitoring points near the AS treatability studies showed a substantial decrease in contaminant concentrations during operation of the treatability studies.

WRR also obtained a revised Wisconsin Pollutant Discharge Elimination System (WPDES) Permit for discharge to groundwater. The WPDES permit allows discharge of recovered groundwater onto the ground surface near the 360,000 gallon reservoir at the site.

WRR reconfigured their groundwater recovery and treatment system, resulting in reusing over half of the recovered groundwater within their facility. This has resulted in substantially less water being discharged to the ground surface and improved groundwater quality of the shallow aquifer.

WRR has delineated the extent of groundwater impacts via installation of monitoring wells and collection of water samples. WRR continues to monitor groundwater quality on site and on Lowes Creek Park property.

What impact did the fire have on WRR's Corrective Action?

One June 22, 2007, a fire destroyed a substantial portion of WRR's facility. Since the fire, WRR has cleaned up fire debris and waste and designed and begun construction of replacement infrastructure.

After the fire, WRR worked closely with WDNR and Eau Claire County to complete cleanup and waste disposal activities and perform environmental investigation activities to assess possible impacts to soil and groundwater from the fire. Although the fire destroyed some of the AS/SVE treatability equipment and infrastructure, the phytoremediation plantings appear to have been unaffected by the fire.

What is WRR planning for 2008 and beyond?

WRR will continue to perform groundwater monitoring and investigation activities, as warranted, in conjunction with input from the WDNR to assess post fire soil and groundwater conditions as well as continue to evaluate corrective action measures at the site.

In 2008, approximately 500 native willow, native cottonwood, and hybrid poplar trees are proposed to be replanted in the areas planted in 2007. The replanting will be to replace trees that died, primarily due to drought conditions in 2007.

All planting areas will continue to be monitored through 2008 and beyond. Replanting will occur as necessary and additional planting areas may be identified.

How can I stay involved?

WRR is excited to complete our reconstruction which will allow us to refocus our work with our partners, including the WDNR and the Eau Claire County Parks & Forest Department, on the ongoing corrective measures projects.

WRR will provide correspondence to and/or meet with WDNR, Eau Claire County Parks & Forest Department or others at appropriate times based on the project progress and needs.

Who can I contact if I have any questions?

If you have any questions regarding the project or would like to tour the new facility or phytoremediation, air sparge or other corrective measures areas, please contact:

Mr. James L. Hager
President and CEO
WRR
5200 Ryder Road
Eau Claire, WI 54701
715.834.9624
hagerjl@wrres.com

Fact Sheet


N
SCALE IN FEET
0 50 100 200
POWER LINES
FOUR ROWS OF TREES (100',350',500',700') (2006)
NORTHWEST ENTERPRISES, INC.
STATE HIGHWAY "93"
THREE ROWS OF TREES (500' EACH) (2005)
TWO ROWS OF TREES (100' EACH) (2005)
WRR ENVIRONMENTAL SERVICES CO. INC.
PRAIRIE (2006)
2007 PLANTING AND 2008 PROPOSED RE-PLANTING AREAS
1
2
3
4
RESCO
THREE ROWS OF TREES (2006)
WET AREA
TANK STUDY AREA
DEMONSTRATION AREA TREES (2005)
DEMONSTRATION AREA TREES (2003)
TREES (2006)
TREES (2005)
TREES (2005)
PRAIRIE (2006)
PRAIRIE (2005)
WALKING TRAIL
PRAIRIE (2005)
POWER LINES
1 04/18/08
RJH 04/08 RJH 04/08 BKO 04/08
NO. DATE ISSUE/REVISIONS DRAWN BY DESIGN FIELD REVIEW QC CHECK
SEH
FACT SHEET - APRIL 2008
WRR ENVIRONMENTAL SERVICES CO., INC
EAU CLAIRE, WISCONSIN
PHYTOREMEDIATION PLANTING AREAS
PROJ. NO.
DATE 04/18/08

APPENDIX C

EDER TABLES & MAPS – OCTOBER 1994 SOIL GAS INVESTIGATION

WASTE RESEARCH & RECLAMATION
EAU CLAIRE, WISCONSIN

TABLE 1

SOIL SAMPLING RESULTS - OCTOBER 1994
DETECTED VOCS, SEMI-VOLATILES, AND METALS

Parameter	Sample I.D.										
VOLATILES (ppb)	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	NR 720
Acetone	13*	560	--	29*	--	17,000	21,000		NA	--	NS
2-Butanone	--	170	--	37*	--	3,100*	3,400*		NA		NS
Carbon disulfide	--	82	--	--	--	--	--	--	NA	--	NS
1,2 Dichloroethylene	--	--	--	--	--	--	--	34,000	NA	--	NS
4 Methyl-2-Pentanone	--	87	--	--	--	--	--	--	NA	--	NS
Tetrachlorethene	--	420	23,000	--	270,000	--	--	13,000	NA	--	NS
Styrene	--	--	--	--	--	12,000	1,400	--	NA	--	NS
Toluene	--	--	--	--	**18,000**	**10,000**	740	**19,000**	NA	--	1,500
Trichloroethane	--	56	3,700	--	20,000	--	--	190,000	NA	--	NS
1,1,1-Trichloroethane	--	--	2,600	--	21,000	--	--	17,000	NA	42,000	NS
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	NA	--	NS
Isobutanol (ppm)	--	--	--	--	1,400	--	--	--	NA	--	NS
Propionitrile	--	--	--	--	350,000	--	--	--	NA	--	NS
Ethylbenzene	--	--	--	--	--	**5,500**	--	--	NA	--	2,900
Xylenes (Total)	--	83	--	--	**49,000**	**44,000**	3,500	**26,000**	NA	--	4,100
Acetonitrile	--	540	--	--	270,000	--	--	100,000	NA	--	NS

eder associates

Table 1 Continued . . .

Parameter	Sample I.D.										
SEMI-VOLATILES (ppb)	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	NR 720
bis (2-ethylhexyl) Phthalate	NA	700	NA	NA	9,300	--	NA	NA	NA	NA	NS
Butylbenzylphthalate	NA	--	NA	NA	5,900	--	NA	NA	NA	NA	NS
Di-n-butylphthalate	NA	1,400	NA	NA	--	500	NA	NA	NA	NA	NS
2,4-Dimethylphenol	NA	730	NA	NA	--	--	NA	NA	NA	NA	NS
2-Methylphenol	NA	3,600	NA	NA	--	--	NA	NA	NA	NA	NS
METALS (ppm)	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	NR 720
Antimony	NA	--	NA	NA	--	--	NA	NA	4.6	NA	
Arsenic	NA	--	NA	NA	1.6	--	NA	NA	--	NA	1.6
Barium	NA	19	NA	NA	51	30	NA	NA	35	NA	
Chromium	NA	5	NA	NA	110	6.1	NA	NA	7.2	NA	200
Cobalt	NA	--	NA	NA	7.8	--	NA	NA		NA	
Copper	NA	3	NA	NA	100	6.6	NA	NA	5.1	NA	
Lead	NA	1.6	NA	NA	52	2.3	NA	NA	2.2	NA	500
Nickel	NA	3.8	NA	NA	11	5	NA	NA	6	NA	
Vanadium	NA	10	NA	NA	12	12	NA	NA	16	NA	
Zinc	NA	8.2	NA	NA	32	17	NA	NA	14	NA	
SOLIDS (%)	95	96	95	96	94	89	96	93	94	94	

NOTES:
- * Possible laboratory contaminant
- NA Not analyzed for this parameter
- NS No NR 720 standard established
- -- Analyzed but not detected

NR 720 exceedances are shown in bold

DJH\IL523-1.001

WRR ENVIRONMENTAL SERVICES

EAU CLAIRE, WISCONSIN

TABLE 2

WATER TABLE WELLS - GROUNDWATER SAMPLING RESULTS ($\mu g/\ell$)

MAY 1994, NOVEMBER 1994, MAY 1995

DETECTED VOLATILE ORGANIC COMPOUNDS - EPA METHODS 8240 AND 8260

Parameter	Well No. W-1			Well No. W-2			Well No. W-4			Well No. W-5			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Acetone	X	X	X	<10	10[2]	X	<10	34[2]	X	<10	41[2]	X	1,000
Acetonitrile	<50	250	X	X	X	X	X	X	X	110	<100	X	NS
Carbon Disulfide	X	X	X	39	<5	X	69	<5	X	X	X	X	NS
Dichlorodifluoromethane	6.3	<5	<5	X	X	X	X	X	X	X	X	X	1,000
1,1-Dichloroethane	X	X	X	X	X	X	X	X	X	31	44	31	850
1,2-Dichloroethylene (Total)	X	X	X	X	X	X	X	X	X	140	300	163[1]	70
Isobutanol	<500	1100	X	X	X	X	X	X	X	X	X	X	NS
2-Propanol	>500	1500	X	X	X	X	X	X	X	X	X	X	NS
Propionitrile	<50	300	X	X	X	X	X	X	X	76	<100	X	NS
Tetrachloroethane	X	X	X	X	X	X	X	X	X	**19**	**36**	**16**	5
1,1,1-Trichloroethane	<5	<5	7	X	X	X	X	X	X	80	160	80	200
Trichloroethane	<5	<5	2[1]	X	X	X	X	X	X	**40**	**54**	**19**	5.0
Methylene Chloride	<5	<5	8	X	X	X	X	X	X	<5	<10	**29**	5
Chloroform	<5	<5	2[1]	X	X	X	X	X	X	X	X	X	6
1,1,2,2-Tetrachloroethane	X	X	X	X	X	X	X	X	X	<5	<10	4[2]	0.2
1,2,3-Trichloropropane	NA	NA	X	NA	NA	X	NA	NA	X	NA	NA	5[2]	NS
1,2-Dibromo-3-Chloropropane	NA	NA	X	NA	NA	X	NA	NA	X	NA	NA	8[2]	0.2

Table 2 Continu... . . .

Parameter	Well No. W-6			Well No. W-7			Well No. W-18			Well No. W-102			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Acetone	<200	420[(2)]	X	X	X	X	<10	34[(2)]	X	<10	52	X	1,000
Acetonitrile	X	X	X	<250	610	X	X	X	X	140	3700	X	NS
Carbon Disulfide	X	X	X	X	X	X	69	<5.0	X	6.7	<25	X	NS
1,1-Dichloroethane	550	760	600	X	X	X	X	X	X	X	X	X	850
1,2-Dichloroethylene (Total)	**2,100**	**2,500**	**3,100**	<25	<25	3[(1)]	X	X	X	X	X	X	70
Tetrachloroethane	**580**	**970**	**470**	**370**	**440**	**200**	X	X	X	X	X	X	5
1,1,1-Trichloroethane	**2,800**	**3,700**	**2,800**	81	89	35	X	X	X	X	X	X	200
Trichloroethane	**1,700**	**2,600**	**880**	**190**	**220**	**75**	X	X	X	**110**	<25	<5	5
Xylenes (Total)	<100	180	59[(1)]	X	X	X	X	X	X	X	X	X	620
1,1-Dichloroethene	<100	<100	**150**	X	X	X	X	X	X	X	X	X	7
Toluene	<100	<100	57[(2)]	X	X	X	X	X	X	X	X	X	343
1,1,2-Trichloroethane	<100	<100	**32**[(2)]	X	X	X	X	X	X	X	X	X	5

NOTES:

X = Analyzed but not detected at or above the method detection limit.
NS = No NR 140 standard established.
Well Nos. W-3, W-10, W-17, MW-103, and MW-104 sampled in 5/94, but no volatile organic compounds detected at or above method detection limits.
EPA Method 8240 to analyze 5/94 and 11/94 samples, EPA Method 8260 used to analyze 5/95 samples.
NR 140 enforcement standard exceedances are shown in bold.
NA = Not analyzed.

FOOTNOTES:

(1) Detected but below the MDL; therefore, result is an estimated concentration.
(2) Possible laboratory contaminant.

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TABLE 3

MID-DEPTH WELLS - GROUNDWATER SAMPLING RESULTS ($\mu g/\ell$)
MAY 1994, NOVEMBER 1994, MAY 1995
DETECTED VOLATILE ORGANIC COMPOUNDS - EPA METHODS 8240 AND 8260

Parameter	Well No. W-1A			Well No. W-1D			Well No. W-7A			Well No. W-17A			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Acetone	**110,000**	**120,000**	**9,420**	**370,000**	**110,000**	**21,200**	<10	20[3]	X	**2,200**	**3,500**	233	1,000
Acetonitrile	X	X	X	200,000	210,000	X	X	X	X	X	X	X	NS
2-Butanone	28,000	38,000	4,740	160,000	<20,000	10,800	X	X	X	2000	3400	X	NS
1,1-Dichloroethane	<5,000	<10,000	290[1]	X	X	X	X	X	X	<100	200	130	850
1,1-Dichloroethene	X	X	X	X	X	X	<5	<5	2[1]	<100	<100	18	NS
1,2-Dichloroethylene (total)	<5,000	<10,000	**1,900**	X	X	X	X	X	X	<100	<100	8	70
Ethylbenzene	<5,000	<10,000	**870[1]**	X	X	X	X	X	X	X	X	X	700
4-Methyl-2-Pentanone	**17,000**	<20,000	**8,200**	**40,000**	**29,000**	**19,400**	X	X	X	<200	<200	87.7	500
Methylene Chloride	<5,000	<10,000	**260[1]**	**48,000**	**14,000**	**2,300[1]**	X	X	X	<100	<100	3[1]	150
2-Propanol	<50,000	<1,000	6,140	<400,000	1,200	14,000	<500	<500	5.2	<10,000	24,000	28.5	NS
Tetrachloroethane	X	X	X	X	X	X	<5	20	20	X	X	X	NS
Toluene	**23,000**	<10,000	**15,000**	**62,000**	**15,000**	**42,000**	<5	<5	2[1]	<100	<100	2[1]	343
1,1,1-Trichloroethane	X	X	X	X	X	X	<5	<5	150	X	X	X	200
Trichloroethane	X	X	X	X	X	X	X	X	X	<100	<100	7	5.0
Xylenes (Total)	<5,000	<10,000	**3,500**	<10,000	<10,000	**1,900[1]**	X	X	X	X	X	X	600
Vinyl Chloride	<10,000	<20,000	**850**	X	X	X	X	X	X	<200	<200	25	0.2
Chloroethane	<10,000	<2,000	320	<20,000	<20,000	**1,600**	X	X	X	<200	<200	58	400

Table 3 Continued . . .

Parameter	Well No. W-17B			Well No. W-18A			Well No. W-19			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Acetone	X	X	X	**72,000**	**190,000**	**28,500**	**13,000**	**13,000**	**2,070**	1,000
2-Butanone	X	X	X	22,000	78,000	X	2,600	<2,000	824	NS
Carbon Disulfide	X	X	X	<2,500	<10,000	1,200	X	X	X	NS
1,1-Dichloroethane	15	26	21	X	X	X	<500	<1,000	590	850
1,1-Dichloroethene	X	X	X	<2,500	<10,000	360(1)	<500	<1,000	15(1)	NS
1,2-Dichloroethylene (total)	<5	<5	3(1)	<2,500	<10,000	**1,300**	<500	<1,000	**500**	70
Ethylbenzene	X	X	X	<2,500	<10,000	**12,100**	X	X	X	700
4-Methyl-2-Pentanone	X	X	X	**8,800**	<5,000	**2,800**	**1,600**	**2,000**	**2,950**	500
Methylene Chloride	75	91	48	**2,800**	<2,500	**854**	**1,200**	<1,000	<50	150
2-Propanol	X	X	X	<250	1,100	X	<50,000	<100,000	1,240	NS
Tetrachloroethane	X	X	X	<2,500	<10,000	34,000	X	X	X	NS
Toluene	X	X	X	**12,000**	**11,000**	**29,000**	<500	<1,000	**720**	343
Trichloroethane	X	X	X	<2,500	<10,000	**4,700**	**860**	<1,000	<50	5.0
Xylenes (Total)	X	X	X	X	X	X	<500	<1,000	47(1)	600
Vinyl Chloride	X	X	X	<5,000	<20,000	**540**	<2,000	<1,000	**280**	0.2
Chloroethane	X	X	X	<5,000	<20,000	200	<1,000	<500	63	400

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Parameter	Well No. W-20			Well No. W-21			Well No. W-22			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Acetone	**5,500**	**5,200**	109	**8,400**	**1,700**	445	**2,000**	670	83.8	1,000
Acetonitrile	2,600	<2,500	X	X	X	X	X	X	X	NS
2-Butanone	2,000	2,500	55	3000	1,600	1,300	440	480	42	NS
1,1-Dichloroethane	450	**960**	300	<250	<250	43	140	<100	120	850
1,1-Dichloroethene	<250	<250	**8**	X	X	X	<100	<100	4(1)	7
1,2-Dichloroethylene (Total)	**1,600**	**3,400**	**332(1)**	X	X	X	<100	<100	58	70
Ethylbenzene	<250	390	36	X	X	X	X	X	X	700
4-Methyl-2-Pentanone	**4,000**	**74,000**	X	**1,500**	<500	**1,840**	360	<200	150	500
Methylene Chloride	**260**	<250	<5	**360**	<250	60	<100	<100	8	150
2-Propanol	X	X	X	X	X	X	<10,000	<10,000	37.8	NS
Toluene	**2,400**	**4,300**	330	**670**	<250	**3,200(2)**	<100	<100	13	343
1,1,1-Trichloroethane	**430**	**650**	<5	X	X	X	X	X	X	200
Trichloroethane	<250	**280**	**9**	X	X	X	<100	<100	28	5.0
Xylenes (Total)	**720**	**1,700**	94	<250	<250	470	<100	<100	2(1)	620
Vinyl Chloride	<500	<500	**87**	X	X	X	<200	<200	**15**	0.2
Chloroethane	<500	<500	99	<500	<200	260	<200	<200	2(1)	400
Benzene	<250	<250	4(1)	<250	<100	**29**	X	X	X	5
1,2-Dichloroethane	<250	<250	**9**	<250	<100	**120**	<100	<100	**6**	5
1,2-Dichloropropane	<250	<250	**9**	X	X	X	X	X	X	5

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Parameter	Well No. W-26			Well No. W-27			Well No. W-104A			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	
Carbon Disulfide	9	30	X	<5	58	X	X	X	X	NS
1,1-Dichloroethane	42	42	31	50	69	59	X	X	X	850
1,1-Dichloroethene	**11**	**7.7**	2(1)	X	X	X	X	X	X	7
1,2-Dichloroethylene (Total)	<5	<5	2(1)	X	X	X	X	X	X	70
4-Methyl-2-Pentanone	X	X	X	56	80	X	X	X	X	500
Methylene Chloride	40	11	18	X	X	X	X	X	X	150
2-Propanol	X	X	X	X	X	X	X	X	60.2	NS
Toluene	<5	17	<5	<5	6.8	2(1)	X	X	X	343
Trichloroethane	**27**	**28**	**16**	X	X	X	X	X	X	5.0
Xylenes (Total)	<5.0	110	<5	<5	30	<5	X	X	X	620
Vinyl Chloride	X	X	X	<10	<10	2(1)	X	X	X	0.2
Chloroethane	X	X	X	<10	<10	3(1)	X	X	X	400

NOTES:

X = Analyzed but not detected at or above the method detection limit.

NS = No NR 140 standard established.

EPA Method 8240 used in 5/94 and 11/94 sampling rounds, EPA Method 8260 used in 5/95 sampling round.

Well Nos. W-2A, W-2B, W-3A, W-3B, W-10A, MW-102A, and MW-103A sampled in 5/94 and W-10A sampled in 11/94 and 5/95, but not volatile organic compounds were detected at or above the method detection limit.

NR 140 ES exceedances are shown in bold.

FOOTNOTES:

(1) Detected but below the method detection limit; therefore, result is an estimated concentration.

(2) Compound concentration exceeds the calibration range of the instrument.

(3) Possible laboratory contaminant.

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TABLE 4

RECOVERY WELLS - GROUNDWATER SAMPLING RESULTS ($\mu g/\ell$)

MAY, NOVEMBER, DECEMBER 1994, MAY 1995

DETECTED VOLATILE ORGANIC COMPOUNDS - EPA METHODS 8240 AND 8260

Parameter	Well No. RW-1			Well No. RW-2				Well No. RW-3			NR 140 ES
	5/94	11/94	5/95	5/94	11/94	12/94	5/95	5/94	11/94	5/95	
Acetone	<10	48[3]	X	29,000	<5,000	28,000	X	X	X	X	1,000
Acetonitrile	X	X	X	570,000	<25,000	<25,000	X	510	720	X	NS
2-Butanone	<10	23	X	5,900	<5,000	6,800	X	X	X	X	NS
1,1-Dichloroethane	X	X	X	X	X	X	1,100[1]	250	270	340	850
1,1-Dichloroethene	X	X	X	X	X	X	X	50	<50	20[1]	7
1,2-Dichloroethylene (Total)	X	X	X	X	X	X	X	960	1,500	1,100	70
2-Hexanone	<10	15	X	X	X	X	X	X	X	X	NS
Methylene Chloride	X	X	X	75,000	13,000	43,000	20,000	X	X	X	5
Tetrachloroethane	<5.0	8.1	<5	6,500	12,000	3,400	4,600	530	720	560	5
1,1,1-Trichloroethane	17	<5	<5	44,000	94,000	23,000	29,000	760	1,000	1,000	200
1,1,2-Trichloroethane	X	X	<5	X	X	X	X	84	95	65	5
Trichloroethane	X	X	X	25,000	59,000	16,000	16,000	1,300	2,000	1,200	5
Chloroform	<5	<5	31[3]	X	X	X	X	X	X	X	6

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Table 4 Continued . . .

Parameter	Well No. RW-4			Well No. RW-5			Well No. RW-6			Well No. RW-7				NR 140 ES
	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	5/95	5/94	11/94	12/94	5/95	
Acetone	9,600	4,400[3]	X	120,000	45,000	X	150,000	64,000	148	1,300	120,000	< 100	779	1,000
Acetonitrile	< 10,000	26,000	X	X	X	X	X	X	X	< 500	280,000	< 500	X	NS
2-Butanone	4,900	< 2,000	X	110,000	43,000	110	74,000	26,000	91.7	420	< 20,000	< 100	869	NS
1,1-Dichloroethane	13,000	15,000	12,000	< 5,000	< 5,000	590	< 5,000	< 5,000	1,300	< 50	< 10,000	81	98	850
1,1-Dichloroethene	< 1,000	< 1,000	370[1]	< 5,000	< 5,000	300[1]	X	X	X	X	X	X	X	7
1,2-Dichloroethylene (Total)	20,000	13,000	13,000	< 5,000	8,900	1,500	6,300	< 5,000	4,700	X	X	X	13	70
1,2-Dichloropropane	< 1,000	1,200	990	X	X	X	X	X	X	X	X	X	X	5
Ethylbenzene	1,600	1,600	830	< 5,000	6,100	7,600	< 5,000	< 5,000	1,400	< 50	< 10,000	< 50	24	700
4-Methyl-2-Pentanone	3,700	< 2,000	X	43,000	33,000	110	18,000	13,000	119	290	23,000	240	X	500
Methylene Chloride	2,000	1,300[3]	< 500	93,000	58,000	67,000	41,000	7,200	21,000	< 50	< 10,000	< 50	68	5
Tetrachloroethane	X	X	X	< 5,000	< 5,000	3,000	< 5,000	< 5,000	180[1]	X	X	X	X	5
Toluene	2,700	23,000	7,900	73,000	90,000	93,000	32,000	8,500	29,000	64	< 10,000	630	370[2]	343
1,1,1-Trichloroethane	3,800	3,000	1,300	23,000	26,000	26,000	< 5,000	< 5,000	270[1]	X	X	X	X	200
Trichloroethane	1,300	1,100	200[1]	9,300	5,300	11,000	< 5,000	< 5,000	150[1]	X	X	X	X	5
Xylenes (Total)	6,500	6,800	3,600	18,000	26,000	25,000	< 5,000	< 5,000	5,100	< 50	< 10,000	< 50	72	620
Chloroform	X	X	X	< 5,000	< 5,000	730	X	X	X	X	X	X	X	6
Vinyl Chloride	< 2,000	< 2,000	2,200	X	X	X	< 10,000	< 10,000	700	< 50	< 20,000	< 50	9	0.2
1,2-Dichloroethane	< 1,000	< 1,000	360	X	X	X	X	X	X	< 50	< 10,000	< 50	66	5
Benzene	X	X	X	< 5,000	< 5,000	920			X	< 50	< 10,000	< 50	9	5
2-Propanol	X	X	X	< 10,000	< 500,000	87	X	X	X	X	X	X	X	NS
Chloroethane	X	X	X	X	X	X	< 10,000	< 10,000	970	< 100	< 20,000	< 100	380	400

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Table 4 Continued . . .

NOTES:

X = Analyzed but not detected at or above the method detection limit.
NS = No NR 140 standard established.
NR 140 ES exceedances are shown in bold.
EPA Method 8240 used in 5/94 and 11/94 sampling rounds, EPA Method 8260 used in 5/95 sampling round.

FOOTNOTES:

(1) Detected but below the method detection limit; therefore, result is an estimated concentration.
(2) Concentration exceeds the calibration range of the instrument.
(3) Possible laboratory contamination.

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TABLE 5

PRODUCTION AND DRINKING WATER WELLS

GROUNDWATER SAMPLING RESULTS ($\mu g/\ell$)

MAY, JUNE, NOVEMBER 1994, MAY 1995

DETECTED VOLATILE ORGANIC COMPOUNDS

Parameter	Production Well				Drinking Water Well			NR 140 ES
	5/94	6/94[2]	11/94	5/95	5/94	5/94 (Duplicate)	11/94	
1,1-Dichloroethane	0.74	< 1.0	<5.0	<5.0	<0.5	<0.5	<5.0	850
1,2-Dichloropropane	2.2	1.0	<5.0	<5.0	<0.5	<0.5	<5.0	5.0
Tetrachloroethane	**31**	**36**	**48**	**22**	<0.5	<0.5	<5.0	5.0
Trichloroethane	**45**	**43**	**60**	**23**	<0.5	<0.5	<5.0	5.0
1,1,1-Trichloroethane	5.4	6.6	8.1	3[1]	<0.5	<0.5	<5.0	200
1,1,2-Trichloroethane	**6.2**	< 1.0	<5.0	<5.0	<0.5	<0.5	<5.0	5
1,2-Dichloroethylene	11	NA	18	6	<0.5	<0.5	<5.0	70

NOTES:

EPA Method 8240 used in 5/94, 6/94, and 11/94.
EPA Method 8260 used in 5/95.
NR 140 ES exceedances are shown in bold.
NA = Not analyzed.

FOOTNOTES:

[1] Detected but below the method detection limit; therefore, result is an estimated concentration.
[2] This sample analyzed by Hazelton Laboratories; all other samples analyzed by Pace Labs.

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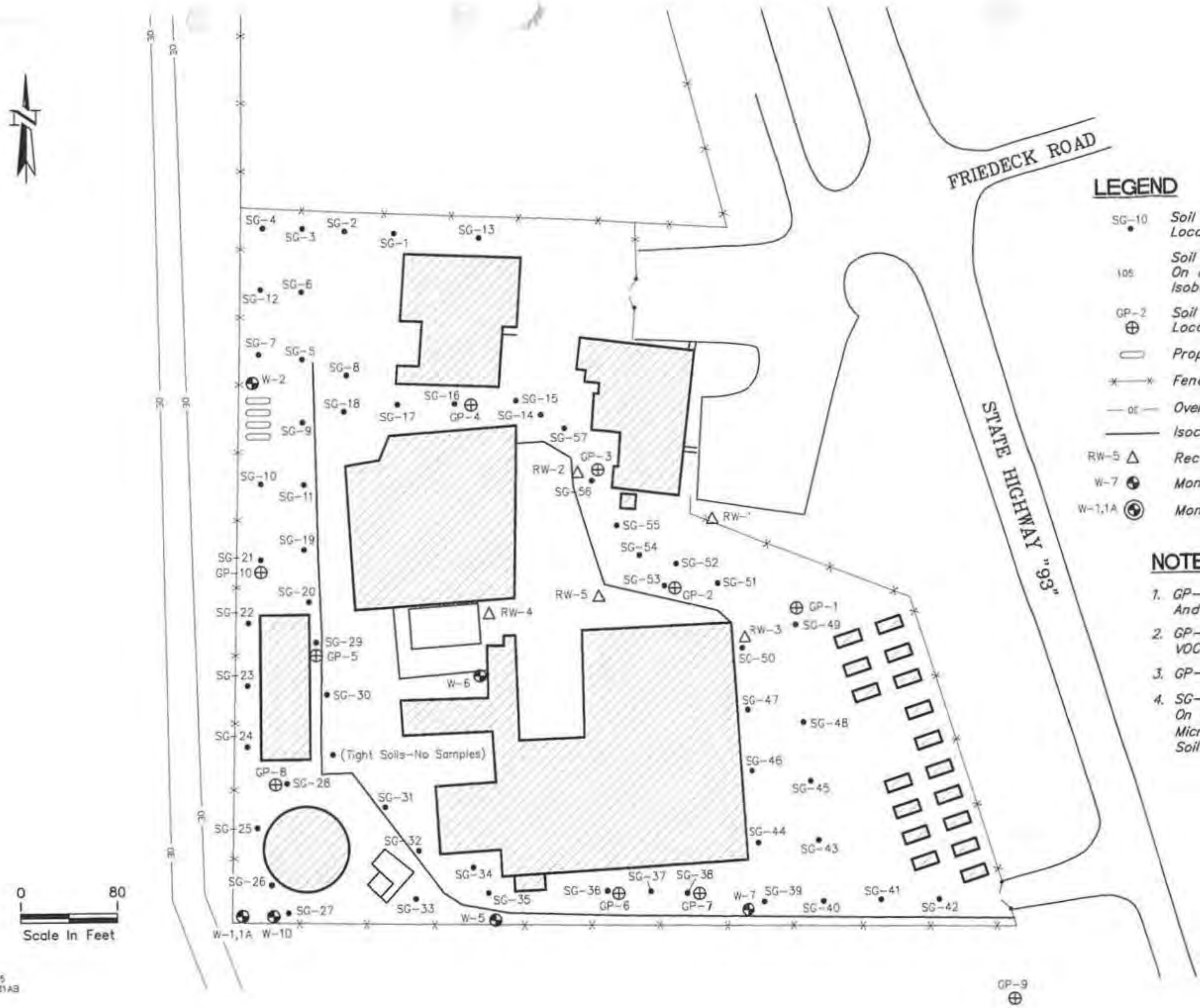
FIGURE 1



LEGEND

- SG-10 • Soil Gas Sample Location
- 105 Soil Gas Concentration In Parts Per Meter On Microtip PID Calibrated To 100 ppm Isobutylene Gas.
- GP-2 ⊕ Soil Sample Location
- Propane Tank
- Fence
- — OE — Overhead Power Line
- Isoconcentration Line
- RW-5 △ Recovery Well Location
- W-7 Monitoring Well Location
- W-1,1A Monitoring Well Cluster Location

NOTES

1. GP-1, GP-3, GP-4, GP-7, GP-8, And GP-10 Analyzed For VOCs Only.
2. GP-2, GP-5, And GP-6 Analyzed For VOCs, Metals, And Semi-Volatiles.
3. GP-9 Analyzed For Metals Only.
4. SG-1 Through SG-14 Are Estimates Based On A Comparison Between The HNU And Microtip Readings From Subsequent Soil Gas Samples.

LOCATIONS OF SOIL GAS AND SOIL SAMPLES

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FIGURE 2

LEGEND

- SG-10 • Soil Gas Sample Location
- 105 Soil Gas Concentration In Parts Per Meter On Microtip PID Calibrated To 100 ppm Isobutylene Gas.
- GP-2 ⊕ Soil Sample Location
- Propane Tank
- Fence
- OE Overhead Power Line
- Isoconcentration Line

NOTES

1. GP-1, GP-3, GP-4, GP-7, GP-8, And GP-10 Analyzed For VOCs Only.
2. GP-2, GP-5, And GP-6 Analyzed For VOCs, Metals, And Semi-Volatiles.
3. GP-9 Analyzed For Metals Only.
4. SG-1 Through SG-14 Are Estimates Based On A Comparison Between The HNU And Microtip Readings From Subsequent Soil Gas Samples.

SOIL GAS CONCENTRATIONS

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APPENDIX D

GROUNDWATER MONITORING SCHEDULE

Table 1
Groundwater Monitoring Schedule For Fall 2012 (SA Frequency Below)

Point Name	DNR ID	Sampling Frequency
Production Well	010	A
Lowes Creek Park Handpump[1]	040	A
W-1[3]	100	A
W-1A[3]	103	SA
W-1D	109	SA
W-2	112	A
W-2A	115	A
W-3	121	A
W-3A	124	A
W-3B	127	A
W-4	130	A
W-5	133	SA
W-6	136	SA
TW-1	404	SA
W-7	139	SA
W-7A	142	SA
RW-5	512	A
W-9[3]	148	A
W-16[3]	166	A
W-17	169	A
W-17A	172	SA
W-17B	175	SA
W-18[3]	178	SA
W-18A[3]	181	SA
W-20[3]	187	SA
W-21[3]	190	A
W-22[3]	193	SA
W-26	205	SA

Point Name	DNR ID	Sampling Frequency
W-27	208	SA
W-29[3]	214	A
W-30A	217	A
W-30B	220	A
MW-101[3]	300	A
MW-106[2]	330	A
MW-106A[2]	333	A
MW-111	357	SA
MW-111A	360	SA
MW-111B	363	SA
MW-112	366	A
MW-112A	369	A
MW-112B	372	A
MW-113	375	A
MW-113A	378	A
MW-113B	381	A
MW-114	384	SA
MW-114A	387	SA
MW-114B	390	SA
MW-115	393	SA
MW-115A	396	SA
MW-115B	399	SA
MW-116	402	A
Seep 2N (2nd Seep N)	610	A
Seep 7N	612	A
Seep 8N	614	A
Seep 9N	616	A
Method Blank	995	1 per event
Field Blank	997	1 per event
Trip Blank	999	1 per cooler
Duplicate		1 per 10 samples

A = Annual sample in April/May of each year
SA = Semi-annual sampling in April/May and October/November of each year
[1] = Sampling of Lowes Creek Handpump should be "prior to placement of the well into use for the season".
[2] = MW-105 and MW-105A originally proposed and approved for monitoring, but are abandoned. MW-106 and MW-106A are next closest
[3] = Wells W-1, W-1A, W-9, W-16, W-18, W-18A, W-19, W-20, W-21, W-22, W-29, and W-101 are wells to be monitored during 2nd quarter of each year per WPDES Permit No. WI-0058718-03-1. W-19 is no longer useable as of May, 2012.
[3] shaded = Wells W-18, W-18A, W-21, W-22, and W-29: If concentrations of acetone, MEK or MIBK exceed 50% of their respective ES concentration during a sampling event, quarterly sampling from the well(s) where the exceedance occurred shall commence and continue until the levels drop below 50% of the ES for two consecutive quarters per WPDES Permit No. WI-0058718-03-1

APPENDIX E

GROUNDWATER SAMPLE RESULTS – MAY 2009 TO OCTOBER 2012

10 **Production Well**

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	9		10		4.2		3.7	
1,1,2-Trichloroethane	00007900	5	0.5	1.6		2.3		1.1		.57	
1,1-Dichloroethane	00007534	850	85	16		27		24		17	
1,1-Dichloroethene	00007535	7	0.7	.77		< .83		< .42		< .4	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< 1.1		< .54		< .52	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< 1.3		< .64		< .56	
1,2-cis-Dichloroethene	00015659	70	7	31		7.2		2.2		< .41	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .63		< .32		< .37	
1,2-Dichloroethane	00010706	5	0.5	1.3		2.6		2.4		1.4	
1,2-Dichloropropane	00007887	5	0.5	.44		< .87		.61		.42	
1,2-trans-Dichloroethene	00015660	100	20	.41		< 1		< .52		< .39	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .89		< .44		< .44	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .72		.58		< .47	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .78		< .39		< .51	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .8		< .4		< .51	
Acetone	00006764	9000	1800	18		39		< 8.3		< 8.3	
Benzene	00007143	5	0.5	< .24		< .78		< .39		< .51	
Chloroethane	00007500	400	80	< 1.1		< 6.1		< 3		< 4.1	
Chloroform	00006766	6	0.6	< .13		< .81		< .4		< .45	
Chloromethane	00007487	30	3	< .23		< .93		< .47		< .48	
Dichlorodifluoromethane	00007571	1000	200	< .25		< 1.2		< .58		< .38	
Ethylbenzene	00010041	700	140	.58		2.5		< .41		< .43	
Fluorotrichloromethane	00007569	3490	698	< .21		< 1.3		< .63		< .51	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< 1.8		< .89		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	16		< 33		23		< 13	
Isopropyl ether	00010820	NSE	NSE	.18		< .98		< .49		< .38	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .86		< .43		< .44	
Methyl Ethyl Ketone	00007893	4000	800	2.4		< 4		2.1		< 2	
Methyl Isobutyl Ketone	00010810	500	50	3		< 2.1		< 1.1		< .63	
Methyl tert-butyl Ether	00163404	60	12	< .19		< 1.1		< .57		< .38	
Methylene Chloride	00007509	5	0.5	.22		< 1.9		< .96		< .8	
Naphthalene	00009120	100	10	< .32		< 1.6		< .81		< .64	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .72		< .36		< .49	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .76		< .38		< .41	
Styrene	00010042	100	10	< .2		< .68		< .34		< .39	
Tetrachloroethene	00012718	5	0.5	***24***		***33***		***22***		***9.9***	
Toluene	00010888	800	160	6.2		.81		< .34		< .46	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .72		.58		< .47	
Total Xylenes	TOTAL Xyl	2000	400	1.93		11		10.5		< .45	
Trichloroethene	00007901	5	0.5	2.1		1.2		1.9		.67	
Vinyl Chloride	00007501	0.2	0.02	***1.7***		***1.9***		***.84***		< .3	
Xylene - M & P	17960123	2000	400	1.2		7.2		6.5		< .91	
Xylene - O	00009547	2000	400	.73		3.8		4		< .45	

100 **W-1**

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .22		< .2		< .21		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .17		< .25		< .25	
1,1-Dichloroethane	00007534	850	85	< .21		< .16		< .19		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .15		< .2		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .23		< .26		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .3		< .28		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .12		< .21		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .22		< .24		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .21		< .2		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .13		< .19		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .12		< .24		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .12		< .25		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .15		< .26		< .26	
Acetone	00006764	9000	1800	< 4.2		< 4		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .2		< .13		< .26		< .26	
Chloroethane	00007500	400	80	< 1.5		< .67		< 2.1		< 2.1	
Chloroform	00006766	6	0.6	< .2		< .13		< .23		< .23	
Chloromethane	00007487	30	3	< .23		.66		< .24		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .13		< .19		< .19	
Ethylbenzene	00010041	700	140	< .21		< .12		< .22		< .22	
Fluorotrichloromethane	00007569	3490	698	< .32		< .11		< .25		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .36		< .23		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 14		29		13	
Isopropyl ether	00010820	NSE	NSE	< .25		< .2		< .19		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .64		< .31		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .13		< .19		.26	
Methylene Chloride	00007509	5	0.5	2.7		< .27		< .4		< .4	
Naphthalene	00009120	100	10	< .41		< .31		< .32		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .14		< .24		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .11		< .2		< .2	
Styrene	00010042	100	10	< .17		< .11		< .19		< .19	
Tetrachloroethene	00012718	5	0.5	< .21		< .18		.2		< .15	
Toluene	00010888	800	160	< .17		< .16		< .23		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .12		< .24		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .16		< .22		< .22	
Trichloroethene	00007901	5	0.5	.37		< .16		< .25		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .17		< .15		< .15	
Xylene - M & P	17960123	2000	400	< .33		< .22		< .46		< .46	
Xylene - O	00009547	2000	400	< .24		< .16		< .22		< .22	

103 **W-1A**

RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 3.1	< 55	< 22	< 22	< 2.6	< .82	< 21	< 5.2
1,1,2-Trichloroethane	00007900	5	0.5	< 5.2	< 56	< 23	< 23	< 3.2	< 1	< 25	< 6.3
1,1-Dichloroethane	00007534	850	85	270	220	120	58	19	5.3	< 19	10
1,1-Dichloroethene	00007535	7	0.7	< 5.4	< 52	< 21	< 21	< 2.5	< .8	< 20	< 5
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 7.4	< 68	< 27	< 27	< 3.3	< 1	< 26	< 6.5
1,2,4-Trichlorobenzene	00012082	70	14	< 5.5	< 80	< 32	< 32	< 3.5	< 1.1	< 28	< 7.1
1,2-cis-Dichloroethene	00015659	70	7	***3500***	***3400***	***590***	***1300***	8.8	2.9	***960***	***260***
1,2-Dichlorobenzene	00009550	600	60	< 4	< 40	< 16	< 16	< 2.3	< .74	< 19	< 4.7
1,2-Dichloroethane	00010706	5	0.5	< 3.8	< 41	< 16	< 16	< 3.1	< .98	< 24	< 6.1
1,2-Dichloropropane	00007887	5	0.5	***10***	< 54	< 22	< 22	< 2.5	< .79	< 20	< 4.9
1,2-trans-Dichloroethene	00015660	100	20	6.1	< 65	< 26	< 26	< 2.4	< .77	< 19	< 4.8
1,4-Dichlorobenzene	00010646	75	15	< 7.4	< 56	< 22	< 22	< 2.7	< .87	< 22	< 5.5
124TRIMTHLBENZEN	00009563	480	96	< 4.8	< 45	< 18	< 18	< 3	< .94	< 24	< 5.9
135TRIMTHLBENZEN	00010867	480	96	< 4.9	< 49	< 20	< 20	< 3.2	< 1	< 25	< 6.4
2-Chlorotoluene	00009549	NSE	NSE	< 4.7	< 50	< 20	< 20	< 3.2	< 1	< 26	< 6.4
Acetone	00006764	9000	1800	< 100	< 1000	< 420	< 420	< 52	< 17	< 420	< 100
Benzene	00007143	5	0.5	< 6	< 49	< 20	< 20	< 3.2	< 1	< 26	< 6.4
Chloroethane	00007500	400	80	< 29	< 380	< 150	< 150	< 26	< 8.2	< 210	< 51
Chloroform	00006766	6	0.6	< 3.3	< 51	< 20	< 20	< 2.8	< .9	< 23	< 5.6
Chloromethane	00007487	30	3	< 5.8	< 58	< 23	< 23	< 3	< .96	< 24	< 6
Dichlorodifluoromethane	00007571	1000	200	< 6.2	< 72	42	< 29	< 2.4	< .76	< 19	< 4.8
Ethylbenzene	00010041	700	140	470	440	170	84	< 2.7	5.1	77	70
Fluorotrichloromethane	00007569	3490	698	< 5.3	< 79	< 32	< 32	< 3.2	< 1	< 25	< 6.4
Hexachlorobutadiene	00008768	NSE	NSE	< 6.2	< 110	< 45	< 45	< 2.8	< .9	< 23	< 5.7
Isopropyl Alcohol	00006763	NSE	NSE	< 250	< 2100	< 830	< 830	< 79	< 25	< 630	< 160
Isopropyl ether	00010820	NSE	NSE	< 3.9	< 61	< 25	< 25	< 2.4	< .76	< 19	< 4.7
Isopropylbenzene	00009882	NSE	NSE	< 4.4	< 54	< 22	< 22	< 2.8	< .89	< 22	< 5.6
Methyl Ethyl Ketone	00007893	4000	800	< 12	< 250	< 100	< 100	< 13	< 4	< 100	< 25
Methyl Isobutyl Ketone	00010810	500	50	< 9.2	< 130	< 53	< 53	< 3.9	< 1.3	< 31	< 7.8
Methyl tert-butyl Ether	00163404	60	12	< 4.8	< 71	< 28	< 28	< 2.4	< .76	< 19	< 4.8
Methylene Chloride	00007509	5	0.5	< 5.5	< 120	< 48	< 48	< 5	< 1.6	< 40	< 10
Naphthalene	00009120	100	10	< 7.9	< 100	< 41	< 41	< 4	< 1.3	< 32	8.3
n-Butylbenzene	00010451	NSE	NSE	< 5.6	< 45	< 18	< 18	< 3.1	< .98	< 24	< 6.1
p-Isopropyltoluene	00009987	NSE	NSE	< 4.1	< 48	< 19	< 19	< 2.5	< .81	< 20	< 5.1
Styrene	00010042	100	10	< 5	< 43	< 17	< 17	< 2.4	< .78	< 19	< 4.9
Tetrachloroethene	00012718	5	0.5	< 3	< 52	< 21	< 21	< 1.8	< .58	< 15	< 3.7
Toluene	00010888	800	160	14	< 43	< 17	< 17	< 2.9	2.7	< 23	11
Total TriMthBenzenes	TOTALTM	480	96	< 4.8	< 45	< 18	< 18	< 3	< .94	< 24	< 5.9
Total Xylenes	TOTAL Xyl	2000	400	455.9	450	270	170	< 2.8	10	65	69
Trichloroethene	00007901	5	0.5	< 9.3	< 42	< 17	< 17	< 3.1	< .99	< 25	< 6.2
Vinyl Chloride	00007501	0.2	0.02	***360***	***650***	***1100***	***440***	***200***	***57***	***300***	***320***
Xylene - M & P	17960123	2000	400	450	450	270	170	< 5.7	10	65	69
Xylene - O	00009547	2000	400	5.9	< 60	< 24	< 24	< 2.8	< .9	< 22	< 5.6

109 **W-1D**

RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 6.3	< 55	< 22	< 17	< 1.1	< 1	< 10	< 2.6
1,1,2-Trichloroethane	00007900	5	0.5	< 10	< 56	< 23	< 18	< 1.1	< 1.3	< 13	< 3.2
1,1-Dichloroethane	00007534	850	85	270	200	180	110	76	53	45	21
1,1-Dichloroethene	00007535	7	0.7	< 11	< 52	< 21	< 17	< 1	< 1	< 10	< 2.5
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 15	< 68	< 27	< 22	< 1.4	< 1.3	< 13	< 3.3
1,2,4-Trichlorobenzene	00012082	70	14	< 11	< 80	< 32	< 25	< 1.6	< 1.4	< 14	< 3.5
1,2-cis-Dichloroethene	00015659	70	7	***1600***	***1200***	***1200***	***800***	3.4	***390***	***410***	***110***
1,2-Dichlorobenzene	00009550	600	60	< 7.9	< 40	< 16	< 13	< .79	< .93	< 9.3	< 2.3
1,2-Dichloroethane	00010706	5	0.5	< 7.6	< 41	< 16	< 13	.84	< 1.2	< 12	< 3.1
1,2-Dichloropropane	00007887	5	0.5	***20***	< 54	< 22	< 17	5	4	< 9.9	< 2.5
1,2-trans-Dichloroethene	00015660	100	20	< 10	< 65	< 26	< 21	2.5	2.9	< 9.7	< 2.4
1,4-Dichlorobenzene	00010646	75	15	< 15	< 56	< 22	< 18	< 1.1	< 1.1	< 11	< 2.7
124TRIMTHLBENZEN	00009563	480	96	39	< 45	< 18	< 14	< .91	7	< 12	3.6
135TRIMTHLBENZEN	00010867	480	96	13	< 49	< 20	< 16	< .98	1.7	< 13	< 3.2
2-Chlorotoluene	00009549	NSE	NSE	< 9.5	< 50	< 20	< 16	< 1	< 1.3	< 13	< 3.2
Acetone	00006764	9000	1800	< 200	< 1000	< 420	< 330	29	< 21	< 210	< 52
Benzene	00007143	5	0.5	***13***	< 49	< 20	< 16	1.3	3.5	< 13	< 3.2
Chloroethane	00007500	400	80	110	< 380	< 150	< 120	< 7.6	19	< 100	< 26
Chloroform	00006766	6	0.6	< 6.5	< 51	< 20	< 16	< 1	< 1.1	< 11	< 2.8
Chloromethane	00007487	30	3	< 12	***120***	< 23	< 19	< 1.2	< 1.2	< 12	< 3
Dichlorodifluoromethane	00007571	1000	200	< 12	< 72	< 29	< 23	< 1.4	< .95	< 9.5	< 2.4
Ethylbenzene	00010041	700	140	***1100***	***1300***	660	480	1.3	290	370	150
Fluorotrichloromethane	00007569	3490	698	< 11	< 79	< 32	< 25	< 1.6	< 1.3	< 13	< 3.2
Hexachlorobutadiene	00008768	NSE	NSE	< 12	< 110	< 45	< 36	< 2.2	< 1.1	< 11	< 2.8
Isopropyl Alcohol	00006763	NSE	NSE	< 500	< 2100	< 830	< 660	< 41	< 32	< 320	< 79
Isopropyl ether	00010820	NSE	NSE	< 7.8	< 61	< 25	< 20	< 1.2	< .95	< 9.5	< 2.4
Isopropylbenzene	00009882	NSE	NSE	< 8.8	< 54	< 22	< 17	< 1.1	2.3	< 11	< 2.8
Methyl Ethyl Ketone	00007893	4000	800	< 25	< 250	< 100	< 80	< 5	< 5	< 50	< 13
Methyl Isobutyl Ketone	00010810	500	50	< 18	< 130	< 53	< 42	< 2.7	< 1.6	< 16	< 3.9
Methyl tert-butyl Ether	00163404	60	12	< 9.6	< 71	< 28	< 23	< 1.4	< .95	< 9.5	< 2.4
Methylene Chloride	00007509	5	0.5	< 11	< 120	< 48	< 38	< 2.4	< 2	< 20	< 5
Naphthalene	00009120	100	10	< 16	< 100	< 41	< 32	< 2	< 1.6	< 16	< 4
n-Butylbenzene	00010451	NSE	NSE	< 11	< 45	< 18	< 14	< .91	< 1.2	< 12	< 3.1
p-Isopropyltoluene	00009987	NSE	NSE	< 8.2	< 48	< 19	< 15	< .95	< 1	< 10	< 2.5
Styrene	00010042	100	10	< 10	< 43	< 17	< 14	< .86	4.5	< 9.7	< 2.4
Tetrachloroethene	00012718	5	0.5	< 5.9	< 52	< 21	< 16	< 1	< .73	< 7.3	< 1.8
Toluene	00010888	800	160	***3300***	***3100***	***1000***	790	7.9	310	300	87
Total TriMthBenzenes	TOTALTM	480	96	52	< 45	< 18	< 14	< .91	8.7	< 12	3.6
Total Xylenes	TOTAL Xyl	2000	400	***3830***	***3980***	***2010***	1270	6.5	980	1300	540
Trichloroethene	00007901	5	0.5	< 19	< 42	< 17	< 13	< .84	< 1.2	< 12	< 3.1
Vinyl Chloride	00007501	0.2	0.02	***670***	***560***	***630***	***460***	***3.3***	***290***	***240***	***120***
Xylene - M & P	17960123	2000	400	***2900***	***3000***	1500	960	4.1	740	1000	430
Xylene - O	00009547	2000	400	930	980	510	310	2.4	240	300	110

112 **W-2** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40					85			
1,1,2-Trichloroethane	00007900	5	0.5					< .25			
1,1-Dichloroethane	00007534	850	85					.23			
1,1-Dichloroethene	00007535	7	0.7					2			
1,2,3-Trichlorobenzene	00008761	NSE	NSE					< .26			
1,2,4-Trichlorobenzene	00012082	70	14					< .28			
1,2-cis-Dichloroethene	00015659	70	7					< .21			
1,2-Dichlorobenzene	00009550	600	60					< .19			
1,2-Dichloroethane	00010706	5	0.5					< .24			
1,2-Dichloropropane	00007887	5	0.5					< .2			
1,2-trans-Dichloroethene	00015660	100	20					< .19			
1,4-Dichlorobenzene	00010646	75	15					< .22			
124TRIMTHLBENZEN	00009563	480	96					< .24			
135TRIMTHLBENZEN	00010867	480	96					< .25			
2-Chlorotoluene	00009549	NSE	NSE					< .26			
Acetone	00006764	9000	1800					4.7			
Benzene	00007143	5	0.5					< .26			
Chloroethane	00007500	400	80					< 2.1			
Chloroform	00006766	6	0.6					< .23			
Chloromethane	00007487	30	3					< .24			
Dichlorodifluoromethane	00007571	1000	200					< .19			
Ethylbenzene	00010041	700	140					< .22			
Fluorotrichloromethane	00007569	3490	698					< .25			
Hexachlorobutadiene	00008768	NSE	NSE					< .23			
Isopropyl Alcohol	00006763	NSE	NSE					31			
Isopropyl ether	00010820	NSE	NSE					< .19			
Isopropylbenzene	00009882	NSE	NSE					< .22			
Methyl Ethyl Ketone	00007893	4000	800					1.8			
Methyl Isobutyl Ketone	00010810	500	50					< .31			
Methyl tert-butyl Ether	00163404	60	12					< .19			
Methylene Chloride	00007509	5	0.5					< .4			
Naphthalene	00009120	100	10					< .32			
n-Butylbenzene	00010451	NSE	NSE					< .24			
p-Isopropyltoluene	00009987	NSE	NSE					< .2			
Styrene	00010042	100	10					< .19			
Tetrachloroethene	00012718	5	0.5					***68***			
Toluene	00010888	800	160					< .23			
Total TriMthBenzenes	TOTALTM	480	96					< .24			
Total Xylenes	TOTAL Xyl	2000	400					< .22			
Trichloroethene	00007901	5	0.5					***18***			
Vinyl Chloride	00007501	0.2	0.02					< .15			
Xylene - M & P	17960123	2000	400					< .46			
Xylene - O	00009547	2000	400					< .22			

115 **W-2A** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		10		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		.16		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .2		< .26	
Acetone	00006764	9000	1800	< 4		< 4		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .13		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< .67		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .13		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .12		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		< 8.3		< 6.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		.31		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .31		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .19		< .2	
Styrene	00010042	100	10	< .2		< .11		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		***8.1***		< .21		< .15	
Toluene	00010888	800	160	< .18		< .16		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		2.3		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .16		< .24		< .22	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40					< .21			
1,1,2-Trichloroethane	00007900	5	0.5					< .25			
1,1-Dichloroethane	00007534	850	85					< .19			
1,1-Dichloroethene	00007535	7	0.7					< .2			
1,2,3-Trichlorobenzene	00008761	NSE	NSE					< .26			
1,2,4-Trichlorobenzene	00012082	70	14					< .28			
1,2-cis-Dichloroethene	00015659	70	7					< .21			
1,2-Dichlorobenzene	00009550	600	60					< .19			
1,2-Dichloroethane	00010706	5	0.5					< .24			
1,2-Dichloropropane	00007887	5	0.5					< .2			
1,2-trans-Dichloroethene	00015660	100	20					< .19			
1,4-Dichlorobenzene	00010646	75	15					< .22			
124TRIMTHLBENZEN	00009563	480	96					< .24			
135TRIMTHLBENZEN	00010867	480	96					< .25			
2-Chlorotoluene	00009549	NSE	NSE					< .26			
Acetone	00006764	9000	1800					9			
Benzene	00007143	5	0.5					< .26			
Chloroethane	00007500	400	80					< 2.1			
Chloroform	00006766	6	0.6					< .23			
Chloromethane	00007487	30	3					< .24			
Dichlorodifluoromethane	00007571	1000	200					< .19			
Ethylbenzene	00010041	700	140					< .22			
Fluorotrichloromethane	00007569	3490	698					< .25			
Hexachlorobutadiene	00008768	NSE	NSE					< .23			
Isopropyl Alcohol	00006763	NSE	NSE					44			
Isopropyl ether	00010820	NSE	NSE					< .19			
Isopropylbenzene	00009882	NSE	NSE					< .22			
Methyl Ethyl Ketone	00007893	4000	800					< 1			
Methyl Isobutyl Ketone	00010810	500	50					< .31			
Methyl tert-butyl Ether	00163404	60	12					< .19			
Methylene Chloride	00007509	5	0.5					< .4			
Naphthalene	00009120	100	10					< .32			
n-Butylbenzene	00010451	NSE	NSE					< .24			
p-Isopropyltoluene	00009987	NSE	NSE					< .2			
Styrene	00010042	100	10					< .19			
Tetrachloroethene	00012718	5	0.5					.35			
Toluene	00010888	800	160					< .23			
Total TriMthBenzenes	TOTALTM	480	96					< .24			
Total Xylenes	TOTAL Xyl	2000	400					< .22			
Trichloroethene	00007901	5	0.5					< .25			
Vinyl Chloride	00007501	0.2	0.02					< .15			
Xylene - M & P	17960123	2000	400					< .46			
Xylene - O	00009547	2000	400					< .22			

124 **W-3A** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .2		< .26	
Acetone	00006764	9000	1800	< 4		4		< 4.2		6.6	
Benzene	00007143	5	0.5	< .24		< .13		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< .67		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .13		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .12		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		< 8.3		20	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	.54		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		.4		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .31		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .19		< .2	
Styrene	00010042	100	10	< .2		< .11		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .21		< .15	
Toluene	00010888	800	160	< .18		.21		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .17		.27	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .16		< .24		< .22	

127 **W-3B** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .22		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .23		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .21		.45		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .21		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .27		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .32		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .2		.38		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .16		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .22		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .26		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .18		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .2		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .2		< .2		< .26	
Acetone	00006764	9000	1800	< 4		9.2		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .2		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< 1.5		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .2		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .23		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .29		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .21		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .32		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .45		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		9.1		< 8.3		9.6	
Isopropyl ether	00010820	NSE	NSE	< .16		< .25		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		2.2		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .53		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .28		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		< .48		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .41		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .18		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .19		< .19		< .2	
Styrene	00010042	100	10	< .2		< .17		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .21		< .21		< .15	
Toluene	00010888	800	160	< .18		.2		2.1		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .18		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .24		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .17		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .18		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .33		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .24		< .24		< .22	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40					< .21		< .21	
1,1,2-Trichloroethane	00007900	5	0.5					< .25		< .25	
1,1-Dichloroethane	00007534	850	85					< .19		< .19	
1,1-Dichloroethene	00007535	7	0.7					< .2		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE					< .26		< .26	
1,2,4-Trichlorobenzene	00012082	70	14					< .28		< .28	
1,2-cis-Dichloroethene	00015659	70	7					< .21		< .21	
1,2-Dichlorobenzene	00009550	600	60					< .19		< .19	
1,2-Dichloroethane	00010706	5	0.5					< .24		< .24	
1,2-Dichloropropane	00007887	5	0.5					< .2		< .2	
1,2-trans-Dichloroethene	00015660	100	20					< .19		< .19	
1,4-Dichlorobenzene	00010646	75	15					< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96					< .24		< .24	
135TRIMTHLBENZEN	00010867	480	96					< .25		< .25	
2-Chlorotoluene	00009549	NSE	NSE					< .26		< .26	
Acetone	00006764	9000	1800					4.4		34	
Benzene	00007143	5	0.5					< .26		< .26	
Chloroethane	00007500	400	80					< 2.1		< 2.1	
Chloroform	00006766	6	0.6					< .23		< .23	
Chloromethane	00007487	30	3					< .24		< .24	
Dichlorodifluoromethane	00007571	1000	200					< .19		< .19	
Ethylbenzene	00010041	700	140					< .22		< .22	
Fluorotrichloromethane	00007569	3490	698					< .25		< .25	
Hexachlorobutadiene	00008768	NSE	NSE					< .23		< .23	
Isopropyl Alcohol	00006763	NSE	NSE					45		19	
Isopropyl ether	00010820	NSE	NSE					< .19		< .19	
Isopropylbenzene	00009882	NSE	NSE					< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800					< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50					< .31		2.6	
Methyl tert-butyl Ether	00163404	60	12					< .19		< .19	
Methylene Chloride	00007509	5	0.5					< .4		< .4	
Naphthalene	00009120	100	10					< .32		< .32	
n-Butylbenzene	00010451	NSE	NSE					< .24		< .24	
p-Isopropyltoluene	00009987	NSE	NSE					< .2		< .2	
Styrene	00010042	100	10					< .19		< .19	
Tetrachloroethene	00012718	5	0.5					2.9		.61	
Toluene	00010888	800	160					< .23		< .23	
Total TriMthBenzenes	TOTALTM	480	96					< .24		< .24	
Total Xylenes	TOTAL Xyl	2000	400					< .22		< .22	
Trichloroethene	00007901	5	0.5					< .25		< .25	
Vinyl Chloride	00007501	0.2	0.02					< .15		< .15	
Xylene - M & P	17960123	2000	400					< .46		< .46	
Xylene - O	00009547	2000	400					< .22		< .22	

DESCRIPTION	CASNUM	ES	PAL	RESULTS MONTH/YEAR 05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	4.7	8.4	57	81	40	69	120	***270***
1,1,2-Trichloroethane	00007900	5	0.5	< 1	< .56	< .17	< 1.3	< 2.5	< 2.5	< 5.1	< 5.1
1,1-Dichloroethane	00007534	850	85	31	32	130	71	20	81	200	370
1,1-Dichloroethene	00007535	7	0.7	< 1.1	< .52	< .15	< 1.2	< 2	< 2	< 4	< 4
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 1.5	< .68	< .23	< 1.8	< 2.6	< 2.6	< 5.2	< 5.2
1,2,4-Trichlorobenzene	00012082	70	14	< 1.1	< .8	< .3	< 2.4	< 2.8	< 2.8	< 5.6	< 5.6
1,2-cis-Dichloroethene	00015659	70	7	11	13	***95***	68	18	53	***140***	***290***
1,2-Dichlorobenzene	00009550	600	60	< .79	< .4	< .13	< 1	< 1.9	< 1.9	< 3.7	< 3.7
1,2-Dichloroethane	00010706	5	0.5	< .76	< .41	< .22	< 1.8	< 2.4	< 2.4	< 4.9	< 4.9
1,2-Dichloropropane	00007887	5	0.5	< 1.6	< .54	.26	< 1.7	< 2	< 2	< 3.9	< 3.9
1,2-trans-Dichloroethene	00015660	100	20	< 1	< .65	1.8	1.1	< 1.9	< 1.9	< 3.9	< 3.9
1,4-Dichlorobenzene	00010646	75	15	< 1.5	< .56	< .13	< 1	< 2.2	< 2.2	< 4.4	< 4.4
124TRIMTHLBENZEN	00009563	480	96	< .95	< .45	< .12	< .96	< 2.4	< 2.4	< 4.7	< 4.7
135TRIMTHLBENZEN	00010867	480	96	< .97	< .49	< .12	< .97	< 2.5	< 2.5	< 5.1	< 5.1
2-Chlorotoluene	00009549	NSE	NSE	< .95	< .5	< .15	< 1.2	< 2.6	< 2.6	< 5.1	< 5.1
Acetone	00006764	9000	1800	< 20	< 10	4.2	< 32	< 42	< 42	< 83	< 83
Benzene	00007143	5	0.5	< 1.2	< .49	< .13	< 1	< 2.6	< 2.6	< 5.1	< 5.1
Chloroethane	00007500	400	80	< 5.7	< 3.8	.77	< 5.4	< 21	< 21	< 41	< 41
Chloroform	00006766	6	0.6	< .65	< .51	< .13	< 1	< 2.3	< 2.3	< 4.5	< 4.5
Chloromethane	00007487	30	3	< 1.2	.8	< .28	< 2.2	< 2.4	< 2.4	< 4.8	< 4.8
Dichlorodifluoromethane	00007571	1000	200	< 1.2	< .72	< .13	1.1	< 1.9	< 1.9	< 3.8	< 3.8
Ethylbenzene	00010041	700	140	< .77	< .52	< .12	< .96	< 2.2	< 2.2	< 4.3	< 4.3
Fluorotrichloromethane	00007569	3490	698	< 1.1	< .79	2.1	< .86	< 2.5	< 2.5	< 5.1	< 5.1
Hexachlorobutadiene	00008768	NSE	NSE	< 1.2	< 1.1	< .36	< 2.9	< 2.3	< 2.3	< 4.5	< 4.5
Isopropyl Alcohol	00006763	NSE	NSE	< 50	< 21	< 14	< 110	< 63	< 63	< 130	< 130
Isopropyl ether	00010820	NSE	NSE	< .78	< .61	< .2	< 1.6	< 1.9	< 1.9	< 3.8	< 3.8
Isopropylbenzene	00009882	NSE	NSE	< .88	< .54	< .1	< .81	< 2.2	< 2.2	< 4.4	< 4.4
Methyl Ethyl Ketone	00007893	4000	800	< 2.5	< 2.5	< 1	< 8	< 10	< 10	< 20	< 20
Methyl Isobutyl Ketone	00010810	500	50	< 1.8	< 1.3	< .64	< 5.1	< 3.1	< 3.1	< 6.3	< 6.3
Methyl tert-butyl Ether	00163404	60	12	< .96	< .71	< .13	< 1	< 1.9	< 1.9	< 3.8	< 3.8
Methylene Chloride	00007509	5	0.5	< 1.1	< 1.2	.6	< 2.1	< 4	< 4	***32***	***18***
Naphthalene	00009120	100	10	< 1.6	< 1	< .31	< 2.5	< 3.2	< 3.2	< 6.4	< 6.4
n-Butylbenzene	00010451	NSE	NSE	< 1.1	< .45	< .14	< 1.1	< 2.4	< 2.4	< 4.9	< 4.9
p-Isopropyltoluene	00009987	NSE	NSE	< .82	< .48	< .11	< .86	< 2	< 2	< 4.1	< 4.1
Styrene	00010042	100	10	< 1	< .43	< .11	< .87	< 1.9	< 1.9	< 3.9	< 3.9
Tetrachloroethene	00012718	5	0.5	1.5	3.7	4.9	***6.4***	4.6	***6.8***	4.8	***11***
Toluene	00010888	800	160	< .89	< .43	< .16	< 1.2	< 2.3	< 2.3	< 4.6	< 4.6
Total TriMthBenzenes	TOTALTM	480	96	< .95	< .45	< .12	< .96	< 2.4	< 2.4	< 4.7	< 4.7
Total Xylenes	TOTAL Xyl	2000	400	< .83	< .6	< .16	< 1.2	< 2.2	< 2.2	< 4.5	< 4.5
Trichloroethene	00007901	5	0.5	< 1.9	1.8	2.8	4.4	< 2.5	4.4	***5.2***	***14***
Vinyl Chloride	00007501	0.2	0.02	< .85	< .46	***1.5***	< 1.4	< 1.5	< 1.5	< 3	< 3
Xylene - M & P	17960123	2000	400	< 1.4	< .84	< .22	< 1.8	< 4.6	< 4.6	< 9.1	< 9.1
Xylene - O	00009547	2000	400	< .83	< .6	< .16	< 1.2	< 2.2	< 2.2	< 4.5	< 4.5

136 **W-6** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	37	< 1.1	.71		1.7	2.1		
1,1,2-Trichloroethane	00007900	5	0.5	< 4.5	< 1.1	< .23		< .25	< .25		
1,1-Dichloroethane	00007534	850	85	220	12	2.6		< .19	17		
1,1-Dichloroethene	00007535	7	0.7	< 4.2	< 1	.23		< .2	< .2		
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 5.4	< 1.4	< .27		< .26	< .26		
1,2,4-Trichlorobenzene	00012082	70	14	< 6.4	< 1.6	< .32		< .28	< .28		
1,2-cis-Dichloroethene	00015659	70	7	***120***	2.3	9.8		2.8	19		
1,2-Dichlorobenzene	00009550	600	60	8.1	8	1.2		< .19	.26		
1,2-Dichloroethane	00010706	5	0.5	***18***	.94	< .16		.48	.46		
1,2-Dichloropropane	00007887	5	0.5	< 4.3	< 1.1	< .22		.23	< .2		
1,2-trans-Dichloroethene	00015660	100	20	< 5.2	< 1.3	< .26		.37	.77		
1,4-Dichlorobenzene	00010646	75	15	< 4.4	1.3	.27		< .22	< .22		
124TRIMTHLBENZEN	00009563	480	96	42	47	9.3		.57	1.5		
135TRIMTHLBENZEN	00010867	480	96	8.7	< .98	1.1		< .25	< .25		
2-Chlorotoluene	00009549	NSE	NSE	7.1	8.1	1.1		< .26	< .26		
Acetone	00006764	9000	1800	< 83	71	31		< 4.2	14		
Benzene	00007143	5	0.5	< 3.9	< .98	< .2		< .26	< .26		
Chloroethane	00007500	400	80	130	< 7.6	< 1.5		< 2.1	< 2.1		
Chloroform	00006766	6	0.6	< 4	< 1	< .2		1.6	.65		
Chloromethane	00007487	30	3	< 4.7	< 1.2	< .23		< .24	< .24		
Dichlorodifluoromethane	00007571	1000	200	< 5.8	< 1.4	< .29		< .19	.51		
Ethylbenzene	00010041	700	140	130	43	10		.26	.87		
Fluorotrichloromethane	00007569	3490	698	< 6.3	< 1.6	< .32		< .25	< .25		
Hexachlorobutadiene	00008768	NSE	NSE	< 8.9	< 2.2	< .45		< .23	< .23		
Isopropyl Alcohol	00006763	NSE	NSE	< 170	< 41	11		64	19		
Isopropyl ether	00010820	NSE	NSE	< 4.9	< 1.2	< .25		< .19	< .19		
Isopropylbenzene	00009882	NSE	NSE	4.8	2.9	.52		< .22	.34		
Methyl Ethyl Ketone	00007893	4000	800	< 20	7.7	9.9		5.1	1.7		
Methyl Isobutyl Ketone	00010810	500	50	< 11	< 2.7	< .53		< .31	< .31		
Methyl tert-butyl Ether	00163404	60	12	< 5.7	< 1.4	< .28		< .19	< .19		
Methylene Chloride	00007509	5	0.5	< 9.6	***5.9***	2.5		***18***	***11***		
Naphthalene	00009120	100	10	< 8.1	8.5	3.9		1.2	.88		
n-Butylbenzene	00010451	NSE	NSE	< 3.6	< .91	< .18		< .24	< .24		
p-Isopropyltoluene	00009987	NSE	NSE	< 3.8	< .95	< .19		< .2	< .2		
Styrene	00010042	100	10	< 3.4	< .86	< .17		< .19	< .19		
Tetrachloroethene	00012718	5	0.5	***11***	< 1	.57		.87	1.5		
Toluene	00010888	800	160	10	1.3	1		.24	.61		
Total TriMthBenzenes	TOTALTM	480	96	50.7	47	10.4		.57	1.5		
Total Xylenes	TOTAL Xyl	2000	400	35	4.9	5.3		.56	2.56		
Trichloroethene	00007901	5	0.5	***7.4***	< .84	1.9		1.4	4		
Vinyl Chloride	00007501	0.2	0.02	***53***	***1.4***	***2.1***		***.31***	***2.9***		
Xylene - M & P	17960123	2000	400	11	< 1.7	2.5		< .46	.46		
Xylene - O	00009547	2000	400	24	4.9	2.8		.56	2.1		

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40				50	32	18	25	28
1,1,2-Trichloroethane	00007900	5	0.5				< .41	< 1	< 1	< .63	< .63
1,1-Dichloroethane	00007534	850	85				3.7	1.3	< .75	1.3	1.6
1,1-Dichloroethene	00007535	7	0.7				1.2	1.1	< .8	< .5	< .5
1,2,3-Trichlorobenzene	00008761	NSE	NSE				< .56	< 1	< 1	< .65	< .65
1,2,4-Trichlorobenzene	00012082	70	14				< .76	< 1.1	< 1.1	< .71	< .71
1,2-cis-Dichloroethene	00015659	70	7				3.1	.96	< .82	.95	1.2
1,2-Dichlorobenzene	00009550	600	60				< .32	< .74	< .74	< .47	< .47
1,2-Dichloroethane	00010706	5	0.5				< .55	< .98	< .98	< .61	< .61
1,2-Dichloropropane	00007887	5	0.5				< .52	< .79	< .79	< .49	< .49
1,2-trans-Dichloroethene	00015660	100	20				.45	< .77	< .77	< .48	< .48
1,4-Dichlorobenzene	00010646	75	15				< .32	< .87	< .87	< .55	< .55
124TRIMTHLBENZEN	00009563	480	96				< .3	< .94	< .94	< .59	< .59
135TRIMTHLBENZEN	00010867	480	96				< .3	< 1	< 1	< .64	< .64
2-Chlorotoluene	00009549	NSE	NSE				< .36	< 1	< 1	< .64	< .64
Acetone	00006764	9000	1800				< 10	< 17	< 17	< 10	11
Benzene	00007143	5	0.5				< .33	< 1	< 1	< .64	< .64
Chloroethane	00007500	400	80				< 1.7	< 8.2	< 8.2	< 5.1	< 5.1
Chloroform	00006766	6	0.6				< .32	< .9	< .9	< .56	< .56
Chloromethane	00007487	30	3				< .7	< .96	< .96	< .6	< .6
Dichlorodifluoromethane	00007571	1000	200				< .34	< .76	< .76	< .48	< .48
Ethylbenzene	00010041	700	140				< .3	< .86	< .86	< .54	< .54
Fluorotrichloromethane	00007569	3490	698				< .27	< 1	< 1	< .64	< .64
Hexachlorobutadiene	00008768	NSE	NSE				< .9	< .9	< .9	< .57	< .57
Isopropyl Alcohol	00006763	NSE	NSE				< 35	< 25	< 25	< 16	< 16
Isopropyl ether	00010820	NSE	NSE				< .51	< .76	< .76	< .47	< .47
Isopropylbenzene	00009882	NSE	NSE				< .25	< .89	< .89	< .56	< .56
Methyl Ethyl Ketone	00007893	4000	800				2.7	< 4	< 4	< 2.5	< 2.5
Methyl Isobutyl Ketone	00010810	500	50				< 1.6	< 1.3	< 1.3	< .78	< .78
Methyl tert-butyl Ether	00163404	60	12				< .32	< .76	< .76	< .48	< .48
Methylene Chloride	00007509	5	0.5				< .67	< 1.6	< 1.6	1.3	4.1
Naphthalene	00009120	100	10				< .77	< 1.3	< 1.3	< .8	< .8
n-Butylbenzene	00010451	NSE	NSE				< .34	< .98	< .98	< .61	< .61
p-Isopropyltoluene	00009987	NSE	NSE				< .27	< .81	< .81	< .51	< .51
Styrene	00010042	100	10				< .27	< .78	< .78	< .49	< .49
Tetrachloroethene	00012718	5	0.5				***57***	***43***	***26***	***30***	***34***
Toluene	00010888	800	160				< .39	< .92	< .92	< .58	< .58
Total TriMthBenzenes	TOTALTM	480	96				< .3	< .94	< .94	< .59	< .59
Total Xylenes	TOTAL Xyl	2000	400				< .39	< .9	< .9	< .56	< .56
Trichloroethene	00007901	5	0.5				***25***	***11***	2.6	***9***	***13***
Vinyl Chloride	00007501	0.2	0.02				< .43	< .6	< .6	< .37	< .37
Xylene - M & P	17960123	2000	400				< .55	< 1.8	< 1.8	< 1.1	< 1.1
Xylene - O	00009547	2000	400				< .39	< .9	< .9	< .56	< .56

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	6.6	10	23	37	33	29	6.1	21
1,1,2-Trichloroethane	00007900	5	0.5	< .52	< 2.3	< .45	< 1.7	< 6.3	< 2.5	< 6.3	< 5.1
1,1-Dichloroethane	00007534	850	85	< .43	< 2.1	2.2	6.4	11	8.5	< 4.7	< 3.7
1,1-Dichloroethene	00007535	7	0.7	< .54	< 2.1	.88	< 1.5	< 5	< 2	< 5	< 4
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .74	< 2.7	< .54	< 2.3	< 6.5	< 2.6	< 6.5	< 5.2
1,2,4-Trichlorobenzene	00012082	70	14	< .55	< 3.2	< .64	< 3	< 7.1	< 2.8	< 7.1	< 5.6
1,2-cis-Dichloroethene	00015659	70	7	< .41	< 2	1.4	3.5	< 5.2	4.6	< 5.2	< 4.1
1,2-Dichlorobenzene	00009550	600	60	< .4	< 1.6	< .32	< 1.3	< 4.7	< 1.9	< 4.7	< 3.7
1,2-Dichloroethane	00010706	5	0.5	***6.9***	***15***	***15***	< 2.2	< 6.1	< 2.4	< 6.1	< 4.9
1,2-Dichloropropane	00007887	5	0.5	< .82	< 2.2	< .43	< 2.1	< 4.9	< 2	< 4.9	< 3.9
1,2-trans-Dichloroethene	00015660	100	20	< .51	< 2.6	.59	< 1.3	< 4.8	< 1.9	< 4.8	< 3.9
1,4-Dichlorobenzene	00010646	75	15	< .74	< 2.2	< .44	< 1.3	< 5.5	< 2.2	< 5.5	< 4.4
124TRIMTHLBENZEN	00009563	480	96	< .48	< 1.8	< .36	< 1.2	< 5.9	< 2.4	< 5.9	< 4.7
135TRIMTHLBENZEN	00010867	480	96	< .49	< 2	< .39	< 1.2	< 6.4	< 2.5	< 6.4	< 5.1
2-Chlorotoluene	00009549	NSE	NSE	< .47	< 2	< .4	< 1.5	< 6.4	< 2.6	< 6.4	< 5.1
Acetone	00006764	9000	1800	< 10	< 42	< 8.3	< 40	< 100	45	< 100	< 83
Benzene	00007143	5	0.5	< .6	< 2	< .39	< 1.3	< 6.4	< 2.6	< 6.4	< 5.1
Chloroethane	00007500	400	80	< 2.9	< 15	< 3	< 6.7	< 51	< 21	< 51	< 41
Chloroform	00006766	6	0.6	< .33	< 2	.46	< 1.3	< 5.6	< 2.3	< 5.6	< 4.5
Chloromethane	00007487	30	3	< .58	< 2.3	< .47	< 2.8	< 6	< 2.4	< 6	< 4.8
Dichlorodifluoromethane	00007571	1000	200	< .62	< 2.9	< .58	< 1.3	< 4.8	< 1.9	< 4.8	< 3.8
Ethylbenzene	00010041	700	140	< .39	< 2.1	< .41	< 1.2	< 5.4	< 2.2	< 5.4	< 4.3
Fluorotrichloromethane	00007569	3490	698	< .53	< 3.2	< .63	< 1.1	< 6.4	< 2.5	< 6.4	< 5.1
Hexachlorobutadiene	00008768	NSE	NSE	< .62	< 4.5	< .89	< 3.6	< 5.7	< 2.3	< 5.7	< 4.5
Isopropyl Alcohol	00006763	NSE	NSE	< 25	< 83	< 17	< 140	< 160	< 63	< 160	< 130
Isopropyl ether	00010820	NSE	NSE	< .39	< 2.5	< .49	< 2	< 4.7	< 1.9	< 4.7	< 3.8
Isopropylbenzene	00009882	NSE	NSE	< .44	< 2.2	< .43	< 1	< 5.6	< 2.2	< 5.6	< 4.4
Methyl Ethyl Ketone	00007893	4000	800	< 1.2	< 10	< 2	< 10	< 25	< 10	< 25	< 20
Methyl Isobutyl Ketone	00010810	500	50	< .92	< 5.3	< 1.1	< 6.4	< 7.8	< 3.1	< 7.8	< 6.3
Methyl tert-butyl Ether	00163404	60	12	< .48	< 2.8	< .57	< 1.3	< 4.8	< 1.9	< 4.8	< 3.8
Methylene Chloride	00007509	5	0.5	< .55	< 4.8	< .96	< 2.7	< 10	< 4	< 10	< 8
Naphthalene	00009120	100	10	< .79	< 4.1	< .81	< 3.1	< 8	< 3.2	< 8	< 6.4
n-Butylbenzene	00010451	NSE	NSE	< .56	< 1.8	< .36	< 1.4	< 6.1	< 2.4	< 6.1	< 4.9
p-Isopropyltoluene	00009987	NSE	NSE	< .41	< 1.9	< .38	< 1.1	< 5.1	< 2	< 5.1	< 4.1
Styrene	00010042	100	10	< .5	< 1.7	< .34	< 1.1	< 4.9	< 1.9	< 4.9	< 3.9
Tetrachloroethene	00012718	5	0.5	***110***	***290***	***290***	***96***	***220***	***170***	***190***	***270***
Toluene	00010888	800	160	< .45	< 1.7	< .34	< 1.6	< 5.8	< 2.3	< 5.8	< 4.6
Total TriMthBenzenes	TOTALTM	480	96	< .48	< 1.8	< .36	< 1.2	< 5.9	< 2.4	< 5.9	< 4.7
Total Xylenes	TOTAL Xyl	2000	400	< .41	< 2.4	< .48	< 1.6	< 5.6	< 2.2	< 5.6	< 4.5
Trichloroethene	00007901	5	0.5	***25***	***19***	***26***	***21***	***31***	***23***	***18***	***16***
Vinyl Chloride	00007501	0.2	0.02	< .42	< 1.8	< .37	< 1.7	< 3.7	< 1.5	< 3.7	< 3
Xylene - M & P	17960123	2000	400	< .7	< 3.3	< .67	< 2.2	< 11	< 4.6	< 11	< 9.1
Xylene - O	00009547	2000	400	< .41	< 2.4	< .48	< 1.6	< 5.6	< 2.2	< 5.6	< 4.5

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .22		< .2		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .17		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .21		< .16		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .15		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .23		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .3		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .12		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .22		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .21		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .13		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .12		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .12		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .15		< .2		< .26	
Acetone	00006764	9000	1800	< 4.2		< 4		6.6		< 4.2	
Benzene	00007143	5	0.5	< .2		< .13		< .2		< .26	
Chloroethane	00007500	400	80	< 1.5		< .67		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .2		< .13		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .13		< .29		< .19	
Ethylbenzene	00010041	700	140	< .21		< .12		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .32		< .11		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .36		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 14		< 8.3		7.3	
Isopropyl ether	00010820	NSE	NSE	< .25		< .2		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		1.3		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .64		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .13		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .48		< .27		< .48		< .4	
Naphthalene	00009120	100	10	< .41		< .31		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .14		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .11		< .19		< .2	
Styrene	00010042	100	10	< .17		< .11		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .21		< .18		< .21		< .15	
Toluene	00010888	800	160	< .17		< .16		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .12		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .16		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .17		< .16		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .17		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .33		< .22		< .33		< .46	
Xylene - O	00009547	2000	400	< .24		< .16		< .24		< .22	

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DESCRIPTION	CASNUM	ES	PAL	RESULTS MONTH/YEAR 05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .13				< .21		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21				< .25		< .25	
1,1-Dichloroethane	00007534	850	85	< .17				< .19		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22				< .2		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3				< .26		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22				< .28		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16				< .21		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16				< .19		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15				< .24		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33				< .2		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21				< .19		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3				< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19				< .24		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19				< .25		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19				< .26		< .26	
Acetone	00006764	9000	1800	15				< 4.2		7.7	
Benzene	00007143	5	0.5	< .24				< .26		< .26	
Chloroethane	00007500	400	80	< 1.1				< 2.1		< 2.1	
Chloroform	00006766	6	0.6	< .13				< .23		< .23	
Chloromethane	00007487	30	3	.4				< .24		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25				< .19		< .19	
Ethylbenzene	00010041	700	140	< .15				< .22		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21				< .25		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25				< .23		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10				< 6.3		10	
Isopropyl ether	00010820	NSE	NSE	< .16				< .19		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18				< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	2.7				< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37				< .31		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19				< .19		< .19	
Methylene Chloride	00007509	5	0.5	< .22				< .4		< .4	
Naphthalene	00009120	100	10	< .32				< .32		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23				< .24		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16				< .2		< .2	
Styrene	00010042	100	10	< .2				< .19		< .19	
Tetrachloroethene	00012718	5	0.5	< .12				< .15		< .15	
Toluene	00010888	800	160	< .18				< .23		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19				< .24		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17				< .22		< .22	
Trichloroethene	00007901	5	0.5	< .37				< .25		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17				< .15		< .15	
Xylene - M & P	17960123	2000	400	< .28				< .46		< .46	
Xylene - O	00009547	2000	400	< .17				< .22		< .22	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .22		< .22		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .23		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .21		< .21		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .21		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .27		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .32		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .2		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .16		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .22		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .26		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .18		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .2		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .2		< .2		< .26	
Acetone	00006764	9000	1800	4.8		< 4.2		< 4.2		4.8	
Benzene	00007143	5	0.5	< .2		< .2		< .2		< .26	
Chloroethane	00007500	400	80	< 1.5		< 1.5		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .2		< .2		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .23		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .29		< .29		< .19	
Ethylbenzene	00010041	700	140	< .21		< .21		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .32		< .32		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .45		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 8.3		15		< 6.3	
Isopropyl ether	00010820	NSE	NSE	< .25		< .25		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .53		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .28		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .48		< .48		< .48		< .4	
Naphthalene	00009120	100	10	< .41		< .41		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .18		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .19		< .19		< .2	
Styrene	00010042	100	10	< .17		< .17		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .21		< .21		< .21		< .15	
Toluene	00010888	800	160	< .17		< .17		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .18		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .24		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .17		< .17		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .18		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .33		< .33		< .33		< .46	
Xylene - O	00009547	2000	400	< .24		< .24		< .24		< .22	

172 **W-17A** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 170	< 87	< 27	< 11	< 11	< 10	< 16	< 21
1,1,2-Trichloroethane	00007900	5	0.5	< 180	< 90	< 28	< 11	< 11	< 13	< 20	< 25
1,1-Dichloroethane	00007534	850	85	***1700***	***1600***	***1000***	17	550	13	660	690
1,1-Dichloroethene	00007535	7	0.7	< 170	< 83	***30***	< 10	***26***	< 10	***28***	< 20
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 220	< 110	< 34	< 14	< 14	< 13	< 21	< 26
1,2,4-Trichlorobenzene	00012082	70	14	< 250	< 130	< 40	< 16	< 16	< 14	< 23	< 28
1,2-cis-Dichloroethene	00015659	70	7	***760***	***290***	***190***	< 10	***290***	< 10	***380***	***210***
1,2-Dichlorobenzene	00009550	600	60	< 130	< 63	< 20	< 7.9	< 7.9	< 9.3	< 15	< 19
1,2-Dichloroethane	00010706	5	0.5	***140***	***130***	***93***	***56***	***67***	***56***	***75***	***74***
1,2-Dichloropropane	00007887	5	0.5	< 170	< 87	***45***	< 11	***29***	< 9.9	***36***	***41***
1,2-trans-Dichloroethene	00015660	100	20	< 210	< 100	49	15	31	20	32	39
1,4-Dichlorobenzene	00010646	75	15	< 180	< 89	< 28	< 11	< 11	< 11	< 17	< 22
124TRIMTHLBENZEN	00009563	480	96	< 140	< 72	< 23	< 9.1	< 9.1	< 12	< 19	< 24
135TRIMTHLBENZEN	00010867	480	96	< 160	< 78	< 25	< 9.8	< 9.8	< 13	< 20	< 25
2-Chlorotoluene	00009549	NSE	NSE	< 160	< 80	< 25	< 10	< 10	< 13	< 20	< 26
Acetone	00006764	9000	1800	***17000***	***15000***	5300	< 210	4800	< 210	***9400***	4000
Benzene	00007143	5	0.5	< 160	< 78	< 24	< 9.8	***10***	< 13	< 20	< 26
Chloroethane	00007500	400	80	< 1200	< 610	< 190	***490***	300	***720***	***580***	400
Chloroform	00006766	6	0.6	< 160	< 81	< 25	< 10	< 10	< 11	< 18	< 23
Chloromethane	00007487	30	3	< 190	< 93	< 29	< 12	< 12	< 12	< 19	< 24
Dichlorodifluoromethane	00007571	1000	200	< 230	< 120	< 36	< 14	< 14	< 9.5	< 15	< 19
Ethylbenzene	00010041	700	140	< 170	< 83	< 26	< 10	< 10	< 11	< 17	< 22
Fluorotrichloromethane	00007569	3490	698	< 250	< 130	< 40	< 16	< 16	< 13	< 20	< 25
Hexachlorobutadiene	00008768	NSE	NSE	< 360	< 180	< 56	< 22	< 22	< 11	< 18	< 23
Isopropyl Alcohol	00006763	NSE	NSE	29000	27000	12000	< 410	12000	< 320	17000	5200
Isopropyl ether	00010820	NSE	NSE	< 200	< 98	< 31	< 12	< 12	< 9.5	< 15	< 19
Isopropylbenzene	00009882	NSE	NSE	< 170	< 86	< 27	< 11	< 11	< 11	< 18	< 22
Methyl Ethyl Ketone	00007893	4000	800	***9700***	***6200***	2800	< 50	2600	< 50	3500	1600
Methyl Isobutyl Ketone	00010810	500	50	***1200***	***920***	***650***	***1700***	***1400***	***1800***	***870***	440
Methyl tert-butyl Ether	00163404	60	12	< 230	< 110	< 35	< 14	< 14	< 9.5	< 15	< 19
Methylene Chloride	00007509	5	0.5	< 380	< 190	< 60	< 24	< 24	< 20	< 32	< 40
Naphthalene	00009120	100	10	< 320	< 160	< 51	< 20	< 20	< 16	< 26	< 32
n-Butylbenzene	00010451	NSE	NSE	< 140	< 72	< 23	< 9.1	< 9.1	< 12	< 20	< 24
p-Isopropyltoluene	00009987	NSE	NSE	< 150	< 76	< 24	< 9.5	< 9.5	< 10	< 16	< 20
Styrene	00010042	100	10	< 140	< 68	< 21	< 8.6	< 8.6	< 9.7	< 16	< 19
Tetrachloroethene	00012718	5	0.5	< 160	< 82	< 26	< 10	< 10	< 7.3	< 12	< 15
Toluene	00010888	800	160	***870***	800	***860***	230	530	330	***840***	***860***
Total TriMthBenzenes	TOTALTM	480	96	< 140	< 72	< 23	< 9.1	< 9.1	< 12	< 19	< 24
Total Xylenes	TOTAL Xyl	2000	400	< 190	< 96	< 30	< 12	< 12	< 11	< 18	< 22
Trichloroethene	00007901	5	0.5	< 130	< 67	< 21	< 8.4	< 8.4	< 12	< 20	< 25
Vinyl Chloride	00007501	0.2	0.02	***390***	***170***	***140***	< 9.2	***150***	< 7.5	***200***	***120***
Xylene - M & P	17960123	2000	400	< 270	< 130	< 42	< 17	< 17	< 23	< 36	< 46
Xylene - O	00009547	2000	400	< 190	< 96	< 30	< 12	< 12	< 11	< 18	< 22

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .22	< .22	< .22	< 1.1	< 1.1	< 1	< 1	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< .23	< .23	< .23	< 1.1	< 1.1	< 1.3	< 1.3	< .25
1,1-Dichloroethane	00007534	850	85	.89	.96	.82	1.1	1.4	< .94	1.2	1.1
1,1-Dichloroethene	00007535	7	0.7	< .21	< .21	< .21	< 1	< 1	< 1	< 1	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27	< .27	< .27	< 1.4	< 1.4	< 1.3	< 1.3	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< .32	< .32	< .32	< 1.6	< 1.6	< 1.4	< 1.4	< .28
1,2-cis-Dichloroethene	00015659	70	7	.81	.76	.7	< 1	1.1	< 1	< 1	1
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .16	< .79	< .79	< .93	< .93	< .19
1,2-Dichloroethane	00010706	5	0.5	< .16	< .16	< .16	< .82	< .82	< 1.2	< 1.2	< .24
1,2-Dichloropropane	00007887	5	0.5	.36	.25	< .22	< 1.1	< 1.1	< .99	< .99	.32
1,2-trans-Dichloroethene	00015660	100	20	< .26	< .26	< .26	< 1.3	< 1.3	< .97	< .97	< .19
1,4-Dichlorobenzene	00010646	75	15	< .22	< .22	< .22	< 1.1	< 1.1	< 1.1	< 1.1	< .22
124TRIMTHLBENZEN	00009563	480	96	< .18	< .18	< .18	< .91	< .91	< 1.2	< 1.2	< .24
135TRIMTHLBENZEN	00010867	480	96	< .2	< .2	< .2	< .98	< .98	< 1.3	< 1.3	< .25
2-Chlorotoluene	00009549	NSE	NSE	< .2	< .2	< .2	< 1	< 1	< 1.3	< 1.3	< .26
Acetone	00006764	9000	1800	< 4.2	4.7	< 4.2	< 21	< 21	< 21	< 21	< 4.2
Benzene	00007143	5	0.5	< .2	< .2	< .2	< .98	< .98	< 1.3	< 1.3	< .26
Chloroethane	00007500	400	80	< 1.5	< 1.5	< 1.5	< 7.6	< 7.6	< 10	< 10	< 2.1
Chloroform	00006766	6	0.6	< .2	< .2	< .2	< 1	< 1	< 1.1	< 1.1	< .23
Chloromethane	00007487	30	3	< .23	.46	< .23	< 1.2	< 1.2	< 1.2	< 1.2	< .24
Dichlorodifluoromethane	00007571	1000	200	< .29	< .29	< .29	< 1.4	< 1.4	< .95	82	71
Ethylbenzene	00010041	700	140	< .21	< .21	< .21	< 1	< 1	< 1.1	< 1.1	< .22
Fluorotrichloromethane	00007569	3490	698	< .32	< .32	< .32	< 1.6	< 1.6	< 1.3	< 1.3	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< .45	< .45	< .45	< 2.2	< 2.2	< 1.1	< 1.1	< .23
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3	< 8.3	< 8.3	< 41	< 41	35	< 32	< 6.3
Isopropyl ether	00010820	NSE	NSE	< .25	< .25	< .25	< 1.2	< 1.2	< .95	< .95	< .19
Isopropylbenzene	00009882	NSE	NSE	< .22	< .22	< .22	< 1.1	< 1.1	< 1.1	< 1.1	< .22
Methyl Ethyl Ketone	00007893	4000	800	< 1	< 1	< 1	< 5	5.7	< 5	< 5	< 1
Methyl Isobutyl Ketone	00010810	500	50	< .53	< .53	< .53	< 2.7	< 2.7	< 1.6	< 1.6	< .31
Methyl tert-butyl Ether	00163404	60	12	< .28	< .28	< .28	< 1.4	< 1.4	< .95	< .95	< .19
Methylene Chloride	00007509	5	0.5	< .48	< .48	< .48	< 2.4	< 2.4	< 2	< 2	< .4
Naphthalene	00009120	100	10	< .41	< .41	< .41	< 2	< 2	< 1.6	< 1.6	< .32
n-Butylbenzene	00010451	NSE	NSE	< .18	< .18	< .18	< .91	< .91	< 1.2	< 1.2	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< .19	< .19	< .19	< .95	< .95	< 1	< 1	< .2
Styrene	00010042	100	10	< .17	< .17	< .17	< .86	< .86	< .97	< .97	< .19
Tetrachloroethene	00012718	5	0.5	< .21	< .21	< .21	< 1	< 1	< .73	< .73	< .15
Toluene	00010888	800	160	< .17	< .17	< .17	< .86	< .86	< 1.2	< 1.2	< .23
Total TriMthBenzenes	TOTALTM	480	96	< .18	< .18	< .18	< .91	< .91	< 1.2	< 1.2	< .24
Total Xylenes	TOTAL Xyl	2000	400	< .24	< .24	< .24	< 1.2	< 1.2	< 1.1	< 1.1	< .22
Trichloroethene	00007901	5	0.5	.58	.61	.63	< .84	.87	< 1.2	< 1.2	.7
Vinyl Chloride	00007501	0.2	0.02	***.35***	***1.2***	***4.6***	***14***	***15***	***14***	***13***	***6.7***
Xylene - M & P	17960123	2000	400	< .33	< .33	< .33	< 1.7	< 1.7	< 2.3	< 2.3	< .46
Xylene - O	00009547	2000	400	< .24	< .24	< .24	< 1.2	< 1.2	< 1.1	< 1.1	< .22

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .22	< .22	< .2	< .22	< .22	< .21	< .21	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< .23	< .23	< .17	< .23	< .23	< .25	< .25	< .25
1,1-Dichloroethane	00007534	850	85	< .21	< .21	< .16	< .21	< .21	< .19	< .19	< .19
1,1-Dichloroethene	00007535	7	0.7	< .21	< .21	< .15	< .21	< .21	< .2	< .2	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27	< .27	< .23	< .27	< .27	< .26	< .26	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< .32	< .32	< .3	< .32	< .32	< .28	< .28	< .28
1,2-cis-Dichloroethene	00015659	70	7	< .2	< .2	< .12	< .2	< .2	< .21	< .21	< .21
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .13	< .16	< .16	< .19	< .19	< .19
1,2-Dichloroethane	00010706	5	0.5	.17	< .16	< .22	< .16	< .16	< .24	< .24	< .24
1,2-Dichloropropane	00007887	5	0.5	< .22	< .22	< .21	< .22	< .22	< .2	< .2	< .2
1,2-trans-Dichloroethene	00015660	100	20	< .26	< .26	< .13	< .26	< .26	< .19	< .19	< .19
1,4-Dichlorobenzene	00010646	75	15	< .22	< .22	< .13	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96	< .18	< .18	< .12	< .18	< .18	< .24	< .24	< .24
135TRIMTHLBENZEN	00010867	480	96	< .2	< .2	< .12	< .2	< .2	< .25	< .25	< .25
2-Chlorotoluene	00009549	NSE	NSE	< .2	< .2	< .15	< .2	< .2	< .26	< .26	< .26
Acetone	00006764	9000	1800	< 4.2	< 4.2	5	< 4.2	< 4.2	< 4.2	7.4	< 4.2
Benzene	00007143	5	0.5	< .2	< .2	< .13	< .2	< .2	< .26	< .26	< .26
Chloroethane	00007500	400	80	< 1.5	< 1.5	< .67	< 1.5	< 1.5	< 2.1	< 2.1	< 2.1
Chloroform	00006766	6	0.6	< .2	< .2	< .13	< .2	< .2	< .23	< .23	< .23
Chloromethane	00007487	30	3	< .23	< .23	< .28	< .23	< .23	< .24	< .24	< .24
Dichlorodifluoromethane	00007571	1000	200	.6	< .29	< .13	< .29	< .29	< .19	< .19	< .19
Ethylbenzene	00010041	700	140	< .21	< .21	.74	< .21	< .21	< .22	< .22	.24
Fluorotrichloromethane	00007569	3490	698	< .32	< .32	< .11	< .32	< .32	< .25	< .25	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< .45	< .45	< .36	< .45	< .45	< .23	< .23	< .23
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3	< 8.3	< 14	< 8.3	< 8.3	31	14	< 6.3
Isopropyl ether	00010820	NSE	NSE	< .25	< .25	< .2	< .25	< .25	< .19	< .19	< .19
Isopropylbenzene	00009882	NSE	NSE	< .22	< .22	< .1	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50	< .53	< .53	< .64	< .53	< .53	< .31	< .31	< .31
Methyl tert-butyl Ether	00163404	60	12	< .28	< .28	< .13	< .28	< .28	< .19	< .19	< .19
Methylene Chloride	00007509	5	0.5	< .48	< .48	< .27	< .48	< .48	< .4	< .4	< .4
Naphthalene	00009120	100	10	< .41	< .41	< .31	< .41	< .41	< .32	< .32	< .32
n-Butylbenzene	00010451	NSE	NSE	< .18	< .18	< .14	< .18	< .18	< .24	< .24	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< .19	< .19	< .11	< .19	< .19	< .2	< .2	< .2
Styrene	00010042	100	10	< .17	< .17	< .11	< .17	< .17	< .19	< .19	< .19
Tetrachloroethene	00012718	5	0.5	< .21	< .21	< .18	< .21	< .21	< .15	< .15	< .15
Toluene	00010888	800	160	< .17	< .17	< .16	< .17	< .17	< .23	< .23	< .23
Total TriMthBenzenes	TOTALTM	480	96	< .18	< .18	< .12	< .18	< .18	< .24	< .24	< .24
Total Xylenes	TOTAL Xyl	2000	400	< .24	< .24	.75	< .24	< .24	< .22	< .22	< .22
Trichloroethene	00007901	5	0.5	< .17	< .17	< .16	< .17	< .17	< .25	< .25	< .25
Vinyl Chloride	00007501	0.2	0.02	< .18	< .18	< .17	< .18	< .18	< .15	< .15	< .15
Xylene - M & P	17960123	2000	400	< .33	< .33	.75	< .33	< .33	< .46	< .46	< .46
Xylene - O	00009547	2000	400	< .24	< .24	< .16	< .24	< .24	< .22	< .22	< .22

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 2.2	< 2.2	< 2.5	< 1.7	< 1.7	< 1.6	< 1.7	< 4.1
1,1,2-Trichloroethane	00007900	5	0.5	< 2.3	< 2.3	< 2.1	< 1.8	< 1.8	< 2	< 1.8	< 5.1
1,1-Dichloroethane	00007534	850	85	35	37	25	31	40	44	48	52
1,1-Dichloroethene	00007535	7	0.7	< 2.1	< 2.1	< 1.9	< 1.7	< 1.7	< 1.6	< 1.7	< 4
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 2.7	< 2.7	< 2.8	< 2.2	< 2.2	< 2.1	< 2.2	< 5.2
1,2,4-Trichlorobenzene	00012082	70	14	< 3.2	< 3.2	< 3.8	< 2.5	< 2.5	< 2.3	< 2.5	< 5.6
1,2-cis-Dichloroethene	00015659	70	7	< 2	< 2	< 1.5	< 1.6	< 1.6	< 1.6	< 1.6	< 4.1
1,2-Dichlorobenzene	00009550	600	60	< 1.6	2	< 1.6	< 1.3	< 1.3	< 1.5	< 1.3	< 3.7
1,2-Dichloroethane	00010706	5	0.5	***6.6***	***9.1***	***5.4***	***5.1***	***7.1***	***7.9***	4.1	***6.9***
1,2-Dichloropropane	00007887	5	0.5	< 2.2	< 2.2	< 2.6	< 1.7	< 1.7	3.6	3.5	< 3.9
1,2-trans-Dichloroethene	00015660	100	20	< 2.6	2.9	1.6	< 2.1	2.2	2.6	3	< 3.9
1,4-Dichlorobenzene	00010646	75	15	< 2.2	< 2.2	< 1.6	< 1.8	< 1.8	< 1.7	< 1.8	< 4.4
124TRIMTHLBENZEN	00009563	480	96	5.2	16	7.4	3.2	11	15	6.7	7.8
135TRIMTHLBENZEN	00010867	480	96	2.6	5.8	3.3	2.6	4	< 2	< 1.6	< 5.1
2-Chlorotoluene	00009549	NSE	NSE	< 2	< 2	< 1.8	< 1.6	< 1.6	< 2	< 1.6	< 5.1
Acetone	00006764	9000	1800	< 42	< 42	< 50	< 33	< 33	< 33	< 33	< 83
Benzene	00007143	5	0.5	***9.1***	***15***	***7.7***	***7.3***	***11***	***12***	***6.7***	***10***
Chloroethane	00007500	400	80	49	110	42	55	86	130	67	100
Chloroform	00006766	6	0.6	< 2	< 2	< 1.6	< 1.6	< 1.6	< 1.8	< 1.6	< 4.5
Chloromethane	00007487	30	3	< 2.3	< 2.3	< 3.5	< 1.9	< 1.9	< 1.9	< 1.9	< 4.8
Dichlorodifluoromethane	00007571	1000	200	< 2.9	< 2.9	< 1.7	< 2.3	< 2.3	< 1.5	< 2.3	< 3.8
Ethylbenzene	00010041	700	140	120	320	160	95	140	300	180	170
Fluorotrichloromethane	00007569	3490	698	< 3.2	< 3.2	< 1.4	< 2.5	< 2.5	< 2	< 2.5	< 5.1
Hexachlorobutadiene	00008768	NSE	NSE	< 4.5	< 4.5	< 4.5	< 3.6	< 3.6	< 1.8	< 3.6	< 4.5
Isopropyl Alcohol	00006763	NSE	NSE	< 83	< 83	< 180	< 66	< 66	< 51	< 66	< 130
Isopropyl ether	00010820	NSE	NSE	< 2.5	< 2.5	< 2.5	< 2	< 2	< 1.5	< 2	< 3.8
Isopropylbenzene	00009882	NSE	NSE	< 2.2	3.6	1.8	< 1.7	2.8	3.3	1.8	< 4.4
Methyl Ethyl Ketone	00007893	4000	800	< 10	< 10	< 13	< 8	< 8	< 8	< 8	< 20
Methyl Isobutyl Ketone	00010810	500	50	< 5.3	< 5.3	< 8	< 4.2	< 4.2	< 2.5	< 4.2	< 6.3
Methyl tert-butyl Ether	00163404	60	12	< 2.8	< 2.8	< 1.6	< 2.3	< 2.3	< 1.5	< 2.3	< 3.8
Methylene Chloride	00007509	5	0.5	< 4.8	< 4.8	***8.8***	< 3.8	< 3.8	< 3.2	< 3.8	< 8
Naphthalene	00009120	100	10	< 4.1	< 4.1	< 3.8	< 3.2	< 3.2	< 2.6	< 3.2	< 6.4
n-Butylbenzene	00010451	NSE	NSE	< 1.8	1.9	< 1.7	< 1.4	< 1.4	< 2	< 1.4	< 4.9
p-Isopropyltoluene	00009987	NSE	NSE	< 1.9	< 1.9	< 1.4	< 1.5	< 1.5	< 1.6	< 1.5	< 4.1
Styrene	00010042	100	10	< 1.7	< 1.7	< 1.4	< 1.4	< 1.4	< 1.6	< 1.4	< 3.9
Tetrachloroethene	00012718	5	0.5	< 2.1	< 2.1	< 2.3	< 1.6	< 1.6	< 1.2	< 1.6	< 2.9
Toluene	00010888	800	160	7.4	43	9.5	4	32	14	12	8
Total TriMthBenzenes	TOTALTM	480	96	7.8	21.8	10.7	5.8	15	15	6.7	7.8
Total Xylenes	TOTAL Xyl	2000	400	90.6	294	138.1	49.8	226	208.2	105.2	159
Trichloroethene	00007901	5	0.5	< 1.7	< 1.7	< 2	< 1.3	< 1.3	< 2	< 1.3	< 5
Vinyl Chloride	00007501	0.2	0.02	< 1.8	< 1.8	< 2.2	***1.8***	***1.7***	***2.9***	***5.1***	***5.1***
Xylene - M & P	17960123	2000	400	85	270	130	47	210	200	96	140
Xylene - O	00009547	2000	400	5.6	24	8.1	2.8	16	8.2	9.2	19

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 8.7	< 3.1	< 9.8	< 25	< 26	< 26		
1,1,2-Trichloroethane	00007900	5	0.5	< 9	< 5.2	< 8.3	< 21	< 32	< 32		
1,1-Dichloroethane	00007534	850	85	160	160	290	340	300	290		
1,1-Dichloroethene	00007535	7	0.7	< 8.3	< 5.4	< 7.6	< 19	< 25	< 25		
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 11	< 7.4	< 11	< 28	< 33	< 33		
1,2,4-Trichlorobenzene	00012082	70	14	< 13	< 5.5	< 15	< 38	< 35	< 35		
1,2-cis-Dichloroethene	00015659	70	7	49	***81***	***180***	***170***	***200***	***220***		
1,2-Dichlorobenzene	00009550	600	60	< 6.3	< 4	< 6.5	< 16	< 23	< 23		
1,2-Dichloroethane	00010706	5	0.5	***8.5***	***7.6***	***17***	< 28	< 31	***42***		
1,2-Dichloropropane	00007887	5	0.5	< 8.7	< 8.2	***11***	< 26	< 25	< 25		
1,2-trans-Dichloroethene	00015660	100	20	< 10	< 5.1	< 6.3	< 16	< 24	< 24		
1,4-Dichlorobenzene	00010646	75	15	< 8.9	< 7.4	< 6.4	< 16	< 27	< 27		
124TRIMTHLBENZEN	00009563	480	96	< 7.2	< 4.8	6.2	< 15	< 30	< 30		
135TRIMTHLBENZEN	00010867	480	96	< 7.8	< 4.9	< 6.1	< 15	< 32	< 32		
2-Chlorotoluene	00009549	NSE	NSE	< 8	< 4.7	< 7.3	< 18	< 32	< 32		
Acetone	00006764	9000	1800	< 170	< 100	< 200	< 500	< 520	< 520		
Benzene	00007143	5	0.5	***12***	***9.5***	***20***	***26***	< 32	< 32		
Chloroethane	00007500	400	80	< 61	< 29	52	97	< 260	< 260		
Chloroform	00006766	6	0.6	< 8.1	< 3.3	< 6.5	< 16	< 28	< 28		
Chloromethane	00007487	30	3	< 9.3	< 5.8	< 14	< 35	< 30	< 30		
Dichlorodifluoromethane	00007571	1000	200	< 12	9.7	< 6.7	< 17	< 24	< 24		
Ethylbenzene	00010041	700	140	100	78	350	360	260	340		
Fluorotrichloromethane	00007569	3490	698	< 13	< 5.3	< 5.4	< 14	< 32	< 32		
Hexachlorobutadiene	00008768	NSE	NSE	< 18	< 6.2	< 18	< 45	< 28	< 28		
Isopropyl Alcohol	00006763	NSE	NSE	< 330	< 250	< 710	< 1800	< 790	< 790		
Isopropyl ether	00010820	NSE	NSE	< 9.8	5	< 10	< 25	< 24	25		
Isopropylbenzene	00009882	NSE	NSE	< 8.6	< 4.4	< 5.1	< 13	< 28	< 28		
Methyl Ethyl Ketone	00007893	4000	800	< 40	< 12	< 50	< 130	< 130	< 130		
Methyl Isobutyl Ketone	00010810	500	50	< 21	< 9.2	150	100	86	< 39		
Methyl tert-butyl Ether	00163404	60	12	< 11	< 4.8	< 6.4	< 16	< 24	< 24		
Methylene Chloride	00007509	5	0.5	< 19	***6.1***	< 13	< 33	< 50	< 50		
Naphthalene	00009120	100	10	< 16	< 7.9	< 15	< 38	< 40	< 40		
n-Butylbenzene	00010451	NSE	NSE	< 7.2	< 5.6	< 6.8	< 17	< 31	< 31		
p-Isopropyltoluene	00009987	NSE	NSE	< 7.6	< 4.1	< 5.4	< 14	< 25	< 25		
Styrene	00010042	100	10	< 6.8	< 5	< 5.5	< 14	< 24	< 24		
Tetrachloroethene	00012718	5	0.5	< 8.2	< 3	< 9	< 23	***86***	< 18		
Toluene	00010888	800	160	340	260	***1300***	***1600***	***1500***	***2200***		
Total TriMthBenzenes	TOTALTM	480	96	< 7.2	< 4.8	6.2	< 15	< 30	< 30		
Total Xylenes	TOTAL Xyl	2000	400	173	122	565	540	303	378		
Trichloroethene	00007901	5	0.5	< 6.7	< 9.3	< 8.2	< 20	< 31	< 31		
Vinyl Chloride	00007501	0.2	0.02	***140***	***180***	***310***	***400***	***360***	***410***		
Xylene - M & P	17960123	2000	400	140	100	470	440	240	310		
Xylene - O	00009547	2000	400	33	22	95	100	63	68		

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	2.7	1.1	1	1.4	.89	< .52	< 5.5	< .52
1,1,2-Trichloroethane	00007900	5	0.5	3.4	1.3	5	.96	< .63	< .63	***28***	3.6
1,1-Dichloroethane	00007534	850	85	45	23	16	19	14	7.6	91	14
1,1-Dichloroethene	00007535	7	0.7	1.6	.9	< .6	< .38	< .5	< .5	***7.2***	< .5
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 1.1	< .59	< .9	< .56	< .65	< .65	< 6.8	< .65
1,2,4-Trichlorobenzene	00012082	70	14	< 1.3	< .44	< 1.2	< .76	< .71	< .71	< 8	< .71
1,2-cis-Dichloroethene	00015659	70	7	34	22	13	19	12	7.3	67	6.5
1,2-Dichlorobenzene	00009550	600	60	< .63	.43	< .52	.48	< .47	< .47	4.2	< .47
1,2-Dichloroethane	00010706	5	0.5	.88	.31	< .88	< .55	< .61	< .61	***12***	1.7
1,2-Dichloropropane	00007887	5	0.5	< .87	< .65	< .83	< .52	< .49	< .49	< 5.4	< .49
1,2-trans-Dichloroethene	00015660	100	20	3	2.8	2.6	3.4	3.7	3.7	44	3.3
1,4-Dichlorobenzene	00010646	75	15	< .89	< .59	< .51	< .32	< .55	< .55	< 5.6	< .55
124TRIMTHLBENZEN	00009563	480	96	1.3	1.4	1.3	1.2	.94	.78	10	.78
135TRIMTHLBENZEN	00010867	480	96	.8	.74	.68	.7	< .64	< .64	5.9	< .64
2-Chlorotoluene	00009549	NSE	NSE	< .8	< .38	< .58	< .36	< .64	< .64	< 5	< .64
Acetone	00006764	9000	1800	< 17	< 8	< 16	< 10	< 10	< 10	< 100	< 10
Benzene	00007143	5	0.5	< .78	< .48	< .52	< .33	< .64	< .64	< 4.9	< .64
Chloroethane	00007500	400	80	< 6.1	< 2.3	< 2.7	< 1.7	< 5.1	< 5.1	< 38	< 5.1
Chloroform	00006766	6	0.6	< .81	.32	< .52	< .32	< .56	< .56	< 5.1	< .56
Chloromethane	00007487	30	3	< .93	< .46	< 1.1	< .7	< .6	< .6	< 5.8	< .6
Dichlorodifluoromethane	00007571	1000	200	< 1.2	4.7	< .54	5.2	4.1	< .48	46	< .48
Ethylbenzene	00010041	700	140	26	27	23	21	21	28	340	30
Fluorotrichloromethane	00007569	3490	698	< 1.3	< .42	< .43	< .27	< .64	< .64	< 7.9	< .64
Hexachlorobutadiene	00008768	NSE	NSE	< 1.8	< .49	< 1.4	< .9	< .57	< .57	< 11	< .57
Isopropyl Alcohol	00006763	NSE	NSE	< 33	< 20	< 57	< 35	< 16	33	< 210	< 16
Isopropyl ether	00010820	NSE	NSE	< .98	< .31	< .81	< .51	< .47	< .47	< 6.1	< .47
Isopropylbenzene	00009882	NSE	NSE	< .86	< .35	< .4	.28	< .56	< .56	< 5.4	< .56
Methyl Ethyl Ketone	00007893	4000	800	< 4	< 1	< 4	2.5	< 2.5	< 2.5	< 25	< 2.5
Methyl Isobutyl Ketone	00010810	500	50	< 2.1	< .74	< 2.6	< 1.6	< .78	< .78	< 13	< .78
Methyl tert-butyl Ether	00163404	60	12	< 1.1	< .38	< .51	< .32	< .48	< .48	< 7.1	< .48
Methylene Chloride	00007509	5	0.5	< 1.9	.6	< 1.1	< .67	< 1	< 1	< 12	< 1
Naphthalene	00009120	100	10	2.1	1.7	2	2.1	1.9	2.7	19	2.5
n-Butylbenzene	00010451	NSE	NSE	< .72	< .45	< .54	< .34	< .61	< .61	< 4.5	< .61
p-Isopropyltoluene	00009987	NSE	NSE	< .76	< .33	< .43	< .27	< .51	< .51	< 4.8	< .51
Styrene	00010042	100	10	< .68	< .4	< .44	< .27	< .49	< .49	< 4.3	< .49
Tetrachloroethene	00012718	5	0.5	***19***	***15***	***19***	***22***	***16***	***8.5***	***82***	***6.3***
Toluene	00010888	800	160	1.3	1.2	1.4	1.6	1.8	1.9	15	1.1
Total TriMthBenzenes	TOTALTM	480	96	2.1	2.14	1.98	1.9	.94	.78	15.9	.78
Total Xylenes	TOTAL Xyl	2000	400	13	14.48	9.9	9.25	7	6.9	68	6
Trichloroethene	00007901	5	0.5	***24***	***14***	***18***	***16***	***13***	***10***	***100***	***9.7***
Vinyl Chloride	00007501	0.2	0.02	***11***	***12***	***6.5***	***7.9***	***4.6***	***4.2***	***48***	***2.7***
Xylene - M & P	17960123	2000	400	13	14	9.9	8.7	7	6.9	68	6
Xylene - O	00009547	2000	400	< .96	.48	< .62	.55	< .56	< .56	< 6	< .56

190 **W-21** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< 9.8		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< 8.3		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	20		20		9.9		7.1	
1,1-Dichloroethene	00007535	7	0.7	< .22		< 7.6		.27		.39	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< 11		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< 15		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	4.5		< 6		4.7		4.4	
1,2-Dichlorobenzene	00009550	600	60	< .16		< 6.5		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	.53		< 11		.35		.34	
1,2-Dichloropropane	00007887	5	0.5	< .33		< 10		.29		.33	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< 6.3		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< 6.4		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	.84		< 6		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	.28		< 6.1		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< 7.3		< .26		< .2	
Acetone	00006764	9000	1800	< 4		< 200		< 4.2		< 4.2	
Benzene	00007143	5	0.5	1.2		< 6.6		< .26		< .2	
Chloroethane	00007500	400	80	15		41		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< 6.5		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< 14		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	2.2		< 6.7		4.2		7.3	
Ethylbenzene	00010041	700	140	52		120		3.2		5.2	
Fluorotrichloromethane	00007569	3490	698	< .21		< 5.4		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< 18		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 710		< 6.3		8.6	
Isopropyl ether	00010820	NSE	NSE	.21		< 10		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	.31		< 5.1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		< 50		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	.46		< 32		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< 6.4		< .19		< .28	
Methylene Chloride	00007509	5	0.5	.23		< 13		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< 15		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< 6.8		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< 5.4		< .2		< .19	
Styrene	00010042	100	10	1.3		< 5.5		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< 9		< .15		< .21	
Toluene	00010888	800	160	220		550		1.8		.39	
Total TriMthBenzenes	TOTALTM	480	96	1.12		< 6		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	191		520		12		7.4	
Trichloroethene	00007901	5	0.5	.6		< 8.2		1		1.3	
Vinyl Chloride	00007501	0.2	0.02	***4.9***		< 8.7		***1.9***		***2.4***	
Xylene - M & P	17960123	2000	400	140		390		9		5.5	
Xylene - O	00009547	2000	400	51		130		3		1.9	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .22	< .13		< .22	< .21	< .21	< 2.2	< 1
1,1,2-Trichloroethane	00007900	5	0.5	< .23	< .21		< .23	< .25	< .25	< 2.3	< 1.3
1,1-Dichloroethane	00007534	850	85	4.5	6.7		10	13	22	6.8	11
1,1-Dichloroethene	00007535	7	0.7	< .21	.53		.74	< .2	< .2	2.5	< 1
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27	< .3		< .27	< .26	< .26	< 2.7	< 1.3
1,2,4-Trichlorobenzene	00012082	70	14	< .32	< .22		< .32	< .28	< .28	< 3.2	< 1.4
1,2-cis-Dichloroethene	00015659	70	7	13	11		12	12	28	13	25
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16		< .16	< .19	< .19	< 1.6	< .93
1,2-Dichloroethane	00010706	5	0.5	.34	.24		.24	< .24	.37	< 1.6	< 1.2
1,2-Dichloropropane	00007887	5	0.5	< .22	< .33		< .22	< .2	.28	< 2.2	< .99
1,2-trans-Dichloroethene	00015660	100	20	.77	.77		.79	1.3	2.2	< 2.6	< .97
1,4-Dichlorobenzene	00010646	75	15	< .22	< .3		< .22	< .22	< .22	< 2.2	< 1.1
124TRIMTHLBENZEN	00009563	480	96	< .18	< .19		< .18	< .24	< .24	< 1.8	< 1.2
135TRIMTHLBENZEN	00010867	480	96	< .2	< .19		< .2	< .25	< .25	< 2	< 1.3
2-Chlorotoluene	00009549	NSE	NSE	< .2	< .19		< .2	< .26	< .26	< 2	< 1.3
Acetone	00006764	9000	1800	< 4.2	< 4		4.5	< 4.2	< 4.2	< 42	< 21
Benzene	00007143	5	0.5	< .2	< .24		.93	1.2	2.5	< 2	< 1.3
Chloroethane	00007500	400	80	< 1.5	4.8		34	39	80	< 15	22
Chloroform	00006766	6	0.6	< .2	< .13		< .2	< .23	< .23	< 2	< 1.1
Chloromethane	00007487	30	3	< .23	< .23		< .23	< .24	< .24	< 2.3	< 1.2
Dichlorodifluoromethane	00007571	1000	200	< .29	3.1		< .29	< .19	< .19	8.4	< .95
Ethylbenzene	00010041	700	140	.96	1.1		6.5	7.2	16	< 2.1	3.7
Fluorotrichloromethane	00007569	3490	698	< .32	< .21		< .32	< .25	< .25	< 3.2	< 1.3
Hexachlorobutadiene	00008768	NSE	NSE	< .45	< .25		< .45	< .23	< .23	< 4.5	< 1.1
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3	< 10		27	6.5	21	< 83	< 32
Isopropyl ether	00010820	NSE	NSE	< .25	< .16		.26	.38	.95	< 2.5	< .95
Isopropylbenzene	00009882	NSE	NSE	< .22	< .18		< .22	< .22	< .22	< 2.2	< 1.1
Methyl Ethyl Ketone	00007893	4000	800	< 1	.68		1.7	< 1	< 1	< 10	< 5
Methyl Isobutyl Ketone	00010810	500	50	5.2	5.2		5.6	2.5	6.8	< 5.3	4.7
Methyl tert-butyl Ether	00163404	60	12	< .28	< .19		< .28	< .19	< .19	< 2.8	< .95
Methylene Chloride	00007509	5	0.5	< .48	.41		< .48	< .4	.66	< 4.8	< 2
Naphthalene	00009120	100	10	< .41	< .32		< .41	< .32	< .32	< 4.1	< 1.6
n-Butylbenzene	00010451	NSE	NSE	< .18	< .23		< .18	< .24	< .24	< 1.8	< 1.2
p-Isopropyltoluene	00009987	NSE	NSE	< .19	< .16		< .19	< .2	< .2	< 1.9	< 1
Styrene	00010042	100	10	< .17	< .2		< .17	.37	.85	< 1.7	< .97
Tetrachloroethene	00012718	5	0.5	< .21	< .12		< .21	< .15	< .15	< 2.1	< .73
Toluene	00010888	800	160	9.5	12		150	140	340	94	59
Total TriMthBenzenes	TOTALTM	480	96	< .18	< .19		< .18	< .24	< .24	< 1.8	< 1.2
Total Xylenes	TOTAL Xyl	2000	400	9.9	11.1		31	32	66	24	19.7
Trichloroethene	00007901	5	0.5	***5.9***	***5.1***		4.3	3.2	4.1	***5.9***	***5.4***
Vinyl Chloride	00007501	0.2	0.02	***9.7***	***13***		***11***	***15***	***34***	***13***	***15***
Xylene - M & P	17960123	2000	400	3.5	4.2		19	20	47	13	11
Xylene - O	00009547	2000	400	6.4	6.9		12	12	19	11	8.7

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13	< .13	< .22	< .22	< .21	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< .21	< .21	< .23	< .23	< .25	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85	2.6	2.2	1.9	1.8	2	1.9	2.3	1.7
1,1-Dichloroethene	00007535	7	0.7	.33	.56	.44	.31	.51	.33	.69	.27
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3	< .3	< .27	< .27	< .26	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< .22	< .22	< .32	< .32	< .28	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7	1.1	1.2	1.7	2	2.2	2.2	2.3	3.1
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .16	< .16	< .19	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5	< .15	< .15	< .16	< .16	< .24	< .24	< .16	< .24
1,2-Dichloropropane	00007887	5	0.5	< .33	< .33	< .22	< .22	< .2	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20	< .21	< .21	< .26	< .26	< .19	.2	.44	.4
1,4-Dichlorobenzene	00010646	75	15	< .3	< .3	< .22	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96	< .19	< .19	< .18	< .18	< .24	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96	< .19	< .19	< .2	< .2	< .25	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE	< .19	< .19	< .2	< .2	< .26	< .26	< .2	< .26
Acetone	00006764	9000	1800	< 4	< 4	< 4.2	< 4.2	< 4.2	5.2	4.7	< 4.2
Benzene	00007143	5	0.5	< .24	< .24	< .2	< .2	< .26	< .26	< .2	< .26
Chloroethane	00007500	400	80	< 1.1	< 1.1	< 1.5	< 1.5	< 2.1	< 2.1	< 1.5	< 2.1
Chloroform	00006766	6	0.6	< .13	< .13	< .2	< .2	< .23	< .23	< .2	< .23
Chloromethane	00007487	30	3	< .23	< .23	< .23	< .23	< .24	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200	< .25	< .25	< .29	< .29	< .19	< .19	< .29	< .19
Ethylbenzene	00010041	700	140	< .15	< .15	< .21	< .21	< .22	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698	< .21	< .21	< .32	< .32	< .25	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< .25	< .25	< .45	< .45	< .23	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE	13	< 10	< 8.3	< 8.3	23	9.8	17	< 6.3
Isopropyl ether	00010820	NSE	NSE	< .16	< .16	< .25	< .25	< .19	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE	< .18	< .18	< .22	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800	1.1	< .5	< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50	< .37	< .37	< .53	< .53	< .31	< .31	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12	< .19	< .19	< .28	< .28	< .19	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5	< .22	.28	< .48	< .48	< .4	< .4	< .48	< .4
Naphthalene	00009120	100	10	< .32	< .32	< .41	< .41	< .32	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE	< .23	< .23	< .18	< .18	< .24	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< .16	< .16	< .19	< .19	< .2	< .2	< .19	< .2
Styrene	00010042	100	10	< .2	< .2	< .17	< .17	< .19	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5	< .12	< .12	< .21	< .21	< .15	< .15	< .21	< .15
Toluene	00010888	800	160	< .18	< .18	< .17	< .17	< .23	< .23	< .17	< .23
Total TriMthBenzenes	TOTALTM	480	96	< .19	< .19	< .18	< .18	< .24	< .24	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400	< .17	< .17	< .24	< .24	< .22	< .22	< .24	< .22
Trichloroethene	00007901	5	0.5	3.5	4.4	4.1	2.9	4.5	2.8	4.8	4.2
Vinyl Chloride	00007501	0.2	0.02	***2.9***	***3***	***3.2***	***4***	***2.4***	***4.3***	***5.6***	***4.6***
Xylene - M & P	17960123	2000	400	< .28	< .28	< .33	< .33	< .46	< .46	< .33	< .46
Xylene - O	00009547	2000	400	< .17	< .17	< .24	< .24	< .22	< .22	< .24	< .22

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .13	< .13	< .22	< .22	< .21	< .21	< .22	< .52
1,1,2-Trichloroethane	00007900	5	0.5	< .21	< .21	< .23	< .23	< .25	< .25	< .23	< .63
1,1-Dichloroethane	00007534	850	85	19	17	18	15	12	17	25	21
1,1-Dichloroethene	00007535	7	0.7	< .22	.78	2	2.1	1.3	< .2	1.2	< .5
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3	< .3	< .27	< .27	< .26	< .26	< .27	< .65
1,2,4-Trichlorobenzene	00012082	70	14	< .22	< .22	< .32	< .32	< .28	< .28	< .32	< .71
1,2-cis-Dichloroethene	00015659	70	7	5.1	5.7	7.7	6	7.4	4.8	3.9	3.8
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .16	< .16	< .19	< .19	< .16	< .47
1,2-Dichloroethane	00010706	5	0.5	1.6	1.4	1.7	1.2	.86	1.1	1.2	1.4
1,2-Dichloropropane	00007887	5	0.5	.89	.92	.98	.79	.63	.63	.51	< .49
1,2-trans-Dichloroethene	00015660	100	20	< .21	< .21	< .26	< .26	< .19	< .19	.34	< .48
1,4-Dichlorobenzene	00010646	75	15	< .3	< .3	< .22	< .22	< .22	< .22	< .22	< .55
124TRIMTHLBENZEN	00009563	480	96	.21	< .19	< .18	< .18	< .24	< .24	.29	< .59
135TRIMTHLBENZEN	00010867	480	96	< .19	< .19	< .2	< .2	< .25	< .25	< .2	< .64
2-Chlorotoluene	00009549	NSE	NSE	< .19	< .19	< .2	< .2	< .26	< .26	< .2	< .64
Acetone	00006764	9000	1800	6.4	< 4	< 4.2	< 4.2	< 4.2	< 4.2	4.8	< 10
Benzene	00007143	5	0.5	.85	.39	.53	.38	.3	.41	1	1.7
Chloroethane	00007500	400	80	16	8.4	< 1.5	3.3	< 2.1	2.5	14	7.6
Chloroform	00006766	6	0.6	< .13	< .13	< .2	< .2	< .23	< .23	< .2	< .56
Chloromethane	00007487	30	3	.3	< .23	< .23	< .23	< .24	< .24	< .23	< .6
Dichlorodifluoromethane	00007571	1000	200	< .25	< .25	.45	.88	1.3	2.5	4	1.1
Ethylbenzene	00010041	700	140	8.5	3.5	1.5	.77	.69	2.1	20	10
Fluorotrichloromethane	00007569	3490	698	< .21	< .21	< .32	< .32	< .25	< .25	< .32	< .64
Hexachlorobutadiene	00008768	NSE	NSE	< .25	< .25	< .45	< .45	< .23	< .23	< .45	< .57
Isopropyl Alcohol	00006763	NSE	NSE	21	< 10	77	< 8.3	< 6.3	22	28	< 16
Isopropyl ether	00010820	NSE	NSE	< .16	< .16	< .25	< .25	< .19	< .19	< .25	< .47
Isopropylbenzene	00009882	NSE	NSE	< .18	< .18	< .22	< .22	< .22	< .22	< .22	< .56
Methyl Ethyl Ketone	00007893	4000	800	2	< .5	< 1	< 1	< 1	< 1	< 1	< 2.5
Methyl Isobutyl Ketone	00010810	500	50	< .37	< .37	< .53	< .53	< .31	< .31	< .53	< .78
Methyl tert-butyl Ether	00163404	60	12	< .19	< .19	< .28	< .28	< .19	< .19	< .28	< .48
Methylene Chloride	00007509	5	0.5	.6	.44	< .48	< .48	< .4	< .4	< .48	< 1
Naphthalene	00009120	100	10	< .32	< .32	< .41	< .41	< .32	< .32	< .41	< .8
n-Butylbenzene	00010451	NSE	NSE	< .23	< .23	< .18	< .18	< .24	< .24	< .18	< .61
p-Isopropyltoluene	00009987	NSE	NSE	< .16	< .16	< .19	< .19	< .2	< .2	< .19	< .51
Styrene	00010042	100	10	< .2	< .2	< .17	< .17	< .19	< .19	< .17	< .49
Tetrachloroethene	00012718	5	0.5	< .12	< .12	< .21	< .21	< .15	< .15	< .21	< .37
Toluene	00010888	800	160	7.6	4	2.7	4	3.7	4.7	12	14
Total TriMthBenzenes	TOTALTM	480	96	.21	< .19	< .18	< .18	< .24	< .24	.29	< .59
Total Xylenes	TOTAL Xyl	2000	400	20.7	9	3.29	1.56	1.45	6.2	61	36.1
Trichloroethene	00007901	5	0.5	< .37	< .37	< .17	.21	1.4	1.5	1.4	1.6
Vinyl Chloride	00007501	0.2	0.02	***2***	***2.1***	***1.9***	***1.8***	***1.7***	***1.6***	***1.6***	***1.2***
Xylene - M & P	17960123	2000	400	15	6.6	2.5	1.2	1.1	4.6	44	27
Xylene - O	00009547	2000	400	5.7	2.4	.79	.36	.35	1.6	17	9.1

DESCRIPTION	CASNUM	ES	PAL	RESULTS MONTH/YEAR 05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .25		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .42		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .34		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .43		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .59		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .44		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	1.1		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .32		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	***7.7***		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .65		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .41		< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .59		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .38		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .39		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .38		< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 8		4.6		< 4.2		7	
Benzene	00007143	5	0.5	< .48		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 2.3		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .26		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .46		< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .49		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .31		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .42		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .49		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 20		< 14		< 6.3		36	
Isopropyl ether	00010820	NSE	NSE	< .31		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .35		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .74		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .38		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .44		< .27		< .4		< .48	
Naphthalene	00009120	100	10	< .63		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .45		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .33		< .11		< .2		< .19	
Styrene	00010042	100	10	< .4		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .24		< .18		< .15		< .21	
Toluene	00010888	800	160	< .36		< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .38		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .33		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .74		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .34		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .56		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .33		< .16		< .22		< .24	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13	< .13	< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21	< .21	< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17	< .17	< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22	< .22	< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3	< .3	< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22	< .22	< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16	< .16	< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15	< .15	< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33	< .33	< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21	< .21	< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3	< .3	< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19	< .19	< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19	< .19	< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19	< .19	< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 4	< 4	< 4		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24	< .24	< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1	< 1.1	< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13	< .13	< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23	< .23	< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25	< .25	< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15	< .15	< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21	< .21	< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25	< .25	< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 10	< 10	< 14		19		20	
Isopropyl ether	00010820	NSE	NSE	< .16	< .16	< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18	< .18	< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5	< .5	< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37	< .37	< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19	< .19	< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22	.23	.41		< .4		< .48	
Naphthalene	00009120	100	10	< .32	< .32	< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23	< .23	< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16	< .16	< .11		< .2		< .19	
Styrene	00010042	100	10	< .2	< .2	< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12	< .12	< .18		< .15		< .21	
Toluene	00010888	800	160	< .18	< .18	< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19	< .19	< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17	< .17	< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37	< .37	< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17	< .17	< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28	< .28	< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .17	< .17	< .16		< .22		< .24	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13	< .13	< .22		< .22		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21	< .21	< .23		< .23		< .23	
1,1-Dichloroethane	00007534	850	85	< .17	< .17	< .21		< .21		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22	< .22	< .21		< .21		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3	< .3	< .27		< .27		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22	< .22	< .32		< .32		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16	< .16	< .2		< .2		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .16		< .16		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15	< .15	< .16		< .16		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33	< .33	< .22		< .22		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21	< .21	< .26		< .26		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3	< .3	< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19	< .19	< .18		< .18		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19	< .19	< .2		< .2		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19	< .19	< .2		< .2		< .2	
Acetone	00006764	9000	1800	4.9	< 4	< 4.2		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24	< .24	< .2		< .2		< .2	
Chloroethane	00007500	400	80	< 1.1	< 1.1	< 1.5		< 1.5		< 1.5	
Chloroform	00006766	6	0.6	< .13	< .13	< .2		< .2		< .2	
Chloromethane	00007487	30	3	< .23	< .23	< .23		< .23		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25	< .25	< .29		< .29		< .29	
Ethylbenzene	00010041	700	140	< .15	< .15	< .21		< .21		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21	< .21	< .32		< .32		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25	< .25	< .45		< .45		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	14	< 10	< 8.3		< 8.3		< 8.3	
Isopropyl ether	00010820	NSE	NSE	< .16	< .16	< .25		< .25		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18	< .18	< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	1.8	< .5	< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37	< .37	< .53		< .53		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19	< .19	< .28		< .28		< .28	
Methylene Chloride	00007509	5	0.5	< .22	1	< .48		< .48		< .48	
Naphthalene	00009120	100	10	< .32	< .32	< .41		< .41		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23	< .23	< .18		< .18		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16	< .16	< .19		< .19		< .19	
Styrene	00010042	100	10	< .2	< .2	< .17		< .17		< .17	
Tetrachloroethene	00012718	5	0.5	< .12	< .12	< .21		< .21		< .21	
Toluene	00010888	800	160	< .18	< .18	< .17		.18		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19	< .19	< .18		< .18		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17	< .17	< .24		< .24		< .24	
Trichloroethene	00007901	5	0.5	< .37	< .37	< .17		< .17		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17	< .17	< .18		< .18		< .18	
Xylene - M & P	17960123	2000	400	< .28	< .28	< .33		< .33		< .33	
Xylene - O	00009547	2000	400	< .17	< .17	< .24		< .24		< .24	

300 **W-101** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .22		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .21		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 4.2		< 4		< 4.2		5.5	
Benzene	00007143	5	0.5	< .2		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.5		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .2		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .21		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .32		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 14		15		13	
Isopropyl ether	00010820	NSE	NSE	< .25		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .48		.34		< .4		< .48	
Naphthalene	00009120	100	10	< .41		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .11		< .2		< .19	
Styrene	00010042	100	10	< .17		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .21		< .18		< .15		< .21	
Toluene	00010888	800	160	< .17		< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .17		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .33		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .24		< .16		< .22		< .24	

303 **MW-101A**

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	RESULTS MONTH/YEAR 05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

318 **MW-104** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40			< .2					
1,1,2-Trichloroethane	00007900	5	0.5			< .17					
1,1-Dichloroethane	00007534	850	85			< .16					
1,1-Dichloroethene	00007535	7	0.7			< .15					
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .23					
1,2,4-Trichlorobenzene	00012082	70	14			< .3					
1,2-cis-Dichloroethene	00015659	70	7			< .12					
1,2-Dichlorobenzene	00009550	600	60			< .13					
1,2-Dichloroethane	00010706	5	0.5			< .22					
1,2-Dichloropropane	00007887	5	0.5			< .21					
1,2-trans-Dichloroethene	00015660	100	20			< .13					
1,4-Dichlorobenzene	00010646	75	15			< .13					
124TRIMTHLBENZEN	00009563	480	96			< .12					
135TRIMTHLBENZEN	00010867	480	96			< .12					
2-Chlorotoluene	00009549	NSE	NSE			< .15					
Acetone	00006764	9000	1800			< 4					
Benzene	00007143	5	0.5			< .13					
Chloroethane	00007500	400	80			< .67					
Chloroform	00006766	6	0.6			< .13					
Chloromethane	00007487	30	3			< .28					
Dichlorodifluoromethane	00007571	1000	200			< .13					
Ethylbenzene	00010041	700	140			< .12					
Fluorotrichloromethane	00007569	3490	698			< .11					
Hexachlorobutadiene	00008768	NSE	NSE			< .36					
Isopropyl Alcohol	00006763	NSE	NSE			< 14					
Isopropyl ether	00010820	NSE	NSE			< .2					
Isopropylbenzene	00009882	NSE	NSE			< .1					
Methyl Ethyl Ketone	00007893	4000	800			< 1					
Methyl Isobutyl Ketone	00010810	500	50			< .64					
Methyl tert-butyl Ether	00163404	60	12			< .13					
Methylene Chloride	00007509	5	0.5			.34					
Naphthalene	00009120	100	10			< .31					
n-Butylbenzene	00010451	NSE	NSE			< .14					
p-Isopropyltoluene	00009987	NSE	NSE			< .11					
Styrene	00010042	100	10			< .11					
Tetrachloroethene	00012718	5	0.5			< .18					
Toluene	00010888	800	160			< .16					
Total TriMthBenzenes	TOTALTM	480	96			< .12					
Total Xylenes	TOTAL Xyl	2000	400			< .16					
Trichloroethene	00007901	5	0.5			< .16					
Vinyl Chloride	00007501	0.2	0.02			***.33***					
Xylene - M & P	17960123	2000	400			< .22					
Xylene - O	00009547	2000	400			< .16					

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
						RESULTS MONTH/YEAR					
1,1,1-Trichloroethane	00007155	200	40			< .2					
1,1,2-Trichloroethane	00007900	5	0.5			< .17					
1,1-Dichloroethane	00007534	850	85			< .16					
1,1-Dichloroethene	00007535	7	0.7			< .15					
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .23					
1,2,4-Trichlorobenzene	00012082	70	14			< .3					
1,2-cis-Dichloroethene	00015659	70	7			< .12					
1,2-Dichlorobenzene	00009550	600	60			< .13					
1,2-Dichloroethane	00010706	5	0.5			< .22					
1,2-Dichloropropane	00007887	5	0.5			< .21					
1,2-trans-Dichloroethene	00015660	100	20			< .13					
1,4-Dichlorobenzene	00010646	75	15			< .13					
124TRIMTHLBENZEN	00009563	480	96			< .12					
135TRIMTHLBENZEN	00010867	480	96			< .12					
2-Chlorotoluene	00009549	NSE	NSE			< .15					
Acetone	00006764	9000	1800			< 4					
Benzene	00007143	5	0.5			< .13					
Chloroethane	00007500	400	80			< .67					
Chloroform	00006766	6	0.6			< .13					
Chloromethane	00007487	30	3			< .28					
Dichlorodifluoromethane	00007571	1000	200			< .13					
Ethylbenzene	00010041	700	140			< .12					
Fluorotrichloromethane	00007569	3490	698			< .11					
Hexachlorobutadiene	00008768	NSE	NSE			< .36					
Isopropyl Alcohol	00006763	NSE	NSE			< 14					
Isopropyl ether	00010820	NSE	NSE			< .2					
Isopropylbenzene	00009882	NSE	NSE			< .1					
Methyl Ethyl Ketone	00007893	4000	800			< 1					
Methyl Isobutyl Ketone	00010810	500	50			< .64					
Methyl tert-butyl Ether	00163404	60	12			< .13					
Methylene Chloride	00007509	5	0.5			.32					
Naphthalene	00009120	100	10			< .31					
n-Butylbenzene	00010451	NSE	NSE			< .14					
p-Isopropyltoluene	00009987	NSE	NSE			< .11					
Styrene	00010042	100	10			< .11					
Tetrachloroethene	00012718	5	0.5			< .18					
Toluene	00010888	800	160			< .16					
Total TriMthBenzenes	TOTALTM	480	96			< .12					
Total Xylenes	TOTAL Xyl	2000	400			< .16					
Trichloroethene	00007901	5	0.5			< .16					
Vinyl Chloride	00007501	0.2	0.02			***.32***					
Xylene - M & P	17960123	2000	400			< .22					
Xylene - O	00009547	2000	400			< .16					

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .22		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .23		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .21		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .21		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .27		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .32		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .2		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .16		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .22		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .26		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .18		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .2		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .2		< .26		< .2	
Acetone	00006764	9000	1800	4.9		< 4.2		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .2		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< 1.5		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .2		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .23		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .29		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .21		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .32		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .45		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	26		< 8.3		< 6.3		< 8.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .25		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	1.4		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .53		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .28		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .48		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .41		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .18		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .19		< .2		< .19	
Styrene	00010042	100	10	< .2		< .17		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .21		< .15		< .21	
Toluene	00010888	800	160	< .18		< .17		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .18		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .24		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .17		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .18		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .33		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .24		< .22		< .24	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .13		< .22		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .23		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .21		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .21		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .27		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .32		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .2		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .16		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .22		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .26		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .18		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .2		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .2		< .26		< .2	
Acetone	00006764	9000	1800	4.2		< 4.2		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .2		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< 1.5		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .2		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .23		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .29		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .21		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .32		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .45		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	18		< 8.3		< 6.3		< 8.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .25		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	.96		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .53		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .28		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .48		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .41		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .18		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .19		< .2		< .19	
Styrene	00010042	100	10	< .2		< .17		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .21		< .15		< .21	
Toluene	00010888	800	160	< .18		< .17		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .18		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .24		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .17		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .18		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .33		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .24		< .22		< .24	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
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Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

357 **MW-111** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13	< .22	< .22	< .22	< .21	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< .21	< .23	< .23	< .23	< .25	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85	.45	.32	.36	.43	.47	< .19	< .21	.24
1,1-Dichloroethene	00007535	7	0.7	.26	< .21	.29	.33	.44	< .2	< .21	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3	< .27	< .27	< .27	< .26	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< .22	< .32	< .32	< .32	< .28	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7	< .16	< .2	< .2	< .2	< .21	< .21	< .2	< .21
1,2-Dichlorobenzene	00009550	600	60	< .16	< .16	< .16	< .16	< .19	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5	< .15	< .16	< .16	< .16	< .24	< .24	< .16	< .24
1,2-Dichloropropane	00007887	5	0.5	< .33	< .22	< .22	< .22	< .2	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20	< .21	< .26	< .26	< .26	< .19	< .19	< .26	< .19
1,4-Dichlorobenzene	00010646	75	15	< .3	< .22	< .22	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96	< .19	< .18	< .18	< .18	< .24	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96	< .19	< .2	< .2	< .2	< .25	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE	< .19	< .2	< .2	< .2	< .26	< .26	< .2	< .26
Acetone	00006764	9000	1800	< 4	< 4.2	< 4.2	< 4.2	< 4.2	4.2	4.7	< 4.2
Benzene	00007143	5	0.5	< .24	< .2	< .2	< .2	< .26	< .26	< .2	< .26
Chloroethane	00007500	400	80	< 1.1	< 1.5	< 1.5	< 1.5	< 2.1	< 2.1	< 1.5	< 2.1
Chloroform	00006766	6	0.6	< .13	< .2	< .2	< .2	< .23	< .23	< .2	< .23
Chloromethane	00007487	30	3	< .23	< .23	< .23	< .23	< .24	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200	< .25	< .29	< .29	< .29	< .19	< .19	< .29	< .19
Ethylbenzene	00010041	700	140	< .15	< .21	< .21	< .21	< .22	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698	< .21	< .32	< .32	< .32	< .25	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< .25	< .45	< .45	< .45	< .23	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE	< 10	< 8.3	< 8.3	< 8.3	23	28	14	< 6.3
Isopropyl ether	00010820	NSE	NSE	< .16	< .25	< .25	< .25	< .19	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE	< .18	< .22	< .22	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800	< .5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50	< .37	< .53	< .53	< .53	< .31	< .31	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12	< .19	< .28	< .28	< .28	< .19	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5	< .22	< .48	< .48	< .48	< .4	< .4	< .48	< .4
Naphthalene	00009120	100	10	< .32	< .41	< .41	< .41	< .32	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE	< .23	< .18	< .18	< .18	< .24	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< .16	< .19	< .19	< .19	< .2	< .2	< .19	< .2
Styrene	00010042	100	10	< .2	< .17	< .17	< .17	< .19	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5	< .12	< .21	< .21	< .21	< .15	< .15	< .21	< .15
Toluene	00010888	800	160	< .18	< .17	< .17	< .17	< .23	< .23	< .17	< .23
Total TriMthBenzenes	TOTALTM	480	96	< .19	< .18	< .18	< .18	< .24	< .24	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400	< .17	< .24	< .24	< .24	< .22	< .22	< .24	< .22
Trichloroethene	00007901	5	0.5	< .37	< .17	< .17	< .17	< .25	< .25	< .17	< .25
Vinyl Chloride	00007501	0.2	0.02	< .17	< .18	< .18	< .18	< .15	< .15	< .18	< .15
Xylene - M & P	17960123	2000	400	< .28	< .33	< .33	< .33	< .46	< .46	< .33	< .46
Xylene - O	00009547	2000	400	< .17	< .24	< .24	< .24	< .22	< .22	< .24	< .22

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 3.1	< 5.5	< .98	< .22	< 1	< 1	< 1.1	1
1,1,2-Trichloroethane	00007900	5	0.5	< 5.2	< 5.6	< .83	< .23	< 1.3	< 1.3	< 1.1	< 1.3
1,1-Dichloroethane	00007534	850	85	140	14	4.3	4.7	6.5	4.2	9.6	15
1,1-Dichloroethene	00007535	7	0.7	< 5.4	< 5.2	< .76	2.1	< 1	< 1	< 1	< 1
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 7.4	< 6.8	< 1.1	< .27	< 1.3	< 1.3	< 1.4	< 1.3
1,2,4-Trichlorobenzene	00012082	70	14	< 5.5	< 8	< 1.5	< .32	< 1.4	< 1.4	< 1.6	< 1.4
1,2-cis-Dichloroethene	00015659	70	7	< 4.1	< 5.1	< .6	.33	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	00009550	600	60	< 4	< 4	< .65	< .16	< .93	< .93	< .79	< .93
1,2-Dichloroethane	00010706	5	0.5	***24***	***19***	***14***	***13***	***14***	***14***	***18***	***18***
1,2-Dichloropropane	00007887	5	0.5	< 8.2	< 5.4	4.5	3.5	4.1	3.4	***5.5***	***5.3***
1,2-trans-Dichloroethene	00015660	100	20	< 5.1	< 6.5	.91	.89	1.1	< .97	1.9	1.3
1,4-Dichlorobenzene	00010646	75	15	< 7.4	< 5.6	< .64	< .22	< 1.1	< 1.1	< 1.1	< 1.1
124TRIMTHLBENZEN	00009563	480	96	< 4.8	< 4.5	< .6	< .18	< 1.2	< 1.2	< .91	< 1.2
135TRIMTHLBENZEN	00010867	480	96	< 4.9	< 4.9	< .61	< .2	< 1.3	< 1.3	< .98	< 1.3
2-Chlorotoluene	00009549	NSE	NSE	< 4.7	< 5	< .73	< .2	< 1.3	< 1.3	< 1	< 1.3
Acetone	00006764	9000	1800	< 100	< 100	< 20	< 4.2	< 21	< 21	< 21	< 21
Benzene	00007143	5	0.5	< 6	< 4.9	1.6	1.5	1.4	< 1.3	2.3	1.9
Chloroethane	00007500	400	80	190	200	200	250	200	200	260	220
Chloroform	00006766	6	0.6	< 3.3	< 5.1	< .65	< .2	< 1.1	< 1.1	< 1	< 1.1
Chloromethane	00007487	30	3	< 5.8	< 5.8	< 1.4	< .23	< 1.2	< 1.2	< 1.2	< 1.2
Dichlorodifluoromethane	00007571	1000	200	< 6.2	< 7.2	< .67	< .29	< .95	< .95	< 1.4	< .95
Ethylbenzene	00010041	700	140	< 3.9	< 5.2	< .6	< .21	< 1.1	< 1.1	< 1	< 1.1
Fluorotrichloromethane	00007569	3490	698	< 5.3	< 7.9	< .54	< .32	< 1.3	< 1.3	< 1.6	< 1.3
Hexachlorobutadiene	00008768	NSE	NSE	< 6.2	< 11	< 1.8	< .45	< 1.1	< 1.1	< 2.2	< 1.1
Isopropyl Alcohol	00006763	NSE	NSE	< 250	< 210	< 71	< 8.3	< 32	< 32	< 41	< 32
Isopropyl ether	00010820	NSE	NSE	< 3.9	< 6.1	< 1	< .25	< .95	< .95	< 1.2	< .95
Isopropylbenzene	00009882	NSE	NSE	< 4.4	< 5.4	< .51	< .22	< 1.1	< 1.1	< 1.1	< 1.1
Methyl Ethyl Ketone	00007893	4000	800	< 12	< 25	< 5	1	< 5	< 5	< 5	< 5
Methyl Isobutyl Ketone	00010810	500	50	31	< 13	14	3.5	3.3	5.5	< 2.7	< 1.6
Methyl tert-butyl Ether	00163404	60	12	< 4.8	< 7.1	< .64	< .28	< .95	< .95	< 1.4	< .95
Methylene Chloride	00007509	5	0.5	< 5.5	***38***	4.8	< .48	< 2	< 2	< 2.4	< 2
Naphthalene	00009120	100	10	< 7.9	< 10	< 1.5	< .41	< 1.6	< 1.6	< 2	< 1.6
n-Butylbenzene	00010451	NSE	NSE	< 5.6	< 4.5	< .68	< .18	< 1.2	< 1.2	< .91	< 1.2
p-Isopropyltoluene	00009987	NSE	NSE	< 4.1	< 4.8	< .54	< .19	< 1	< 1	< .95	< 1
Styrene	00010042	100	10	< 5	< 4.3	< .55	< .17	< .97	< .97	< .86	< .97
Tetrachloroethene	00012718	5	0.5	< 3	< 5.2	< .9	< .21	< .73	< .73	< 1	< .73
Toluene	00010888	800	160	56	53	54	55	31	16	45	49
Total TriMthBenzenes	TOTALTM	480	96	< 4.8	< 4.5	< .6	< .18	< 1.2	< 1.2	< .91	< 1.2
Total Xylenes	TOTAL Xyl	2000	400	< 4.1	< 6	< .78	< .24	< 1.1	< 1.1	< 1.2	< 1.1
Trichloroethene	00007901	5	0.5	< 9.3	< 4.2	< .82	.18	< 1.2	< 1.2	< .84	1.4
Vinyl Chloride	00007501	0.2	0.02	< 4.2	< 4.6	< .87	***.58***	< .75	< .75	< .92	< .75
Xylene - M & P	17960123	2000	400	< 7	< 8.4	< 1.1	< .33	< 2.3	< 2.3	< 1.7	< 2.3
Xylene - O	00009547	2000	400	< 4.1	< 6	< .78	< .24	< 1.1	< 1.1	< 1.2	< 1.1

363 **MW-111B** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< 1.1	< 1.1	< .44	< 2.2	< .82	< .82	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< 1.1	< 1.1	< .45	< 2.3	< 1	< 1	.43	< .25
1,1-Dichloroethane	00007534	850	85	35	18	14	15	12	15	6.7	5.4
1,1-Dichloroethene	00007535	7	0.7	< 1	< 1	< .42	< 2.1	< .8	< .8	.84	.61
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 1.4	< 1.4	< .54	< 2.7	< 1	< 1	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< 1.6	< 1.6	< .64	< 3.2	< 1.1	< 1.1	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7	< 1	< 1	1.2	< 2	< .82	< .82	3	5.3
1,2-Dichlorobenzene	00009550	600	60	< .79	< .79	< .32	< 1.6	< .74	< .74	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5	***7.3***	2.5	2	4.2	1.7	2.1	.64	.32
1,2-Dichloropropane	00007887	5	0.5	1.7	< 1.1	< .43	< 2.2	< .79	< .79	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20	< 1.3	< 1.3	< .52	< 2.6	< .77	< .77	.82	1.2
1,4-Dichlorobenzene	00010646	75	15	< 1.1	< 1.1	< .44	< 2.2	< .87	< .87	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96	< .91	< .91	< .36	< 1.8	< .94	< .94	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96	< .98	< .98	< .39	< 2	< 1	< 1	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE	< 1	< 1	< .4	< 2	< 1	< 1	< .2	< .26
Acetone	00006764	9000	1800	< 21	< 21	< 8.3	< 42	< 17	< 17	< 4.2	< 4.2
Benzene	00007143	5	0.5	< .98	< .98	.7	< 2	< 1	< 1	.2	< .26
Chloroethane	00007500	400	80	38	< 7.6	< 3	25	< 8.2	< 8.2	< 1.5	< 2.1
Chloroform	00006766	6	0.6	< 1	< 1	< .4	< 2	< .9	< .9	< .2	< .23
Chloromethane	00007487	30	3	< 1.2	< 1.2	< .47	< 2.3	< .96	< .96	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200	< 1.4	< 1.4	< .58	< 2.9	< .76	< .76	.32	< .19
Ethylbenzene	00010041	700	140	< 1	< 1	< .41	< 2.1	< .86	< .86	< .21	< .22
Fluorotrichloromethane	00007569	3490	698	< 1.6	< 1.6	< .63	< 3.2	< 1	< 1	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< 2.2	< 2.2	< .89	< 4.5	< .9	< .9	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE	< 41	< 41	< 17	< 83	< 25	51	< 8.3	< 6.3
Isopropyl ether	00010820	NSE	NSE	< 1.2	< 1.2	< .49	< 2.5	< .76	< .76	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE	< 1.1	< 1.1	< .43	< 2.2	< .89	< .89	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800	< 5	< 5	< 2	< 10	< 4	< 4	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50	3.2	< 2.7	< 1.1	< 5.3	< 1.3	< 1.3	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12	< 1.4	< 1.4	< .57	< 2.8	< .76	< .76	< .28	< .19
Methylene Chloride	00007509	5	0.5	< 2.4	***6.7***	< .96	< 4.8	< 1.6	< 1.6	< .48	< .4
Naphthalene	00009120	100	10	< 2	< 2	< .81	< 4.1	< 1.3	< 1.3	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE	< .91	< .91	< .36	< 1.8	< .98	< .98	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< .95	< .95	< .38	< 1.9	< .81	< .81	< .19	< .2
Styrene	00010042	100	10	< .86	< .86	< .34	< 1.7	< .78	< .78	< .17	< .19
Tetrachloroethene	00012718	5	0.5	< 1	< 1	< .41	< 2.1	< .58	< .58	< .21	< .15
Toluene	00010888	800	160	9.6	< .86	.37	< 1.7	< .92	< .92	< .17	< .23
Total TriMthBenzenes	TOTALTM	480	96	< .91	< .91	< .36	< 1.8	< .94	< .94	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400	< 1.2	< 1.2	< .48	< 2.4	< .9	< .9	< .24	< .22
Trichloroethene	00007901	5	0.5	2.3	2.4	4.5	2.9	3.4	2.7	***9.3***	***10***
Vinyl Chloride	00007501	0.2	0.02	< .92	< .92	***1.1***	< 1.8	***.76***	< .6	***3.5***	***3***
Xylene - M & P	17960123	2000	400	< 1.7	< 1.7	< .67	< 3.3	< 1.8	< 1.8	< .33	< .46
Xylene - O	00009547	2000	400	< 1.2	< 1.2	< .48	< 2.4	< .9	< .9	< .24	< .22

366 **MW-112** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 4		5.3		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		42		< 8.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .2		< .19	
Styrene	00010042	100	10	< .2		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .15		< .21	
Toluene	00010888	800	160	< .18		< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .16		< .22		< .24	

369 **MW-112A** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .22		< .22		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .23		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .21		< .21		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .21		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .27		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .32		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .2		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .16		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .22		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .26		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .18		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .2		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .2		< .26		< .2	
Acetone	00006764	9000	1800	< 4.2		< 4.2		< 4.2		5	
Benzene	00007143	5	0.5	< .2		< .2		< .26		< .2	
Chloroethane	00007500	400	80	< 1.5		< 1.5		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .2		< .2		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .23		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .29		< .19		< .29	
Ethylbenzene	00010041	700	140	< .21		< .21		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .32		< .32		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .45		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 8.3		44		10	
Isopropyl ether	00010820	NSE	NSE	< .25		< .25		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .53		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .28		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .48		< .48		< .4		< .48	
Naphthalene	00009120	100	10	< .41		< .41		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .18		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .19		< .2		< .19	
Styrene	00010042	100	10	< .17		< .17		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .21		< .21		< .15		< .21	
Toluene	00010888	800	160	< .17		< .17		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .18		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .24		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .17		< .17		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .18		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .33		< .33		< .46		< .33	
Xylene - O	00009547	2000	400	< .24		< .24		< .22		< .24	

372 **MW-112B** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .22		< .22		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .23		< .23		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .21		< .21		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .21		< .21		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .27		< .27		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .32		< .32		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .2		< .2		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .16		< .16		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .22		< .22		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .26		< .26		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .22		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .18		< .18		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .2		< .2		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .2		< .2		< .26		< .2	
Acetone	00006764	9000	1800	< 4.2		< 4.2		< 4.2		9	
Benzene	00007143	5	0.5	< .2		< .2		< .26		< .2	
Chloroethane	00007500	400	80	< 1.5		< 1.5		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .2		< .2		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .23		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .29		< .29		< .19		< .29	
Ethylbenzene	00010041	700	140	< .21		< .21		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .32		< .32		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .45		< .45		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 8.3		< 8.3		18		15	
Isopropyl ether	00010820	NSE	NSE	< .25		< .25		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .22		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< 1		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .53		< .53		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .28		< .28		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .48		< .48		< .4		< .48	
Naphthalene	00009120	100	10	< .41		< .41		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .18		< .18		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .19		< .19		< .2		< .19	
Styrene	00010042	100	10	< .17		< .17		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .21		< .21		< .15		< .21	
Toluene	00010888	800	160	< .17		3.1		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .18		< .18		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .24		< .24		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .17		.19		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .18		< .18		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .33		< .33		< .46		< .33	
Xylene - O	00009547	2000	400	< .24		< .24		< .22		< .24	

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 4		8.5		< 4.2		6	
Benzene	00007143	5	0.5	< .24		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23		.89		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		< 6.3		20	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .2		< .19	
Styrene	00010042	100	10	< .2		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .15		< .21	
Toluene	00010888	800	160	< .18		< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .16		< .22		< .24	

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RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .19		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .26		< .2	
Acetone	00006764	9000	1800	5		5.1		< 4.2		< 4.2	
Benzene	00007143	5	0.5	< .24		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	15		< 14		32		15	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	1.5		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .2		< .19	
Styrene	00010042	100	10	< .2		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .15		< .21	
Toluene	00010888	800	160	< .18		.21		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .16		< .22		< .24	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .21		< .22	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .25		< .23	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .19		< .21	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .2		< .21	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .26		< .27	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .28		< .32	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .21		< .2	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .16	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .24		< .16	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .2		< .22	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		.47		< .26	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .24		< .18	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .25		< .2	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .26		< .2	
Acetone	00006764	9000	1800	< 4		< 4		6.5		< 4.2	
Benzene	00007143	5	0.5	< .24		< .13		< .26		< .2	
Chloroethane	00007500	400	80	< 1.1		< .67		< 2.1		< 1.5	
Chloroform	00006766	6	0.6	< .13		< .13		< .23		< .2	
Chloromethane	00007487	30	3	< .23		< .28		< .24		< .23	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .19		< .29	
Ethylbenzene	00010041	700	140	< .15		< .12		< .22		< .21	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .25		< .32	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .23		< .45	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		11		14	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .19		< .25	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	.62		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .31		< .53	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .19		< .28	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .4		< .48	
Naphthalene	00009120	100	10	< .32		< .31		< .32		< .41	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .24		< .18	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .2		< .19	
Styrene	00010042	100	10	< .2		< .11		< .19		< .17	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .15		< .21	
Toluene	00010888	800	160	< .18		< .16		< .23		< .17	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .24		< .18	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .22		< .24	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .25		< .17	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .15		< .18	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .46		< .33	
Xylene - O	00009547	2000	400	< .17		< .16		< .22		< .24	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
						RESULTS MONTH/YEAR					
1,1,1-Trichloroethane	00007155	200	40			< .22	< .22	< .21	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5			< .23	< .23	< .25	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85			1.2	1.5	1.8	1.2	1.1	1.1
1,1-Dichloroethene	00007535	7	0.7			.46	.47	.54	.44	.55	.3
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .27	< .27	< .26	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14			< .32	< .32	< .28	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7			6.3	6.2	6.5	5.6	5.7	5.1
1,2-Dichlorobenzene	00009550	600	60			< .16	< .16	< .19	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5			< .16	< .16	< .24	< .24	< .16	< .24
1,2-Dichloropropane	00007887	5	0.5			< .22	< .22	< .2	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20			< .26	< .26	< .19	< .19	< .26	< .19
1,4-Dichlorobenzene	00010646	75	15			< .22	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96			< .18	< .18	< .24	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96			< .2	< .2	< .25	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE			< .2	< .2	< .26	< .26	< .2	< .26
Acetone	00006764	9000	1800			< 4.2	4.3	< 4.2	< 4.2	< 4.2	< 4.2
Benzene	00007143	5	0.5			< .2	< .2	< .26	< .26	< .2	< .26
Chloroethane	00007500	400	80			< 1.5	< 1.5	< 2.1	< 2.1	< 1.5	< 2.1
Chloroform	00006766	6	0.6			2	< .2	< .23	< .23	< .2	< .23
Chloromethane	00007487	30	3			< .23	< .23	< .24	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200			< .29	5.6	8.2	13	14	9.7
Ethylbenzene	00010041	700	140			< .21	< .21	< .22	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698			< .32	< .32	< .25	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE			< .45	< .45	< .23	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE			< 8.3	< 8.3	< 6.3	39	8.7	< 6.3
Isopropyl ether	00010820	NSE	NSE			< .25	< .25	< .19	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE			< .22	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800			< 1	1.2	< 1	< 1	1.1	< 1
Methyl Isobutyl Ketone	00010810	500	50			< .53	< .53	< .31	< .31	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12			< .28	< .28	< .19	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5			< .48	< .48	< .4	< .4	< .48	< .4
Naphthalene	00009120	100	10			< .41	< .41	< .32	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE			< .18	< .18	< .24	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE			< .19	< .19	< .2	< .2	< .19	< .2
Styrene	00010042	100	10			< .17	< .17	< .19	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5			< .21	< .21	< .15	< .15	< .21	< .15
Toluene	00010888	800	160			< .17	< .17	< .23	< .23	< .17	< .23
Total TriMthBenzenes	TOTALTM	480	96			< .18	< .18	< .24	< .24	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400			< .24	< .24	< .22	< .22	< .24	< .22
Trichloroethene	00007901	5	0.5			1.8	2.2	2.1	2.3	2.2	2.2
Vinyl Chloride	00007501	0.2	0.02			***.49***	***.29***	.18	< .15	< .18	< .15
Xylene - M & P	17960123	2000	400			< .33	< .33	< .46	< .46	< .33	< .46
Xylene - O	00009547	2000	400			< .24	< .24	< .22	< .22	< .24	< .22

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40			< .2	< .22	< .21	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5			< .17	< .23	< .25	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85			1.7	2.5	5.5	< .19	2.5	2
1,1-Dichloroethene	00007535	7	0.7			.18	.28	1.1	< .2	.68	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .23	< .27	< .26	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14			< .3	< .32	< .28	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7			.16	.42	1.8	< .21	.72	< .21
1,2-Dichlorobenzene	00009550	600	60			< .13	< .16	< .19	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5			.58	.29	1.3	< .24	.96	.4
1,2-Dichloropropane	00007887	5	0.5			< .21	< .22	< .2	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20			< .13	< .26	.7	< .19	< .26	< .19
1,4-Dichlorobenzene	00010646	75	15			< .13	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96			< .12	< .18	< .24	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96			< .12	< .2	< .25	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE			< .15	< .2	< .26	< .26	< .2	< .26
Acetone	00006764	9000	1800			< 4	< 4.2	< 4.2	4.9	< 4.2	< 4.2
Benzene	00007143	5	0.5			.17	< .2	.5	< .26	.5	< .26
Chloroethane	00007500	400	80			1.2	< 1.5	3.2	< 2.1	4.8	< 2.1
Chloroform	00006766	6	0.6			.17	< .2	< .23	< .23	< .2	< .23
Chloromethane	00007487	30	3			< .28	< .23	< .24	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200			.2	< .29	.23	< .19	.61	< .19
Ethylbenzene	00010041	700	140			< .12	< .21	< .22	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698			< .11	< .32	< .25	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE			< .36	< .45	< .23	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE			< 14	< 8.3	7	8.3	< 8.3	< 6.3
Isopropyl ether	00010820	NSE	NSE			< .2	< .25	< .19	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE			< .1	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800			< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50			23	< .53	5.2	< .31	.77	< .31
Methyl tert-butyl Ether	00163404	60	12			< .13	< .28	< .19	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5			< .27	< .48	< .4	< .4	< .48	< .4
Naphthalene	00009120	100	10			< .31	< .41	< .32	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE			< .14	< .18	< .24	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE			< .11	< .19	< .2	< .2	< .19	< .2
Styrene	00010042	100	10			< .11	< .17	< .19	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5			< .18	< .21	.15	< .15	.34	< .15
Toluene	00010888	800	160			.8	.22	3.1	< .23	4.8	.25
Total TriMthBenzenes	TOTALTM	480	96			< .12	< .18	< .24	< .24	< .18	< .24
Total TriMthBenzenes	TOTALTM	480	96			< .12	< .18	< .24	< .24	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400			< .16	< .24	< .22	< .22	< .24	< .22
Total Xylenes	TOTAL Xyl	2000	400			< .16	< .24	< .22	< .22	< .24	< .22
Trichloroethene	00007901	5	0.5			2.7	2.8	2.2	< .25	3.1	1.8
Vinyl Chloride	00007501	0.2	0.02			< .17	< .18	***.44***	< .15	***.35***	< .15
Xylene - M & P	17960123	2000	400			< .22	< .33	< .46	< .46	< .33	< .46
Xylene - M & P	17960123	2000	400			< .22	< .33	< .46	< .46	< .33	< .46
Xylene - O	00009547	2000	400			< .16	< .24	< .22	< .22	< .24	< .22

000402

390 **114B** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40			< .2	< .22	< .22	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5			< .17	< .23	< .23	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85			< .16	.85	.31	1.8	< .21	< .19
1,1-Dichloroethene	00007535	7	0.7			< .15	.25	< .21	< .2	< .21	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .23	< .27	< .27	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14			< .3	< .32	< .32	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7			< .12	.56	< .2	< .21	.32	< .21
1,2-Dichlorobenzene	00009550	600	60			< .13	< .16	< .16	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5			< .22	< .16	< .16	.35	< .16	< .24
1,2-Dichloropropane	00007887	5	0.5			< .21	< .22	< .22	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20			< .13	< .26	< .26	< .19	< .26	< .19
1,4-Dichlorobenzene	00010646	75	15			< .13	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96			< .12	< .18	< .18	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96			< .12	< .2	< .2	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE			< .15	< .2	< .2	< .26	< .2	< .26
Acetone	00006764	9000	1800			< 4	< 4.2	< 4.2	< 4.2	9	< 4.2
Benzene	00007143	5	0.5			< .13	< .2	< .2	< .26	< .2	< .26
Chloroethane	00007500	400	80			< .67	< 1.5	< 1.5	< 2.1	< 1.5	< 2.1
Chloroform	00006766	6	0.6			.3	< .2	< .2	< .23	< .2	< .23
Chloromethane	00007487	30	3			< .28	< .23	< .23	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200			< .13	< .29	< .29	< .19	< .29	< .19
Ethylbenzene	00010041	700	140			< .12	< .21	< .21	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698			< .11	< .32	< .32	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE			< .36	< .45	< .45	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE			< 14	9.9	13	21	14	< 6.3
Isopropyl ether	00010820	NSE	NSE			< .2	< .25	< .25	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE			< .1	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800			< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50			2.6	< .53	< .53	< .31	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12			< .13	< .28	< .28	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5			< .27	< .48	< .48	< .4	< .48	< .4
Naphthalene	00009120	100	10			< .31	< .41	< .41	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE			< .14	< .18	< .18	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE			< .11	< .19	< .19	< .2	< .19	< .2
Styrene	00010042	100	10			< .11	< .17	< .17	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5			< .18	< .21	< .21	< .15	< .21	< .15
Toluene	00010888	800	160			< .16	.18	< .17	< .23	< .17	< .23
Total TriMthBenzenes	TOTALTM	480	96			< .12	< .18	< .18	< .24	< .18	< .24
Total Xylenes	TOTAL Xyl	2000	400			< .16	< .24	< .24	< .22	< .24	< .22
Trichloroethene	00007901	5	0.5			< .16	< .17	< .17	1.9	.34	.32
Vinyl Chloride	00007501	0.2	0.02			< .17	< .18	< .18	< .15	< .18	< .15
Xylene - M & P	17960123	2000	400			< .22	< .33	< .33	< .46	< .33	< .46
Xylene - O	00009547	2000	400			< .16	< .24	< .24	< .22	< .24	< .22

393 **115** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40			< 11	< 17	< 11	< 10	< 17	< 21
1,1,2-Trichloroethane	00007900	5	0.5			< 11	< 18	< 11	< 13	< 18	< 25
1,1-Dichloroethane	00007534	850	85			***870***	***1100***	***980***	***1200***	67	26
1,1-Dichloroethene	00007535	7	0.7			***330***	***320***	***230***	< 10	< 17	< 20
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< 14	< 22	< 14	< 13	< 22	< 26
1,2,4-Trichlorobenzene	00012082	70	14			< 16	< 25	< 16	< 14	< 25	< 28
1,2-cis-Dichloroethene	00015659	70	7			***700***	***720***	***590***	19	< 16	< 21
1,2-Dichlorobenzene	00009550	600	60			< 7.9	< 13	< 7.9	< 9.3	< 13	< 19
1,2-Dichloroethane	00010706	5	0.5			***57***	***57***	***49***	***76***	***77***	***72***
1,2-Dichloropropane	00007887	5	0.5			***22***	***27***	***24***	***36***	***26***	< 20
1,2-trans-Dichloroethene	00015660	100	20			***250***	***170***	97	***150***	***170***	***110***
1,4-Dichlorobenzene	00010646	75	15			< 11	< 18	< 11	< 11	< 18	< 22
124TRIMTHLBENZEN	00009563	480	96			< 9.1	< 14	< 9.1	< 12	< 14	< 24
135TRIMTHLBENZEN	00010867	480	96			< 9.8	< 16	< 9.8	< 13	< 16	< 25
2-Chlorotoluene	00009549	NSE	NSE			< 10	< 16	< 10	< 13	< 16	< 26
Acetone	00006764	9000	1800			< 210	< 330	380	< 210	< 330	< 420
Benzene	00007143	5	0.5			< 9.8	< 16	< 9.8	< 13	< 16	< 26
Chloroethane	00007500	400	80			< 76	< 120	< 76	< 100	***1000***	***790***
Chloroform	00006766	6	0.6			< 10	< 16	< 10	< 11	< 16	< 23
Chloromethane	00007487	30	3			< 12	< 19	< 12	< 12	< 19	< 24
Dichlorodifluoromethane	00007571	1000	200			< 14	< 23	< 14	< 9.5	< 23	< 19
Ethylbenzene	00010041	700	140			< 10	< 17	< 10	< 11	< 17	< 22
Fluorotrichloromethane	00007569	3490	698			< 16	< 25	< 16	< 13	< 25	< 25
Hexachlorobutadiene	00008768	NSE	NSE			< 22	< 36	< 22	< 11	< 36	< 23
Isopropyl Alcohol	00006763	NSE	NSE			< 410	< 660	< 410	< 320	< 660	< 630
Isopropyl ether	00010820	NSE	NSE			< 12	< 20	< 12	< 9.5	< 20	< 19
Isopropylbenzene	00009882	NSE	NSE			< 11	< 17	< 11	< 11	< 17	< 22
Methyl Ethyl Ketone	00007893	4000	800			110	110	180	99	< 80	< 100
Methyl Isobutyl Ketone	00010810	500	50			***1800***	***1900***	***2700***	***2800***	***2900***	***2800***
Methyl tert-butyl Ether	00163404	60	12			< 14	< 23	< 14	< 9.5	< 23	< 19
Methylene Chloride	00007509	5	0.5			< 24	< 38	< 24	< 20	< 38	< 40
Naphthalene	00009120	100	10			< 20	< 32	< 20	< 16	< 32	< 32
n-Butylbenzene	00010451	NSE	NSE			< 9.1	< 14	< 9.1	< 12	< 14	< 24
p-Isopropyltoluene	00009987	NSE	NSE			< 9.5	< 15	< 9.5	< 10	< 15	< 20
Styrene	00010042	100	10			< 8.6	< 14	< 8.6	< 9.7	< 14	< 19
Tetrachloroethene	00012718	5	0.5			< 10	< 16	< 10	< 7.3	< 16	< 15
Toluene	00010888	800	160			81	72	45	71	85	71
Total TriMthBenzenes	TOTALTM	480	96			< 9.1	< 14	< 9.1	< 12	< 14	< 24
Total Xylenes	TOTAL Xyl	2000	400			< 12	< 19	< 12	< 11	< 19	< 22
Trichloroethene	00007901	5	0.5			< 8.4	< 13	< 8.4	< 12	***16***	< 25
Vinyl Chloride	00007501	0.2	0.02			***120***	***170***	***130***	***33***	< 15	< 15
Xylene - M & P	17960123	2000	400			< 17	< 27	< 17	< 23	< 27	< 46
Xylene - O	00009547	2000	400			< 12	< 19	< 12	< 11	< 19	< 22

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40			< 2.7	< 2.7	< 2.7	< 2.6	< 2.7	< 4.1
1,1,2-Trichloroethane	00007900	5	0.5			***5.7***	***7.4***	***5.5***	***8.2***	***7.7***	***9.1***
1,1-Dichloroethane	00007534	850	85			51	77	86	92	110	110
1,1-Dichloroethene	00007535	7	0.7			***27***	***38***	***44***	***60***	***74***	***70***
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< 3.4	< 3.4	< 3.4	< 3.3	< 3.4	< 5.2
1,2,4-Trichlorobenzene	00012082	70	14			< 4	< 4	< 4	< 3.5	< 4	< 5.6
1,2-cis-Dichloroethene	00015659	70	7			***140***	***150***	***140***	***180***	***240***	***280***
1,2-Dichlorobenzene	00009550	600	60			< 2	< 2	< 2	< 2.3	< 2	< 3.7
1,2-Dichloroethane	00010706	5	0.5			< 2.1	< 2.1	< 2.1	< 3.1	2.8	< 4.9
1,2-Dichloropropane	00007887	5	0.5			< 2.7	< 2.7	< 2.7	3.2	3.2	< 3.9
1,2-trans-Dichloroethene	00015660	100	20			40	46	42	38	39	33
1,4-Dichlorobenzene	00010646	75	15			< 2.8	< 2.8	< 2.8	< 2.7	< 2.8	< 4.4
124TRIMTHLBENZEN	00009563	480	96			< 2.3	< 2.3	< 2.3	< 3	< 2.3	< 4.7
135TRIMTHLBENZEN	00010867	480	96			< 2.5	< 2.5	< 2.5	< 3.2	< 2.5	< 5.1
2-Chlorotoluene	00009549	NSE	NSE			< 2.5	< 2.5	< 2.5	< 3.2	< 2.5	< 5.1
Acetone	00006764	9000	1800			< 52	< 52	< 52	< 52	< 52	< 83
Benzene	00007143	5	0.5			< 2.4	< 2.4	< 2.4	< 3.2	< 2.4	< 5.1
Chloroethane	00007500	400	80			< 19	< 19	< 19	< 26	< 19	< 41
Chloroform	00006766	6	0.6			< 2.5	< 2.5	< 2.5	< 2.8	< 2.5	< 4.5
Chloromethane	00007487	30	3			< 2.9	< 2.9	< 2.9	< 3	< 2.9	< 4.8
Dichlorodifluoromethane	00007571	1000	200			< 3.6	< 3.6	< 3.6	< 2.4	< 3.6	< 3.8
Ethylbenzene	00010041	700	140			< 2.6	< 2.6	< 2.6	< 2.7	< 2.6	< 4.3
Fluorotrichloromethane	00007569	3490	698			< 4	< 4	< 4	< 3.2	< 4	< 5.1
Hexachlorobutadiene	00008768	NSE	NSE			< 5.6	< 5.6	< 5.6	< 2.8	< 5.6	< 4.5
Isopropyl Alcohol	00006763	NSE	NSE			110	< 100	< 100	< 79	< 100	< 130
Isopropyl ether	00010820	NSE	NSE			< 3.1	< 3.1	< 3.1	< 2.4	< 3.1	< 3.8
Isopropylbenzene	00009882	NSE	NSE			< 2.7	< 2.7	< 2.7	< 2.8	< 2.7	< 4.4
Methyl Ethyl Ketone	00007893	4000	800			< 13	< 13	< 13	< 13	< 13	< 20
Methyl Isobutyl Ketone	00010810	500	50			< 6.6	< 6.6	< 6.6	< 3.9	< 6.6	< 6.3
Methyl tert-butyl Ether	00163404	60	12			< 3.5	< 3.5	< 3.5	< 2.4	< 3.5	< 3.8
Methylene Chloride	00007509	5	0.5			< 6	< 6	< 6	< 5	< 6	< 8
Naphthalene	00009120	100	10			< 5.1	< 5.1	< 5.1	< 4	< 5.1	< 6.4
n-Butylbenzene	00010451	NSE	NSE			< 2.3	< 2.3	< 2.3	< 3.1	< 2.3	< 4.9
p-Isopropyltoluene	00009987	NSE	NSE			< 2.4	< 2.4	< 2.4	< 2.5	< 2.4	< 4.1
Styrene	00010042	100	10			< 2.1	< 2.1	< 2.1	< 2.4	< 2.1	< 3.9
Tetrachloroethene	00012718	5	0.5			< 2.6	< 2.6	< 2.6	< 1.8	< 2.6	< 2.9
Toluene	00010888	800	160			< 2.1	< 2.1	< 2.1	< 2.9	< 2.1	< 4.6
Total TriMthBenzenes	TOTALTM	480	96			< 2.3	< 2.3	< 2.3	< 3	< 2.3	< 4.7
Total Xylenes	TOTAL Xyl	2000	400			< 3	< 3	< 3	< 2.8	< 3	< 4.5
Trichloroethene	00007901	5	0.5			***25***	***27***	***25***	***30***	***39***	***60***
Vinyl Chloride	00007501	0.2	0.02			***3.9***	***4.2***	***4***	***4.3***	***6.1***	***4.6***
Xylene - M & P	17960123	2000	400			< 4.2	< 4.2	< 4.2	< 5.7	< 4.2	< 9.1
Xylene - O	00009547	2000	400			< 3	< 3	< 3	< 2.8	< 3	< 4.5

399 **115B**

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
						RESULTS MONTH/YEAR					
1,1,1-Trichloroethane	00007155	200	40			< .22	< .22	< .22	< .21	< .22	< .21
1,1,2-Trichloroethane	00007900	5	0.5			< .23	< .23	< .23	< .25	< .23	< .25
1,1-Dichloroethane	00007534	850	85			.36	.39	.46	.32	.56	.43
1,1-Dichloroethene	00007535	7	0.7			< .21	< .21	< .21	< .2	.31	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .27	< .27	< .27	< .26	< .27	< .26
1,2,4-Trichlorobenzene	00012082	70	14			< .32	< .32	< .32	< .28	< .32	< .28
1,2-cis-Dichloroethene	00015659	70	7			.77	.78	.86	.63	1.2	.88
1,2-Dichlorobenzene	00009550	600	60			< .16	< .16	< .16	< .19	< .16	< .19
1,2-Dichloroethane	00010706	5	0.5			< .16	< .16	< .16	< .24	< .16	< .24
1,2-Dichloropropane	00007887	5	0.5			< .22	< .22	< .22	< .2	< .22	< .2
1,2-trans-Dichloroethene	00015660	100	20			< .26	< .26	< .26	< .19	< .26	< .19
1,4-Dichlorobenzene	00010646	75	15			< .22	< .22	< .22	< .22	< .22	< .22
124TRIMTHLBENZEN	00009563	480	96			< .18	< .18	< .18	< .24	< .18	< .24
135TRIMTHLBENZEN	00010867	480	96			< .2	< .2	< .2	< .25	< .2	< .25
2-Chlorotoluene	00009549	NSE	NSE			< .2	< .2	< .2	< .26	< .2	< .26
Acetone	00006764	9000	1800			< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2
Benzene	00007143	5	0.5			< .2	< .2	< .2	< .26	< .2	< .26
Chloroethane	00007500	400	80			< 1.5	< 1.5	< 1.5	< 2.1	< 1.5	< 2.1
Chloroform	00006766	6	0.6			.58	< .2	< .2	< .23	< .2	< .23
Chloromethane	00007487	30	3			< .23	< .23	< .23	< .24	< .23	< .24
Dichlorodifluoromethane	00007571	1000	200			< .29	< .29	< .29	< .19	< .29	< .19
Ethylbenzene	00010041	700	140			< .21	< .21	< .21	< .22	< .21	< .22
Fluorotrichloromethane	00007569	3490	698			< .32	< .32	< .32	< .25	< .32	< .25
Hexachlorobutadiene	00008768	NSE	NSE			< .45	< .45	< .45	< .23	< .45	< .23
Isopropyl Alcohol	00006763	NSE	NSE			< 8.3	< 8.3	< 8.3	18	12	< 6.3
Isopropyl ether	00010820	NSE	NSE			< .25	< .25	< .25	< .19	< .25	< .19
Isopropylbenzene	00009882	NSE	NSE			< .22	< .22	< .22	< .22	< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800			< 1	< 1	< 1	< 1	< 1	< 1
Methyl Isobutyl Ketone	00010810	500	50			< .53	< .53	< .53	< .31	< .53	< .31
Methyl tert-butyl Ether	00163404	60	12			< .28	< .28	< .28	< .19	< .28	< .19
Methylene Chloride	00007509	5	0.5			< .48	< .48	< .48	< .4	< .48	< .4
Naphthalene	00009120	100	10			< .41	< .41	< .41	< .32	< .41	< .32
n-Butylbenzene	00010451	NSE	NSE			< .18	< .18	< .18	< .24	< .18	< .24
p-Isopropyltoluene	00009987	NSE	NSE			< .19	< .19	< .19	< .2	< .19	< .2
Styrene	00010042	100	10			< .17	< .17	< .17	< .19	< .17	< .19
Tetrachloroethene	00012718	5	0.5			< .21	< .21	< .21	< .15	< .21	< .15
Toluene	00010888	800	160			< .17	< .17	< .17	< .23	< .17	< .23
Trichloroethene	00007901	5	0.5			1.5	1.7	1.9	1.6	2.2	2.4
Vinyl Chloride	00007501	0.2	0.02			< .18	< .18	< .18	< .15	< .18	< .15
Xylene - O	00009547	2000	400			< .24	< .24	< .24	< .22	< .24	< .22

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .21		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .25		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .19		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .2		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .26		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .28		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .21		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .19		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .24		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .2		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .19		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .24		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .25		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .26		< .26	
Acetone	00006764	9000	1800	13		5.2		< 4.2		7.1	
Benzene	00007143	5	0.5	< .24		< .13		< .26		< .26	
Chloroethane	00007500	400	80	< 1.1		< .67		< 2.1		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .13		< .23		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .24		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .19		< .19	
Ethylbenzene	00010041	700	140	< .15		< .12		< .22		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .25		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .23		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		7.4		13	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .19		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	.81		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .31		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .19		< .19	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .4		< .4	
Naphthalene	00009120	100	10	< .32		< .31		< .32		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .24		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .2		< .2	
Styrene	00010042	100	10	< .2		< .11		< .19		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .15		< .15	
Toluene	00010888	800	160	< .18		< .16		< .23		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .24		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .22		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .25		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .15		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .46		< .46	
Xylene - O	00009547	2000	400	< .17		< .16		< .22		< .22	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
						RESULTS MONTH/YEAR					
1,1,1-Trichloroethane	00007155	200	40			< .2	< .22	< .22	< .22	< .21	
1,1,2-Trichloroethane	00007900	5	0.5			< .17	< .23	< .23	< .23	< .25	
1,1-Dichloroethane	00007534	850	85			< .16	< .21	< .21	< .21	< .19	
1,1-Dichloroethene	00007535	7	0.7			< .15	< .21	< .21	< .21	< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE			< .23	< .27	< .27	< .27	< .26	
1,2,4-Trichlorobenzene	00012082	70	14			< .3	< .32	< .32	< .32	< .28	
1,2-cis-Dichloroethene	00015659	70	7			< .12	< .2	< .2	< .2	< .21	
1,2-Dichlorobenzene	00009550	600	60			< .13	< .16	< .16	< .16	< .19	
1,2-Dichloroethane	00010706	5	0.5			< .22	< .16	< .16	< .16	< .24	
1,2-Dichloropropane	00007887	5	0.5			< .21	< .22	< .22	< .22	< .2	
1,2-trans-Dichloroethene	00015660	100	20			< .13	< .26	< .26	< .26	< .19	
1,4-Dichlorobenzene	00010646	75	15			< .13	< .22	< .22	< .22	< .22	
124TRIMTHLBENZEN	00009563	480	96			< .12	< .18	< .18	< .18	< .24	
135TRIMTHLBENZEN	00010867	480	96			< .12	< .2	< .2	< .2	< .25	
2-Chlorotoluene	00009549	NSE	NSE			< .15	< .2	< .2	< .2	< .26	
Acetone	00006764	9000	1800			4.3	< 4.2	< 4.2	5.9	< 4.2	
Benzene	00007143	5	0.5			< .13	< .2	< .2	< .2	< .26	
Chloroethane	00007500	400	80			< .67	< 1.5	< 1.5	< 1.5	< 2.1	
Chloroform	00006766	6	0.6			.25	< .2	< .2	< .2	< .23	
Chloromethane	00007487	30	3			< .28	< .23	< .23	< .23	< .24	
Dichlorodifluoromethane	00007571	1000	200			< .13	< .29	< .29	< .29	< .19	
Ethylbenzene	00010041	700	140			< .12	< .21	< .21	< .21	< .22	
Fluorotrichloromethane	00007569	3490	698			< .11	< .32	< .32	< .32	< .25	
Hexachlorobutadiene	00008768	NSE	NSE			< .36	< .45	< .45	< .45	< .23	
Isopropyl Alcohol	00006763	NSE	NSE			< 14	< 8.3	9.5	30	12	
Isopropyl ether	00010820	NSE	NSE			< .2	< .25	< .25	< .25	< .19	
Isopropylbenzene	00009882	NSE	NSE			< .1	< .22	< .22	< .22	< .22	
Methyl Ethyl Ketone	00007893	4000	800			< 1	< 1	< 1	< 1	< 1	
Methyl Isobutyl Ketone	00010810	500	50			< .64	< .53	< .53	< .53	< .31	
Methyl tert-butyl Ether	00163404	60	12			< .13	< .28	< .28	< .28	< .19	
Methylene Chloride	00007509	5	0.5			< .27	< .48	< .48	< .48	< .4	
Naphthalene	00009120	100	10			< .31	< .41	< .41	< .41	< .32	
n-Butylbenzene	00010451	NSE	NSE			< .14	< .18	< .18	< .18	< .24	
p-Isopropyltoluene	00009987	NSE	NSE			< .11	< .19	< .19	< .19	< .2	
Styrene	00010042	100	10			< .11	< .17	< .17	< .17	< .19	
Tetrachloroethene	00012718	5	0.5			< .18	< .21	< .21	< .21	< .15	
Toluene	00010888	800	160			< .16	< .17	< .17	< .17	< .23	
Total TriMthBenzenes	TOTALTM	480	96			< .12	< .18	< .18	< .18	< .24	
Total Xylenes	TOTAL Xyl	2000	400			< .16	< .24	< .24	< .24	< .22	
Trichloroethene	00007901	5	0.5			< .16	< .17	< .17	< .17	< .25	
Vinyl Chloride	00007501	0.2	0.02			< .17	< .18	< .18	< .18	< .15	
Xylene - M & P	17960123	2000	400			< .22	< .33	< .33	< .33	< .46	
Xylene - O	00009547	2000	400			< .16	< .24	< .24	< .24	< .22	

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40							***980***	***920***
1,1,2-Trichloroethane	00007900	5	0.5							< 450	< 510
1,1-Dichloroethane	00007534	850	85							<u>450</u>	<u>440</u>
1,1-Dichloroethene	00007535	7	0.7							< 420	< 400
1,2,3-Trichlorobenzene	00008761	NSE	NSE							< 540	< 520
1,2,4-Trichlorobenzene	00012082	70	14							< 640	< 560
1,2-cis-Dichloroethene	00015659	70	7							***6000***	***6600***
1,2-Dichlorobenzene	00009550	600	60							< 320	< 370
1,2-Dichloroethane	00010706	5	0.5							< 330	< 490
1,2-Dichloropropane	00007887	5	0.5							< 430	< 390
1,2-trans-Dichloroethene	00015660	100	20							< 520	< 390
1,4-Dichlorobenzene	00010646	75	15							< 440	< 440
124TRIMTHLBENZEN	00009563	480	96							***1000***	***1100***
135TRIMTHLBENZEN	00010867	480	96							< 390	< 510
2-Chlorotoluene	00009549	NSE	NSE							< 400	< 510
Acetone	00006764	9000	1800							< 8300	< 8300
Benzene	00007143	5	0.5							< 390	< 510
Chloroethane	00007500	400	80							< 3000	< 4100
Chloroform	00006766	6	0.6							< 400	< 450
Chloromethane	00007487	30	3							< 470	< 480
Dichlorodifluoromethane	00007571	1000	200							< 580	< 380
Ethylbenzene	00010041	700	140							***5300***	***6500***
Fluorotrichloromethane	00007569	3490	698							< 630	< 510
Hexachlorobutadiene	00008768	NSE	NSE							< 890	< 450
Isopropyl Alcohol	00006763	NSE	NSE							< 17000	< 13000
Isopropyl ether	00010820	NSE	NSE							< 490	< 380
Isopropylbenzene	00009882	NSE	NSE							< 430	< 440
Methyl Ethyl Ketone	00007893	4000	800							< 2000	< 2000
Methyl Isobutyl Ketone	00010810	500	50							< 1100	< 630
Methyl tert-butyl Ether	00163404	60	12							< 570	< 380
Methylene Chloride	00007509	5	0.5							< 960	< 800
Naphthalene	00009120	100	10							< 810	< 640
n-Butylbenzene	00010451	NSE	NSE							< 360	< 490
p-Isopropyltoluene	00009987	NSE	NSE							< 380	< 410
Styrene	00010042	100	10							< 340	< 390
Tetrachloroethene	00012718	5	0.5							< 410	< 290
Toluene	00010888	800	160							***25000***	***25000***
Total TriMthBenzenes	TOTALTM	480	96							***1000***	***1100***
Total Xylenes	TOTAL Xyl	2000	400							***22600***	***26300***
Trichloroethene	00007901	5	0.5							< 330	< 500
Vinyl Chloride	00007501	0.2	0.02							< 370	< 300
Xylene - M & P	17960123	2000	400							***17000***	***20000***
Xylene - O	00009547	2000	400							***5600***	***6300***

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

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DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< 220				< .22		< .21	< .21
1,1,2-Trichloroethane	00007900	5	0.5	< 230				< .23		< .25	< .25
1,1-Dichloroethane	00007534	850	85	< 210				.66		< .19	.32
1,1-Dichloroethene	00007535	7	0.7	< 210				< .21		< .2	< .2
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< 270				< .27		< .26	< .26
1,2,4-Trichlorobenzene	00012082	70	14	< 320				< .32		< .28	< .28
1,2-cis-Dichloroethene	00015659	70	7	< 200				< .2		< .21	< .21
1,2-Dichlorobenzene	00009550	600	60	< 160				< .16		< .19	< .19
1,2-Dichloroethane	00010706	5	0.5	< 160				< .16		< .24	< .24
1,2-Dichloropropane	00007887	5	0.5	< 220				< .22		< .2	< .2
1,2-trans-Dichloroethene	00015660	100	20	< 260				< .26		< .19	< .19
1,4-Dichlorobenzene	00010646	75	15	< 220				< .22		< .22	< .22
124TRIMTHLBENZEN	00009563	480	96	***620***				< .18		< .24	< .24
135TRIMTHLBENZEN	00010867	480	96	240				< .2		< .25	< .25
2-Chlorotoluene	00009549	NSE	NSE	< 200				< .2		< .26	< .26
Acetone	00006764	9000	1800	< 4200				< 4.2		5.2	35
Benzene	00007143	5	0.5	< 200				< .2		< .26	< .26
Chloroethane	00007500	400	80	< 1500				< 1.5		< 2.1	< 2.1
Chloroform	00006766	6	0.6	< 200				< .2		< .23	< .23
Chloromethane	00007487	30	3	< 230				< .23		< .24	< .24
Dichlorodifluoromethane	00007571	1000	200	< 290				< .29		< .19	< .19
Ethylbenzene	00010041	700	140	***5000***				< .21		< .22	1.1
Fluorotrichloromethane	00007569	3490	698	< 320				< .32		< .25	< .25
Hexachlorobutadiene	00008768	NSE	NSE	< 450				< .45		< .23	< .23
Isopropyl Alcohol	00006763	NSE	NSE	< 8300				< 8.3		8.8	< 6.3
Isopropyl ether	00010820	NSE	NSE	< 250				< .25		.26	< .19
Isopropylbenzene	00009882	NSE	NSE	< 220				< .22		< .22	< .22
Methyl Ethyl Ketone	00007893	4000	800	< 1000				< 1		2	1.5
Methyl Isobutyl Ketone	00010810	500	50	< 530				< .53		< .31	< .31
Methyl tert-butyl Ether	00163404	60	12	< 280				< .28		1.3	1.3
Methylene Chloride	00007509	5	0.5	< 480				1.9		< .4	.57
Naphthalene	00009120	100	10	< 410				< .41		< .32	< .32
n-Butylbenzene	00010451	NSE	NSE	< 180				< .18		< .24	< .24
p-Isopropyltoluene	00009987	NSE	NSE	< 190				< .19		< .2	< .2
Styrene	00010042	100	10	< 170				< .17		< .19	< .19
Tetrachloroethene	00012718	5	0.5	< 210				< .21		< .15	< .15
Toluene	00010888	800	160	***2700***				< .17		< .23	< .23
Total TriMthBenzenes	TOTALTM	480	96	***860***				< .18		< .24	< .24
Total Xylenes	TOTAL Xyl	2000	400	***21000***				< .24		< .22	< .22
Trichloroethene	00007901	5	0.5	< 170				< .17		< .25	.26
Vinyl Chloride	00007501	0.2	0.02	< 180				< .18		< .15	< .15
Xylene - M & P	17960123	2000	400	***17000***				< .33		< .46	< .46
Xylene - O	00009547	2000	400	***4000***				< .24		< .22	< .22

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40	< .13		< .22		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .23		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	11		11		.84		1.6	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .21		.26		.42	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .27		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .32		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	1.2		1.2		.23		1.9	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	.62		.76		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	.36		.34		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .26		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .18		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .2		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .2		< .2		< .26	
Acetone	00006764	9000	1800	4.3		< 4.2		< 4.2		5.8	
Benzene	00007143	5	0.5	< .24		< .2		< .2		< .26	
Chloroethane	00007500	400	80	2.2		< 1.5		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .2		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .23		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .29		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .21		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .32		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .45		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 8.3		< 8.3		< 6.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .25		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		1.1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	5.6		2.4		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .28		< .28		< .19	
Methylene Chloride	00007509	5	0.5	.24		< .48		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .41		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .18		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .19		< .19		< .2	
Styrene	00010042	100	10	< .2		< .17		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .21		< .21		< .15	
Toluene	00010888	800	160	.43		.24		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .18		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .24		< .24		< .22	
Trichloroethene	00007901	5	0.5	.42		.67		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	***.7***		***.83***		< .18		.2	
Xylene - M & P	17960123	2000	400	< .28		< .33		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .24		< .24		< .22	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .22		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .23		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .21		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .21		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .27		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .32		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .2		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .16		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .16		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .22		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .26		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .22		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .18		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .2		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .2		< .2		< .26	
Acetone	00006764	9000	1800	< 4		< 4.2		4.3		7.1	
Benzene	00007143	5	0.5	< .24		< .2		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< 1.5		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .2		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .23		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .29		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .21		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .32		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .45		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 8.3		< 8.3		15	
Isopropyl ether	00010820	NSE	NSE	< .16		< .25		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .22		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	.93		< 1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .53		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .28		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		< .48		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .41		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .18		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .19		< .19		< .2	
Styrene	00010042	100	10	< .2		< .17		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .21		< .21		< .15	
Toluene	00010888	800	160	< .18		< .17		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .18		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .24		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .17		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .18		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .33		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .24		< .24		< .22	

614 **S8N** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .2		< .26	
Acetone	00006764	9000	1800	< 4		9.9		6.4		8	
Benzene	00007143	5	0.5	< .24		< .13		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< .67		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .13		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .12		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	14		< 14		< 8.3		16	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	1.1		1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .31		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		4.5		7.2		1	
Styrene	00010042	100	10	< .2		< .11		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .21		< .15	
Toluene	00010888	800	160	< .18		.26		1.5		.55	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .16		< .24		< .22	

616 **S9N** RESULTS MONTH/YEAR

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
1,1,1-Trichloroethane	00007155	200	40	< .13		< .2		< .22		< .21	
1,1,2-Trichloroethane	00007900	5	0.5	< .21		< .17		< .23		< .25	
1,1-Dichloroethane	00007534	850	85	< .17		< .16		< .21		< .19	
1,1-Dichloroethene	00007535	7	0.7	< .22		< .15		< .21		< .2	
1,2,3-Trichlorobenzene	00008761	NSE	NSE	< .3		< .23		< .27		< .26	
1,2,4-Trichlorobenzene	00012082	70	14	< .22		< .3		< .32		< .28	
1,2-cis-Dichloroethene	00015659	70	7	< .16		< .12		< .2		< .21	
1,2-Dichlorobenzene	00009550	600	60	< .16		< .13		< .16		< .19	
1,2-Dichloroethane	00010706	5	0.5	< .15		< .22		< .16		< .24	
1,2-Dichloropropane	00007887	5	0.5	< .33		< .21		< .22		< .2	
1,2-trans-Dichloroethene	00015660	100	20	< .21		< .13		< .26		< .19	
1,4-Dichlorobenzene	00010646	75	15	< .3		< .13		< .22		< .22	
124TRIMTHLBENZEN	00009563	480	96	< .19		< .12		< .18		< .24	
135TRIMTHLBENZEN	00010867	480	96	< .19		< .12		< .2		< .25	
2-Chlorotoluene	00009549	NSE	NSE	< .19		< .15		< .2		< .26	
Acetone	00006764	9000	1800	< 4		12		< 4.2		6.3	
Benzene	00007143	5	0.5	< .24		< .13		< .2		< .26	
Chloroethane	00007500	400	80	< 1.1		< .67		< 1.5		< 2.1	
Chloroform	00006766	6	0.6	< .13		< .13		< .2		< .23	
Chloromethane	00007487	30	3	< .23		< .28		< .23		< .24	
Dichlorodifluoromethane	00007571	1000	200	< .25		< .13		< .29		< .19	
Ethylbenzene	00010041	700	140	< .15		< .12		< .21		< .22	
Fluorotrichloromethane	00007569	3490	698	< .21		< .11		< .32		< .25	
Hexachlorobutadiene	00008768	NSE	NSE	< .25		< .36		< .45		< .23	
Isopropyl Alcohol	00006763	NSE	NSE	< 10		< 14		< 8.3		< 6.3	
Isopropyl ether	00010820	NSE	NSE	< .16		< .2		< .25		< .19	
Isopropylbenzene	00009882	NSE	NSE	< .18		< .1		< .22		< .22	
Methyl Ethyl Ketone	00007893	4000	800	< .5		1.1		< 1		< 1	
Methyl Isobutyl Ketone	00010810	500	50	< .37		< .64		< .53		< .31	
Methyl tert-butyl Ether	00163404	60	12	< .19		< .13		< .28		< .19	
Methylene Chloride	00007509	5	0.5	< .22		< .27		< .48		< .4	
Naphthalene	00009120	100	10	< .32		< .31		< .41		< .32	
n-Butylbenzene	00010451	NSE	NSE	< .23		< .14		< .18		< .24	
p-Isopropyltoluene	00009987	NSE	NSE	< .16		< .11		< .19		< .2	
Styrene	00010042	100	10	< .2		< .11		< .17		< .19	
Tetrachloroethene	00012718	5	0.5	< .12		< .18		< .21		< .15	
Toluene	00010888	800	160	< .18		.32		< .17		< .23	
Total TriMthBenzenes	TOTALTM	480	96	< .19		< .12		< .18		< .24	
Total Xylenes	TOTAL Xyl	2000	400	< .17		< .16		< .24		< .22	
Trichloroethene	00007901	5	0.5	< .37		< .16		< .17		< .25	
Vinyl Chloride	00007501	0.2	0.02	< .17		< .17		< .18		< .15	
Xylene - M & P	17960123	2000	400	< .28		< .22		< .33		< .46	
Xylene - O	00009547	2000	400	< .17		< .16		< .24		< .22	

DESCRIPTION	CASNUM	ES	PAL	05/09	10/09	05/10	10/10	05/11	10/11	05/12	10/12
				RESULTS MONTH/YEAR							
1,1,1-Trichloroethane	00007155	200	40								
1,1,2-Trichloroethane	00007900	5	0.5								
1,1-Dichloroethane	00007534	850	85								
1,1-Dichloroethene	00007535	7	0.7								
1,2,3-Trichlorobenzene	00008761	NSE	NSE								
1,2,4-Trichlorobenzene	00012082	70	14								
1,2-cis-Dichloroethene	00015659	70	7								
1,2-Dichlorobenzene	00009550	600	60								
1,2-Dichloroethane	00010706	5	0.5								
1,2-Dichloropropane	00007887	5	0.5								
1,2-trans-Dichloroethene	00015660	100	20								
1,4-Dichlorobenzene	00010646	75	15								
124TRIMTHLBENZEN	00009563	480	96								
135TRIMTHLBENZEN	00010867	480	96								
2-Chlorotoluene	00009549	NSE	NSE								
Acetone	00006764	9000	1800								
Benzene	00007143	5	0.5								
Chloroethane	00007500	400	80								
Chloroform	00006766	6	0.6								
Chloromethane	00007487	30	3								
Dichlorodifluoromethane	00007571	1000	200								
Ethylbenzene	00010041	700	140								
Fluorotrichloromethane	00007569	3490	698								
Hexachlorobutadiene	00008768	NSE	NSE								
Isopropyl Alcohol	00006763	NSE	NSE								
Isopropyl ether	00010820	NSE	NSE								
Isopropylbenzene	00009882	NSE	NSE								
Methyl Ethyl Ketone	00007893	4000	800								
Methyl Isobutyl Ketone	00010810	500	50								
Methyl tert-butyl Ether	00163404	60	12								
Methylene Chloride	00007509	5	0.5								
Naphthalene	00009120	100	10								
n-Butylbenzene	00010451	NSE	NSE								
p-Isopropyltoluene	00009987	NSE	NSE								
Styrene	00010042	100	10								
Tetrachloroethene	00012718	5	0.5								
Toluene	00010888	800	160								
Total TriMthBenzenes	TOTALTM	480	96								
Total Xylenes	TOTAL Xyl	2000	400								
Trichloroethene	00007901	5	0.5								
Vinyl Chloride	00007501	0.2	0.02								
Xylene - M & P	17960123	2000	400								
Xylene - O	00009547	2000	400								

APPENDIX F

LABORATORY REPORTS – MARCH 2013

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Wisconsin Lab Cert. No. 721026460
WI DATCP 105-000330

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

400 North Lake Avenue • Crandon, WI 54520-1298
Tel: (715) 478-2777 • Fax: (715) 478-3060

000418

CLIENT: DBR Environmental Services	
ADDRESS: 5200 Ryder Rd	
CITY: Eau Claire	STATE: WI ZIP: 54701
PROJECT DESCRIPTION / NO.: Effluent 3-01 / RW7	QUOTATION NO.
DNR FID #	DNR LICENSE #
CONTACT: Eric Gunderson	PHONE: 715-834-9624
PURCHASE ORDER NO.	FAX

MATRIX:
SW = surface water
WW = waste water
GW = groundwater
DW = drinking water
TIS = tissue
AIR = air
SOIL = soil
SED = sediment
PROD = product
SL = sludge
OTHER

ANALYZE PER ORDER OF ANALYSIS

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
Indicate G or C if WW Sample is Grab or Composite.

G

NO.

ITEM NO.	NLS LAB NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	MATRIX (See above)	8260 Full list											COLLECTION REMARKS (i.e. DNR Well ID #)
1.	708852	Effluent	3-11-13	0632	WW	X											
2.	853	RW7	3-11-13	06:25	WW	X											
3.	854																
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

COLLECTED BY (signature): [signature]	CUSTODY SEAL NO. (IF ANY)	DATE/TIME: 03-11-13
RELINQUISHED BY (signature): [signature]	RECEIVED BY (signature)	DATE/TIME
DISPATCHED BY (signature)	METHOD OF TRANSPORT: Speedy	DATE/TIME: 03-11-13
RECEIVED AT NLS BY (signature): [signature]	DATE/TIME: 3/12/13 1100	CONDITION: Ok TEMP.
COOLER #	REMARKS & OTHER INFORMATION	
	WDNR FACILITY NUMBER	E-MAIL ADDRESS

REPORT TO: Eric Gunderson
Same as above

INVOICE TO: Accounting
Same as above

PRESERVATIVE:
NP = no preservative
S = sulfuric acid
N = nitric acid
Z = zinc acetate
M = methanol
OH = sodium hydroxide
HA = hydrochloric & ascorbic acid
H = hydrochloric acid

IMPORTANT:
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
4. PARTIES COLLECTING SAMPLE, LISTED AS **REPORT TO** AND LISTED AS **INVOICE TO** AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)

Customer: WRR Environmental Services Co Inc NLS Project: 193576

Project Description: Effluent 3-01/RW7

Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708852 Effluent, Grab Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	1	0.13	0.47	
Bromobenzene	ND	ug/L	1	0.12	0.44	
Bromochloromethane	ND	ug/L	1	0.12	0.43	
Bromodichloromethane	ND	ug/L	1	0.23	0.80	
Bromoform	ND	ug/L	1	0.20	0.69	
Bromomethane	ND	ug/L	1	0.26	0.93	
n-Butylbenzene	ND	ug/L	1	0.29	1.0	
sec-Butylbenzene	ND	ug/L	1	0.32	1.1	
tert-Butylbenzene	ND	ug/L	1	0.31	1.1	
Carbon Tetrachloride	ND	ug/L	1	0.24	0.84	
Chlorobenzene	ND	ug/L	1	0.15	0.51	
Chloroethane	ND	ug/L	1	1.2	4.2	
Chloroform	ND	ug/L	1	0.13	0.45	
Chloromethane	ND	ug/L	1	0.29	1.0	
2-Chlorotoluene	ND	ug/L	1	0.32	1.1	
4-Chlorotoluene	ND	ug/L	1	0.24	0.85	
Dibromochloromethane	ND	ug/L	1	0.18	0.63	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.28	0.99	
1,2-Dibromoethane	ND	ug/L	1	0.13	0.44	
Dibromomethane	ND	ug/L	1	0.29	1.0	
1,2-Dichlorobenzene	ND	ug/L	1	0.29	1.0	
1,3-Dichlorobenzene	ND	ug/L	1	0.25	0.88	
1,4-Dichlorobenzene	ND	ug/L	1	0.14	0.50	
Dichlorodifluoromethane	ND	ug/L	1	0.23	0.83	
1,1-Dichloroethane	0.66	ug/L	1	0.13	0.45	
1,2-Dichloroethane	ND	ug/L	1	0.24	0.86	
1,1-Dichloroethene	ND	ug/L	1	0.29	1.0	
cis-1,2-Dichloroethene	2.3	ug/L	1	0.10	0.35	
trans-1,2-Dichloroethene	ND	ug/L	1	0.32	1.1	
1,2-Dichloropropane	ND	ug/L	1	0.17	0.62	
1,3-Dichloropropane	ND	ug/L	1	0.16	0.57	
2,2-Dichloropropane	ND	ug/L	1	0.28	0.99	
1,1-Dichloropropene	ND	ug/L	1	0.27	0.96	
cis-1,3-Dichloropropene	ND	ug/L	1	0.25	0.84	
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.47	
Ethylbenzene	ND	ug/L	1	0.25	0.86	
Hexachlorobutadiene	ND	ug/L	1	0.43	1.5	
Isopropylbenzene	ND	ug/L	1	0.23	0.83	
p-Isopropyltoluene	ND	ug/L	1	0.27	0.97	
Methylene chloride	ND	ug/L	1	0.40	1.2	
Naphthalene	ND	ug/L	1	0.33	1.2	
n-Propylbenzene	ND	ug/L	1	0.32	1.1	
ortho-Xylene	ND	ug/L	1	0.17	0.57	
Styrene	ND	ug/L	1	0.14	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	1	0.24	0.85	
1,1,2,2-Tetrachloroethane	ND	ug/L	1	0.30	1.1	
Tetrachloroethene	ND	ug/L	1	0.22	0.77	
Toluene	ND	ug/L	1	0.16	0.58	
1,2,3-Trichlorobenzene	ND	ug/L	1	0.42	1.5	
1,2,4-Trichlorobenzene	ND	ug/L	1	0.42	1.5	
1,1,1-Trichloroethane	ND	ug/L	1	0.15	0.54	
1,1,2-Trichloroethane	ND	ug/L	1	0.18	0.60	
Trichloroethene	ND	ug/L	1	0.27	0.97	

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)

Customer: WRR Environmental Services Co Inc NLS Project: 193576

Project Description: Effluent 3-01/RW7

Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708852 Effluent, Grab Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Trichlorofluoromethane	ND	ug/L	1	0.13	0.47	
1,2,3-Trichloropropane	ND	ug/L	1	0.13	0.45	
1,2,4-Trimethylbenzene	ND	ug/L	1	0.28	0.98	
1,3,5-Trimethylbenzene	ND	ug/L	1	0.28	1.0	
Vinyl chloride	ND	ug/L	1	0.17	0.59	
meta,para-Xylene	ND	ug/L	1	0.52	1.8	
MTBE	0.87	ug/L	1	0.19	0.66	
Acetone	84	ug/L	1	4.2	12	
Methyl ethyl ketone	7.4	ug/L	1	1.0	3.0	
4-methyl-2-pentanone	ND	ug/L	1	0.64	2.3	
Isopropyl Ether	[0.17]	ug/L	1	0.13	0.44	
Isopropyl Alcohol	[16]	ug/L	1	8.7	31	
Dibromofluoromethane (SURR)	120%					S
Toluene-d8 (SURR)	112%					S
1-Bromo-4-Fluorobenzene (SURR)	105%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)
Customer: WRR Environmental Services Co Inc NLS Project: 193576
Project Description: Effluent 3-01/RW7
Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708853 RW7 Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	[13]	ug/L	80	11	38	
Bromobenzene	ND	ug/L	80	9.8	35	
Bromochloromethane	ND	ug/L	80	9.8	35	
Bromodichloromethane	ND	ug/L	80	18	64	
Bromoform	ND	ug/L	80	16	55	
Bromomethane	ND	ug/L	80	21	74	
n-Butylbenzene	ND	ug/L	80	23	83	
sec-Butylbenzene	ND	ug/L	80	26	91	
tert-Butylbenzene	ND	ug/L	80	25	89	
Carbon Tetrachloride	ND	ug/L	80	19	67	
Chlorobenzene	ND	ug/L	80	12	41	
Chloroethane	[190]	ug/L	80	94	330	
Chloroform	ND	ug/L	80	10	36	
Chloromethane	ND	ug/L	80	23	83	
2-Chlorotoluene	ND	ug/L	80	26	92	
4-Chlorotoluene	ND	ug/L	80	19	68	
Dibromochloromethane	ND	ug/L	80	14	51	
1,2-Dibromo-3-Chloropropane	ND	ug/L	80	22	79	
1,2-Dibromoethane	ND	ug/L	80	10	35	
Dibromomethane	ND	ug/L	80	23	83	
1,2-Dichlorobenzene	ND	ug/L	80	23	82	
1,3-Dichlorobenzene	ND	ug/L	80	20	71	
1,4-Dichlorobenzene	ND	ug/L	80	11	40	
Dichlorodifluoromethane	ND	ug/L	80	19	66	
1,1-Dichloroethane	110	ug/L	80	10	36	
1,2-Dichloroethane	ND	ug/L	80	19	69	
1,1-Dichloroethene	ND	ug/L	80	23	82	
cis-1,2-Dichloroethene	310	ug/L	80	8.0	28	
trans-1,2-Dichloroethene	ND	ug/L	80	25	90	
1,2-Dichloropropane	ND	ug/L	80	14	49	
1,3-Dichloropropane	ND	ug/L	80	13	46	
2,2-Dichloropropane	ND	ug/L	80	22	79	
1,1-Dichloropropene	ND	ug/L	80	22	77	
cis-1,3-Dichloropropene	ND	ug/L	80	20	67	
trans-1,3-Dichloropropene	ND	ug/L	80	11	37	
Ethylbenzene	120	ug/L	80	20	68	
Hexachlorobutadiene	ND	ug/L	80	34	120	
Isopropylbenzene	ND	ug/L	80	19	66	
p-Isopropyltoluene	ND	ug/L	80	22	77	
Methylene chloride	ND	ug/L	80	32	93	
Naphthalene	ND	ug/L	80	26	94	
n-Propylbenzene	ND	ug/L	80	25	90	
ortho-Xylene	170	ug/L	80	13	46	
Styrene	ND	ug/L	80	11	40	
1,1,1,2-Tetrachloroethane	ND	ug/L	80	19	68	
1,1,2,2-Tetrachloroethane	ND	ug/L	80	24	86	
Tetrachloroethene	ND	ug/L	80	17	61	
Toluene	600	ug/L	80	13	46	
1,2,3-Trichlorobenzene	ND	ug/L	80	33	120	
1,2,4-Trichlorobenzene	ND	ug/L	80	34	120	
1,1,1-Trichloroethane	ND	ug/L	80	12	43	
1,1,2-Trichloroethane	ND	ug/L	80	14	48	
Trichloroethene	ND	ug/L	80	22	77	

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)

Customer: WRR Environmental Services Co Inc NLS Project: 193576

Project Description: Effluent 3-01/RW7

Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708853 RW7 Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Trichlorofluoromethane	ND	ug/L	80	11	38	
1,2,3-Trichloropropane	ND	ug/L	80	10	36	
1,2,4-Trimethylbenzene	ND	ug/L	80	22	78	
1,3,5-Trimethylbenzene	ND	ug/L	80	23	80	
Vinyl chloride	71	ug/L	80	13	47	
meta,para-Xylene	580	ug/L	80	41	150	
MTBE	ND	ug/L	80	15	53	
Acetone	ND	ug/L	80	330	1000	
Methyl ethyl ketone	ND	ug/L	80	80	240	
4-methyl-2-pentanone	ND	ug/L	80	51	180	
Isopropyl Ether	ND	ug/L	80	10	35	
Isopropyl Alcohol	ND	ug/L	80	700	2500	
Dibromofluoromethane (SURR)	133%					S
Toluene-d8 (SURR)	112%					S
1-Bromo-4-Fluorobenzene (SURR)	106%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)
Customer: WRR Environmental Services Co Inc NLS Project: 193576
Project Description: Effluent 3-01/RW7
Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708854 Trip Blank Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Benzene	ND	ug/L	80	11	38	
Bromobenzene	ND	ug/L	80	9.8	35	
Bromochloromethane	ND	ug/L	80	9.8	35	
Bromodichloromethane	ND	ug/L	80	18	64	
Bromoform	ND	ug/L	80	16	55	
Bromomethane	ND	ug/L	80	21	74	
n-Butylbenzene	ND	ug/L	80	23	83	
sec-Butylbenzene	ND	ug/L	80	26	91	
tert-Butylbenzene	ND	ug/L	80	25	89	
Carbon Tetrachloride	ND	ug/L	80	19	67	
Chlorobenzene	ND	ug/L	80	12	41	
Chloroethane	ND	ug/L	80	94	330	
Chloroform	ND	ug/L	80	10	36	
Chloromethane	ND	ug/L	80	23	83	
2-Chlorotoluene	ND	ug/L	80	26	92	
4-Chlorotoluene	ND	ug/L	80	19	68	
Dibromochloromethane	ND	ug/L	80	14	51	
1,2-Dibromo-3-Chloropropane	ND	ug/L	80	22	79	
1,2-Dibromoethane	ND	ug/L	80	10	35	
Dibromomethane	ND	ug/L	80	23	83	
1,2-Dichlorobenzene	ND	ug/L	80	23	82	
1,3-Dichlorobenzene	ND	ug/L	80	20	71	
1,4-Dichlorobenzene	ND	ug/L	80	11	40	
Dichlorodifluoromethane	ND	ug/L	80	19	66	
1,1-Dichloroethane	ND	ug/L	80	10	36	
1,2-Dichloroethane	ND	ug/L	80	19	69	
1,1-Dichloroethene	ND	ug/L	80	23	82	
cis-1,2-Dichloroethene	ND	ug/L	80	8.0	28	
trans-1,2-Dichloroethene	ND	ug/L	80	25	90	
1,2-Dichloropropane	ND	ug/L	80	14	49	
1,3-Dichloropropane	ND	ug/L	80	13	46	
2,2-Dichloropropane	ND	ug/L	80	22	79	
1,1-Dichloropropene	ND	ug/L	80	22	77	
cis-1,3-Dichloropropene	ND	ug/L	80	20	67	
trans-1,3-Dichloropropene	ND	ug/L	80	11	37	
Ethylbenzene	ND	ug/L	80	20	68	
Hexachlorobutadiene	ND	ug/L	80	34	120	
Isopropylbenzene	ND	ug/L	80	19	66	
p-Isopropyltoluene	ND	ug/L	80	22	77	
Methylene chloride	ND	ug/L	80	32	93	
Naphthalene	ND	ug/L	80	26	94	
n-Propylbenzene	ND	ug/L	80	25	90	
ortho-Xylene	ND	ug/L	80	13	46	
Styrene	ND	ug/L	80	11	40	
1,1,1,2-Tetrachloroethane	ND	ug/L	80	19	68	
1,1,2,2-Tetrachloroethane	ND	ug/L	80	24	86	
Tetrachloroethene	ND	ug/L	80	17	61	
Toluene	ND	ug/L	80	13	46	
1,2,3-Trichlorobenzene	ND	ug/L	80	33	120	
1,2,4-Trichlorobenzene	ND	ug/L	80	34	120	
1,1,1-Trichloroethane	ND	ug/L	80	12	43	
1,1,2-Trichloroethane	ND	ug/L	80	14	48	
Trichloroethene	ND	ug/L	80	22	77	

ANALYTICAL RESULTS: VOC's by EPA 8260 - Water - Extended (Saturn 2000)

Customer: WRR Environmental Services Co Inc NLS Project: 193576

Project Description: Effluent 3-01/RW7

Project Title: Template: SATWRRL Printed: 03/20/2013 08:13

Sample: 708854 Trip Blank Collected: 03/11/13 Analyzed: 03/15/13 - Analytes: 65

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	Note
Trichlorofluoromethane	ND	ug/L	80	11	38	
1,2,3-Trichloropropane	ND	ug/L	80	10	36	
1,2,4-Trimethylbenzene	ND	ug/L	80	22	78	
1,3,5-Trimethylbenzene	ND	ug/L	80	23	80	
Vinyl chloride	ND	ug/L	80	13	47	
meta,para-Xylene	ND	ug/L	80	41	150	
MTBE	1100	ug/L	80	15	53	
Acetone	ND	ug/L	80	330	1000	
Methyl ethyl ketone	ND	ug/L	80	80	240	
4-methyl-2-pentanone	ND	ug/L	80	51	180	
Isopropyl Ether	ND	ug/L	80	10	35	
Isopropyl Alcohol	ND	ug/L	80	700	2500	
Dibromofluoromethane (SURR)	116%					S
Toluene-d8 (SURR)	105%					S
1-Bromo-4-Fluorobenzene (SURR)	107%					S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

Not NLS trip blank or vials.

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

Printed: 03/20/13 Code: NNNN-S

NLS Project: 193576
NLS Customer: 88418
Fax: 715 836 8785 Phone: 715 834 9624

Client: **WRR Environmental Services Co Inc**
Attn: Eric Gunderson
5200 Ryder Road
Eau Claire, WI 54701 9678

Project: Effluent 3-01/RW7

Effluent, Grab NLS ID: 708852
Matrix: WW
Collected: 03/11/13 06:32 Received: 03/12/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
VOCs (water) by EPA Method 8260B	see attached					03/15/13	SW846 8260	721026460

RW7 NLS ID: 708853
Matrix: WW
Collected: 03/11/13 06:25 Received: 03/12/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
VOCs (water) by EPA Method 8260B	see attached					03/15/13	SW846 8260	721026460

Trip Blank NLS ID: 708854
Matrix: TB
Collected: 03/11/13 00:00 Received: 03/12/13

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
VOCs (water) by EPA Method 8260B	see attached					03/15/13	SW846 8260	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 1

Section E – Corrective Action and Solid Waste Management Units

E-1. Information regarding groundwater protection if there is a release from a SWMU NR 670.014(3)

Based upon historical use of the facility, there are nine Solid Waste Management Units (SWMUs) at WRR. These are shown on Map E-2. These have been determined based upon historical hazardous waste storage at the facility and groundwater concentrations downgradient of each SWMU.

E-2. Topographic map showing location of SWMU NR 670.014(4)(a)1.

The most recent determination of SWMUs is shown on Figure E.2 Topographic Map of SWMU's.[1] Historic contamination areas subdividing the RCRA portion of the facility are identified on Figure 3 of the Corrective Action Plan.

E-3. Designated types of SWMUs NR 670.014(4)(a)2.

There are three primary types of SWMUs at WRR: above ground storage tank locations, a former underground storage tank that served a solvent floor drain, and former container storage locations. The above ground storage tank location originally had a gravel base, and was pervious. There were known spills from the original tanks. When the former underground storage tank was removed, contamination in the soil was observed. There were six former container storage areas as shown on Map E-2. When containers were stored at these locations, none of the areas were paved.

E-4. General dimensions and structural description of SWMUs NR 670.014(4)(a)3.

Map E-2 is to scale. Using this scale, the approximate dimensions for each SWMU are:

SWMU	Dimensions	Area (S.F.)
Container Storage Area G-1	85' x 65'	5,525
Container Storage Area G-2	125' x 100'	12,500
Container Storage Area G-3	130' x 70'	9,100
Container Storage Area G-4	140' x 75'	10,500
Container Storage Area G-5	270' x 70'	18,900
Container Storage Area G-6	95' x 50'	4,750
Product Tank Area	100' x 50'	5,000
Hazardous Waste Tank Area	125' x 55'	6,875
Former Floor Drain UST Area	45' x 30'	1,350

Part of G-3 and the northern portion of G-5 are pervious surfaces. All of the other SWMUs are on impervious surfaces.

[1] Item# 20

E-5. When the SWMUs were operated NR 670.014(4)(a)4.

The product tank area has contained tanks and been in operation since 1974. From 1974 to the early 1980's this area was contained by earthen dikes with a pea gravel base. Prior to paving this area, the pea gravel and contaminated soils were removed, but it is not known if all of the impacted soil was removed.

The former floor drain UST area is located south of the middle air sparge/soil vapor extraction system. In the early 1970's floor drains were installed in nearby former buildings. The drain system flowed to a former UST. In approximately 1977 the UST was removed. At that time some of the soil was observed to be discolored.

As shown on Map E-2, there were six distinct areas used to store drums of hazardous waste in the late 1970's and early 1980's. This includes the storage in 1978 of hazardous waste drums in the pole shed. The drums were stored in each of the six areas on unpaved surfaces before transport off site for disposal.

There were no concrete containment dikes around the E-I hazardous waste tank farm until the early 1980's. This SWMU includes the tanker unloading area adjacent to and south of the tank farm.

E-6. Types of wastes managed at the SWMUs NR 670.014(4)(a)5.

During the 1970's and early 1980's when the SWMUs described in Section E-5 were in use, the hazardous waste codes included F001, F002, F003, F005, F006, D001, D007, and D008. These codes include contaminants such as acetone, ethylbenzene, trimethylbenzenes, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, tetrachloroethene, toluene, xylenes, trichloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, cis-1,2-dichloroethene, lead, chromium, and ignitable waste.

E-7. All available information pertaining to releases of hazardous waste constituents from hazardous waste units NR 670.014(4)(b)

Groundwater monitoring downgradient of the SWMUs has been underway for several years. Results of the data collected over the last several years for groundwater, soils, and soil gas probes as well as proposed additional investigative work is described in the Corrective Action Plan.

Several spills on impervious surfaces have occurred at WRR since the 2003 RCRA license was approved. This included both hazardous and non-hazardous liquids. All but one of the releases were contained and cleaned up. Some of them were documented in writing to the WDNR. However, condition #5 of the April 14, 2003 RCRA license only requires reporting of hazardous waste releases outside of secondary containment areas. This is further documented in an April 30, 2009 email from Jill Schoen, WDNR, in which she states that "spills that are not contained, either within secondary containment, or on impervious surfaces, should be reported . . ."

The release that did not get contained and cleaned up but did get reported occurred during the fire incident at WRR on June 22, 2007. The water was applied primarily to the E-II Warehouse Building, Fuels Building, and to the E-II South Sludge Tank Farm. Fire fighting water runoff samples were collected by both the WDNR and by WRR for empirical analysis. An estimate of up to 500,000 gallons of fire fighting water ran off the WRR property. This runoff occurred near the southwest corner of the facility. The runoff infiltrated into the soil and underlying shallow groundwater on Eau Claire County property. The runoff contained VOCs. Within less than a week after the release, groundwater samples were collected from monitoring wells located near the infiltration area. Analytical results found that the concentrations of several VOCs had increased as a result of the release. However, the elevated groundwater concentrations were only temporary before returning to pre-fire levels. The concentrations of VOCs decreased in sampling conducted in the following weeks. Natural attenuation was credited with the decrease, and no immediate cleanup was necessary. Although there were elevated concentrations of certain compounds in the soil, follow-up geoprobes installed in July, 2007 showed that natural attenuation had reduced the concentrations in the soil downgradient of the facility. More detailed information about this release and the subsequent monitoring can be found in the July 18, 2007 "Interim Action Design Memorandum" prepared by Short Elliott Hendrickson Inc. The WDNR has all of the data and reports that were prepared for this incident. Addressing any residual VOC contamination from the fire fighting water that might still be present is included in the Corrective Action Plan found elsewhere in this FPOR.

If in the future an incident similar to what happened on June 22, 2007 were to occur, WRR would coordinate with the WDNR and would again seek outside professional environmental consulting assistance for any monitoring and remediation that would be necessary. Section 6.5 of the Corrective Action Plan describes the current groundwater monitoring plan. The contingency plan in Section J of this FPOR describes actions that would be taken if such a release were to occur. Notification of a hazardous waste release to the environment is described in Section 2F-17. The requirements for written reporting of such releases are described in Section 2F-18.[2]

[2] Item# 12

E-8. Results of sampling and analysis of surface or groundwater, soil and air sampling if the department determines a RFA is necessary NR 670.014(4)(c)

See Sections 3, 4, and 6 and Appendices C, E, and F of Corrective Action Plan

WRR Environmental Services, Co, Inc.

Eau Claire, Wisconsin

Part I

Section F – Location Standards

F-1. to to F-3 Flood plain NR 670.014(2)(k)3.

WRR is not located within a 100 year flood plain. Map F.1 Site Location with Floodplain shows the 100 year flood plain locations in the areas surrounding the WRR facility.

Since WRR is not located within a 100 year flood plain, the 100 year flood level is not considered in design, construction, operation or maintenance of the facility to withstand washout from a 100 year flood.

F-4. Engineering analysis of hydrodynamic and hydrostatic forces NR 670.014(2)(k)4.a.

Since the WRR facility is not located in a 100 year flood plain, an engineering analysis of various hydrodynamic and hydrostatic forces is not required.

F-5. Structural and engineering studies showing design of operational units and flood protection devices NR 670.014(2)(k)4.b.

Since the WRR facility is not located in a 100 year flood plain, an engineering analysis showing the design of operational units and flood protection devices and how they work is not required.[1]

F-6. Description of procedures to move hazardous waste before flooding NR 670.014(2)(k)4.c.

Since the WRR facility is not located in a 100 year flood plain, procedures to be followed to remove hazardous waste to safety before the facility is flooded is not required.[2]

F-7. Demonstration of procedures in effect to move the waste safely to a location that is not vulnerable to flood waters NR 664.0018(2)(a)

Since the WRR facility is not located in a 100 year flood plain, a demonstration that procedures are in effect to move waste safely to a location that is not vulnerable to flood waters is not required.[3]

F-8 Compliance schedule NR 670.014(2)(k)5.

Since the WRR facility is not located in a 100 year flood plain, a plan and schedule to come into compliance with NR664.0018(2)(a) is not required.[4]

Facility maps

[1] Item 21
[2] Item 22
[3] Item 23
[4] Item 24

F-9 Dated topographic map NR 670.014(2)(s)

Due to the detail required under NR 670.014(2), WRR is submitting multiple figures and maps to provide the need information.

Two topographic maps are included in this submittal. Figure F 9a - WRR Site USGS Topographic Map shows USGS contours 1,000 feet around the WRR site with no more than 1 inch to 200 feet. Due to the relative flat topography around the facility, this figure does not show much detail.

Figure F 9b - WRR Site Topographic Map provides a greater topographic detail of the WRR site to show flow patterns of liquid precipitation around through the WRR facility.[5]

F-10 Map shows map scale and date NR 670.014(2)(s)1.

The maps providing the information required in NR 670.014(2)(s) have scale and date information.

F-11 Map shows 100 year flood plain area NR 670.014(2)(s)2.

Map F.1 Site Location with Floodplain shows the 100 year flood plain locations in the areas surrounding the WRR facility.

F-12 Surface waters NR 670.014(2)(s)3.

Map F.1 Site Location with Floodplain shows surface water locations in the areas surrounding the WRR facility.

F-13 Surrounding land use NR 670.014(2)(s)4.

Map C.10 WRR Environmental Services Zoning Map shows the land uses for the properties bordering the WRR facility.

F-14 Wind rose NR 670.014(2)(s)5.

A wind rose is provided in in Figure F.14 Wind Rose. Data for the figure comes from the Eau Claire County Airport.

F-15 Map orientation NR 670.014(2)(s)6.

Maps and figures provided in this submittal have orientation noted with a north arrow where applicable.

[5] Item# 25

F-16 to F-22. Facility detail NR 670.014(2)(s)7. **to** NR 670.014(2)(s)12.

Figure A.1 Facility Site Plan includes the details required in NR 670.014(2)(s)(7) to NR 670.014(2)(s)(12) which includes:

- WRR's legal boundary ,
- Fences and gates,
- On-site supply wells,
- Buildings and treatment and storage facilities,
- Runoff control system, roads, loading an unloading areas,
- Location of operational units.

F-23. Wetland NR 670.014(2)(k)6.b.

WRR is not located within a designated wetland area. Map C.8 Proximity to Wetlands shows the WRR facility's proximity to designated wetlands.

F-24. Critical Habitat NR 670.014(2)(k)6.a.

WRR is not located within a designated ecologically significant area. Map C.9 Ecologically Significant Places shows the WRR facility's relationship to the states ecologically significant areas.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section G – Waste Analysis Plan

In accordance with the regulatory requirements set forth in s. NR 664.0013 Wis. Adm. Code, WRR has developed this Waste Analysis Plan (WAP). The sampling methodologies, analytical techniques, and overall procedures described in this Plan are used to determine the suitability of treatment and the management procedures for all hazardous waste materials received at the facility. A copy of this Plan is available at the facility at all times.

G-1 Waste Characterization and Analysis NR 664.0013(1)

The Wisconsin Administrative Code places the burden on the waste generator for determining whether their waste is hazardous in accordance to NR 661 specifications. In accordance with s. NR 664.0013(1) Wis. Adm. Code, WRR is required to obtain detailed chemical and physical information of a waste stream before it is managed at the facility. This information is derived from the profiling process and sampling and testing protocol completed at WRR. Waste sampling and analysis protocol is detailed in this WAP.

The profiling process begins with a completed Waste Material Profile (Profile) and, if required, a representative sample to be submitted to WRR by the generator. An example profile sheet is included in Appendix G-1 to this WAP. The format and content of this form may be changed in the future without permit modification as long as at least the minimum content shown in Appendix G-1 is present on the new form.

G-2 Certified laboratory requirement NR 664.0013(1)(a)1.

Before waste can be managed at a treatment facility, waste analysis must be conducted by a laboratory certified or registered under ch. NR 149 Wis. Adm. Code. The WRR laboratory is certified under ch. NR 149 Wis. Adm. Code; the Wisconsin DNR Certified Laboratory ID is 618026530.

G-3 Other data used to determine suitability for treatment NR 664.0013(1)(b)

The Profile is reviewed and approved only after it is determined that sufficient information has been presented for proper processing. To determine if sufficient information is available, the following areas of the Profile are reviewed:

1. Waste Description.
2. Process Generating Waste.
3. Waste Constituents.
4. Waste Properties.
5. Special Handling Requirements.

If laboratory testing has not been submitted with the Profile, WRR can use generator knowledge, generator supplied Material Safety Data Sheets (MSDS's), knowledge of waste generated from similar processes or information supplied by a permitted off-site facility to determine a waste's suitability for treatment.

G-4 Analysis upon receipt NR 664.0013(1)(d)

Every truckload of waste materials received by WRR has a unique tracking number assigned to it. When containers are unloaded to the receiving area, the unique tracking number is marked on the drums with the use of a stencil and written number or a printed bar code.

Samples are taken from each compartment of every tanker load accepted at the WRR facility.

Every drum of material designated to be processed by WRR is inspected and sampled. These individual samples are submitted to the WRR laboratory for analysis. Occasionally, a composite sample is submitted to the laboratory for analysis. Pallets of small containers, or drums full of small containers for processing at WRR, may be sampled at 10%. The small containers processed at WRR will be emptied into drums, which are then given a new WRR tracking number, and each drum is sampled and analyzed.

Once in the laboratory, the individual drum samples will be composited for analysis. All waste samples for analysis follow these parameters and recorded in the laboratory record:

- Specific gravity of liquid samples.
- Appearance - multiple layers noted, if present.
- Solids - Record amount of solids settled in the container. The sampler notes the amount of solids in the drum in inches.
- PCBs - Individual or composite analysis for PCBs.

Waste materials designated for recycle will receive additional analysis as follows:

- Grouping of materials for distillation: This is based on generator's manifested material description, specific gravity, and appearance.
- Distillation: Distill a measured volume to get clean solvent. Record the boiling points at initial, 10%, 25%, 50%, 75% and final, or in some cases record initial and every 10% thereafter. The volume percent recovery is determined from this analysis.
- Distillate Analysis: Check the specific gravity and then run components analysis by gas chromatograph. Additional analytical methods, such as water content, may be required for some materials.

Waste materials designated for disposal by fuel blending will be composited for compatibility testing by mixing and for additional analysis as follows:

- Heat of combustion, weight percent chloride and weight percent ash from bomb calorimeter analysis.
- Tankers of blended material are tested for heat of combustion, weight percent chloride and weight percent ash from bomb calorimeter, water percent by KF titration, solids percent, and screened for PCB's via GC-ECD.
- Blended materials to be shipped by railcar are tested for the same parameters as tankers with the addition of a heavy metals test via ICP.

Waste materials designated for disposal as wastewater will be composite for additional analysis as follows:

- Streams received from off-site generators are tested for PCBs via GC-ECD, specific gravity and any layering is noted.

- Residue waters shipped to off-site disposal are tested for solvent percent via GC-FID, flashpoint, metals via ICP, and percent solids. If the material is clean enough, it is directly injected into a gas chromatograph for solvent analysis.

- For wastewater with low-level organics shipped to off-site disposal, the sample is extracted with n-decane; the decane extract is then run in a GC-FID to determine the level of organic constituents in the wastewater.

If a discrepancy is found between the waste's description on the shipping document and the laboratory analysis, as part of WRR's waste manifest discrepancy procedure, the WRR Customer Service department is informed by the Vice President/Research & Development - Quality Control or Laboratory Manager or designee. The notification includes the generator name, profile number, load number and discrepancy.

G-5 Parameters and rational NR 664.0013(2)(a)

Table G-1 contains the analyses carried out by the WRR laboratory. These include basic screening procedures that are used to indicate the expected type of treatment that is most suitable for that particular waste stream and to verify incoming waste shipments. These analytical procedures are designed to identify or screen a specific waste and are a rapid but effective means for establishing key decision parameters required for proper waste management, identification and verification.

Supplemental analyses may be performed as directed by the Vice President/Research & Development - Quality Control or Laboratory Manager or designee to supplement existing information for the waste stream, to further verify a waste stream or to further ensure that the appropriate waste management technique(s) can be utilized.

G-6 Test methods NR 664.0013(2)(b)

The test methods used to perform the screening procedures incoming waste shipments are listed in Table G-2.

G-7 Sampling method NR 664.0013(2)(c)

Liquid wastes in tankers and tote tanks are sampled using the "COLIWASA" liquid sampler as described in SW-846-3.2.1. Liquid waste in drums is sampled with 3.5 ft long, 0.5 to 0.75 inch diameters polyethylene or stainless steel open-end pipe. Each sample is labeled with a unique ID number and stored in glass or polyethylene jars.

Samples are taken "in-process" during the treatment of waste to ensure proper operating parameters are maintained. Samples will be gathered and stored in clean glass or polyethylene jars or other suitable container.

WRR uses one of the following methods for sampling waste with properties similar to the indicated material in containers, sacks, or bags:

1. ASTM Standard D 6063, guide for Sampling Drums and Similar Containers by Field Personnel
2. ASTM Standard D 5679, guide for Sampling Consolidated Solids in Drums and Similar Containers.

G-8 Frequency of repeat analysis NR 664.0013(2)(d) **and** NR 664.0013(1)(c)

Per s. NR 664.0013(1)(c) Wis. Adm. Code, the waste analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated when any of the following occurs:

1. WRR is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes, has changed.
2. The results of the inspection and analysis required in s. NR 664.0013(1)(d) Wis. Adm. Code indicate that the hazardous waste received at WRR does not match the waste designated on the accompanying manifest or shipping paper.

When a generator notifies WRR that there has been a change in a waste stream, WRR reviews information provided for the change to determine if the change will result in an alteration of the DOT description, applicable waste codes or management method. If the change will result in an alteration of any of the above classifications, the generator is instructed to re-profile the waste stream.

Each shipment of waste to be processed at WRR is sampled and analyzed in the on-site laboratory. When this analysis shows a significant difference between the waste stream as described on the shipping documents and the one received, the shipment results in a manifest discrepancy. If the discrepancy is not a singular event, the submittal of a new profile is required by the generator before subsequent shipments can occur.

G-9 Analysis from generators NR 664.0013(2)(e)

In addition to the information provided on the Profile through generator knowledge, a generator may supply an analysis completed by a third party laboratory or waste management facility.

G-10 Methods used to meet the following requirements NR 664.0013(2)(f)

G-10a. NR 664.0017 General requirements for ignitable, reactive or incompatible wastes.

While much of the waste processed at WRR exhibits the characteristic of ignitability, WRR has instituted a rigorous analytical program to provide information concerning a waste's reactive or incompatible nature prior to treatment. Specifically, wastes are evaluated to discover applicable hazardous waste characteristics that may damage the treatment process and/or associated facilities/personnel.

During the profiling process, wastes may be subject to a compatibility evaluation. This evaluation makes use of the EPA Chemical Compatibility Chart (EPA-600/2-80-076 April 1980). This evaluation is used to classify wastes based on gross chemical composition for designation according to specific reactivity groups. The EPA Chemical Compatibility Chart is found in Appendix G-2.

Incoming waste samples will be assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to liberate gases, heat or undergo hazardous polymerization are segregated from all other wastes. The results of compatibility screening will be documented as required in s. NR 664.0017(3) Wis. Adm. Code .

G-10b. NR 664.0314 Special requirements for bulk and containerized liquids.

Ch. 664, Subch. N, Wis. Adm. Code applies to owners and operators of facilities that dispose of hazardous waste in landfills. WRR does not operate a landfill. Analytical methods referenced in s. NR 664.0314(3) Wis. Adm. Code are not needed to meet this requirement.

G-10c. NR 664.0341 Waste analysis for trial burn and continued operation.

Ch. 664, Subch. O, Wis. Adm. Code applies to owners and operators of hazardous waste incinerators. WRR does not operate a hazardous waste incinerator. Analytical methods referenced in ss. NR 664.0341(1) Wis. Adm. Code and NR 664.0341(2) Wis. Adm. Code are not needed to meet this requirement.

G-10d. NR 664.1034(4) Test methods for the determination of total organic concentration closed vent systems and control devices.

S. NR 664.1034(4) Wis. Adm. Code relates to the analytical methods used to show that a process vent or control device associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operation is not subject to this subchapter. WRR does not intend to demonstrate by testing that the process vent regulations are not applicable. Process knowledge is adequate to determine that all waste managed has a greater than 10 ppmw total organic concentration and that the process vent and control device requirements are applicable to the thin-film evaporators, distillation units and fuels building. Analytical methods are not needed to meet this requirement.

G-10e. NR 664.1063(4) Test methods for the determination of volatile organic concentration of hazardous waste.

S. NR 664.1063(4) Wis. Adm. Code relates to the analytical methods used to determine if a hazardous waste contains a volatile organic concentration of less than 10% by weight. WRR does not intend to demonstrate, by testing, that the volatile organic concentration of the hazardous waste managed at the facility is less than 10% by weight. Process knowledge is adequate to determine that the equipment leak requirements of Ch. 664, Subch. BB, Wis. Adm. Code are applicable.

G-10f. NR 664.1083 Test methods for the determination of VO concentration of hazardous waste.

S. NR 664.1083(1) Wis. Adm. Code relates to the analytical methods used to determine the average VO concentration at the point of waste origination is less than 500 parts per million by weight (ppmw) under Ch. 664, Subch.CC, Wis. Adm. Code. WRR does not intend to demonstrate, by testing, that the VO concentration of the hazardous waste stored in tanks and containers is less than 500 ppmw. Process knowledge is adequate to determine that the air emission standards of Ch. 664, Subch. BB, Wis. Adm. Code are applicable.

G-10g. NR 668.07 Testing, tracking and recordkeeping requirements for treaters utilizing land disposal.

Ch. 668, Wis. Adm. Code, relates to hazardous waste land disposal restrictions. WRR recognizes, through the knowledge of the waste, that residues associated with on-site treatment are restricted from land disposal. The analytical method requirement of s. NR 668.07(2) Wis. Adm. Code is not applicable.

G-11. Procedures for the inspection and analysis of waste received NR 664.0013(3)

Sections G-4 through G-7 of this WAP address the requirements of s. NR 664.0013(3) Wis. Adm. Code.

Table G-1: PARAMETERS ANALYZED AND RATIONALE

Parameter	Rationale
Specific Gravity (or liquid density)	Required for tank storage and transportation to estimate weight of drums.
Acidity, Alkalinity, corrosivity	PH value to determine corrosiveness.
Flash Point	Required for waste material classification, and wastewater.
Total Solids and Ash Content	Required for fuel blending.
Heat of Combustion	Required for fuel blending.
Chloride and Sulfur Content	Required for fuel blending.
Heavy Metals	Required for fuel blending, off-site incineration, and waste water.
Solvent Composition	Required for quality control and safety purposes in the solvent reclamation process.
Polychlorinated Biphenyls (PCBs) Screening Test	Required to make sure waste materials are not contaminated with PCBs.
Hazardous organic constituents in waste water	Required for offsite wastewater disposal.
Reactivity, waste compatibility	To avoid mixing incompatible waste materials.

Table G-2: TEST METHODS

Parameter	Test Method
Specific Gravity	Graduated cylinder/Analytical Balance (sludges). PARR density meter (non-sludges)
Acidity or alkalinity of aqueous waste	pH values by pH meter SW-846 Method 9040 (C). pH papers are used as a preliminary screening test for dirty samples. Determined by standard acid-base titration method.
Flash Point	Method ASTM D-6450 05,D-7094 04
Total Solids	USEPA Method 160.1
Ash Content	USEPA Method 160.4
Heavy metal content	Sample is digested according to SW-846 methods 7470, 7471, 3050, and 3051. Standard Inductively Coupled Plasma and Atomic Absorption methods are used for the following metals:
Silver (Ag)	SW 846-6010 (C)
Arsenic (As)	SW 846-6010 (C)
Barium (Ba)	SW 846-6010 (C)
Cadmium (Cd)	SW 846-6010 (C)
Chromium (Cr)	SW 846-6010 (C)
Copper (Cu)	SW 846-6010 (C)
Mercury (Hg)	Mercury is tested by a certified outside laboratory.
Nickel (Ni)	SW 846-6010 (C)
Lead (Pb)	SW 846-6010 (C)
Selenium (Se)	SW 846-6010 (C)
Antimony	SW 846-6010 (C)
Beryllium	SW 846-6010 (C)
Thallium	SW 846-6010 (C)
Zinc (Zn)	SW 846-6010 (C)
Heat of Combustion	Standard oxygen bomb calorimeter ASTM D-2015-96, D240-02.
Chloride and sulfur content	The combustion products of the oxygen bomb are analyzed for chloride by silver nitrate titration (ASTM 925.3) and sulfate by UV absorption (ASTM 903.5 and 903.6).
PCB Screening Test	Clean up procedures if needed and follow SW 846-8082 (A) gas chromatograph method for PCBs.
Solvent Composition and organic constituents in waste water	The waste material is distilled first to obtain a clean solvent. Distillation apparatus includes: distilling flasks, connecting tubes, distilling tube with thermometer opening, thermometer, condenser, and graduated beakers for clean solvent distillate. Distillate components analysis is conducted using the following gas chromatographic (GC) methods or an equivalent method. GC Detectors: Hydrogen flame ionization (FID); Ni63 electron capture detector (ECD) for PCB screening test.
Waste Compatibility	Waste materials are mixed with bulk fuel blend material to detect any physical (heat release) or chemical changes.

Part 1

Section G – Waste Analysis Plan

Appendix G-1
Profile Sheet

WRR ENVIRONMENTAL SERVICES CO., INC.

WASTE MATERIAL PROFILE

PROFILE #: ______________

WRR Account #: ______________
Salesperson: ______________ *Email address:* ______________ Contact number: ______________

A. CUSTOMER INFORMATION

☐ *Check if Billing Address is the Same as Generator Address*

Generator ______________ *Billing Company* ______________
Facility Address (No P.O. Box) ______________ *Billing Address* ______________
______________ *City/State/Zip* ______________
City/State/Zip ______________ *Billing Contact* ______________
Technical Contact ______________ *Phone* ______________ *FAX* ______________
Phone ______________ FAX ______________ *Email* ______________
NAICS # ______________ ☐ CESQG ☐ SQG ☐ LQG EPA ID# ______________ State ID# ______________

B. SHIPPING INFORMATION

US DOT Shipping Name ______________
Hazardous Class/Division # ______________ UN/NA # ______________ Packing Group ______________ RQ ______________
Size ______________ Container Type ______________ Quantity ______________ Frequency ______________

C. GENERAL MATERIAL & REGULATORY INFORMATION

Name of Material ______________
Process Generating the Material ______________

Yes	No		Yes	No	
☐	☐	Regulated or Licensed Radioactive Waste	☐	☐	Contains UHCs/Constituents of Concern: List in section D
☐	☐	Regulated Medical/Infectious Waste	☐	☐	Exempt Waste: If yes, list ref. 40 CFR ______________
☐	☐	Waste Subject to Benzene NESHAP regulations	☐	☐	Does waste contain, or is derived from, dioxin-listed wastes with F020-F023 or F027 waste codes?
☐	☐	TSCA Regulated PCB Waste: List PCB level in section D	☐	☐	State Hazardous Waste: List Codes ______________
☐	☐	Regulated Ozone Depleting Substance	☐	☐	EPA Hazardous Waste: List Codes ______________
☐	☐	CERCLA Regulated (Superfund) Waste			Source Code **G** ______ Form Code **W** ______ Mgt. Method **H** ______

D. MATERIAL COMPOSITION (Range Total > or = 100%) or ppm

☐ **MSDS Attached** **SAMPLE provided** ☐ **Total:**	100%

GENERATOR EMERGENCY CONTACT NUMBER: ______________

E. REACTIVE CHARACTERITSTICS

Yes☐ No☐ Oxidizer
Yes☐ No☐ React. Sulfides ________ ppm Yes☐ No☐ Shock/Explosive
Yes☐ No☐ React. Cyanides ________ ppm Yes☐ No☐ Polymerizable
Yes☐ No☐ Water/Air (Pyrophoric) React. Yes☐ No☐ Other-Comments

Elemental Constituents (ppm):

☐ No detectable Elements Sb ________ As ________ Ba ________
Be ________ Cd ________ Cr ________ Pb ________ Hg ________
Ni ________ Se ________ Ag ________ Tl ________ V ________

Metals Data based on: ☐TCLP ☐Total Analysis ☐Generator Knowledge (no testing)

F. PHYSICAL CHARACTERISTICS

Flash Point: ________ °F (if <73°F) pH Range: ☐ ≤2
☐ 73-<100 ☐ 100-141 ☐ >2-4 ☐ >4-10
☐ 142-<200 ☐ ≥200 ☐ >10-<12.5 ☐ ≥12.5
Phases ________ % Liquid ________ Viscosity cps ________
% Sludge ________ % Solid ________ % Halogens ________
BTU's/lb: ________ Specific Gravity: ________

G. COMMENTS ______________

Customer Restrictions: ☐ Yes ☐ No CHEMTREC ☐ Analyze for Recovery? ☐ Yes ☐ No Tolling Stream? ☐ Yes ☐ No

H. GENERATOR'S CERTIFICATION

I hereby certify that I am an authorized agent of the generator, and warrant on behalf of the generator that the information supplied on this form and on any attachments or supplements hereto is complete and accurate, and that all known or suspected hazards of the material(s) described herein have been disclosed. I agree that if the sample test results indicate a discrepancy with any information supplied on this form, that either WRR Environmental Services Co., Inc. or the generator may initiate further testing and evaluation in accordance with the terms and conditions of the contract between WRR Environmental Services Co., Inc. and the generator and that this profile certification may be amended accordingly.

Generator Signature: ______________ Printed Name and Title: ______________ Date: ______________

Part 1

Section G – Waste Analysis Plan

Appendix G-2
EPA Chemical Compatibility Chart

EPA's Chemical Compatibility Chart

EPA-600/2-80-076 April 1980

A METHOD FOR DETERMINING THE COMPATIBILITY OF CHEMICAL MIXTURES

Please Note: This chart is intended as an indication of some of the hazards that can be expected on mixing chemical wastes. Because of the differing activities of the thousands of compounds that may be encountered, it is not possible to make any chart definitive and all inclusive. It cannot be assumed to ensure compatibility of wastes because wastes are not classified as hazardous on the chart, nor do any blanks necessarily mean that the mixture cannot result in a hazard occurring. Detailed instructions as to hazards involved in handling and disposing of any given waste should be obtained from the originator of the waste.

CODE	CONSEQUENCE
H	Heat Generation
F	Fire
G	Innocuous and non-flammable gas generation
GT	Toxic Gas formation
GF	Flammable Gas formation
E	Explosion
P	Violent Polymerization
S	Solubilization of toxic substance
U	May be hazardous, but Unknown

#	REACTIVITY GROUP NAME	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	101	102	103	104	105	106	107
1	Acids, Mineral, Non-oxidizing	1																																								
2	Acids, Mineral, Oxidizing		2																																							
3	Acids, Organic		G H	3																																						
4	Alcohols and Glycols	H	H F	H P	4																																					
5	Aldehydes	H P	H F	H P		5																																				
6	Amides	H	H GT				6																																			
7	Amines, Aliphatic and Aromatic	H	H GT	H		H		7																																		
8	Azo Compounds, Diazo Compounds and Hydrazines	H G	H GT	H G	H G	H			8																																	
9	Carbamates	H G	H GT						G H	9																																
10	Caustics	H	H	H		H				H G	10																															
11	Cyanides	GT GF	GT GF	GT GF					G			11																														
12	Dithiocarbamates	H,F GF	H,F GF	H,GT GF		GF GT		U	H G				12																													
13	Esters	H	H F						H G		H			13																												
14	Ethers	H	H F												14																											
15	Fluorides, Inorganic	GT	GT	GT												15																										
16	Hydrocarbons, Aromatic		H F														16																									
17	Halogenated Organics	H GT	H,F GT					H GT	H G		H GF	H						17																								
18	Isocyanates	H G	H,F GT	H G	H P			H P	H G		H,P G	H G	U						18																							
19	Ketones	H	H F						H G		H	H								19																						
20	Mercaptans and Other Organic Sulfides	GT GF	H,F GT						H G									H	H	H	20																					
21	Metals, Alkali and Alkaline Earth, Elemental	H,F GF	H,F GF	H,F GF	H,F GF	H,F GF	GF H	GF H	GF H	GF H	GF H	GF H	GF,H GT	GF H				H E	GF H	GF H	GF H	21																				
22	Metals, Other Elemental & Alloys as Powders, Vapors, or Sponges	H,F GF	H,F GF	G F					H,F GT	U	GF H							H E	GF H		H,F GF		22																			
23	Metals, Other Elemental & Alloys as Sheets, Rods, Drops, etc.	H,F GF	H,F GF						H,F G									H F						23																		
24	Metals and Metal Compounds, Toxic	S	S	S			S	S			S														24																	
25	Nitrides	GF HF	H,F E	H GF	H,E GF	GF H			U	H G	U	GF H	GF H	GF H				GF H	U	GF H	GF H	E				25																
26	Nitriles	H,GT GF	H,F GT	H							U											H P			S	GF H	26															
27	Nitro Compounds, Organic		H,F GT			H					H E											H,E GF				H,E GF		27														
28	Hydrocarbons, Aliphatic, Unsaturated	H	H F			H																	H E						28													
29	Hydrocarbons, Aliphatic, Saturated		H F																											29												
30	Peroxides and Hydroperoxides, Organic	H G	H E		H F	H G		H GT	H,F E	H,F GT		H,E GT	H,F GT					H E	H	E	H,F GT	H E	H G		H G	H,E GF	H,P GT		H P		30											
31	Phenols and Cresols	H	H F						H G										H P			GF H				GF H					H	31										
32	Organophosphates, Phosphothioates, Phosphodithioates	H GT	H GT						U		H E											H									U		32									
33	Sulfides, Inorganic	GT GF	HF GF	GT		H			E										H												H GT			33								
34	Epoxides	H P	H P	H P	H P	U		H P	H P		H P	H P	U								H P	H P	H P		H P	H P					H P	H P	U	H P	34							
101	Combustible and Flammable Materials, Miscellaneous	H G	H,F GT																			H,F G				H,F GF					H,F GT					101						
102	Explosives	H E	H E	H E					H E		H E			H E								H E	H E	H E	E	E					H E	H E		H E	H E	H E	102					
103	Polymerizable Compounds	P H	P H	P H					P H		P H	P H	U									P H	P H	P H	P H	P H					P H	P H		P H			H E	103				
104	Oxidizing Agents, Strong	H GT		H GT	H F	H F	H,F GT	H,F GT	H E	H,F GT		H,E GT	H,F GT	H F	H F		H F	H GT	H,F GT	H F	H,F GT	H,F E	H,F E	H F		H,F E	H,F GT	H E	H F	H F	H G	H F	H,F GT	H,F GT	H,F G	H,F G	H E	H,F GT	104			
105	Reducing Agents, Strong	H GF	H,F GT	H GF	H,F GF	H,F GF	H GF	H G				H GT	H F				H,F E	H E	H GF	H GF	H GF						H GF	H E			H E	H GF	H,GT GF		H	H GF	H E	H,P GF	H,F E	105		
106	Water and Mixtures Containing Water	H	H						G										H G			H GF	H GF		S	H GF								GT GF						GF GT	106	
107	Water Reactive Substances	<---EXTREMELY REACTIVE! DO NOT MIX WITH ANY CHEMICAL OR WASTE MATERIAL! EXTREMELY REACTIVE!--->																																								107

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section H – Security Requirements

H-1 Barriers preventing unauthorized or unintentional entry to facility NR 664.0014(2)(b)

General security measures at the WRR facility include fencing and access control through gates. The facility is totally enclosed with a 6-foot high, chain link fence topped with three strands of twisted barbed wire angled out. The WRR facility can be accessed through 5 gates. These gates are identified as the north, northeast, scale, south and southeast gates. The primary gates for entering the facility are the northeast and scale gates. All other gates are kept locked at all times and are only used in case of an emergency. All hazardous waste shipment deliveries or WRR product pickups must be made via the northeast and scale gates.

Access via the northeast gate is controlled by an electric gate. This gate is overseen by a window and a video camera located on the north side of the plant administrative office. The scale gate is controlled by an electric gate. This gate is overseen by a window.

Before entering the facility, all delivery trucks must register at the plant office. Only WRR employees are allowed inside the plant without a company escort. All drivers and visitors entering the plant must first obtain permission from WRR’s Management and be provided a safety orientation. Visitors will be accompanied by a WRR employee. Contractors working in the plant must complete a Contractor Pre-job Safety Orientation Report to determine the level of risk associated with the contract work.

H-2 Signage NR 664.0014(3)

Warning signs that are legible from 25 feet are posted at all gate entrances and at several other locations around the facility. These signs bear the message “Danger - Unauthorized Personnel Keep Out," and are visible from approaching directions. In addition, "No Smoking" and "Stop" signs are visibly located at all entrances to waste storage and processing areas.

H-3 Security training

1) Security Training

WRR will ensure that all employees are provided with security training. All employees will be trained in, and are expected to be familiar with, the company's security plans and procedures. At a minimum, this training will include instruction regarding our:

a) Overall Security Objectives;

i) Individual employee security responsibilities;
ii) Specific security procedures; and
iii) The organization's security structure

b) List of General Employee Security Responsibilities:

i) Top Management is responsible for establishing and communicating the overall security goals of the organization.

ii) The Plant Manager and Supervisors are responsible for being knowledgeable of the security issues and concerns of their area(s) and employees. In addition, they are responsible for providing information on system operations including daily work processes, activities, and identifying potential security vulnerabilities. Once identified, the plant manager and supervisors are responsible for:

Selecting, prioritizing, developing, and implementing strategies and procedures to meet established security goals;

1) Measuring and monitoring the effectiveness of the security strategies and procedures; and
2) Reviewing and, when necessary, adjusting the strategies and procedures. If deficiencies or other vulnerabilities are discovered in the security process, appropriate corrective action or adjustments will be made.

iii) Employees are responsible for adhering and conforming to all security-related work activities, processes, and procedures. In addition, employees are encouraged to provide feedback and suggestions on ways to improve the organization's security program.

2) Suspicious Activity

All employees are expected to follow WRR’s suspicious activity reporting procedures in the event of any unusual or suspicious activity that poses a threat to the safety of our employees and the security of our equipment, facilities, or hazardous materials cargo.

3) Employer Responsibility Statement

The company will provide a work environment that is reasonably free of hazards and threats of violence which may cause damage to property or harm to people. It is also our policy to establish an effective and continuous safety and security program that incorporates educational and monitoring procedures. All supervisors and managers are responsible for ensuring that their employees are trained in appropriate security and suspicious activity reporting procedures.

4) Employee Responsibility Statement

All employees have a responsibility to themselves and to the company, to observe and report any suspicious or unusual activity that threatens safety or security.

5) Reporting Procedures

Employees are expected to use common sense and good judgment when assessing the threat potential of any suspicious activity. Depending on the given situation, employees will be expected to report any observed suspicious activity to their immediate supervisor, plant superintendant, the plant manager, safety director, or the local law enforcement official or fire department.

a). WRR defines suspicious activity to include, but not limited to, any of the following situations:

- Unidentified person(s) attempting to gain access to property, equipment, or facilities.
- Unidentified person(s) in any area of the facility or parking lot.
- An employee, unescorted vendor, or supplier visiting a part of the facility for no known reason.
- Any unescorted or unaccompanied visitor anywhere in the building or wandering around the facility or parking lot.
- Any person (employee or otherwise) who appears to be hiding something or is acting nervous, anxious, or secretive.
- Any person or group loitering outside the facility or immediate vicinity.
- Any person claiming to be a representative of a utility (gas, water, electric) but cannot produce valid company identification.
- After hours, any vehicle driving by or entering the facility with the lights off.
- Any occupied vehicle parked outside the facility - especially if the vehicle has been sitting for a long period or after normal work hours.
- An unfamiliar vehicle that appears to be abandoned near the facility or parking lot.

The above list is not all inclusive. It is meant to provide possible examples of suspicious activities. Once a suspicious activity is identified and confirmed, call the local authorities listed below and notify the plant immediately.

H 4 Nonproduction shifts and holiday schedule

During time when no production is occurring and on holidays, a private Security company is responsible for the security of the plant. The plant property is patrolled at regular intervals by Security Personnel.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section I – General Inspection Requirements

WRR personnel will inspect the facility for malfunctions and deterioration, operator errors and discharges which may be causing, or may lead to, release of hazardous waste constituents to the environment or a threat to human health. WRR personnel will conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

I-1 Schedule for inspection NR 664.0015(2)(a)

WRR has developed and follows a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting or responding to environmental or human health hazards. Inspection schedules and logs are maintained in an ESMS database. The inspection schedule for security, safety and emergency equipment can be found in Table I-1.

I-2 Types of problems to be inspected for NR 664.0015(2)(c)

The inspection schedules can be found in Tables I-1 through I-7. The tables identify the area to be inspected and the inspection frequency. The types of problems which should be looked for during the inspection are also categorized on the tables.

I-3 Inspection schedule for closed vent systems and control devices NR 664.1033

The closed-vent systems on each of WRR's thin film evaporators operate under vacuum to convey emissions to chilled water condensers, the system's control devices. The closed vent systems for the thin film evaporators are visually inspected annually for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in ductwork or piping or loose connections. The inspection schedule for closed vent systems can be found in Table I-2.

The chilled water condensers on the thin film evaporators have a continuous monitoring system to measure the temperature. The monitoring data, recorded on a computer and in the production data card, is inspected at least once each operating day as required by s. NR 664.1033(6)(c) Wis. Admin.Code to ensure that the chilled water condenser is operating in compliance.

The vapor recovery system used to convey emissions generated within WRR's High Viscosity Process System (HVPS) to activated carbon system is considered a closed-vent system. Both regenerative and non-regenerative active carbon adsorption units are used as control devices for air pollutant emissions. The closed-vent system is visually inspected at least annually to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping; loose connections; or broken or missing caps or other closure devices.

The regenerative carbon adsorption unit has a continuous monitoring system to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed. The monitoring data, recorded on a chart recorder, is inspected at least once each operating day as required by s. NR 664.1033(6)(c) Wis. Admin. Code to ensure that the regenerative carbon adsorption unit is operating in compliance.

The inlet and outlet emissions on the non-regenerative carbon adsorption units are monitored and recorded at least weekly. The manometers on the non-regenerative carbon adsorption units are inspected to verify that negative pressure is being maintained in the closed-vent system when the control device is operating as required by s. NR 664.1033(11)(b) Wis. Admin. Code.

I-4 Inspection schedule for pumps in light service NR 664.1052

Pumps, in light liquid service, that come in contact with hazardous waste are visually inspected at least weekly for evidence of leaks. Evidence of a leak includes, but is not limited to, drips from the pump seals and presence of odors. Pumps operating in vacuum service are not subject to the inspection requirements of s. NR 664.1052 Wis. Admin. Code per s. NR 664.1050(5) Wis. Admin. Code. The inspection schedule for hazardous waste pumps in light service can be found in Table I-3.

I-5 Inspection schedule for compressors NR 664.1053

WRR does not have any compressors that come in contact with hazardous waste, therefore the requirements of s. NR 664.1053 Wis. Admin. Code are not applicable.

I-6 Inspection of pressure relief devices and flanges and other connectors NR 664.1058

WRR has flanges and other connectors that come in contact with hazardous waste. The hydrapulper in the fuels building has a rupture disc to regulate the pressure within that piece of equipment. Detection of a potential leak in flanges, connectors and pressure relief devices regulated under ch. NR 664 Subpart BB includes use of visual, auditory or olfactory evidence. WRR does not have any pumps and valves in heavy liquid service, therefore the requirements of s. NR 664.1058 Wis. Admin. Code are not applicable for this type of equipment.

I-7 Inspection frequency for subpart BB equipment NR 664.0015(2)(d)

At a minimum, applicable equipment containing or coming in contact with hazardous waste is inspected with the frequency listed in relevant sections of ch. NR 664 Subpart BB. A listing of Subpart BB equipment can be found in Appendix I-A.[1] The following figures show the locations for the Subpart BB equipment located at the WRR facility:

---

[1] Item# 74

Drawing Name	Drawing No.
EI Evaporator Subch. BB Equipment	2L-2 EI P&ID
EIV Evaporator Subch. BB Equipment	2L-2 EIV P&ID
E23 Evaporator Subch. BB Equipment	2L-2 E23 P&ID
F2 Fractionation Still Subch. BB Equipment	2L-2 F2 P&ID
F3 Fractionation Still Subch. BB Equipment	2L-2 F3 P&ID
HVPS Subch. BB Equipment	2L-2 HVPS P&ID
E2 Storage Area Subch. BB Equipment	2L-2 E2 Storage
Tanker Pit Subch. BB Equipment	2L-2 Tanker Pit
EII Sludge Dike Subch. BB Equipment - Pump Up	2L-2 EII Pump Up
EII Sludge Dike Subch. BB Equipment - Feed Lines	2L-2 EII Feed
EII Sludge Dike Subch. BB Equipment - Residue Lines	2L-2 EII Residue
EII Sludge Dike Subch. BB Equipment - Overflow Pipe	2L-2 EII OF
EI Sludge Dike Subch. BB Equipment - Pump Up	2L-2 EI Pump Up
EI Sludge Dike Subch. BB Equipment - Feed Lines	2L-2 EI Feed
EI Sludge Dike Subch. BB Equipment - Residue Lines	2L-2 EI Residue
EI Sludge Dike Subch. BB Equipment - Overflow Pipe	2L-2 EI Overflow
EI South Sludge Dike Subch. BB Equipment - Pump Up	2L-2 EI South Pump Up
EI South Sludge Dike Subch. BB Equipment - Feed Lines	2L-2 EI South Feed
EI South Sludge Dike Subch. BB Equipment - Overflow Pipe	2L-2 EI South Overflow
F2 Fractionation Equipment Subch. BB Equipment	2L-2 F2 P&ID
F3 Fractionation Equipment Subch. BB Equipment	2L-2 F3 P&ID

I-8 Daily inspection of areas subject to spills NR 664.0015(2)(d)

Daily inspections are conducted in areas subject to spills. These areas include, but are not limited to, loading and unloading areas for both bulk and containerized waste.

I-9 Inspection frequency based on probability of an environmental or human health incident
NR 664.0015(2)(d)

Daily inspections are completed on process equipment and facility areas that have a probability of an environmental or human health incident through equipment deterioration or malfunction or operator error. Inspection records, including daily inspections, are logged into the ESMS database and sent electronically to a WRR advisory group for review and approval.

Table I-5 shows the inspection schedule for miscellaneous units operated at WRR. The schedule shows the items that are inspected on a daily basis.

Table I-6 shows the inspection schedule for hazardous waste tank storage areas. The schedule shows the items that are inspected on a daily, weekly and annual basis.

Table I-7 shows the inspection schedule for hazardous waste containers and the container storage areas. The schedule shows the items inspected on a weekly and annual basis.

I-10 Schedule to remedy NR 664.0015(3)

Inspection records are logged into the ESMS database and sent electronically to a WRR advisory group for review and approval. If an inspection record reveals an item in need of repair, a corrective action is sent to the maintenance department. If an inspection record reveals an equipment malfunction or deterioration that could lead to an environmental or human health hazard, a corrective action is sent out to maintenance or other appropriate department to remedy the situation. For equipment repairs or replacements that are needed to prevent an environmental or human health hazard, the first attempt at repairs are completed within five days with complete repairs concluded in fifteen days. When repairs are completed, the corrective action is closed in the ESMS database.

Where a hazard is imminent or has already occurred, remedial action will be taken immediately.

I-11 Inspection log retention NR 664.0015(4)

WRR will maintain inspection logs for a minimum of three years. The inspection logs include the time and date of the inspection, name of the inspector, and a notation of observations made. Completed repairs, which were initiated from inspection observations, are linked to the original inspection log in the ESMS database. Documentation of the completed repairs includes the date and nature of the repair.

Part 1

Section I – General Inspection Requirements

Tables I-1 through I-7

TABLE I-1

SECURITY, SAFETY AND EMERGENCY EQUIPMENT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 1 OF 3

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Security Devices				
Facility Fence	Corrosion, Damage to Chain-Link Fence	Weekly		
North Gate	Corrosion, Damage to Gate	Weekly		
South Gate	Corrosion, Damage to Gate	Weekly		
Warning Signs	Damaged, Faded	Weekly		
Telephones in Plant	Electrical Connection, Phone Malfunction	Daily		
Safety and Emergency Equipment				
Standard Industrial Absorbents (Hazsorb, Floor Dri, etc.)	Out of Stock	Monthly as Needed		
Sand Bags	Torn or Worn, Out of Stock	Monthly		

TABLE I-1

SECURITY, SAFETY AND EMERGENCY EQUIPMENT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Portable Pumps	Clogging, Power Supply	Monthly		
Flexible Hoses with Quick Coupling Fittings	Cracks or Holes, Fitting Damage	Monthly		
Emergency Shower and Eye Wash	Water Pressure, Leaking Drainage	Weekly		
Face Shield and Protective Goggles	Misplacement, Broken or Dirty Equipment	Monthly		
Respirators (Disposable)	Out of Stock	Monthly As Needed		
Chemical Cartridge Respirators	Over used, Leaky Connections	Weekly As Needed		
Gas Mask and Air Support	Dirty, Broken, Over used	Weekly As Needed		
Fire Extinguishers	Need Refill, Misplacement	Monthly and After Each Use		

TABLE I-1

SECURITY, SAFETY AND EMERGENCY EQUIPMENT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 3 OF 3

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Fire Fighting Gear for Personnel	Misplacement, Worn or Unusable	Monthly		
Fire Alarm System	Power Failure	Per NFPA		
Public Address System	Power Failure	Per NFPA		
First Aid Supplies	Item Out of Stock, Misplaced	As Used		
Protective Clothings	Holes, Worn, Tear, or Unfit	As Used		
Showers	Proper Water Supply Pressure, Up Keep	As Used		

TABLE I-2

CLOSED VENT SYSTEMS AND CONTROL DEVICES
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 1 OF 2

Closed Vent System	Types of Problems	Frequency of Inspection	Observations	Inspection Date	Date and Nature of Corrective Action
E-1 System	Cracks, Gaps, Loose Connections	Annually			
E-4 System	Cracks, Gaps, Loose Connections	Annually			
E-23 System	Cracks, Gaps, Loose Connections	Annually			
F-2 System	Cracks, Gaps, Loose Connections	Annually			
F-3 System	Cracks, Gaps, Loose Connections	Annually			
HVPS Vapor Recovery System	Cracks, Gaps, Loose Connections	Annually			
E-1 Secondary Condenser Temperature	Temperature not being recorded in Monitoring Program	Daily Review of Monitoring Data			
E-4 Secondary Condenser Temperature	Temperature not being recorded in Monitoring Program	Daily Review of Monitoring Data			
E-23 Secondary Condenser Temperature	Temperature not being recorded in Monitoring Program	Daily Review of Monitoring Data			
F-2 Secondary Condenser Temperature	Temperature not being recorded in Monitoring Program	Daily Review of Monitoring Data			
F-3 Secondary Condenser Temperature	Temperature not being recorded in Monitoring Program	Daily Review of			

TABLE I-2

CLOSED VENT SYSTEMS AND CONTROL DEVICES
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Closed Vent System	Types of Problems	Frequency of Inspection	Observations	Inspection Date	Date and Nature of Corrective Action
		Monitoring Data			
HVPS Regenerative Carbon System	Regenerative System not Working	Daily Review of Monitoring Data			
HVPS Non-regenerative Carbon System	Carbon Depletion	Weekly			
HVPS Non-regenerative Carbon System	Positive pressure within Vapor Recovery System	Daily check of manometer			

TABLE I-3

HAZARDOUS WASTE PUMPS IN LIGHT LIQUID SERVICE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Hazardous Waste Pump	Types of Problems	Frequency of Inspection	Observations	Inspection Date	Date and Nature of Corrective Action
Fuel Building					
Slurry pump	Leaks, improper operation	Weekly			
Trash pump	Leaks, improper operation	Weekly			
Grinder pump	Leaks, improper operation	Weekly			
Liquids pump	Leaks, improper operation	Weekly			
Tanker Pit					
Trash Pump	Leaks, improper operation	Weekly			
Air Pump	Leaks, improper operation	Weekly			
North Wall Pump	Leaks, improper operation	Weekly			
Dock 4					
Pump #3	Leaks, improper operation	Weekly			
Pump #4	Leaks, improper operation	Weekly			
E1 Area					
E1 South Sludge Pump in E-1 Tank Farm	Leaks, improper operation	Weekly			
E1 Pump Up Room #1	Leaks, improper operation	Weekly			
E1 Pump Up Room #2	Leaks, improper operation	Weekly			
Suck/Flush Pump	Leaks, improper operation	Weekly			
Alar Room Pump	Leaks, improper operation	Weekly			
AIS Warehouse South Wall	Leaks, improper operation	Weekly			

TABLE I-4

PRESSURE RELIEF DEVICES, FLANGES AND CONNECTORS
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Pressure Relief Device				
Fuels Building Hydrapulper Rupture Disc	Leak	Weekly		
Flanges and Connectors				
E-1 Area		Weekly		
Dock 4 Area		Weekly		
Tanker Pit		Weekly		
Fuels Building		Weekly		

TABLE I-5

MISCELLANEOUS TREATMENT UNIT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 1 OF 3

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
THIN FILM E-4				
External portion of unit, pipes, fittings, valves, hoses and hose gaskets	Corrosion, deterioration or signs of leaks	Daily		
Pumps, vacuum system, water temperature	Improper operation	Daily		
Oil levels in the oil seal tank and the main oil tank	Insufficient oil	Daily		
Condenser	Improper operation	Daily		

TABLE I-5

MISCELLANEOUS TREATMENT UNIT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
HYDRAPULPER UNIT and Associated Equipment				
Piping and fittings	Leaks, damage	Quarterly *		
Valves	Leaks, improper operation	Quarterly *		
Inline grinder	Improper operation	Quarterly *		
Vent piping to carbon units	Plugged, damaged	Weekly		
CC blowers turned on	Excessive fugitive emissions	Daily		
CC-2, 3, 7	Strong odors	Daily		
Manometers for CC-2 & 3	Tubes not at zero when dumpster is not in use	Monthly		
Exterior of hydrapulper	Cracks, damaged seals	Annually		
Hydrapulper	Proper operation	Daily, when used		
Hydrapulper level gage	Not registering proper level	Daily		
Building draft control damper	Improper operation	Daily		
Containers	Covers closed, labels visible, leaking, bulging	Daily		
Barrel punch and pusher	Proper operation	Daily, when used		
Barrel crusher	Proper operation	Daily, when used		
Paint can press	Proper operation	Daily, when used		
Lower Level Containment	Cracks, deterioration	Annually		
Upper Level Containment	Cracks, deterioration	Annually		
Equipment labels	Worn, faded, can not be read	Annually		
Containers	Leaks & deterioration	Weekly		
Paint can press	Proper operation	Daily, when used		

TABLE I-5

MISCELLANEOUS TREATMENT UNIT INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
HYDRAPULPER UNIT and Associated Equipment (Continued)				
Dumpster Cover	Flaps Between Cover and Dumpster Not Down or Missing	Weekly		
Spill kit	Not present	Weekly		

Comments:

- Monitoring is currently quarterly but will revert to monthly monitoring if a leak is detected.

TABLE I-6

TANK STORAGE INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Dike	Cracks, Deterioration Presence of liquid	Daily		
Base or Foundation	Cracks, Deterioration, Wet Spots	Daily		
Portable Sump Pump	Freeze Up, Power, Unfunctional	Weekly		
Piping and Fittings	Leaks, Damaged	Daily		
Valves	Leaks, Deterioration	Daily		
Tanks				
Ladder	Damaged, Structurally Stability	Daily		
Foundation/Structural Supports	Cracks, Deterioration	Daily		
Protective Coating	Deterioration, Cracks	Daily		
Tanks Shell, Top Seam and	Corrosion Cracks, Structural	Daily		

TABLE I-6

TANK STORAGE INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 2 OF 2

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Bottom	Damaged		As viewed from ground level	
Manholes	Leaky, Gasket Seals	Daily		
Over Flow Tank Auto Cut Off	Clogging, Improper Drainage	Daily		
Over Flow Tank Alarm	Not Working	Weekly		
Manholes	Leaky Gasket Seal	Daily		
Top Inlets Closed and Visual Check of Tops	Spills, Staining	Annual		
Wall Thickness Testing and Integrity Assessments	Leaks	Annual		

TABLE I-7

CONTAINER AND CONTAINER STORAGE AREA INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN
PAGE 1 OF 2

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Container Placement and Stacking	Inadequate Aisle Space, Improper Stacking	Weekly		
Covers	Cracks, Gaps, Holes into Interior, loose or ill-fitting covers on containers	Weekly		
Containers	Improper Identification, Leakage, Damage	Weekly		
Segregation of Waste	Storage of Incompatible Waste Together	Weekly		
Pallets, Drum Supports	Damaged Structurally	Weekly		
Dikes and Curbs	Cracks, Deterioration	Weekly		
Sump Area	Cracks, Clogging, Filled Up	Weekly		
Debris, Housekeeping	Unsightly, Clogging Pumps, Drainage	Weekly		
Signage	Damaged	Weekly		

TABLE I-7

CONTAINER AND CONTAINER STORAGE AREA INSPECTION SCHEDULE
WRR ENVIRONMENTAL SERVICES
EAU CLAIRE, WISCONSIN

Specific Item	Types of Problems	Frequency of Inspection	Observations	Date and Nature of Corrective Action
Annual Inspections At Barrel Storage Sheds:				
P-1 Containment System	Cracks, Gaps, Deterioration	Annually		
P-2 Containment System	Cracks, Gaps, Deterioration	Annually		
P-3 Containment System	Cracks, Gaps, Deterioration	Annually		
P-6 Containment System	Cracks, Gaps, Deterioration	Annually		
P-7 Containment System	Cracks, Gaps, Deterioration	Annually		
P-8 Containment System	Cracks, Gaps, Deterioration	Annually		
P-9 Containment System	Cracks, Gaps, Deterioration	Annually		
P-10 Containment System	Cracks, Gaps, Deterioration	Annually		

Comments:

The annual inspection of the 8 hazardous waste barrel storage sheds consist of removing all containers and pallets, and visually inspecting the steel containment system including the floor, dike walls, and sump for evidence of deterioration, cracks, and gaps. It is not necessary to empty and inspect all storage sheds at the same time. The sheds can be emptied and inspected more often than annually. Keep a record each time the inspection is conducted. Any necessary repairs must be completed prior to reinstalling the pallets and storing any containers in the shed.

Part 1

Section I – General Inspection Requirements

Appendix I-1

Subpart BB Equipment

WRR Environmental Services
NR 664 Subpart BB Equipment

Process EI Thin Film Evaporator

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-1	Feed/Process	E1-021	3" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-022	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-023	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-024	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-025	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-027	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-028	1" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-029	1" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-031	1" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-032	RESIDUE PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-057	2" GATE VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-058	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-059	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-060	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-061	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-062	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-063	2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-064	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-067	1" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-069	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-070	3/8" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-071	FEED PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-072	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-073	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-074	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-075	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-076	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-077	FEED PUMP MOTOR	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-078	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-1	Feed/Process	E1-104	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-1	Feed/Process	E1-120	SECONDARY CONDENSE	TRUE	TRUE	TRUE	In Vacuum Service

WRR Environmental Services
NR 664 Subpart BB Equipment

Process EIV Thin Film Evaporator

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-4 88 LUWA	Feed/Process	E4-051	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-052	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-069	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-071	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-079	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-080	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-081	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-082	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-083	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-084	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-085	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-088	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-089	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-090	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-091	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-092	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-093	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-094	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-095	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-096	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-097	3/4" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-098	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-109	FEED PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-112	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-113	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-114	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-115	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-116	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-117	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-118	1-1/2" DEADMAN	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-119	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-120	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-121	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-122	3/4" Ball Valve	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-124	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-125	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-126	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-127	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-128	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Cooling System	E4-135	SECONDARY CONDENS	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-145	1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-147	1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-149	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-151	1-1/2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-177	2" GATE VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-178	3" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-179	3" CHECK VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-180	3" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-190	RESIDUE PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-199	FEED FILTER	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-200	FEED FILTER	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-201	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-202	3" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-203	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-204	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-205	3" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Feed/Process	E4-208	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-4 88 LUWA	Compressed Air System	E4-219	RESIDUE AIR PUMP	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-221	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-222	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Cooling System	E4-223	2" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Cooling System	E4-224	1" BALL VALVE	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-225	2" Ball Valve	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-226	2" Ball Valve	TRUE	TRUE	FALSE	
E-4 88 LUWA	Feed/Process	E4-230	2" Ball Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process E23 Thin Film Evaporator

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-23	Feed/Process	E23-041	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-049	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-050	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-051	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-052	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-154	2" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-155	2" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-173	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-174	2" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-175	2" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-176	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-181	2" CHECK VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-182	2" AIR ACTUATED VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-183	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-184	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-185	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-186	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-191	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-192	3" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-195	2" BALL VALVE	TRUE	TRUE	FALSE	
E-23	Feed/Process	E23-196	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-197	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-198	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-199	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-201	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-202	1-1/2" QUICK CONNECT	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-203	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-204	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-205	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-206	FEED GEAR PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-207	RESIDUE GEAR PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-209	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-210	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-213	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-214	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-215	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-216	1-1/2" QUICK CONNECT	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-217	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-218	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-219	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-220	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-221	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-222	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-223	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-224	AIR PUMP	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-226	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-227	2" QUICK CONNECT	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-228	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-229	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-230	2" FLEX HOSE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-231	1/4" SPRING VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-234	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-235	1/4" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-238	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-240	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-241	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-242	2" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-243	2" CHECK VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-248	3" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-250	3/4" BALL VALVE	TRUE	TRUE	TRUE	In Vacuum Service
E-23	Feed/Process	E23-267	SECONDARY CONDENSE	TRUE	TRUE	TRUE	In Vacuum Service

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
Power House	Hazardous Waste	H-001	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-002	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-003	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-004	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-005	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-006	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	H-010	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-101	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-102	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-103	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-104	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-105	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-106	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-107	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-108	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-109	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-110	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-111	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-112	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-113	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-114	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-115	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-116	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-117	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-118	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-119	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-120	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-121	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-122	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-123	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-124	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-125	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-126	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-127	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-128	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-129	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-130	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-131	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-132	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-133	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-134	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-135	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-136	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-137	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-138	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-139	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-140	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-141	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-142	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-143	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-144	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-145	Valve	TRUE	TRUE	FALSE	
E-I Building	Hazardous Waste	H-148	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-201	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-202	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-203	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-205	Centrifugal Pump	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-206	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-207	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-208	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-209	Air Pump	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-210	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-211	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-212	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-213	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-214	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-215	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-216	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-217	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-218	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-219	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-220	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-221	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-222	Valve	TRUE	TRUE	FALSE	

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-I North Sludge Dike	Hazardous Waste	H-223	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-224	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-225	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-226	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-227	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-228	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-229	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-230	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-231	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-232	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-233	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-234	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-235	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-236	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-237	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-238	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-239	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-240	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-241	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-242	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-243	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-244	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-245	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-246	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-247	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-248	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-249	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-250	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-251	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-252	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-253	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-254	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-255	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-256	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-257	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-258	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-259	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-260	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-261	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-262	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-263	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-264	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-265	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-266	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-267	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-268	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-269	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-270	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-271	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-272	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-273	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-274	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-275	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-276	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-277	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-278	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-279	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-280	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-281	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-282	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-283	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-284	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-285	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-286	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-287	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-288	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-289	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-290	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-291	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-292	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-293	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-294	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-295	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-296	Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-I North Sludge Dike	Hazardous Waste	H-297	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-298	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-299	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-301	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-302	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-303	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-304	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-305	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-306	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-307	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-308	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-309	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-310	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-311	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-312	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-313	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-314	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-315	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-316	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-317	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-318	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-319	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-320	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-321	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-322	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-323	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-324	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-325	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-326	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-327	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-328	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-329	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-330	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-331	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-332	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-333	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-334	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-335	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-336	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-337	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-338	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-339	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-340	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-341	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-342	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-343	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-344	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-346	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-349	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-350	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-351	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-352	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-353	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-354	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-355	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-356	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-357	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-358	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-359	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-360	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-361	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-362	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-363	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-364	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-365	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-366	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-367	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-368	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-369	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-370	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-371	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-372	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-373	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-374	Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-I South Dikes	Hazardous Waste	H-375	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-376	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-377	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-378	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-379	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-380	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-381	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-382	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-383	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-384	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-385	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-386	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-387	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-388	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-389	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-390	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-391	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-392	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-393	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-394	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-395	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-396	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-397	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-398	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-399	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-801	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-802	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-803	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-804	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-805	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-807	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-808	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-809	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-810	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-811	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-812	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-814	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-815	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-816	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-817	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-818	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-819	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-820	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-821	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-822	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-823	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-824	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-825	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-826	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-827	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-828	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-829	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-830	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-831	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-832	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-833	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-834	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-835	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-836	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-837	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-838	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-839	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-840	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-841	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-842	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-843	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-844	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-845	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-846	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-847	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-848	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-849	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-850	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-851	Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-I North Sludge Dike	Hazardous Waste	H-852	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-853	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-854	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-855	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-856	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-857	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-858	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-859	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-861	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-862	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-863	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-865	Valve	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	H-867	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-868	Valve	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	H-869	Valve	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-001	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-002	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-003	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-004	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-005	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-006	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-007	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-008	Flange	TRUE	TRUE	FALSE	
Power House	Hazardous Waste	J-009	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-010	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-011	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-012	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-013	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-014	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-015	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-016	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-017	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-102	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-103	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-104	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-105	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-106	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-201	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-202	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-203	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-204	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-205	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-206	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-207	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-208	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-210	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-211	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-212	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-213	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-214	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-215	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-216	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-217	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-218	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-219	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-220	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-221	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-222	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-223	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-224	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-225	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-226	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-227	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-228	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-229	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-230	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-231	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-232	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-233	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-234	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-235	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-236	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-237	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-238	Flange	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EI Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-I North Sludge Dike	Hazardous Waste	J-239	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-240	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-241	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-242	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-243	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-244	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-245	Flange	TRUE	TRUE	FALSE	
E-I North Sludge Dike	Hazardous Waste	J-246	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-301	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-304	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-305	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-306	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-307	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-308	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-309	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-310	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-311	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-312	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-313	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-314	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-315	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-316	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-317	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-318	Flange	TRUE	TRUE	FALSE	
E-I South Dikes	Hazardous Waste	J-319	Flange	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer Docks 4, 1 and 5 and Tanker Pit

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
Docks 4/5	Hazardous Waste	H-401	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-402	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-403	Air Diaphragm Pump	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-404	Air Diaphragm Pump	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-405	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-406	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-407	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-408	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-409	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-410	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-411	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-412	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-413	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-414	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-415	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-416	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-417	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-418	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-419	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-420	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-421	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-422	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-423	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-424	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-425	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-426	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-427	Check Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-428	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-429	Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-430	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-431	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-432	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-433	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-434	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-435	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-436	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-437	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-438	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-439	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-440	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-441	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-442	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-443	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-444	Air Diaphragm Pump	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-445	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-446	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-447	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-448	Centrifugal Pump	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-449	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-450	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-451	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-452	Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-453	Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-454	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-455	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-456	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-457	Air Diaphragm Pump	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-458	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-459	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-460	Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-461	2" Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-462	2" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-463	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-464	2" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-465	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-466	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-467	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-470	4" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-471	2" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-472	4" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-473	4" Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-474	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-475	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-476	Ball Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer Docks 4, 1 and 5 and Tanker Pit

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
Tanker Pit	Hazardous Waste	H-477	Ball Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-478	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-479	Check Valve	TRUE	TRUE	FALSE	
Tanker Pit	Hazardous Waste	H-480	Ball Valve	TRUE	TRUE	FALSE	
Docks 4/5	Hazardous Waste	H-481	Check Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EII Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-II Building	Hazardous Waste	H-501	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-502	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-503	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-504	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-505	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-506	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-507	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-508	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-509	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-510	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-511	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-512	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-513	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-514	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	H-515	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-601	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-602	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-603	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-604	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-605	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-606	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-607	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-608	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-609	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-610	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-611	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-612	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-613	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-614	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-615	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-644	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-645	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-646	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-647	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-648	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-649	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-650	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-651	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-652	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-653	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-654	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-655	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-656	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-657	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-658	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-659	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-660	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-661	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-662	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-663	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-664	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-665	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-666	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-667	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-668	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-669	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-670	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-671	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-672	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-673	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-674	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-675	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-676	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-677	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-678	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-679	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-680	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-681	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-682	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-683	Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EII Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-II Sludge Dike	Hazardous Waste	H-684	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-685	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-686	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-687	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-688	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-689	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-690	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-691	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-692	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-693	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-694	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-695	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-696	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-701	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-702	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-703	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-704	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-705	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-706	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-707	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-708	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-709	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-710	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-711	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-712	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-713	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-714	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-715	Valve	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	H-716	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-928	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-929	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-930	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-931	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-932	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-933	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-934	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-935	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-936	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-937	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-938	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-940	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-941	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-942	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-943	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-944	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-945	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-946	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-947	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-948	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-949	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-950	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-951	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-952	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-953	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-954	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-955	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-956	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-957	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-958	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-959	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-960	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-961	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-962	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-963	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-964	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-965	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-966	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-968	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-969	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-970	Valve	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EII Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-II Sludge Dike	Hazardous Waste	H-971	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-972	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-973	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-974	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-976	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-977	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-978	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-979	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-980	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-981	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-982	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-983	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-984	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-985	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-986	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-987	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-988	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-989	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-990	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-991	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-992	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-993	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-994	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-995	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-996	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-997	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-998	Valve	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	H-999	Valve	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-501	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-502	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-503	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-504	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-505	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-506	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-507	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-508	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-509	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-510	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-511	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-512	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-513	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-514	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-515	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-516	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-518	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-519	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-521	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-522	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-523	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-524	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-525	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-526	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-527	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-528	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-529	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-530	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-531	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-532	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-533	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-534	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-535	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-536	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-537	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-538	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-539	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-540	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-541	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-542	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-543	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-544	Flange	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Waste Transfer EII Area

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
E-II Building	Hazardous Waste	J-545	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-546	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-547	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-548	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-549	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-550	Flange	TRUE	TRUE	FALSE	
E-II Building	Hazardous Waste	J-551	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-601	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-602	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-603	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-604	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-605	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-606	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-607	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-608	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-609	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-610	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-611	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-612	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-613	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-614	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-615	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-616	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-617	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-618	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-619	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-620	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-621	Flange	TRUE	TRUE	FALSE	
E-II Sludge Dike	Hazardous Waste	J-622	Flange	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	J-701	Flange	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	J-702	Flange	TRUE	TRUE	FALSE	
E-II Tanker Canapy	Hazardous Waste	J-703	Flange	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process Fuels Building

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
Hydrapulper	Feed/Process	HV-003	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-004	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-005	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-006	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-007	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-008	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-009	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-011	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-012	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-013	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-014	Spring-close Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-016	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-017	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-018	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-019	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-020	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-021	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-024	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-025	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-028	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-029	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-030	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-031	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-032	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-035	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-036	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-037	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-038	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-039	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-040	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-10	Ball Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-AV2	Air Operated Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-BP	Barrel Punch/Pusher	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-CV10	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-CV3	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-CV4	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Product	HV-CV7	Check Valve	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-F1	Filter Basket	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-P1	Air Diaphragm Pump	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-P2	Inline Grinder	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-P3	Circulation Pump	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-P4	Piston Pump	TRUE	TRUE	FALSE	
Hydrapulper	Feed/Process	HV-P5	Ink (Ram) Pump	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process F-2 Fractionation

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
F-2	Feed/Process	F2-004	PDO/FILL PUMP	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-005	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-006	1-1/2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-007	3" GATE VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-008	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-009	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-010	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-011	1-1/2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-013	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-014	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-015	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-018	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-108	1-1/2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-109	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-110	1-1/2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-111	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-119	1-1/2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-120	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-122	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-123	1" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-130	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-139	COLLECTOR	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-141	3/8" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-142	1/2" SPRING VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-143	2-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-144	2" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-145	HEAT EXCHANGER	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-146	1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-148	PROCESS PUMP	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-149	1" CHECK VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-150	1" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-151	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-152	HEAT EXCHANGER	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-153	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-154	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-155	1-1/2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-157	2" BALL VALVE	TRUE	TRUE	FALSE	
F-2	Feed/Process	F2-182	2" BALL VALVE	TRUE	TRUE	FALSE	

WRR Environmental Services
NR 664 Subpart BB Equipment

Process F-3 Fractionation

Process	Sub-Assembly	Part ID	Description	AIR MACT INSPECT	RCRA Waste Inspect	Exempt?	Exempt Reason
F-3	Feed/Process	F3-001	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-002	3" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-006	2" GATE VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-007	FEED PUMP	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-008	2" CHECK VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-009	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-010	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-011	1-1/2" STRAINER	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-014	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-037	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-038	2" BALL VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-043	2" CHECK VALVE	TRUE	TRUE	FALSE	
F-3	Feed/Process	F3-044	2" CHECK VALVE	TRUE	TRUE	FALSE	

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section J –Contingency Plan

J-1 Contingency Plan NR 670.014(2)(g)

The Contingency Plant (CP) described in this section applies to the following facility:

Full Name:	WRR Environmental Services Co., Inc. (WRR)
Facility Identification Number:	WID 990829475
Location:	5200 Ryder Road, Eau Claire County (Frontage Road off STH 93 approximately 1/2 mile south of intersection with Interstate 94)
Operator:	James L. Hager Phone: 715-834-9624 Fax: 715-836-8785`
Mailing Address:	5200 Ryder Road, Eau Claire WI 54701

Activities conducted at WRR include solvent recycling, fuel blending, and bulk and container storage. The facility does not dispose of hazardous or nonhazardous waste.

The facility consists of the following buildings, structures and areas:

- The WRR office building houses the on-site laboratory and F4 fractionation room in addition to the administrative offices, a maintenance building and household hazardous waste collection area.
- The Dock 6/Dock 7 warehouse complex consisting of product storage and a hazardous waste storage area noted as the DOT Room.
- EI process building holds equipment for thin film evaporation, fractionation and blending. The warehouse in the EI building stores nonflammable hazardous materials and nonhazardous waste and nonflammable product. The EI process building also holds a Rotary Drum Vacuum Filtration (RDVF) unit and a decanter centrifuge. These two pieces of equipment are inactive. The RDVF is planned to have partial closure completed on it. Per s. NR 664.0112(4)(a) Wis. Admin. Code, WRR will inform the WDNR of the intent to undergo the partial closure of the RDVF. The decanter centrifuge has never been a hazardous waste management unit. Prior to using the decanter centrifuge for processing hazardous waste, WRR will submit a license modification request, per s. NR 670.042, Wis. Adm. Code, to the Department. The boiler house contains two boilers and a nitrogen generator.
- The EII building complex houses several interconnect areas:
    - The processing area holds equipment for thin film evaporation, dehydration, fractionation, blending and manufacturing.
    - Docks 4, 5 and 1 provide receiving and storage for both hazardous and nonhazardous waste.
    - The Tanker Pit provides an area for loading/ unloading waste tankers and cleaning tankers and totes.
    - The Fuels Building houses equipment for the management waste destined for the supplemental fuels program.

- Building A warehouses consumable items required to operate the facility. Examples of the items housed in this warehouse are pumps, hoses and absorbents.
- Electrical and chiller room provides a central location for utilities.
- Emergency generator to provide a source of electrical power in the event of a power outage.
- Eight hazardous waste container storage pads.
- Nine pads for the storage of containerized nonhazardous waste materials or product.
- 12,000 gallon sump to collect precipitation and provide containment for sudden releases.
- 360,000 gallon water reservoir to collected precipitation from the facility. This water is the source for the fire suppression system in the EII building complex.
- Above ground storage tanks for both hazardous waste and product.
- Areas within the fenced property include:
    - Areas to receive and stage bulk transports and trailers.
    - Areas provided for bulk loading and unloading
    - Areas to hold empty nonplacarded tankers and trailers.

J-2 Purpose and Scope NR 664.0051(1)

This Contingency Plan (CP) has been developed for the WRR facility located in Eau Claire WI. This CP has been developed primarily to allow the company and facility personnel to respond to emergency incidents that may occur during operations.

Functionally organized – The CP has been prepared to meet the operating needs of the facility personnel and emergency responders. Therefore, the information presented in this plan has been organized on this basis

Usable for emergency response –This CP has been structured to exist as a separate document that may be used to actively respond to an emergency incident. This Section contains the most critical information to respond to an emergency incident, including:

- Emergency Phone Number;
- Discussion of Response Activities; and
- Specific Emergency Procedures.

"User friendly" for training purposes – WRR conducts training programs for facility personnel as necessary to ensure that its emergency response program is fully understood by the facility personnel that are responsible for emergency response actions.

J.3 Implementation of contingency plan NR 664.0051(2)

The WRR contingency plan is designed to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.

The WRR contingency plan will be implemented immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

In general, the WRR contingency plan will be implemented when the following situations exist at the facility:

Fire and/or Explosion

1. A fire causes the release of toxic fumes.

2. A fire spreads and could possibly ignite flammable material at other storage areas or could cause a heat-induced explosion.

3. The fire could possibly spread to off-site areas.

4. Use of water, or water and chemical fire suppressant (AFFF or AFFF ATC Foam), could result in contamination run-off.

5. An imminent danger exists that an explosion could occur, causing a safety hazard because of flying fragments or shock waves.

6. An imminent danger exists that an explosion could ignite other hazardous waste at the facility.

7. An imminent danger exists that an explosion could result in release of toxic materials.

8. An explosion has occurred.

Hazardous Material Spill or Release

1. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.

2. The spill could cause the release of toxic liquids or vapors.

3. The spill cannot be contained in the containment areas, resulting in soil contamination and/or surface water pollution in the unprotected areas.

In addition, the WRR contingency plan is also designed to be implemented when other types of emergency situations exist. These situations include:

- A Bomb Threat
- Threat of Violence
- Civil Unrest
- Power Failures
- Natural Gas, Propane Leak
- Personal Rescue and Serious Injury
- Severe Weather/Tornadoes
- Off-Plant Emergency
- As the Emergency Coordinator deems necessary or appropriate

The WRR contingency plan contains plans of action for all of the emergency situations described above. Plans of action for each situation are discussed in Appendix J-1.

J-4 Emergency Response Procedures NR 664.0052(1)

If an emergency situation develops at the WRR facility, the discoverer will contact an emergency coordinator and the Township Fire Department immediately. The primary emergency coordinator (Jim Hager) is contacted first. If he is not available, the alternate coordinators are contacted. The primary emergency coordinator and the alternate emergency coordinator have complete authority to commit all resources of the company in the event of an emergency. In case of an emergency, the list of emergency organizations that could possibly be contacted by the Emergency Coordinator is given in Table #J-1.

In the event that WRR has, or there is an imminent threat that the facility may have a discharge of hazardous waste or hazardous substance, a fire or an explosion that has the potential for damaging human health or the environment, the WRR emergency coordinator will take the actions described in Sections J.15 through J.24.

J.5 Integration with SPCC plan NR 664.0052(2)

WRR is not integrating its contingency plan with a spill prevention, control and countermeasures (SPCC) plan or another emergency or contingency plan.

J.6 Arrangements with local emergency agencies NR 664.0052(3)

WRR does not have any formal written agreements with emergency management agencies, because they are government entities. However, WRR has familiarized fire departments and emergency agencies with WRR's facility by conducting plant tours, and joint training.

J-7 Current list of emergency coordinator and alternates NR 664.0052(4)

The names, home addresses, and phone numbers of all persons qualified to act as an emergency coordinator are listed below in Table # J-1:

LIST OF EMERGENCY CONTACTS Table # J-1

CONTACT	TELEPHONE NUMBER
Plant (Daytime)	(715) 834-9624
Primary Contact- First Call: Jim Hager 12830 Sunrise Drive, Fall Creek WI 54742	(715) 877-2068 (Home) (715) 559-0901 (Cell Phone)
Dean Sabin 112 Mill St, Fairchild WI 54741	(715) 334-2607 (Home) (715) 456-0900 (Cell Phone)
Steve Gullicksrud N46808 Moe Valley Road, Strum WI 54770	(715) 695-3637 (Home) (715) 577-1673 (Cell Phone)
Bob Fuller 2915 Sky Hawk Drive, Eau Claire WI 54703	(715) 839-0607 (Home) (715) 563-7119 (Cell Phone)
Dr. Eric Gunderson S 10833 County Rd W, Eleva WI 54738	(715) 878-4892 (Home) (715) 559-0908 (Cell Phone)
Bill Tealey 2129 Lakeshore Drive, Bloomer WI 54724	(715) 568-2704 (Home) (715) 559-3079 (Cell)
Becky Anderson 601 Vine St. Eau Claire WI 54703	(715) 577-7755 Cell
RESCO Hazmat Team	(800) 669-4162
Other Emergency Contacts	**TELEPHONE NUMBER**
Fire Department (Township Fire Department)–First Call	(715) 834-1253
Fire Department (Eau Claire)	911
Eau Claire Energy Cooperative (Weekdays) (After 4:30p.m., weekends and holidays)	(715) 832-1603 (715) 832-1604
Poison Control Center	(608) 262-3702 or 1-800-815-8855
Township Fire Department (Business)	(715) 834-6868
County Sheriff	911
Emergency Government (Wisconsin - 24 hours)	1-800-943-0003
Eau Claire County Emergency Management	(715) 839-4736
Wisconsin Department of Natural Resources (WDNR)	(715) 839-3700
Tom Kendzierski (WDNR Spills Coordinator)	(715) 839-1604 (Work) (715) 410-8842 (Cell)
Sacred Heart Hospital (Emergency Room)	(715) 717-4222
Eau Claire County Airport	(715) 839-4900
ALL 24-HOUR EMERGENCY RESPONSE	
Spill Hotline	(800) 943-0003
National Response Center	1-800-424-8802
National Foam Center	(215) 363-1400
EMERGENCY SERVICE COMPANIES	
Chemtrec (Chemical Transportation Emergency Service)	1-800-424-9300

Chemical Manufacturers Association Chemical Referral Center	1-800-262-1100
Toxic Substance Control Act	1-800-424-9065

J.8 NR 664.0052(5) Emergency Equipment

Emergency response equipment maintained at the WRR facility consists of the following general classifications types:

- Fire Control Equipment
- Materials for spill containment and cleanup
- Personal protective clothing and equipment
- First Aid Supplies

A listing of the types and quantities of equipment for each classification listed above is given in Appendix J-5.[1] The equipment is maintained at the RESCO Building and Building A that is shown on WRR's Plot Plan.

Equipment for fire control is located in the fire equipment barns located throughout the facility. These fire equipment barns are shown on the Plant Plot Plan. .

Also available for fire control throughout the facility are hand held fire extinguishers. These extinguishers are 10 pound A-B-C type.

All WRR extinguishers comply with the National Fire Code standards for portable fire extinguishers. Fire extinguishers are recharged after each use and are inspected monthly. Records of these inspections are kept in the main office building.

The EII building complex houses the EII production area, docks 1, 4, 5, tanker pit and fuels building. This building complex has a sprinkler fire system installed in accordance with the National Fire Protection Association Standard Numbers 13, 16, 20, and 72. It was designed and installed by Summit Fire Protection out of St. Paul, Minnesota. The sprinkler system is water with foam.

The 1,500-gallon per minute fire pump driven by a 125 Hp electric motor is capable of pumping water from the plant water reservoir to the sprinkler systems in each of the area of the EII building complex. The fire pump is housed in a separate building located between the plant reservoir and the turbo stripper building. Heat detecting sprinkler heads will activate the system. The alarm is a combination horn and strobe unit located in the EII complex and fire pump building. The fire suppression system is monitored continuously by an outside company (Silent Night currently). Should the monitoring system show a sign of being activated they will immediately notify Township Fire Department of a sounding alarm. the fire pump can be

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operated from either of two electric company substations, should the electric company lose all power, a 300 kva diesel powered emergency generator will provide power to the electric motor of the fire pump.

Emergency equipment materials used for spill containment and cleanup are located in the Process Area, Building A, and the RESCO Building.

Some personal protective clothing and equipment is issued to each employee for normal and emergency operations. The types of basic equipment issued to employees will vary with the type of job classification and emergency. More PPE is stored with the Emergency Equipment Building. First aid and emergency medical supplies are located in the WRR office building.

J.9 Evacuation Plan NR 664.0052(6)

A copy of the WRR emergency evacuation procedures are given in Appendix J-2.

Appendix J-3 holds the Evacuation Map for the WRR facility.

Appendix J-4 holds a map for the emergency shut offs located at the facility.

J-10 Contingency plan distribution NR 664.0053

The WRR contingency plan is kept at the WRR Main Building. Copies of the contingency plan have been submitted to the Wisconsin Department of Natural Resources (WDNR) and local emergency agencies listed below:

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- Eau Claire County Emergency Management.
- Township Fire Department
- Eau Claire Fire Department
- Eau Claire County Sheriff's Department
- Sacred Heart Hospital

J.11 Amendment of contingency plan NR 664.0054

The WRR contingency plan will be reviewed and immediately amended, if necessary, whenever any of the following instances occur:

- The facility operating license is amended.
- The contingency plan fails in an emergency.
- The facility changes in design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fire, explosion, or releases of hazardous waste or hazardous wastes constituents, or changes the response necessary in an emergency.
- The list of emergency coordinators changes.
- The list of emergency equipment changes.

Once changes are made to the WRR contingency plan, revisions are immediately forwarded to all local police departments, fire departments, Sacred Heart Hospital and emergency response teams who are called on to provide emergency services at the WRR facility.

J-12 to J14 Emergency coordinators NR 664.0055

At all times when WRR is in operation, at least one person is present with the responsibility of coordinating all emergency response measures. The second and third shift foreman will call one of the coordinators. When WRR is not in operation, the emergency coordinator (or alternates) is either present or on call and available to respond to the emergency by reaching the WRR facility in a short time. The emergency coordinator is thoroughly familiar with all aspects of this CP, all operation activities at WRR, the location and characteristics of the wastes handled, the location of manifests within the facility, and the facility layout. The emergency coordinator has the authority to commit resources to carry out the CP.

J-15 Activates alarm and notifies local authorities NR 664.0056(1)

1. Activate internal facility alarms or communication systems to notify all personnel of an imminent or actual emergency situation, where applicable. WRR Emergency Evacuation Procedures are given in WRR's Evacuation Plan found in Appendix J-2.

2. Call the Wisconsin Division of Emergency Government at 800-943-0003.

J-16 Identifies emergency details NR 664.0056(2)

3. Immediately identify the character, source, amount, and real extent of any discharged materials. This may be done by observation or review of facility records or manifest and, if necessary, by chemical analysis.

J-17 Identifies human health and environmental hazards NR 664.0056(3)

4. Assess possible hazards to human health or the environment that may result from the discharge, fire, or explosion. This assessment shall consider both direct and indirect effects of the discharge, fire or explosion such as the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat induced explosions.

J.18 and J.19 Notification if evacuation is necessary NR 664.0056(4)(a) and NR 664.0056(4)(b)

5. Immediately notify appropriate local authorities if an assessment indicates that a discharge, fire, or explosion could threaten human health or the environment outside the facility and if evacuation of the local areas is advisable. The Emergency Coordinator will be available to help appropriate officials decide whether local areas shall be evacuated.

   The emergency coordinator will notify the Wisconsin Division of Emergency Government (800-943-0003) and the National Response Center (800-424-8802). The report will include:

- Name and telephone number of person reporting.
- Name and address of facility
- Name and type of incident
- Name and quantity of material(s) involved, to the extent known
- Extent of injuries, if any
- Possible hazards to human health or the environment outside the facility

J.20 Preventing spread of emergency NR 664.0056(5)

6. Take all reasonable measures necessary to ensure that fires, explosions, and discharges do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing discharge waste, and removing or isolating containers.

J.21 Monitoring emergency NR 664.0056(6)

7. Monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment where applicable and determine if the facility should stop operation in response to a fire, explosion, or discharge.

J.22 Disposal of materials from emergency NR 664.0056(7)

8. Provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a discharge, fire, or explosion at the facility immediately after an emergency.

J.23 Incompatibilities between waste and emergency materials NR 664.0056(8)(a)

9. Ensure that, in the affected areas of the facility, no waste that may be incompatible with the discharged material is treated, stored, or disposed of until cleanup procedures are completed.

J.24 Restoring emergency equipment NR 664.0056(8)(b)

10. Ensure that all emergency equipment listed in the contingency plan is cleaned, restocked or replaced and fit for its intended use before operations are resumed.

REQUIRED REPORTS

The following notification and report must be provided to federal and state agencies after the incident involving implementation of the contingency plan.

J.25 Return to normal operations NR 664.0056(9)

The Emergency Coordinator will notify the WDNR before operations are resumed, that in the affected area(s) of the facility, the following have taken place:

1. Cleanup procedures have been completed for released materials that may be incompatible with waste materials treated, stored, or disposed of.

2. All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

This notification would be made only in the event of a major emergency, such as a fire involving several waste containers. Spills from a single container that did not impact other containers, once cleaned up, would not ordinarily require that the above notification procedures be followed.

J.26 Operating log update and incident report NR 664.0056(10)

The emergency coordinator will note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, the emergency coordinator will submit a written report on the incident to the WDNR. The report must include:

1. Name, address, and telephone number of the owner or operator.

2. Name, address, and telephone number of the facility.

3. Date, time, and type of incident (e.g., fire, explosion).

4. Name and quantity of material(s) involved.

5. The extent of injuries, if any.

6. An assessment of actual or potential hazards to human health or the environment, where this is applicable.

7. Estimated quantity and disposition of recovered material that resulted from the incident.

Part 1
Section J – Contingency Plan

Appendix J-1
Actions for Emergency Situations

Fire and/or Explosion

If a fire should break out, the discoverer will contact an emergency coordinator and the Township Fire Department will be contacted immediately. Concentration will be placed on search and rescue and preventing the fire from spreading to nearby areas. The in-plant employees will carry out the fire-fighting effort until outside assistance has arrived. Firefighting will not be done at the risk of injury to the persons involved; however, early containment of fires can significantly decrease total damage.

Firefighting and other emergency vehicles access the WRR facility through the North and South gates. Firefighting equipment can easily access the container and tank storage areas. A paved blacktop drive permits easy access to each of these areas. The driveway is kept clear at all times. The company emergency response team will be on standby during all general plant emergencies. During times of power failure, severe weather, emergency response team personnel will be assigned to protect personnel and property.

In the event that WRR has, or there is an imminent threat that the facility may have a fire or an explosion that has the potential for damaging human health or the environment, the WRR emergency coordinator will follow these guidelines as closely as possible:

1) The emergency coordinator obtains the following information:

   a. Person(s) injured and seriousness of injury.

   b. Location and size of the fire, material involved, and source (tank, pipeline, etc.).

   c. Determine what actions need to be taken to fight the fire and proceed with this action if it can be done safely.

2) Next, the Emergency Coordinator will initiate the following actions:

   a. Initiate evacuation of the hazard area.

   b. Obtain medical attention for any injured persons. It may be helpful to instruct the caller to perform initial first aid procedures, and then call the hospital.

   c. Call the fire department if the fire is not extinguished by the in-plant employees right away. The fire department will keep heat-exposed containers cooled with water spray, if possible. If a source comes from a venting device or if the tank begins to discolor, all personnel will be withdrawn from the area immediately.

d. Contact local authorities so that persons downwind can be notified and, if necessary, evacuated.

Material Spill or Release

Because fire is always a potential hazard in spills of flammable materials, all possible sources of ignition need to be eliminated. Vehicular traffic and hazardous work in the area ceases until the spill is contained and safety is restored. If the spilled materials are flammable, the plant employees will respond with foam equipment and hoses. Covering a spill with water and fire suppressant foam will be performed if advised by the person in charge.

If an employee discovers a chemical spill or process upset resulting in vapor release, he will immediately hit the E-Stop if so equipped and report it to the area supervisor. The area supervisor will contact the Emergency Coordinator at the time of the incident. When contacted, the designated emergency coordinator will obtain information pertaining to the following:

1. The material spilled or released
2. Location of the release or spillage of hazardous material
3. An estimate of quantity released and the rate at which it is being released
4. The direction in which the spill or vapor or smoke release is heading
5. Any injuries involved
6. Fire and/or explosion or possibility of these events
7. The area and materials involved and the intensity of fire or explosion.

This information will help the emergency coordinator to assess the magnitude and potential seriousness of the spill or release. If the accident is determined to lie within the company's emergency response capabilities, the emergency coordinator will contact and deploy the necessary in-plant personnel. If the accident is beyond plant capabilities, the emergency coordinator will contact RESCO and the appropriate agencies. A list of agencies and phone numbers can be found in Table #J-1.

In the event of a leak or spill in the tank area, all feed lines to the storage tanks will be closed. The dikes surrounding all tank storage areas have the capacity to hold the largest tank and any rainfall. Immediately after the spill is detected, plant personnel will hit the E-Stops for the boilers, and processes, and start working to remove any standing liquids and pump the spilled material into proper containers. If for some reason a chemical spill is not contained within a dike or sump area, an area of isolation will be established around the spill. The size of the area will generally depend on the size of the spill and the materials involved. If the spill is large and involves a storage tank or a pipeline rupture, an initial isolation of at least 100 feet in all directions will be used.

Small spills are spills that involve quantities of materials that can be readily cleaned up by one person using readily available personal protective equipment (PPE) and spill cleanup equipment. Cleanup of small spills would not require the utilization of any equipment other than small pumps.

For all large spills or serious leaks, the following guidelines will be followed as closely as possible:

1) If a leak develops or a spill occurs from a waste storage tank, pipeline pump, etc., the person discovering the discharge leaves the immediate area and contacts the emergency coordinator. The emergency coordinator obtains the following information:

   a. Person(s) injured and seriousness of injury.

   b. Location of the spill or leak, material involved, and source (tank, pipeline, etc.).

   c. The approximate amount spilled, an estimate of the liquid and/or gas discharge rate, and the direction the liquid flow or gaseous cloud is moving.

   d. Whether or not a fire is involved.

   e. Determine what actions need to be taken to stop the leak and proceed with this action if it can be done safely.

2) Next, the Emergency Coordinator will initiate the following actions:

   a. Shut off all ignition sources. Hit E-Stop on boilers, E-Stop on processes, prohibit driving into area.

   b. Initiate evacuation of the hazard area, and keep all persons upwind and up gradient of the spill.

   c. Obtain medical attention for any injured persons. It may be helpful to instruct the caller to perform initial first aid procedures, and then call the hospital.

   d. Call the fire department if a fire is involved that cannot be extinguished by the plant employees. The fire department will keep heat-exposed containers cooled with water spray and remove them from the fire, if possible. If a source comes from a venting device or if the tank begins to discolor, all personnel will be withdrawn from the area immediately.

   e. Dispatch emergency personnel to the site to take the appropriate action.

   f. Contact the proper authorizes if the spill or release is large. Contact local authorities first so that persons downwind of the vapor can be notified and, if necessary, evacuated

3) Personnel involved with cleanup activities will initiate the following actions:

   a. Make sure all unnecessary persons are removed from the hazard area.

   b. Put on protective clothing and equipment.

   c. If the flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing during the containment and cleanup.

   d. If possible, try to stop the leak. Special materials will be kept on hand for temporary repairs.

   e. Determine the major components of the material spilled.

   f. Use absorbent pads, booms, earth, sandbags, and other inert materials to contain, divert, and clean up a spill if it has not been contained by a dike or sump. Most spills contained within the dike or sump can be pumped back into the appropriate storage or emergency tank or tanker.

   g. If wastes reach a storm water concrete run off system, shut off the 12,000-gallon storage tank pump. This material will be pumped out into a temporary holding tank, tanker or drums as soon as possible.

   h. Place all containment and cleanup materials in drums for proper disposal.

   i. Place all recovered liquid wastes and any contaminated soil in drums for removal to an approved disposal site.

Small spills or leaks from a tank or pipe will require evacuation of at least 50 feet in all directions to allow cleanup and repair and to prevent exposure. When any spill occurs, only those persons involved in overseeing or performing emergency operations will be allowed within the designated hazard area. If possible, the area will be roped or otherwise blocked off.

If the spill results in the formation of a toxic vapor cloud (by reaction with surrounding materials or by outbreak of fire) or its release (due to high vapor pressures under ambient conditions), further evacuation will be enforced. Because winds in the area tend to vary, the quickest and most accurate assessment of meteorological conditions is accomplished by calling the Eau Claire County airport at the number listed in Table #J-1.

If the Emergency Coordinator determines that the company is unable to handle the emergency, then local, state, and federal authorities will be notified of the situation. Evacuation of all potentially affected plant areas will be initiated as soon as possible.

Bomb Threat

In general, it is assumed that there are four aspects of a bomb threat. These aspects are:

1. The Threat
2. The Search Technique
3. The Evacuation
4. The Bomb or the Suspicious Object

This procedure will be followed if the WRR facility is subject to a bomb threat.

Personnel receiving a telephone call of bomb threat should note the subjects as listed in the Bomb Threat Worksheet (next page). The following procedures should be followed

1. Try to keep the person on the phone as long as possible.
2. Remain calm, pay attention to the speech pattern and other remarks by the caller.
3. If possible notify a co-worker to notify the police of the threat (Sheriff-911).
4. Notify the WRR Emergency Coordinator. The Emergency Coordinator will imitate the following actions:

   a. Evacuate the building as orderly as possible and assemble at the primary assembly area.

   b. No one is allowed to leave the primary assembly area; all workforce members are to be accounted for.
   c. Initiate a search for suspicious objects.

TELEPHONE BOMB THREAT FORM

Stay calm - get as much information as you can and do not hang up the line used in the threat. Immediately report the threat to your local Law Enforcement.

Date:	Time:	Length of Call:	Number rec'd. on:

ASK THESE QUESTIONS: 1. When will the bomb explode? 2. Where is it right now? 3. What does it look like? 4. What kind of bomb is it? 5. What will cause it to explode? 6. Did you place the bomb? 7. Why? 8. What is your address? 9. What is your name?	**DESCRIBE CALLER'S VOICE:** ____Calm ___Nasal ___Angry ____Stutter ____Excited ___Lisp ____Slow ____Raspy ___Rapid ____Deep ____Soft ___Ragged ____Loud ____Clearing throat ____Laughter ___Crying ___Deep ____Normal breathing ____Distinct voice ____Slurred accent ____Disguised ___Cracking ____Whisper ____Familiar If voice is familiar, who did it sound like?
EXACT WORDING (Use back, if necessary)	**BACKGROUND SOUNDS:** ____Street ____Factory noises or machines ____Crockery ___Animal noises ____Voices ____Clear ____PA System _____Static ____Music _____Office ____House ____Other noises
Caller's sex:___ Race:____ Age:____ **Threat language:** ____Well spoken (educated) ____Incoherent _____Foul ____Taped message read ____Irrational by threat maker	**REPORT CALL IMMEDIATELY TO:** Police: 911 Provide: Name Position Ph. No.

During the search technique for suspicious packages or objects, WRR employees are instructed not to touch, handle, or move any suspicious objects**.** Halls and toilets head the list of places to search. The search is conducted while waiting for the police to arrive. Each supervisor and lead-man is responsible for searching a certain area. A systematic search eliminates valuable time loss awaiting the police to arrive. Any suspicious packages or objects are reported to the police. If anything suspicious is found, a "Danger Zone" is setup and all personnel are evacuated from this zone a minimum of 300 feet in all directions. Also, all flammable materials are moved, if practical and possible.

When an evacuation is required, it should be done calmly in accordance with established evacuation procedures. WRR Emergency Evacuation Procedures are given in WRR's Evacuation Plan found in Appendix J-2. Employees will be instructed to go outside the building and not to bring people by the suspicious package. Use another evacuation route, if possible. Building evacuation routes are posted on bulletin boards posted in each building. Because the Sheriff department recommends evacuation on all bomb threats, WRR will always initiate evacuations during a bomb threat.

Threat of violence

This procedure will be followed if the WRR facility is subject to workplace violence.

1. Attempt to calm the person and remain calm yourself.

2. Notify a responsible person to call 911 to describe the situation as best as possible: Noting – Person / Location / Situation / Visible Weapon

3. Move as many employees as possible away from the person to a safer location

4. Try to appease the person as much as possible until contact from the local authorities is established.

5. Follow the guidance from the local authorities

Civil Unrest

This procedure will be followed if the WRR facility is subject to civil disturbance. The WRR Emergency Coordinator will initiate the following actions:

1. Secure all facility entrances to control access to the facility by demonstrators.

2. Notify local law enforcement authorities; Eau Claire County Sheriff's Department **911**.
3. Approach demonstrators and see if you can determine what they are demonstrating about and to inform them that WRR does not allow such activity

on its premises. They should be requested to leave in a restrained and courteous manner, and told if they don't they will be removed by the Sheriff's Deputies.

Power Failure

During periods of power failures, the standard operating procedure is to initiate a complete shutdown of operations and secure all process equipment and all equipment in the powerhouse. When the cause of a power failure is due to problems at the electrical company, the WRR supervisor in charge will contact Eau Claire Energy Cooperative to get information on how long the power will be off and when it will be back in service.

In times of severe weather, the standard operating procedure is for the emergency coordinator to contact the supervisor in charge and inform him to have a complete shutdown and secure all process and powerhouse equipment. The operation of the equipment will not resume until the emergency coordinator has given the approval to startup operations.

Gas Leak – Natural Gas or Propane

If a Natural Gas or Propane leak is detected at the WRR facility, the following procedure will be followed:

1. Hit the E STOP for the boilers
2. Shut down all operations and stop all possible ignition sources from the area.
3. If it is a Natural Gas leak inside the plant close the MAIN Natural Gas Valve in the southwest corner of the plant.
4. If it is a Propane leak close the gas shut off valves on the two propane tanks
5. Notify Emergency Coordinator.
6. Evacuate all personnel from area.
7. Shut down all vehicles and DO NOT move them. Do not allow anyone to drive into the area.
8. Terminate all construction work on-site

The Area supervisor will determine the following information:

1. The material leaking
2. Location of the release of the gas leak
3. The direction in which the vapor or smoke release is heading
4. Any injuries involved
5. Any fire involving the leak.

Important phone numbers

- Xcel Energy Emergency for Natural Gas 1-800-895-2999
- River Country Cooperative for Propane (715) 723-2828

Important considerations

- Natural Gas is lighter than air and will rise
- Propane gas is heavier than air and will hang to the ground and seek low depressions if not disturbed.

Personal Rescue and Serious Injury

In the event of a serious injury, the supervisor in charge or his designate is to immediately contact Township Fire Department with the type of emergency, the number of people involved, and if the person(s) in the situation require special extrication equipment.

The supervisor in charge or his designate will contact the Emergency Coordinator. The type of injury will dictate the type of first-aid treatment that will be given. If the victim is in need of first-aid that cannot be administered at the plant, the victim will be safely transported to the Emergency Room at Sacred Heart Hospital. Victims with spinal injuries will not to be moved unless there is an eminent danger to their life by remaining in the accident location, and then when moving, special precautions must be taken to prevent further damage. Victims of heart attacks or electrical shocks will be given cardiopulmonary resuscitation (CPR) immediately and it will be continued until the emergency medical professionals arrive. WRR has a heart stop defibrillator, CPR mask and breathing bag stored in the office next to the time clock.

Personal rescue (including confined space entry rescue) will be done according to standard operating procedure as directed by OSHA. At all times there will be two rescuers when entering a building in search of a victim. It is required to have two standby rescuers waiting outside the building or confined space in case of complications. Appropriate PPE is to be worn according to the Confined Space Entry Permit.

Severe Weather/Tornado

When weather conditions are such that tornado development is possible, the National Weather Service will broadcast a tornado watch on the radio or television. WRR has a Portable Weather Radio in the foreman's office (WORLD HEADQUARTERS) that monitors U.S. Emergency All Hazards, and Emergency Alert System (EAS) weather bulletins, warnings, and forecasts. Receives all National Oceanic and Atmospheric Association (NOAA) reports, which provide all available emergency advisories on tornadoes, severe thunderstorms, floods, evacuations, civil danger warnings, and more. Should the alarm go off the shift supervisor is to take a 4 gas meter with him and also the warning radio to monitor for changing conditions. The plant radios also have the weather warning channel on them.

WRR personnel are instructed to continue normal activities, but be alert to the weather conditions outside and to stay near a radio to hear further bulletins or warnings. Personnel are instructed to watch for a tornado (funnel-shaped cloud). During nighttime hours, personnel are instructed to listen for the sound of a tornado that is very similar to the roar of a locomotive or jet engine.

If a tornado has been sighted, the National Weather Service will issue a tornado warning. In the event of a tornado warning, the supervisor will initiate a complete shutdown of all equipment in the plant. This includes all production operation equipment and all power house equipment. All hazardous waste storage tanks will be shut off at the tank. All propane fuel systems will be shut off. The main Natural Gas valve will be shut off. Designated electrical power systems will be shut down. WRR personnel are instructed to continue to watch and/or listen for the tornado.

If a tornado is seen or heard, personnel are instructed to seek shelter immediately in a nearby building, preferably a steel framed or reinforced concrete building of substantial construction and to stay away from windows In the office building the break room has been designated as the gathering location. Do not remain in an automobile, truck, or forklift.

If in the WRR Main Office Building, stand in the interior downstairs hallway or office away from the windows to avoid flying glass. If in the warehouse, post a lookout and if feasible have workers move quickly to the downstairs break room in the Main Office Building. Leave doors and windows open.

When severe weather condition has cleared, the supervisor can release the employees to resume operations; if damage has occurred, the supervisor should hold the employees in the shelter area and contact company management until the damage has been assessed and it is safe to resume operations.

WRR has an emergency alarm system that is both audible with alarms in the processing areas and outside the break room, and a visible strobe light outside the break room.

INSIDE MAIN OFFICE BLDG – TIME CLOCK AREA DECK ABOVE THE PR1/BREAK ROOM

This is WRR's Emergency Notification Plant Alarm – Activation of one of the two mushroom buttons (red button is for a plant fire; continuous siren and the orange button is for inclement weather such as a tornado or a severe thunderstorm; alternating high/low pitched siren) will activate several speaker sirens throughout the WRR facility. Two warning lights on pole attached to the deck railing above the PR1 Process/Break Room: Red Light signals the fire alarm and evacuation should occur to the parking lot assembly area; the Blue Light signals the inclement weather/tornado alarm and evacuation should occur to the main hallway of the Main Office Building or the First Floor Break Room.

Off-plant Emergency

The WRR contingency plan contains procedures for WRR drivers to follow if they become involved in an off-plant emergency. WRR does not have semi tractor drivers as employees. The largest truck would be a cube van. These off-plant emergencies may involve traffic accidents, fires, or chemical spills. All drivers and relief drivers must be indoctrinated and reviewed frequently on how to react to an unfortunate incident.

In the event the emergency involves a truck accident, the driver will immediately assume the responsibility as the professional on the scene until the authorities arrive. The driver will contact authorities at 911. Unless he is injured or incapacitated, he must initiate the proper response for the protection of any persons in the vicinity, as well as minimize the scope of the incident.

The most important factor is that the driver must know what is being transported. Manifest and shipping papers are to be in possession of the driver. The driver will have available the telephone number for the emergency contact listed on the shipping papers. Once contact has been made with the emergency contact, the WRR emergency coordinator will be contacted.

The driver must not panic. Almost immediately, the driver must decide whether he can cope with the situation and make a mental assessment of what is the highest priority and concern. In other words, do any of the following conditions exist?

a. Does the incident post a threat to public health by fire, spill, or release of toxic gas?

b. Does the incident post a threat to public safety such as the presence of a jackknifed or overturned trailer on a road?

c. Does the incident involve an injury whereby the services of a Medical Professional or a person trained in first-aid is needed?

If there is a fire, the driver should try to move the truck to an isolated spot without jeopardizing his safety before taking further action. If there is a fire in a truck's components, such as brakes, engine, or electrical system; try to extinguish the fire with the onboard fire extinguisher. If there is a fire in the cargo area, try to extinguish the fire with an extinguisher; if the fire is not out of control and it can be safely reached. Do not enter vans without assistance or protective equipment.

If the truck contents are on fire, the driver will note if there are homes, offices or factories nearby and what is the direction of the prevailing wind. If the wind is dispersing fumes or combustion products in the direction of homes, offices or factories, the driver will notify these locations of the emergency. If respiratory protection is needed, the driver will notify the plant and emergency agency.

The WRR driver will move spectators back from the scene of the emergency. The driver will also set out markers or have someone assist to divert traffic. In the case of a heavy flammable spill or oxidizer cargo, where concern for a major fire or explosion may occur, an attempt will be made to clear adjacent buildings. If the fire cannot be contained, the driver will alert spectators and fire department.

In the event of a spill, the WRR driver will initiate the following procedures:

1. Contain or dike with an inert material if possible without jeopardy to driver.

2. Ask for assistance from spectators or anyone assisting him to call Fire Department.

3. Move spectators back away from area. Divert foot and auto traffic.

4. If liquid is flammable, turn off ignition and divert traffic.

5. Smoking is not permitted. Be alert for other ignition sources in the area.

6. If liquid is toxic or corrosive, advise spectators and fire department.

7. Expand all effort to protect people.

8. Ask for assistance to evacuate businesses and homes, if necessary.

Part 1
Section J – Contingency Plan

Appendix J-2
WRR Emergency Evacuation Plan

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Emergency Evacuation Plan

NR 664.0052(6) – Evacuation plan

Upon enactment of the contingency plan, the emergency coordinator will be responsible for determining of the need for a plant evacuation.

Evacuation Coordinators

Evacuation coordinators, typically area supervisors, facilitate all evacuations. The following is a list of the evacuation coordinators organized by production area:

Production Area:	Evacuation Coordinator:
Fuels, Docks 4&5, Tanker Pit	Area Supervisor
E2 Building	Area Supervisor
E1 Building	Area Supervisor
Power House	Area Supervisor
Maintenance	Maintenance Supervisor

The evacuation coordinator responsibilities are listed as follows:

- Upon notification of an evacuation, the evacuation coordinators will assist in ensuring that all personnel in their area of responsibility are quickly and safely evacuated to the assembly areas as soon as their equipment can be shut down.
- Upon arriving at the assembly areas, the evacuation coordinators are responsible for conducting a head count to ensure that all personnel are accounted for. The IN Time card rack in to time clock area, the attendance board in the front office, the visitor log, and the truckers check in log are to be taken to the assembly areas.
- Report the results of the head count to the emergency coordinator. Any indication of a missing person should be immediately reported to the emergency coordinator.

The Evacuation Coordinator will serve as the primary point of contact between the emergency coordinator and personnel at the assembly area. Under no circumstances should anyone leave the assemble areas and return to the plant without specific authorization from the emergency coordinator or the alternate.

The following methods are available to signal an emergency and to initiate an emergency evacuation.

- Evacuation alarm
- Telephones
- In-plant radios
- Direct voice

The notification sequence:

- Employees shall notify the supervisor immediately upon discovery of a fire or other emergency or activate the emergency alarm.

- A WRR facility evacuation may be activated by the Area Supervisor that evaluates a situation as being an Emergency. This evacuation is announced by the sounding of the Plant Evacuation System, at which time all non-essential personnel will evacuate to the nearest assembly point, and wait for further instructions.
- When ordered by the supervisor, machinery and utilities shall be shut off depending on the emergency and the time available. In the case of a chemical release all personnel are to immediately evacuate the area and report to the designated Assembly Area
- When an order to evacuate a plant or work area is used, all employees <u>not</u> actively engaged in resolving the emergency will follow the established routes in an orderly manner and evacuate the plant or area.
- Employees should not use the telephone unless instructed to relay messages or instructions. <u>Only personnel who are actively managing the emergency actions may use their cell phone</u>

Any construction activity and trucks operating in the plant should be shut down immediately and not resumed until told to do so by the incident commander.

The fundamental policy of WRR is to evacuate its employees, contractors, and visitors from the facility in case of an emergency. This includes an uncontrolled release of any chemical where our employees are instructed not to remain in, re-enter, or enter the release area once an evacuation is signaled.

Upon activation of the emergency evacuation system, the following procedures should be followed:

- Evacuation from the affected area is to be done to avoid contact with hazardous materials or a vapor cloud.
- Operating personnel should shut down equipment or place it into a safe operating mode before evacuating only if time permits and the employee's safety is not jeopardized.
- No person shall leave the assembly area unless specifically authorized by the ERC or his/her designee. No employees will be allowed to drive off the premises.
- All Non-Essential Personnel should promptly move to the evacuation assembly points. This includes:
  1. Contractors, Visitors, and guests
  2. Laboratory personnel
  3. Maintenance/Laborers/Other workers
  4. Administrative Staff and plant management

All persons will be accounted for by their immediate Area Supervisor and reported to the Emergency Response Coordinator. Employees use the office tag-in board or the time card system.

Contractors, visitors, guests, and truck drivers are required to sign in and out of either the "visitors' log", or the "Drivers log", upon entering or leaving the facility. During an evacuation, these logs and the office in-tag board will be retrieved by: the receptionist (1st shift); lab worker (2nd & 3rd shifts); off shift (shift supervisor). The employee timecard "In rack" will be retrieved by the Evacuation Coordinator. The visitor and drivers logs are used to account for contractors, visitors, guests, and truck drivers on-site at the time.

- Immediate supervisors will be responsible for accounting for those persons reporting to them.
- Visitors will be the responsibility of the employees they are visiting. Contractors are the responsibility of the company personnel supervising the contractor's work. Truck drivers are the responsibility of the manager in charge of the warehouse.
- Do not block access routes or hinder the emergency response personnel.
- Do not try to assist the emergency personnel unless properly trained and requested to do so.
- Upon completion of the head count, the Evacuation Coordinator will present a list containing the results of the head count to the emergency coordinator. All personnel will remain at the assembly area until given further instructions.
- Emergency responders arriving at the facility will be alerted of all missing persons. This activity will be directed by the emergency coordinator.
- A search and rescue effort may be enacted to locate missing personnel.
- Re-entry into the facility will be made only after clearance is given by the ranking emergency coordinator.

After taking necessary immediate action, the Area Supervisor(s) should ensure that additional management members are notified, so orderly evacuation plans can be implemented. Follow the Emergency Contact List.

1. <u>Two Main Exits to be used are</u>:

    a. Main Gate
    b. Area south of the plant through the south Gate

2. <u>Evacuation Assembly Points are</u>:

    a. Roadway outside of Main Gate (near sign)
    b. south of the plant through the south Gate

3. <u>Severe Weather assembly points are:</u>

    a. First floor employees break room
    b. First floor hallway (with office doors closed)

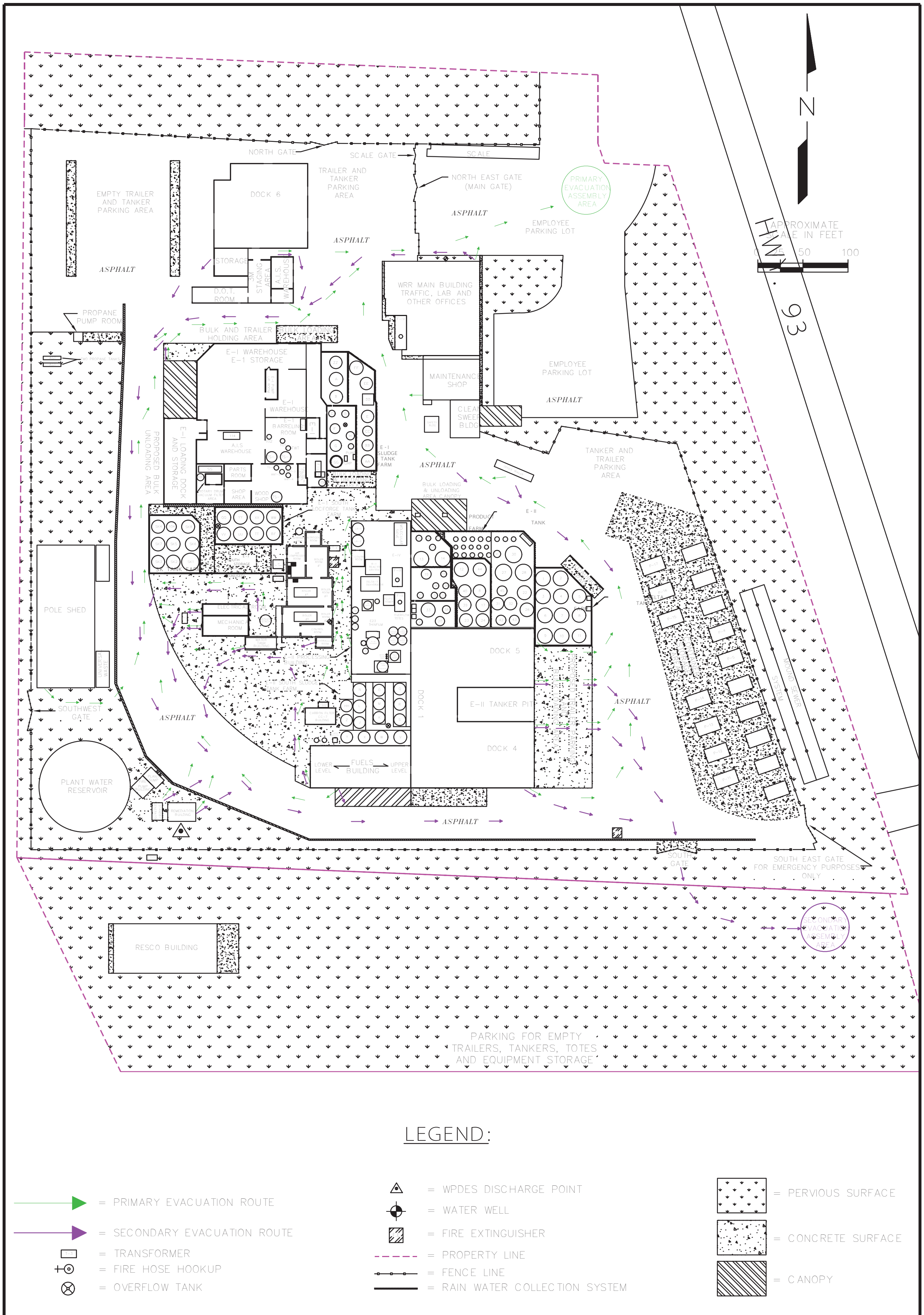
4. <u>Essential Personnel</u>:

    For the operation, the essential personnel needed to monitor and execute rapid shutdown of the operating equipment include the following:

    a. Area Supervisor
    b. One to two qualified Operator(s)

Part 1
Section J – Contingency Plan

Appendix J-3
WRR Emergency Evacuation Map



WRR DRAWING DIRECTORY: V:\PART B\2013 SUBMITTAL\DRAWINGS\SITE PLANS AND MAPS\FIGURE J9 – FACILITY EVACUATION MAP

NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW	QC CHECK	
1	12/13/12		TT	12/12	TT	12/12		BA	12/12
2	01/12/13		RJH	01/13	TT	01/13		BA	01/13
3	04/17/2013		MNG	04/13	MNG	04/13			
4	04/04/2014	RENAMED FIGURE J.9, MODIFIED N. BOUNDARY AND LEGEND	MNG	04/14	MNG	04/14			

WRR

WRR ENVIRONMENTAL SERVICES Co., INC.
FEASIBILITY AND PLAN OF OPERATION REPORT
EAU CLAIRE, WISCONSIN
EPA ID No. WID990829475

FIGURE J.9

FACILITY EVACUATION MAP

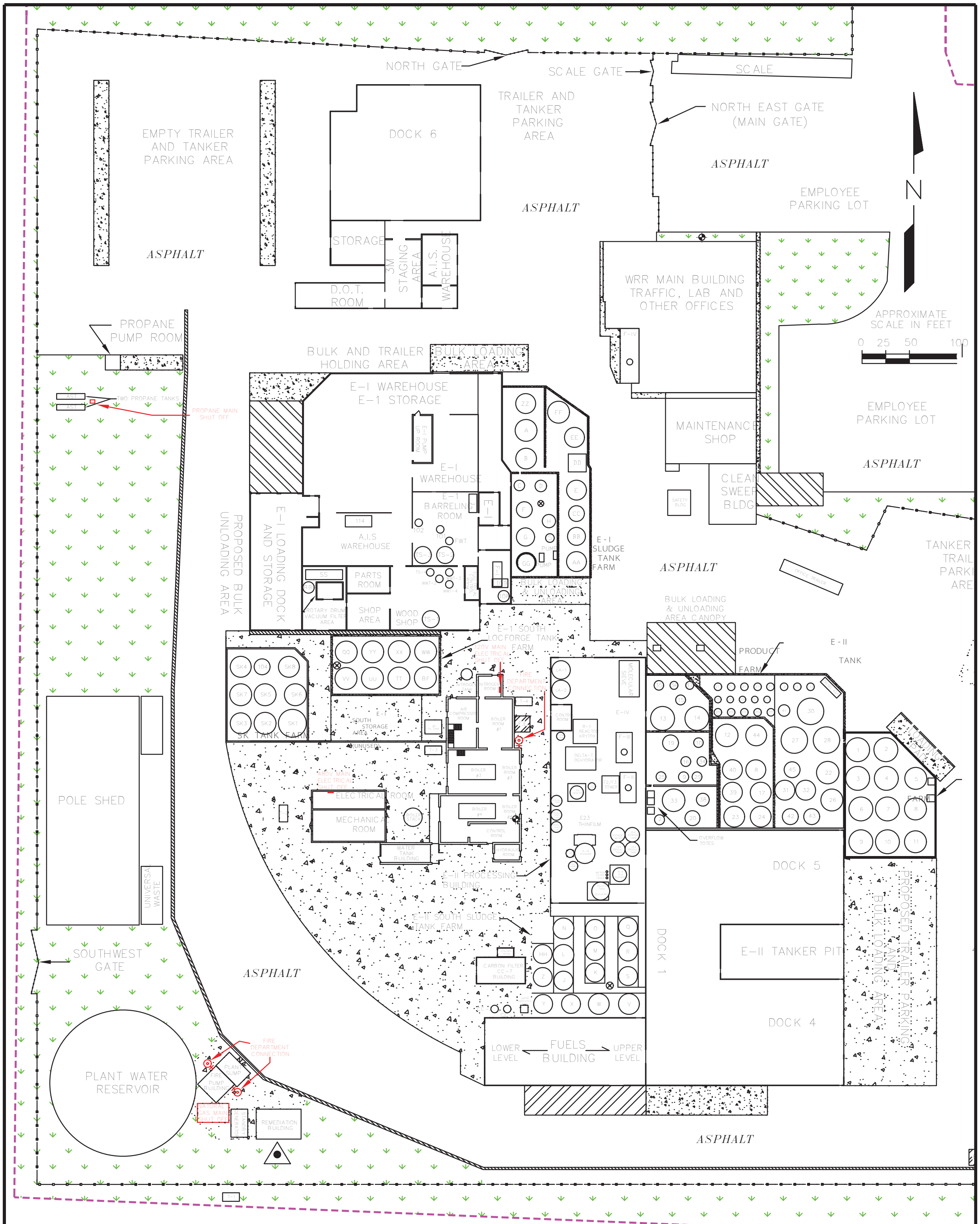
PROJ. NO. WRRES118488

DATE 04/04/2014

000622

Part 1
Section J – Contingency Plan

Appendix J-4
WRR Emergency Shut Offs



LEGEND:

- = TRANSFORMER
- = FIRE HOSE HOOKUP
- = OVERFLOW TANK
- = WPDES DISCHARGE POINT
- = WATER WELL
- = FIRE EXTINGUISHER
- = PROPERTY LINE
- = FENCE LINE
- = RAIN WATER COLLECTION SYSTEM
- = CANOPY

NO.	DATE	ISSUE/REVISIONS	DRAWN BY		DESIGN		FIELD REVIEW		QC CHECK	
1	12/13/12		TT	12/12	TT	12/12			BA	12/12
2	01/12/13		RJH	01/13	TT	01/13			BA	01/13
3	04/17/2013		MNG	04/13	MNG	04/13				
4	04/07/2014	MODIFIED LEGEND, CHANGED LAYOUT, REMOVED SOUTH LOT	MNG	04/14	MNG	04/14				

WRR

WRR ENVIRONMENTAL SERVICES Co., INC.
FEASIBILITY AND PLAN OF OPERATION REPORT
EAU CLAIRE, WISCONSIN
EPA ID No. WID990829475

FIGURE J.9A

UTILITY SHUTOFF LOCATIONS

PROJ. NO. WRRES118488

DATE 04/07/2014

000524

WRR DRAWING DIRECTORY: V:\PART B\2013 SUBMITTAL\DRAWINGS\SITE PLANS AND MAPS\FIGURE J.9a UTILITY SHUTOFF LOCATIONS
SEH DRAWING DIRECTORY: P:\UZ\W\WRRES\118488\FIGURES\FIGURE A.1 - FACILITY SITE PLAN

Part 1
Section J – Contingency Plan

Appendix J-5
WRR Emergency Equipment

WRR EQUIPMENT RESOURCES

Description	Approximate Quantities on Hand	Equipment Capabilities
Absorbent Materials		
Slik Wik	200	Wood flower based absorbent for liquid spills. Capacity depends on type of spill. Should not be used on acid spills.
Vermiculite	25 bags	Vermiculite based absorbent for liquid spills. Capacity depends on type of spill. Can be used on acid spills.
Floor Dry clay	25 bags	Clay based absorbent for liquid spills. Capacity depends on type of spill. Can be used on acid spills.
Haz Pads	75 bags(100 count)	Fluids Absorbed: Oils, Coolants, Solvents & Water, fuels. Capacity depends on the type of spill.
Absorbent Socks	100 Feet	Fluids Absorbed: Oils, Coolants, Solvents & Water, fuels. Capacity depends on the type of spill.
Absorbent Booms	1200 Feet	Fluids Absorbed: Oils, Coolants, Solvents & Water, fuels. Capacity depends on the type of spill.
Containment Booms	450	Floating booms to contain floating liquid contaminants in water
Spray Paint		
Red	6	Typical rattle spray paint can. ~16 oz.
White	6	Typical rattle spray paint can. ~16 oz.
Black	6	Typical rattle spray paint can. ~16 oz.
Personal Protective Equipment		
Level 'A' Suits	4	Approved for EPA / OSHA designated level A classification use.
Level 'B' Suits	6	Approved for EPA / OSHA designated level B classification use.
Level 'C' Suits	25	Approved for EPA / OSHA designated level C Classification use.
Tyvak	25	Used for EPA / OSHA designated level C classification use. Used to keep clothing and personall.
Rain Suits	12	Approved for EPA / OSHA designated level C Classification use.
Ear Plugs	Box of 200	Typically reduces noise levels by 25 db
Face Shields	6	Tough, polycarbonate, replaceable window Protects face and neck from chemical splash and flying particles, Crown protector is made of high strength thermoplastic material, Meets ANSI Z87.1 - 1989 and complies with OSHA requirements
Dust Masks	150	2 elastic strap mask for removal of small particulate from breathing air
Safety Goggles	6	Fog free polycarbonate lens, Soft PVC construction, Elastic headband provides a snug, secure fit, Complies with ANSI standards
Hard Hats	12	Complies with ANSI Z89.1-2009
Rubber Gloves	50	wide variety of PPE for use with chemical clean up
Rubber Boots	12	wide variety of PPE for use with chemical clean up
Cotton Gloves	100	wide variety of PPE for use with chemical clean up
Goggles	12	wide variety of PPE for use with chemical clean up
Splash Aprons	6	wide variety of PPE for use with chemical clean up
Respirators - Full Face	8	3M-3MR6000 SERIES - air purifying
Respirators - 1/2 Face	8	3M-3MR6000 SERIES - air purifying
Respirator Replacement Cartridges	50	3M-3MR6006 Multi gas/Vapor
Chest waders	4	Typical fishing footware
Hip waders	6	Typical fishing footware
X/P Flashlight	8	Safety Rating - **Class 1 Div 1, Group C, D,**
20 lb. Cloth Bags Wipes	1	Self explanitory
Digital Camera	2	Self explanitory
Containers		
55 Gallon Steel Open Top	100	DOT & UN rated container
55 Gallon Steel Tighthead	100	DOT & UN rated container
55 Gallon Plastic Open Top	25	DOT & UN rated container
55 Gallon Steel Reconditioned	50	DOT & UN rated container

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WRR EQUIPMENT RESOURCES

Description	Approximate Quantities on Hand	Equipment Capabilities
55 Gallon Plastic Reconditioned Tighthead	50	DOT & UN rated container
30 Gallon Plastic	30	DOT & UN rated container
30 Gallon Steel Open Top	100	DOT & UN rated container
16 Gallon Plastic	50	DOT & UN rated container
16 Gallon Steel	100	DOT & UN rated container
5 Gallon Plastic	100	DOT & UN rated container
5 Gallon Steel	50	DOT & UN rated container
Carts barrel	many in plant	for moving containers and other objects
Gasket for Open tops	50	Gasket - typically EPDM
Bags - Heavy Mil Plastic Liner	25	Self explanitory
Hoses		
Suction 3"-25' Section	8	Acid/Chemical type w/ temp. range -40°F to +250°F (-40°C to +121°C) normal service and pressure rating of 200 psi..
Suction 2" -25' Section	20	Acid/Chemical type w/ temp. range -40°F to +250°F (-40°C to +121°C) normal service and pressure rating of 200 psi..
Suction 1 1/2"-25' Section	20	Acid/Chemical type w/ temp. range -40°F to +250°F (-40°C to +121°C) normal service and pressure rating of 200 psi..
Confined Space Entry		
Tripod	2	SRL Max. Working Load 350 lb.
Winch	2	Meets - OSHA 1926.502, 1910.66, ANSI A10.32, ANSI Z359-2007, and CSA Z259.2.2, Max. Working Load310 lb.
Air Bottle (150lb)	5	SCBA 30 minute capacity
Air Line	75	Breathing air teather line
Body Harness	6	SRL Max. Working Load 310 lb.
SCBA - 30 Minute	4	Air supply for hazrdous environments
SCBA - 60 Minute	2	Air supply for hazrdous environments
30 Minute + Refill Bottle	2	Air supply for hazrdous environments
60 Minute + Refill Bottle	2	Air supply for hazrdous environments
5 Minute + Refill Bottle	2	Air supply for hazrdous environments
Plug-n-Dike (one pound can)	1	Plug N Dike is a nontoxic, nonflammable blend of high absorption polymers in a blended bentonite base that forms an immediate seal. It has been used for over 25 years by fire departments, transportation companies and industrial operations. This product is used primarily for petrolium and antifreeze leaks.
Power Hand Tools		
Drills	1	Common tool for nonhazardous environments
Saw-Alls	2	Common tool for nonhazardous environments
Shovels and Spill Clean Up		
Grain Shovel	6	
Aluminum - Long Handle	6	General clean up - hazardous application
Aluminum - Short Handle	6	General clean up - hazardous application
Plastic Flat	4	
Squeegees	3	General clean up - nonhazardous application
Non Sparking Spade	6	General clean up - hazardous application
Kitchen broom	12	General clean up - nonhazardous application
Push broom	12	General clean up - nonhazardous application
Ropes		
Nylon	200 Feet	
Static Kermantle	200 Feet	Life line featuring a Polyester cover over a Nylon core with resistance to most chemicals and excellent retention in extreme conditions.
X/P Ice Scraper	4	Non sparking scraper made of aluminum, brass, or berilium

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WRR EQUIPMENT RESOURCES

Description	Approximate Quantities on Hand	Equipment Capabilities
Skimmers		
General	1	
Elastic Drum	1	
Equipment		
Air Compressor	1	
Boats		
John Boat 16 Foot	1	water rescue and spill response
Johnson 15 Horse Outboard	1	water rescue and spill response
Pumps		
Submersible; Hydraulically Driven; High Volume	2	1000 gal per min
Marlow (Mud Hog)	1	A gasoline driven diaphram pump used mainly for moving water. The capacity varies with the required head pressure. Generaly 150 to 250 gpm.
Gorman	1	
Sparkproof (M-8)	4	Wilden M-8 Plastic---75 gpm flammable service
Corrosive Proof (M-2)	4	Wilden M-2 metal ----37 gpm acid/base compatible
Roper Gear Gas	2	Roper 3611-----55 gpm flammable service
Electric/Sparkproof (2")	1	
Trash	3	
Jack Rabbit - Hand	2	Self-priming hand pump for nonhazardous applications only
T-Handle Hand Operated Pump	6	Drum pump, suitable for hazardous materials, approx. 1 stroke/quart
Teel Hand (2P683)	2	Teel 2P683-----17 gals. Per 100 strokes
Bulk Solids Holding		
Roll Off Boxes	from local refuse company as needed	
Dump Trailer	1	
Vacuums		
Hepa	1	
Spark proof	1	
Wet - 55 Gallon	4	Wet/dry shop vac - nonhazardous applications only
Miscellaneous		
Steam Generator	1	Mobile powerwasher, up to 3300 psi, 4.5 GPM, ambient to 250F water/steam temperature
Tractor	1	Farmall 756
Bob Cat	1	Bobcat 773 skidstear
Excavators	1	John Deere 70D
Tanks	3	550 gallon Stainless Steel totes
Duct Tape	6 Rolls	
Chains - 14'	2	
Ground Rods	4	Used for grounding and bonding to prevent static electricity build up when pumping flammable liquid.
Ground Rod Driver	1	
Grounding Cable	4	Used for grounding and bonding to prevent static electricity build up when pumping flammable liquid.
Fire Extinguishers		
20#	8	ABC dry powder
10#	135	ABC dry powder
5#	20	ABC dry powder
Test Equipment		
Oxidizer Kit	4	Quantitative test strip kit with 1 ppm level of detection
Cyanide Kit	4	Test strip kit

WRR EQUIPMENT RESOURCES

Description	Approximate Quantities on Hand	Equipment Capabilities
pH Indicators (paper)	6	0-14 pH scale to determine a material's acidity and alkalinity
4 Gas meter	3	4-BW GasAlert Max XTII (active) & 2-BW GasAlert Microclip XT (passive) to test O_2, H_2S, LEL and CO concentrations
PID	1	2- Mini Rae 2000 VOC conc'n meters - STEL and TWA alarms
Traffic Control Equipment		
Emergency Vehicle Lighting	6	Ability to light work area
Control Signs	6	Ability to mark hot zone work area
Cones/Barrels	28	Ability to mark hot zone work area
Stop and Slow Signs	1	Ability to mark hot zone work area
Barricade Tape	4 Rolls	Ability to mark hot zone work area
Road Reflectors	2	Ability to mark hot zone work area
Transport Equipment		
Tractors	5	semi-tractor cabs
Van Trailers	5	48 to 52 foot dry vans. Some equipped with lift gates.
Tanker -Vacuum; Coded Vessels; SS	6	3 comparment pressure/vacuum 6,000 gallon tankers
Tanker Non-Vacuum; Coded Vessels; SS	6	5,500 to 6,000 tankers DOT MC 307
Emergency Response Trailer Fully Equipped	1	Provides equipment mobilization
Service Vehicles	5	Cars and trucks for personnel mobilization
Wheel Loader/Backhoes	1	530 Payloader

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section K – Training Plan Requirements

The information provided in this Section is submitted in accordance with the requirements of s. NR 664.0016 Wis. Admin. Code. This section contains information on both the introductory and continuing training programs provided by WRR to prepare employees to operate and maintain the facility in a safe manner.

K-1 Training outline NR 670.014(2)(L)

This training program has been developed for employees who generate or manage hazardous wastes. The hazardous waste training program includes classroom instruction, individual study and on-the-job training designed to ensure that employees and operators are trained in how to properly manage hazardous waste and respond to environmental emergencies at the WRR facility. The training program includes introductory training programs, continuing training programs, and a computerized Environmental Safety Management System (ESMS) that documents training completed by each employee.

The scope of training can be found in Appendix K-1 WRR Environmental Services Training.

K-2 Hazardous waste management training NR 664.0016(1)(b)

The WRR training program is directed by the Environmental Advisory Group (EAG), made up of the Corporate Compliance Director, Environmental Health and Safety Director and Operational Regulatory Compliance Manager. WRR will assure that the members of the EAG have the necessary knowledge, training and experience to oversee the training program. It is the EAG's responsibility to audit training records and ensure compliance with the training plan. The EAG will review and update the training program to ensure that it meets all the requirements of s. NR 664.0016 Wis. Admin. Code.

K-3 Training for emergencies NR 664.0016(1)(c)

The training program at WRR is designed to ensure that personnel are able to respond effectively to emergencies that may occur at the facility.

Training on the various elements of the Contingency Plan (CP) and Operating Instructions provide facility personnel with the ability to respond effectively to emergencies. This training provides instruction in the following:

1. Key parameters for automatic waste feed cut-off systems.
2. Communications and alarm systems.
3. Response to fires or explosions.
4. Shutdown of operations.
5. Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment.

K-4 New hire and new position training NR 664.0016(2)

At WRR, newly hired personnel and personnel receiving new assignments within the facility, will complete the training outlined in Section K-3. The first day of employment, the newly hired personnel will undergo a WRR New Hire Safety Orientation. The training matrix for WRR New Hire Safety Orientation can be found in Appendix K-2. Within six months of a new assignment within the facility or a new hire date, the facility personnel will have completed the training to properly manage hazardous waste and respond to environmental emergencies.

K-5 Training documentation NR 664.0016(4)

Each WRR employee has a record within the WRR ESMS database. The employee record contains job title(s). Each job title contains a job description. Job descriptions include the requisite skill, education or other qualifications and the duties of employees assigned to each position. Training requirements are linked to job titles within the database system. Appendix K-1 contains the training matrixes for plant personnel that will be managing hazardous waste and responding to releases at the WRR facility.

K-6 Training to meet actual job tasks NR 670.014(2)(L)

Ten job categories have been identified for personnel working in the facility. These job categories are:

Warehouse Personnel	Fractionation Operator
Fuel Blend & Offsite Shipment Personnel	Maintenance Personnel
Supervisory Personnel	Power House Operator
Rail Yard Personnel	Tanker and Tote Cleaning Personnel
Thin Film Operator	Yardman

For each job category, the tasks needed to perform the job are evaluated by the plant manager and the EAG. The
tasks needed to operate and maintain WRR in a safe manner are assigned that job categories training matrix. The training matrixes for each of the ten job categories are in Appendix K-1. As a new job category arises, the tasks associated with that job category are evaluated and the appropriate tasks assigned to the job. A training matrix is made and training scheduled to cover the appropriate tasks.

Training for a job category's tasks is a combination of class room instruction and on-the-job-training. Training is conducted in the following manor: lecture, demonstration, application, testing and remediation. On-the-job training is under the supervision of a supervisor or senior operator.

Part 1

Section K – Training

Appendix K-1
WRR Environmental Services Training

WRR Environmental Services

Training

TrainingName	TrainDescription	Source1	Source2	Frequency	ActiveTraining
40 Hour HAZWOP Training	Anyone working in the operations of hazardous waste	OSHA	RCRA FPOR	1	TRUE
8 Hour HAZWOP Refresher	Anyone working in the operations of hazardous waste	OSHA	RCRA FPOR	365	TRUE
Alarms and Indicator Lights	Identify and explain all alarms and idicator lights	Internal WRR		365	TRUE
Alcohol Drugfree Workplace Policy	All Employees	OSHA		365	TRUE
Bar Code	Training applies to employess involved in drum movements	RCRA FPOR		180	TRUE
Blood-borne Pathogens	All Employees	OSHA		365	TRUE
Bobcat Training	Anyone that operates the Bobcat	OSHA		1095	TRUE
Chemical Hygien Plan	inform laboratory personnel on the safe handling of laboratory chemicals	OSHA		1	TRUE
Confined Space	General Confined Space Training	OSHA		365	TRUE
Confined Space Entrant and Attendant	Anyone participating in confined space entries	OSHA		365	TRUE
Confined Space Rescue and Retreival	Anyone participating in confined space entries	OSHA		365	TRUE
Contractor Safety	All Contract Workers	OSHA		365	TRUE
CPR First Aid	All Employees	OSHA		365	TRUE
Cranes Derricks Hoists	Anyone that uses Cranes, Derricks, or Hoists	OSHA		365	TRUE

WRR Environmental Services

Training

TrainingName	TrainDescription	Source1	Source2	Frequency	ActiveTraining
DOT Security Awareness		DOT WRR		1095	TRUE
Electrical Safety	All Employees	OSHA		365	TRUE
Emergency Eyewash Safety Showers	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Emergency Response GHS Introduction	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Emergency ResponseHAZ Comm	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Fall Protection	Training on Fall Protection use	OSHA		365	TRUE
Fire Extinguisher Training	All Employees	OSHA		365	TRUE
Fit Test	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Forklift Operations	Anyone that Operates a Froklift	OSHA		1095	TRUE
Fractionation Operating Procedures	Fractionation Systems and Area	PSM WRR	Internal WRR	365	TRUE
Fuel Blend Operating Procedure	Operating Procedures for the Fuel Blend Area	Internal WRR		365	TRUE
Hazardous Waste Storage	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Hazardous Waste Storage Sheds	Anyone placing Hazardous Waste in the Sheds	OSHA		365	TRUE
Hearing conservation	All Employees	OSHA		365	TRUE
Heat Stress Cold Stress	All Employees	OSHA		365	TRUE
HM 126	Anyone working in the operations of hazardous waste	OSHA	DOT WRR	1095	TRUE

WRR Environmental Services

Training

TrainingName	TrainDescription	Source1	Source2	Frequency	ActiveTraining
Hotwork Spark Permit	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Housekeeping	All Employees	OSHA		365	TRUE
Incident Investigation	All Employees	OSHA		365	TRUE
Integrated Contingency Plan	Training in the elements of Facility Integrated Contingency Plan All Employess	RCRA FPOR	OSHA	365	TRUE
Lock Out Tag Out	All Production Workers	OSHA		365	TRUE
Machine Garding	All Production Workers	OSHA		365	TRUE
Maintenance Operating Procedures	Operating Procedures for the Maintenance Area	Internal WRR		365	TRUE
Malfunction Prevention Abatement Plan	Required of equipment operators on equipment with the potential for air emissions.	AirPermit		365	TRUE
Management Training	Supervisors	OSHA		365	TRUE
Manlifts and Vehicle mounted work platforms	Anyone Operating Manlifts or Vehicle-mounted Work Platforms	OSHA		365	TRUE
Material Labeling	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Methylene Chloride	Methylene Chloride Safety	OSHA		365	TRUE
New Hire Orientation	All New Hires	OSHA		365	TRUE
PLA/Segetis/E-23/88Luwa	Brief overview of these processes will be presented to plant personnel	Internal WRR			TRUE

WRR Environmental Services

Training

TrainingName	TrainDescription	Source1	Source2	Frequency	ActiveTraining
Plant/Rail Security		DOT WRR		365	TRUE
Power House Operating Procedures	Procedures to operate the power House	Internal WRR		365	TRUE
Power Platforms	Safety Requirements for Power Platforms	OSHA		365	TRUE
Powered Hand Tools	Anyone that uses Powered Hand Tools	OSHA		365	TRUE
PPE	All Employees	OSHA		365	TRUE
PSM Training	All Employees	OSHA		365	TRUE
Rail Tank Operating Procedures	Operations at the Rail Loading Facility	Internal WRR		365	TRUE
Respirator Protection	Anyone working in the operations of hazardous waste	OSHA		365	TRUE
Signs Signals Barracades	All Employees	OSHA		365	TRUE
Slips trips and falls	All Employees	OSHA		365	TRUE
SPCC Plan Annual Training for WRR Facility	Annual training required for all WRR staff who are involved with spill cleanup.	EPA	RCRA FPOR	365	TRUE
SPCC Plan for Bloomer Rail Yard	Annual training for all WRR staff who work at the Bloomer rail facility.	EPA	Rail RCRA	365	TRUE
Supervisor and Assistant Training	Operating Procedures Supervisors are to know	Internal WRR		365	TRUE
Tanker Pit Operating Procedures	Procedures for operation in the tanker pit	Internal WRR		365	TRUE
Thin Film Operating Procedures	Thin film training and area training	PSM WRR	Internal WRR	365	TRUE

WRR Environmental Services

Training

TrainingName	TrainDescription	Source1	Source2	Frequency	ActiveTraining
Tysol PLA Segetis	Production Workers	OSHA		365	TRUE
Universal Waste	Train on Universal Waste, Fluorescent Bulbs, batteries, pesticides, thermostats	RCRA FPOR		365	TRUE
Waste Dock Operating Procedures	Procedures used on Docks 1, 4, 5 for waste drum handling	Internal WRR		365	TRUE
Welding Cutting Brazing	Anyone Performing Welding, Cuttin, or Brazing Activities	OSHA		365	TRUE
Yard Man Operating Procedures	Procedures for yard truck and tanker operations	Internal WRR		365	TRUE
Yard Truck	Anyone Operating the Yard Truck	OSHA		1095	TRUE

Part 1

Section K – Training

Appendix K-2
WRR New Hire Safety Orientation

WRR New Hire O.J.T Checklist

Print Employee Name:_______________________________ Trainers Name:______________________

Employee Signature:_________________________________ Trainers Signature:___________________ Date:___________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Docks 1,4,5 Operating Procedures

Start Up Procedures	Trailer Un-Loading	Wt. Stencil DMS	Seperation of Material	Drum Pumping	Tank Sheets	Set up pump to tanks	Pumping to tankers	Barrel Pad Usage	Loading Trailer	Suffix Code	Overpack Barrel Use	Overpack Barrel Dollie	Sampling Procedures	Drum Under Pressure	Incident Reports	.	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:_________________________ Trainers Name:_____________________

Employee Signature:__________________________ Trainers Signature:____________________ Date:___________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Fractionation Operating Procedures

Start Up Procedures	Shutdown Procedures	Barrel Off Tanks	Make Blended Products	Tank Sheet understanding	Tank layout and location	Use of Pipelines	Loading Tankers/Tanks	Forklift Operation	Suffix Code	Setting Reflux Ratio	Proper Labeling of drums	Concepts of Fractionation	Repair tag procedures	Tank Flushing	Storage of drums	Whats Residue	Whats Product	Sampling Methods	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:______________________ Trainers Name:______________________

Employee Signature:______________________ Trainers Signature:______________________ Date:____________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Fuels Operating Procedures

Start Up Procedures	Hydrapulper Procedures	Pail Press Procedures	Drum Press Procedures	Barrel Crusher Procedures	Carbon Canister Procedures	Tanker Loading	Fork lift Operation	Suffix Code	Lock out tag out	Nitrogen use	Slurry Pump Procedures	.	.	.	.	.	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:_____________________________________ Trainers Name:________________________

Employee Signature:____ Trainers Signature:______________________ Date:___________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Maintenance Operating Procedures

Start Up Procedures	Torch Operation	Welding Procedures	Mech. Ability	Blueprint Reading	Forklift Operation	Crane and Hoist	Lock out tag out	Grinding Procedures	Drill Press Safety	Band Saw Safety	Use oil storage	Used Rag storage	Repair Tag Procedures	General Knowledge Test	.	.	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:____________________________________ Trainers Name:_______________________

Employee Signature:______________________________________ Trainers Signature:____________________ Date:___________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Assistant Supervisor/Supervisor Training

Start Up Procedures	Shut Down Procedures	Still Operations	Tanker Loading	Tanker Off Loading	Trailer Loading	Trailer Off Loading	Suffix Code	Tank Farms	Tank Sheets	Driver Paperwork	Sup. Paperwork	Work Independantly	Supervise Workers	Inspection Sheets	Barreling Operations	Resco Team	Weekend On Call	Attendance Records	Pump Procedures	Discipline Procedures	Incident Investigation	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:______________________________________ Trainers Name:________________________

Employee Signature:____ Trainers Signature:______________________ Date:____________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Power House Operating Procedures

Start Up Procedures	Water Treatment	Pond Sampling	Air Compressor	Nitrogen Tanks	Contacts	Boiler 3 operation	Boiler 4 Operation	Boiler 1 Operation	Chiller Procedures	Monday Procedures	Weekly Procedures	Boiler 4 Trouble shooting	Boiler 3 Trouble shooting	Fire System Testing	Powerhouse Forms	Cooling Tower Operation	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T. Checklist

Print Employee Name:______________________________________ Print Trainer Name:______________________

Employee Signature:____ Trainer Signature:________________________ Date:_____________

Rail Tank Operating Procedures

HM 126 Training	40 Hour HAZWOPER	Exit Routes	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Emergency Evacuation Procedures	Emergency shut-off procedures	Placement of caution signs	Use of winch to move cars	Use of rail hand brake	Chocking wheels on tanker and railcar	Grounding Procedures	Vapor Recovery	Proper Hookup hoses from tanker to railcar	Loading and Unloading procedures	Unhooking tank(er)/Rail Car procedures	Placcarding Rail Cars	Associated paperwork	Where to store fittings	Location of spill kits	How to clean a spill	Security Procedures	
																							(OJT Trainer Initials in Each Box)
																							(Date Training Module Completed)
																							(OJT Trainer Initials in Each Box)
																							(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:_______________________________ Trainers Name:_______________________

Employee Signature:_________________________________ Trainers Signature:_____________________ Date:____________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Tanker Pit Operating Procedures

Start Up Procedures	Pumping Tanks	Pumping Totes	Tote Cleaning	Tanker Cleaning	Forklift Training	Yard Truck Training	Fill Wash Totes	Tanker Pumping	Suffix Code	.	.	.	.	.	.	.	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:_____________________________________ Trainers Name:________________________

Employee Signature:_______________________________________ Trainers Signature:______________________ Date:_____________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Thin Film Operating Procedures

Start Up Procedures	Shutdown Procedures	Emerg. Shutdown Procedures	Prod. Line Layout	Sampling Methods	Control Panel	Waste Line Setup	Tank Sheet	Residue Lines	Fork Lift Operation	Making Blends	Suffix Code	How to follow Run Inst.	Pipeline Setup	Repair Tag Procedures	Tank Location	Concept of E4/E23	Entrainment Line Setup	Residue Consistancy	Tank Flushing	Barreling Procedures	Loading procedures	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR New Hire O.J.T Checklist

Print Employee Name:______________________ Trainers Name:______________________

Employee Signature:______________________ Trainers Signature:______________________ Date:____________

Exit Routes	Emergency Evacuation Procedures	Proper Housekeeping	P.P.E Provided	Use of Fall Arrest	Proper Hookup hoses to tank	Grounding Procedures	Vapor Recovery	Unhooking tank(er) procedures	Use of Strainer Baskets	Chocking wheels	Unloading procedures	Use of proper fittings	Where to store fittings	Sampling of water dikes	Location of spill kits	How to clean a spill	Proper Labeling of drums	Potential problems with Drums (Oxidizers)	Identify the "Pads")	Placcarding Tankers	Placcarding Trailers	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

Yard Man Operating Procedures

Start Up Procedures	Yard Truck Operation	Trailer Hook up	Tanker Hook up	Backing of trailer or tanker	unhooking-Dollie Height	Loading Trailers	Loading Tankers	Tanker Pit Operations	Fork Lift Operation	Suffix Code	Pulling Trailers	.	.	.	.	.	.	.	.	.	.	
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)
																						(OJT Trainer Initials in Each Box)
																						(Date Training Module Completed)

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section L – Closure Plan Requirements

General Facility Information

This Closure Plan and Post-Closure Plan described in this section applies to the following facility:

Full Name: WRR Environmental Services Co., Inc. (WRR)
EPA Facility Identification Number: WID 990829475
Location: 5200 Ryder Road, Eau Claire County
(Frontage Road off STH 93 approximately 1/2 mile south of intersection with Interstate 94)

Operator: James L. Hager Phone: 715-834-9624 Fax: 715-836-8785

Mailing Address: 5200 Ryder Road, Eau Claire WI 54701

WRR Environmental Services (WRR) operates a licensed RCRA facility on an 8.2 acre site located at 5200 Ryder Road, Eau Claire Wisconsin. WRR has been assigned U.S. EPA ID Number WID990829475. The WRR site is in the southeast quarter of the southwest quarter of Section 3, Township 26N, Range 9W, Town of Washington, Eau Claire County, Wisconsin. Additional businesses under the WRR corporate umbrella include Automotive and Industrial Services (AIS) and RESCO, an emergency response and remediation company.

Activities conducted at the site include solvent recycling, fuel blending, and bulk and container storage. The facility does not dispose of or treat hazardous or nonhazardous waste in waste piles, containment buildings, surface impoundments, incinerators, land treatment units or a landfill.

WRR did not accept the following types of hazardous waste for treatment or processing:

1. Radioactive Waste
2. Explosives
3. Waste containing polychlorinated biphenyls (PCBs) at levels of 50 part per million and above.
4. Etiological Waste
5. Pathogenic Waste

L-1 Copy of closure and post-closure plan requirements NR 670.014(2)(m)

WRR is a regulated hazardous waste storage and treatment facility. In the event that a waste management unit or the entire facility terminates regulated activity, s. NR 664.0110 (1) and (2) requires facilities, such as WRR, to prepare a closure plan which specifies the requirements for closure, long term care and financial responsibility.

The WRR closure plan contains the necessary steps to close the facility at any point during its intended operating life, including partial and final facility closure. Partial closure means closure of one or more hazardous waste management units (HWMU) at WRR while other HWMU's remain active. The closed portion of WRR is defined as that portion of the facility that has been closed in accordance with an approved closure plan and applicable regulatory requirements, while the active portion of the facility is that portion where treatment and storage operations continue to occur. Final closure occurs when all HWMU's have been closed according to closure regulations. The WRR closure plan addresses closure of the thin film evaporator, the container storage areas, the tank storage areas, the rotary drum vacuum filter unit and the high viscosity waste process system (HVPS).

This closure plan contains the necessary steps to close the Household Hazardous Waste collection area, known as the "Clean Sweep Building" in accordance with s. NR 666.909(3) Wis. Admin. Code. The plan contains details to provide for the decontamination or disposal of all contaminated equipment, structures and soil. By removing all hazardous wastes or hazardous constituents, becomes the generator of hazardous waste and will handle that hazardous waste in accordance with all applicable requirements of ch. NR 662 Wis. Admin. Code.

Per the requirements of s. NR 670.014(2)(m) Wis. Admin. Code, a copy of this closure plan and post closure plan is included in the feasibility and plan of operation report submitted to the Wisconsin Department of Natural Resources (WDNR). WRR will keep a copy of the Closure Plan at the facility until the certificate of final closure has been accepted by the WDNR.

L-2 Closure to minimize need for further maintenance NR 64.0112(2)(a)

The goal of this plan is to achieve clean closure. In short, this means that all hazardous wastes will be removed from the WDNR regulated units, and that any releases at or from the units will be remediated so that further regulatory control under NR 664 Subpart G Wis. Admin Code is not necessary to protect human health and the environment. In the event clean closure cannot be achieved of a hazardous waste management unit (HWMU), further investigation and remediation work will be performed in accordance with s. NR 664.0110(2) Wis. Admin. Code to establish a long-term care plans.

L-3 Closure to minimize post-closure escape NR 64.0112(2)(a)

In the event clean closure cannot be achieved of a hazardous waste management unit (HWMU), further investigation and remediation work will be performed in accordance with s. NR 664.0110(2) Wis. Admin. Code to establish a long-term care plans.

L-4 Extent of operations during facility life NR 664.0112(2)(b)

While in operation, WRR manages and stores hazardous waste in the following HWMU's:

1. Seven hazardous waste container storage areas designated as:
    a. Eight drum storage pads
    b. Dock 1, 4 and 5 warehouse
    c. Upper and lower levels in the fuels building
    d. E-1 warehouse

e. DOT Room in Dock 6 building
f. Household Hazardous Collection Room
g. Tanker Storage Area

2. Forty-three storage tanks and ancillary piping and equipment located in three tank farms designated as:
   a. E-1 tank farm
   b. E-1 South tank farm
   c. E-2 tank farm
3. One rotary drum vacuum filter (RDVF) treatment tank planned for partial closure
4. One thin film evaporator systems designated as:
   a. E-4 (miscellaneous unit)
5. Fuels building containing the following HVPS components
   a. Hydrapulper
   b. Barrel punch and pusher
   c. Slurry pump
   d. Barrel crusher
   e. Dumpster and cover
   f. Paint can press
   g. Aerosol can processing unit
   h. Barrel cutter
   i. Barrel press
   j. Plastic container grinder
   k. Liquids pump
   l. Grinder pump
   m. Trash pump
   n. Piping and valves
   o. Carbon canister units CC-2, CC-3, and CC7
   p. Air operated sludge pump

L-5 Maximum inventory NR 664.0112(2)(c)

This closure plan is based on the total design capacity of hazardous waste at the facility. Table L-1 contains the maximum amount of drums equivalents stored in each container storage area. This is equivalent to 256,134 gallons.

Table L-1 Maximum allowable inventory for container storage areas.

Container Storage Area	TOTAL NUMBER OF DRUM EQUIVALENTS PER AREA	QUANTITY STORED (GALLONS)
E-I BUILDING	2,261	124,355
Docks 1, 4 and 5	910	50,050
Lower Fuels Building	10	550
Upper Fuels Building	230	12,650
DOT Room	80	4,400
HHW Room	75	4,129
Tanker Storage Area (planned)	491	27,000
Drum Storage Pad		
P-1	80	4,400
P-2	80	4,400
P-3	80	4,400
P-6	80	4,400
P-7	80	4,400
P-8	40	2,200
P-9	80	4,400
P-10	80	4,400

The gross capacity of the WRR waste tanks is 423,550 gallons. The maximum waste inventory capacity at the WRR facility is 679,684 gallons.

L-6 Inventory removal and disposal NR 664.0112(2)(c)

Inventories of hazardous waste at the time of closure or partial closure may either be processed on-site via solvent recycling or fuel blending within 90 days of initiating closure or partial closure. Hazardous waste inventories will also be transported off-site to permitted TSD facilities capable of proper management. Shipments to off-site TSD facilities will be via semi-trailer, tanker or railcar.

Wastes resulting from the closure activities themselves will require consolidation, characterization, and offsite disposal. This waste may include water from decontamination as well as contaminated expendables such as PPE. All generated waste will be sent offsite to an appropriate facility.

Prior to sending any wastes related to closure activities offsite for treatment and/or disposal, WRR will asses and insure that each TSD facility used is authorized to receive the specific waste. In addition, an effort will also be made to determine if the TSD facilities are in good standing with the authorizing agency.

Standard TSD facility waste acceptance procedures will be followed, including establishing waste profiles. If closure waste is shipped in drums, the waste will be placed in containers that meet the United Nations performance-oriented packaging standards. All containers used will be properly labeled at time of waste packaging and manifested in accordance with generator standards under NR 662 Subchapter B. A uniform hazardous waste manifest will accompany all shipments of hazardous waste. All transportation vehicles will be properly placarded and marked in accordance with U.S. DOT rules.

Land Disposal Restriction (LDR) Forms will be filled out for any hazardous wastes subject to LDR standards. This form will be filled out to identify all the applicable waste codes and treatment standards. These LDR forms will be either maintained with the profile or they will accompany each hazardous waste manifest, depending on the standard procedures.

L-7 Off-site management NR 664.0112(2)(c)

Inventories of hazardous waste shipped to off-site TSD facilities will be managed through solvent recovery, energy recovery or incineration.

L-8 Removal and decontamination steps NR 664.0112(2)(d)

This section of the Closure Plan describes the steps needed to remove hazardous waste residues and decontaminate containment system components, equipment, and structures during partial and final closure, including, but not limited to, procedures for cleaning equipment, methods for sampling and testing and criteria for determining the extent of decontamination required to satisfy the closure performance standard.

L-8a – Closure of equipment

The steps for closure of equipment are as follows:

1. Remove all hazardous waste inventories from storage systems. The thin film evaporator and HVPS equipment are batch treatment process units. When treatment is complete, no waste inventory remains within these units.

2. Some decontamination and verification activities will require confined space entry permits in accordance with 29 CFR 1910.146.

3. Depending on the type and condition of each surface, piping, and pumps, equipment will be decontaminated using one or more of the following technologies:
   a. • Physically scraping the surfaces with appropriate hand tools to remove attached materials;
   b. • Rinsing with low-pressure water or a detergent/surfactant cleaning solution to remove scaling and surface debris;
   c. • Pressure washing with high-pressure water to scour the surface to remove contaminants and carry them away from the surface; or
   d. • Steam cleaning to remove significant deposits of oils or other petroleum contaminants that cannot be adequately removed by other means.
4. Note the condition of the equipment before starting the decontamination.
5. Take photos of the equipment and associated pumps and piping before it is decontaminated. Each photo is numbered, dated, and provided with a description.
6. If washing and/or steaming steps are necessary, clean totes must be filled with water from the potable well located on the north side of the WRR office building. Water from the plant production well cannot be used because of VOC contaminants in the ground water will interfere with verification analysis.
7. If a surfactant is used, a type similar to Simple Green surfactant will be used. Surfactants of the type of Simple Green do not interfere with the ability to do verification analysis. Surfactants are mixed in with the water in the totes.
8. Measure and record the temperature of both the wash water and the rinsate water before spraying.
9. Equipment decontamination will be performed in a concrete secondary containment area such as the Tanker Pit or tank system containment.
10. The equipment will be washed three times.
11. The equipment will be rinsed out with clean water.
12. All wash water and rinsate water is captured and, after sampling, pumped into a tanker truck for proper disposal.
13. The volume of wash water and rinsate water pumped into the tanker truck will be recorded.
14. All tanker trucks must be accompanied by a hazardous waste manifest.
15. After the decontamination step has been verified, photos will be taken of the equipment. Each photo is numbered, dated, and provided with a description.

16. Expendable decontamination equipment and PPE will be collected and disposed of as hazardous waste.
17. Non-expendable equipment such as powerwashers and tools, will be decontaminated with water and a surfactant and disposed of as hazardous waste.

After the decontamination process, it must be verified that the cleaning process has been sufficient to lead to the closure of the equipment. A records search will reveal the waste codes associated with the material stored or processed through the equipment. A sampling plan formalizes the proper sampling techniques to be used and analyses need for verification. The sampling and analysis plan contains the following elements:

1. The use of proper PPE, including, but not limited to rubber gloves and eye protection is necessary for the sampling protocol.
2. The WRR laboratory will prepare the sampling containers, labels and chain of custody required for the analysis of the components of interest. Any samples requiring the addition of a preservative will have that preservative added by the WRR laboratory after the sample is collected.
3. Grab samples will be collected from the rinsate, labeled, and taken to the WRR laboratory for analysis on-site or shipment to an off-site laboratory.
4. Clear glass sample vials will be used for on-site anaylsis.
5. Amber glass containers will be used for all samples shipped off-site.
6. Samples for off-site analysis will be packaged and shipped on ice to ensure proper conditions for the component tested. The following, or current, test methods will be used:
    a. Method 8260 -Volatile Organic Compounds TCLP
    b. Method 8081A-Pesticides
    c. Method 60108- Metals TCLP
    d. Method 7470A-Mercury
7. The lowest possible analytical Method of Detection Limit (MDL) will be used.
8. Analysis will be completed and the results compared to the wastewater standards identified in the treatment standards table in s. NR 668.40 Wis. Admin. Code. If the concentrations exceed these standards, the decontamination process will be repeated.
9. A closure report will be prepared that includes a table with concentration results data for the process equipment, a discussion/evaluation of the process equipment, the temperature of the wash water, the equipment used to process equipment, how the equipment was decontaminated, a discussion of the waste volumes and how the waste materials were disposed of, waste disposal documentation, a photo log documenting the decontamination and the cleaned equipment, and a discussion/evaluation of the sampling procedure.

L-8b – Closure of concrete surfaces

Concrete surfaces provide containment for drum and tank storage areas as well as process areas. The steps for closure of concrete areas are as follows:

1. Remove all hazardous waste inventories from container storage areas.
2. Depending on the condition of the concrete surface, decontamination will be done using one or more of the following technologies:
    a. • Physically scraping the surfaces with appropriate hand tools to remove attached materials;
    b. • Rinsing with low-pressure water or a detergent/surfactant cleaning solution to remove scaling and surface debris;
    c. • Pressure washing with high-pressure water to scour the surface to remove contaminants and carry them away from the surface; or
    d. • Steam cleaning to remove significant deposits of oils or other petroleum contaminants that cannot be adequately removed by other means.
3. Note the condition of the concrete surface before starting the decontamination. The containment surface will be inspected for cracks, gaps or major structural defects prior to decontamination to determine potential subsurface soil sampling locations. Any cracks that are observed to extend through the entire thickness of the concrete slab will be sealed prior to decontamination.
4. Take photos of the surface area before it is decontaminated. Each photo is numbered, dated, and provided with a description.
5. If washing and/or steaming steps are necessary, clean totes must be filled with water from the potable well located on the north side of the WRR office building. Water from the plant production well cannot be used because of VOC contaminants in the ground water will interfere with verification analysis.
6. If a surfactant is used, a type similar to Simple Green surfactant will be used. Surfactants of the type of Simple Green do not interfere with the ability to do verification analysis. Surfactants are mixed in with the water in the totes.
7. Measure and record the temperature of both the wash water and the rinsate water before spraying.
8. The surface area will be washed three times. If possible, decontamination should proceed from clean to dirty areas. Wash water will be collected from each concrete area’s sump or collection area.
9. The surface will be rinsed with clean water.
10. All wash water and rinsate water is captured in the concrete area’s sump or collection area. After sampling, the wash water and rinsate will pumped into a tanker truck for proper disposal.
11. The volume of wash water and rinsate pumped into the tanker truck will be recorded.
12. All tanker trucks must be accompanied by a hazardous waste manifest.

13. After the decontamination step has been verified, photos will be taken of the surface area. Each photo is numbered, dated, and provided with a description.
14. Expendable decontamination equipment and PPE will be collected and disposed of as hazardous waste.
15. Non-expendable equipment, such as power washers and tools, will be decontaminated with water and a surfactant and disposed of as hazardous waste.

After the decontamination process, it must be verified that the cleaning process has been sufficient to lead to the closure of the concrete surface. A records search will reveal the waste codes associated with the material stored in each containment area. Verification testing for concrete surfaces in hazardous waste process areas will follow the analysis completed for the process equipment for that area. In other words, the hazardous constituents analyzed for the verification testing on the E-4 thin film evaporator's decontamination will be the same hazardous constituents analysed for the concrete area around the E-4 thin film evaporator. A sampling plan formalizes the proper sampling techniques to be used and analyses needed for verification. The sampling and analysis plan contains the following elements:

1. The use of proper PPE, including, but not limited to rubber gloves and eye protection is necessary for the sampling protocol.
2. The WRR laboratory will prepare the sampling containers, labels and chain of custody required for the analysis of the components of interest. Any samples requiring the addition of a preservative will have that preservative added by the WRR laboratory after the sample is collected.
3. Grab samples will be collected from the rinsate, labeled, and taken to the WRR laboratory for analysis on-site or shipment to an off-site laboratory.
4. Clear glass sample vials will be used for on-site analysis.
5. Amber glass containers will be used for all samples shipped off-site.
6. Samples for off-site analysis will be packaged and shipped on ice to ensure proper conditions for the component tested. The following, or current, test methods will be used:
    a. Method 8260 -Volatile Organic Compounds TCLP
    b. Method 8081A-Pesticides
    c. Method 60108- Metals TCLP
    d. Method 7470A-Mercury
7. The lowest possible analytical Method of Detection Limit (MDL) will be used.
8. Analysis will be completed and the results compared to the wastewater standards identified in the treatment standards table in s. NR 668.40 Wis. Admin. Code. If the concentrations exceed these standards, the decontamination process will be repeated.
9. A closure report will be prepared that includes a table with concentration results data for the process equipment, a discussion/evaluation of the process equipment, the temperature of the wash water, the equipment used to process equipment, how the equipment was decontaminated, a discussion of the waste volumes and how the waste

materials were disposed of, waste disposal documentation, a photo log documenting the decontamination and the cleaned equipment, and a discussion/evaluation of the sampling procedure.

L-9 Meeting closure performance standards NR 664.0112(2)(e)

WRR has an established groundwater monitoring plan. No additional groundwater monitoring, leachate collection, or additional run-on or run-off controls are required during the partial or final closure activities to ensure that closure standards are attained.

L-10 Closure of container areas NR 664.0178

At closure, all hazardous waste and hazardous waste residues shall be removed from the containment systems. Bases contaminated with hazardous waste will be decontaminated or removed.

The containment structures will be decontaminated following the steps in **Section L-8b – Closure of concrete surfaces**.

L-11 Closure of tank systems NR 664.0197(1)

At the closure of a tank system, WRR will remove all waste from the tank system. The tank system and associated piping and pumps will be dismantled and decontaminated following the steps in **Section L-8a – Closure of equipment**.

The tank containment areas will be decontaminated following the steps in **Section L-8b – Closure of concrete surfaces**.

L-12 Schedule for closure of each HWMU and final closure NR 664.0112(2)(f)

Appendix L-1 shows the scheduled time required to close each hazardous waste management unit at WRR.

L-13 Estimated year of closure NR 664.0112(2)(g)

The financial mechanism for facility closure at WRR is not a trust fund. WRR does not expect to close before the operating license expires. The estimated year of final closure is not required.

L-14 Alternative requirements NR 664.0112(2)(h)

WRR has an established groundwater monitoring and treatment program. Part 1 – Section D describes the current and proposed future groundwater monitoring. The WRR Corrective Action

Plan (CAP) is described in Part 1 – Section D. Financial assurance information is provided in Part 1 – Section M.

L-15 Department notification NR 664.0112(4)(a)

WRR will notify the Department, in writing, of the intent to close the facility at least 180 days prior to the partial or final closure.

L-16 Final receipt of hazardous waste NR 664.0113(1)

Within 90 days after receiving the final volume of hazardous wastes, WRR will treat or remove from the hazardous waste management unit or facility, all hazardous wastes in accordance with the approved Closure Plan.

An extension of the 90 day period can be requested of the Department and may be approved if WRR demonstrates compliance with the following requirements for requesting a modification to the operating license:

1. The activities required to comply with this subsection will, of necessity, take longer than 90 days to complete or
2. All of the following apply:
    a. There is a reasonable likelihood that WRR or another person will recommence operation of the hazardous waste management unit or the facility within one year and
    b. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site and
    c. WRR has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable operating license requirements.

L-17 Completion of partial or final closure NR 664.0113(2)

Within 180 days after receiving the final volume of hazardous wastes, WRR will complete partial or final closure activities in accordance with the approved Closure Plan.

An extension of the 180 day period can be requested of the Department and may be approved if WRR demonstrates compliance with the following requirements for requesting a modification to the operating license:

1. The activities required to comply with this subsection will, of necessity, take longer than 180 days to complete or
2. All of the following apply:
    a. There is a reasonable likelihood that WRR or another person will recommence operation of the hazardous waste management unit or the facility within one year and
    b. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site and
    c. WRR has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable operating license requirements.

L-18 Disposal or decontamination of equipment, structures and soil NR 664.0114

WRR expects to generate the following closure activity generated waste streams:

1. Volatile organic compound, semi-volatile organic compound, pesticide and heavy metal contaminated waste water from rinsing and decontaminating equipment and materials.
2. Volatile organic compound, semi-volatile organic compound, pesticide and heavy metal contaminated PPE and other debris
3. RCRA solid debris
4. Non-RCRA solid debris
5. Material removed from contaminated concrete surfaces, along with contaminated abrasive media

Steel tanks may be dispositioned in several different ways:

1. No closure performance standard:
    a. Manifest to an authorized hazardous waste management facility (TSDF) for reuse
    b. Manifest to an authorized hazardous waste management facility for disposal
2. After successful decontamination meets clean debris surface standard (NR 668.45, Table 1)
    a. Reuse in an industrial application
    b. Recycle material as as scrap steel
    c. Dispose at a non-hazardous waste facility (e.g., solid waste landfill).

Equipment, pumps and associated piping may be dispositioned in several different ways:

1. No closure performance standard:
    a. Manifest to an authorized hazardous waste management facility (TSDF) for reuse
    b. Manifest to an authorized hazardous waste management facility for disposal
2. After successful decontamination meets clean debris surface standard (NR 668.45, Table 1)
    a. Reuse in an industrial application

b. Recycle material as scrap steel
c. Dispose at a non-hazardous waste facility (e.g., solid waste landfill).

L-19 Certification of closure NR 664.0115

Within 60 days of completion of final closure of the WRR facility, a certification of completion of final closure will be submitted to the Department by registered mail. The certification will state that the facility has been closed in accordance with the approved Closure Plan. The certification will be signed by a representative of WRR and by an independent registered Professional Engineer. In accordance with NR 664.0115, documentation that supports the certification of closure will be generated and retained in the Operating Record of the facility. Upon release of WRR by the Department from the financial assurance requirements for closure and NR 664.0115, this data may be destroyed.

Partial closure of the facility does not require certification of closure. WRR will maintain data derived from partial closure activities suitable for use in the final closure certification.

Part 1

Section L – Closure Plan Requirements

Appendix L-1
Closure Schedule at WRR Environmental Services

<u>**Management Unit Activity**</u>	<u>**Activity Duration of Closure (Days)**</u> 0 10 20 30 40 50 60 70 80 90
Waste Inventory	
Bulk Shipment of Waste	---
Containers Storage Areas	
Waste Drum Pumping	------------------------------
Shipment of Empty Drums	-----------------------------
Shipment of Waste Drums	---
Containment storage area cleaning	---
Tank Storage Areas	
Waste tank pumping	-----------------------
Waste tank cleaning	---------------------
Process Equipment	
Clean Miscellaneous Unit - Hydrapulper	-----------------
Clean Miscellaneous Unit – Thin Film Evaporator	-----------------
General Cleanup	---------------
Inspection and Documentation of Closure	---------------------

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section M – Closure Cost Estimate and Financial Responsibility

M-1 Closure cost estimate NR 664.0142(1)

The current closure cost estimate for the WRR facility is $659,643.24. The closure costs include closure of 2 miscellaneous units – Thin film evaporator E4 and the HVPS equipment, thirty eight tanks and their containment dikes and 14 container storage areas including the HHW Room and the Tanker Storage Area.

Closure costs were calculated using an EPA provided software program called CostPro. A summary sheet and the Costpro calculations are provided in Appendix 1M-1.[1] Supporting documents are Appendix 1M-2.

M-2 Most expensive costs used in cost estimate NR 664.0142(1)(a)

The closure cost estimate includes the removal of WRR maximum inventory levels of 661,618 gallons and that all current hazardous waste management units are operating.

M-3 Third party closure of facility NR 664.0142(1)(b)

The closure cost estimate includes the hiring of a third party to close the facility. For purposes of closure costing, the third party is a party who is neither a parent company nor a subsidiary of WRR.

M-4 Salvage value not used in closure costs NR 664.0142(1)(c)

The closure cost estimate does not incorporate any salvage value that may be realized from the sale of hazardous waste, structures or equipment, land or other assets associated with WRR at the time of partial or final closure.

M-5 Zero cost not allowed NR 664.0142(1)(d)

The closure cost estimate does not incorporate a zero cost for hazardous wastes that might have economic value.

M-6 Established financial assurance for closure NR 664.0143

WRR has established Closure Insurance as the financial assurance mechanism for the final closure of the facility. A copy of the current Closure Insurance certificate issued by Steadfast Insurance Company can be found in Appendix 1M-3.[2] A new insurance certificate will be issued for the current closure costs of $673,402.70.

M-7 Closure insurance applicable requirements NR 664.0143(5)

The certificate of insurance issued to WRR meets the following requirements:

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[1] Item# 28
[2] Item# 29

1. Contains wording identical to the Department as specified in s. NR 664.0151 (5) Wis. Admin.Code.
2. The face amount is at least equal to the current closure cost estimate.
3. Once closure begins, the policy guarantees the insurer will be responsible for paying out funds, up to the face amount of the policy, upon direction of the Department, to the party or parties specify.

After beginning partial or final closure, WRR or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Department. WRR may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life.

WRR will maintain the policy in full force and effect until the Department consents to termination of the policy by WRR. The policy will be terminated by WRR only after a replacement insurance policy or an alternative closure mechanism has been established.

Whenever current closure cost estimate increase to an amount greater than the face amount of the policy, WRR, within 60 days after the increase, will increase the face amount at least equal to the current closure cost estimate and submit evidence of the increase to the Department, or obtain other financial assurance as specified in s. NR 664.0143 Wis. Admin. Code to cover the increase.

Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Department.

M-8 New facility requirements NR 670.014(2)(o)

WRR is an established facility so the new facility requirements in s. NR 670.014(2)(o) Wis. Admin. Code do not apply.

Part 1

Section M – Closure Cost Estimate and Financial Responsibility

Appendix M-1
Closure Cost Estimate

Closure Cost Estimate for WRR Environmental Services Company, Inc.

Area Without 20% Contingency Allowance	Summary Page Estimate for year 2013 In 2013 Dollars	FPOR changes & Adjustment Apr-14 In 2013 Dollars	Summary Page Estimate for year 2014 In 2013 Dollars	Inflation Factor 1.0149 In 2014 Dollars
Container Storage				
E1 Building	$70,233.33	-$200.30	$70,033.03	$71,076.52
E2 Area 1 Tanker Pit & Tanker Contai	$7,757.57	$13,541.06	$21,298.63	$21,615.98
E2 Area 3 & 4 Docks 1,4,5	$37,600.63	$773.74	$38,374.37	$38,946.15
E2 Area 5 & 6 Fuel Blend	$32,413.60	$0.00	$32,413.60	$32,896.56
DOT Room	$11,941.41	$0.00	$11,941.41	$12,119.34
Barrel Shed 8 Units	$89,312.99	-$7,130.00	$82,182.99	$83,407.52
Clean Sweep Room	$0.00	$13,567.74	$13,567.74	$13,769.90
Sub Total Container Storage	$249,259.53	$20,552.24	$269,811.77	$273,831.97
Tank Storage Areas				
E2 Sludge Dike	$107,946.99	$0.00	$107,946.99	$109,555.40
E1 Sludge Dike	$90,544.78	$0.00	$90,544.78	$91,893.90
E1South Sludge Dike	$81,399.15	$0.00	$81,399.15	$82,612.00
Sub Total Tank Storage Areas	$279,890.92	$0.00	$279,890.92	$284,061.29
Closure Cost Estimate Before Contingency	$529,150.45	$20,552.24	$549,702.69	$557,893.26
Contingency Percent	20%			20%
Contingency Dollars	$105,830.09			$111,578.65
Total Closure Cost Estimate	$634,980.54			$669,471.91

WRR Environmental Services Co., Inc.
WID990829475

Address: 5200 Ryder Road
Eau Claire
WISCONSIN
54701

Comments:

Activity	Units	Closure Cost
Container Storage Area	7	$323,774.13
Tank Systems	3	$335,869.11

$659,643.24

Additional Costs $0.00

Total Estimated Cost **$659,643.24**

Facility: WRR Environmental Services Co., Inc. **Unit:** E1 04/15/2014

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$3,882.75	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$3,347.84	
Sampling and Analysis (SA-02)	$6,042.40	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$1,602.00	
Treatment and Disposal (TD-01)	$51,184.17	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$66,059.16	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$3,973.87	
Subtotal	$70,033.03	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$14,006.61	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$84,039.64	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY

Volume of liquid waste	122,815.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	2.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD

Length (excluding any curbs or berm)	130.0	ft
Width (excluding any curbs or berm)	75.0	ft
Surface Area of Containment System Pad	9,750.0	ft2
Surface Area of Containment System Pad in yd2	1,083.3	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD

Thickness	0.5	ft
Volume of Containment System Pad	4,875.0	ft3
Volume of Containment System Pad in yd3	180.6	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM

Inside Perimeter	250.0	ft
Height	0.5	ft
Surface Area of Containment System Berm	125.0	ft2
Surface Area of Containment System Berm in yd2	13.9	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM

Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3

SURFACE AREA OF OTHER STRUCTURES

Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2

VOLUME OF OTHER STRUCTURES

Volume of Other Structures	0.0	yd3

Facility: WRR Environmental Services Co., Inc.	**Unit:** E1		04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Notes: Used 2/28 Drum Inventory Sheet and Incoming Drum Assignment percentages

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS		
Volume of loose debris waste	1.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$1.99	
REMOVAL OF DRUMMED WASTE		
Number of Drums	2,261	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$1.50	
Cost to Remove Waste in Drums	$3,391.50	
REMOVAL OF SOLID MONOLITHIC WASTE		
Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level C	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	
DRY SWEEP STORAGE PROCESS, HANDLING AREA		
Surface area to dry sweep	19,500.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	19.5	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$489.26	
TOTAL COST OF WASTE REMOVAL	$3,882.75	

Notes: E1 Main Storage and Receiving Area

Removal of Process Equipment (CS_05-1)

SOLIDIFICATION OR STABILIZATION PROCESS EQUIPMENT

Quantity	0
Unit Cost	$1,080.00
Extended Cost	$0.00

CONVEYOR SYSTEM (40 FOOT SECTIONS)

Quantity	0
Unit Cost	$1,908.77
Extended Cost	$0.00

HOPPERS

Quantity	0
Unit Cost	$180.14
Extended Cost	$0.00

SHREDDERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

BALERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

FRONT-END LOADERS

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00

BACKHOES

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00
TOTAL COST TO REMOVE PROCESS EQUIPMENT	$0.00

Facility: WRR Environmental Services Co., Inc. **Unit:** E1 04/15/2014

Container Storage Areas Certification of Closure (CS_07-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Notes: E1 Building Area

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$3,347.84
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$3,347.84

Facility: WRR Environmental Services Co., Inc. **Unit:** E1 04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-2)

Area of unit to be decontaminated	9,875.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0050	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	49.4	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$3,347.84	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	1,975.0	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$3,347.84	

Notes: E1 WHSE and Recv Area
R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	0.0	ft2
Choose the appropriate level of PPE	Protection Level C	
Labor and equipment cost per hour	$93.83	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0500	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	0.0	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$0.00	
Ratio of decontamination fluid to area	2.0	gals per ft2
Volume of decontamination fluid generated	0.0	gal
Decontamination fluid container type:	Drums	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$0.00	

Notes: E1 Thin Film - This is an Exempt recycling unit

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	2	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$6,042.40
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$6,042.40

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	2	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	1.0	Work hrs
Cost of Collection per Sampling Event	$94.67	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$2,926.53	per Event

SAMPLING EVENTS

Number of sampling events	2	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$6,042.40	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Chlorinated hydrocarbons (EPA 612)	Liquid	$190.55	3	$381.10	0	$571.65
TCLP (RCRA) (SW 1311)	Both	$569.25	3	$1,138.50	0	$1,707.75
Total organic carbon, TOC (EPA 415.1/415.2)	Liquid	$26.88	3	$53.76	0	$80.64
Volatile organic analysis (EPA 624)	Liquid	$188.83	3	$377.66	0	$566.49

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$50,458.42
Treatment and Disposal of Decontamination Fluids (TD-03)	$725.75
Total Cost of Treatment and Disposal	$51,184.17

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	120,370.6	gal
Treatment and disposal costs per gallon	$0.36	per Gallon
Cost to Treat and Dispose of Liquid Waste	$43,333.42	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	10	
Number of drums to be treated and disposed of	75	Drums
Treatment and disposal costs per drum	$95.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$7,125.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$50,458.42	

Notes: Liquid waste treatment includes freight in the price

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities

Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	1,975.0	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	1,975.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$74.70	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.1975	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$14.75	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$711.00	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$725.75	

Notes: 0.36 per gallon includes freight either to Cement Kiln (0.30 Total) or Elite (0.36)

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS		
Number of drums of waste	75	Drums
Number of truckloads needed to transport waste in drums	1	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$1,602.00	per Truckload
Cost to transport Waste in Drums	$1,602.00	
TRANSPORTATION OF BULK LIQUID		
Gallons of liquid waste	0.0	gal
Number of truckloads needed to transport bulk free liquid waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of bulk liquids	$801.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	
TRANSPORATION OF BULK WASTE		
Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk waste	$0.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$1,602.00	

Notes:

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$1,934.81	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$2,460.05	
Sampling and Analysis (SA-02)	$3,719.48	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$0.00	
Treatment and Disposal (TD-01)	$9,210.42	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$17,324.76	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$3,973.87	
Subtotal	$21,298.63	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$4,259.73	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$25,558.36	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY		
Volume of liquid waste	27,000.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	0.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length (excluding any curbs or berm)	191.0	ft
Width (excluding any curbs or berm)	50.0	ft
Surface Area of Containment System Pad	9,550.0	ft2
Surface Area of Containment System Pad in yd2	1,061.1	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.3	ft
Volume of Containment System Pad	2,865.0	ft3
Volume of Containment System Pad in yd3	106.1	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Inside Perimeter	482.0	ft
Height	2.4	ft
Surface Area of Containment System Berm	1,156.8	ft2
Surface Area of Containment System Berm in yd2	128.5	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES		
Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2
VOLUME OF OTHER STRUCTURES		
Volume of Other Structures	0.0	yd3

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 1 Tanker Pit and Tanker Dike 04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS		
Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	
REMOVAL OF DRUMMED WASTE		
Number of Drums	491	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$3.45	
Cost to Remove Waste in Drums	$1,693.95	
REMOVAL OF SOLID MONOLITHIC WASTE		
Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	
DRY SWEEP STORAGE PROCESS, HANDLING AREA		
Surface area to dry sweep	9,550.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	9.6	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$240.86	
TOTAL COST OF WASTE REMOVAL	$1,934.81	

Removal of Process Equipment (CS_05-1)

SOLIDIFICATION OR STABILIZATION PROCESS EQUIPMENT		
	Quantity	0
	Unit Cost	$1,080.00
	Extended Cost	$0.00
CONVEYOR SYSTEM (40 FOOT SECTIONS)		
	Quantity	0
	Unit Cost	$1,908.77
	Extended Cost	$0.00
HOPPERS		
	Quantity	0
	Unit Cost	$180.14
	Extended Cost	$0.00
SHREDDERS		
	Quantity	0
	Unit Cost	$1,804.55
	Extended Cost	$0.00
BALERS		
	Quantity	0
	Unit Cost	$1,804.55
	Extended Cost	$0.00
FRONT-END LOADERS		
	Quantity	0
	Unit Cost	$482.50
	Extended Cost	$0.00
BACKHOES		
	Quantity	0
	Unit Cost	$482.50
	Extended Cost	$0.00
	TOTAL COST TO REMOVE PROCESS EQUIPMENT	$0.00

Container Storage Areas Certification of Closure (CS_07-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$2,460.05
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$2,460.05

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	6,055.0	ft2
Choose the appropriate level of PPE	Protection Level C	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0060	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	36.3	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$2,460.05	
Ratio of decontamination fluid to area	0.5	gals per ft2
Volume of decontamination fluid generated	3,027.5	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$2,460.05	

Notes: Work Hours 2 people 2 days
R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	2	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$3,719.48
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$3,719.48

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	2	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.1700	Work hrs per Sample
Number of hours required to collect all samples	0.3	Work hrs
Cost of Collection per Sampling Event	$28.40	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$1,831.34	per Event

SAMPLING EVENTS

Number of sampling events	2	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$3,719.48	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 1 Tanker Pit and Tanker Dike 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (EPA 245.1)	Liquid	$41.20	1	$82.40	0	$41.20
Metals, furnace, per each (SW 7000s)	Both	$41.20	3	$82.40	0	$123.60
TAL metals (SW 6010/7000s)	Both	$298.36	1	$596.72	0	$298.36
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
TCLP (RCRA) (SW 1311)	Both	$569.25	1	$1,138.50	0	$569.25
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$8,100.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$1,110.42
Total Cost of Treatment and Disposal	$9,210.42

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	27,000.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$8,100.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$0.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$8,100.00	

Notes: Tankers are for fuel blend

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities		
Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	3,027.5	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	3,027.5	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.30275	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$20.52	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$1,089.90	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$1,110.42	

Notes: 0.36 per gallon includes freight

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	0	Drums
Number of truckloads needed to transport waste in drums	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$801.00	per Truckload
Cost to transport Waste in Drums	$0.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	0.0	gal
Number of truckloads needed to transport bulk free liquid waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	0.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of bulk liquids	$0.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	80.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk waste	$0.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$0.00	

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$1,748.88	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$2,160.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$7,370.55	
Sampling and Analysis (SA-02)	$929.24	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$1,602.00	
Treatment and Disposal (TD-01)	$20,589.83	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$34,400.50	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$3,973.87	
Subtotal	$38,374.37	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$7,674.87	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$46,049.24	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY		
Volume of liquid waste	50,050.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	6.6	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length (excluding any curbs or berm)	137.0	ft
Width (excluding any curbs or berm)	112.0	ft
Surface Area of Containment System Pad	15,344.0	ft2
Surface Area of Containment System Pad in yd2	1,704.9	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.3	ft
Volume of Containment System Pad	4,603.2	ft3
Volume of Containment System Pad in yd3	170.5	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Inside Perimeter	468.0	ft
Height	0.5	ft
Surface Area of Containment System Berm	234.0	ft2
Surface Area of Containment System Berm in yd2	26.0	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES		
Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2
VOLUME OF OTHER STRUCTURES		
Volume of Other Structures	0.0	yd3

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS

Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	

REMOVAL OF DRUMMED WASTE

Number of Drums	910	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$1.50	
Cost to Remove Waste in Drums	$1,365.00	

REMOVAL OF SOLID MONOLITHIC WASTE

Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	

DRY SWEEP STORAGE PROCESS, HANDLING AREA

Surface area to dry sweep	15,344.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	15.3	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$383.88	
TOTAL COST OF WASTE REMOVAL	$1,748.88	

Notes: We have the equipment to move or pump drums

Removal of Process Equipment (CS_05-1)

SOLIDIFICATION OR STABILIZATION PROCESS EQUIPMENT

Quantity	2
Unit Cost	$1,080.00
Extended Cost	$2,160.00

CONVEYOR SYSTEM (40 FOOT SECTIONS)

Quantity	0
Unit Cost	$1,908.77
Extended Cost	$0.00

HOPPERS

Quantity	0
Unit Cost	$180.14
Extended Cost	$0.00

SHREDDERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

BALERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

FRONT-END LOADERS

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00

BACKHOES

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00
TOTAL COST TO REMOVE PROCESS EQUIPMENT	$2,160.00

Container Storage Areas Certification of Closure (CS_07-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$7,370.55
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$7,370.55

Decontamination by Steam Cleaning or Pressure Wash (DC_02-3)

Area of unit to be decontaminated	0.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0060	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	0.0	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$0.00	
Ratio of decontamination fluid to area	0.7	gals per ft2
Volume of decontamination fluid generated	0.0	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$0.00	

Notes: E23 Thin Film - this is an Exempt Recycling Unit

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-2)

Area of unit to be decontaminated	188.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0200	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	3.8	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$257.53	
Ratio of decontamination fluid to area	2.0	gals per ft2
Volume of decontamination fluid generated	376.0	gal
Decontamination fluid container type:	Drums	
Number of drums required to contain decontamination fluid for removal	7	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$566.44	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$823.97	

Notes: E4 Thin Film
R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	15,578.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0062	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	96.6	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$6,546.58	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	3,115.6	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$6,546.58	

Notes: Hours = 4 people 8 hours 3 days
R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	3	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$929.24
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$929.24

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	3	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	1.5	Work hrs
Cost of Collection per Sampling Event	$142.00	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$787.24	per Event

SAMPLING EVENTS

Number of sampling events	1	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$929.24	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		**Standard**	**Qty**	**Quick**	**Qty**	**Total**
Chlorinated hydrocarbons (SW 3550/SW 8120/SW 8121)	Solid	$190.55	1	$381.10	0	$190.55
Dioxins & Dibenzofurans (SW 3550/SW 8280)	Solid	$195.70	1	$391.40	0	$195.70
Mercury, cold vapor (SW 7470) with prep	Liquid	$41.20	1	$82.40	0	$41.20
Nonhalogenated volatile organics (SW 5030/SW 8015)	Both	$110.00	1	$220.00	0	$110.00
Total petroleum hydrocarbons (EPA 418.1)	Both	$60.96	1	$121.92	0	$60.96
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$19,305.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$1,284.83
Total Cost of Treatment and Disposal	$20,589.83

Facility: WRR Environmental Services Co., Inc.	**Unit:** E2 Area 3 & 4 Docks 1, 4, 5	04/15/2014	

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	46,750.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$14,025.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	8A	
Number of drums to be treated and disposed of	60	Drums
Treatment and disposal costs per drum	$88.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$5,280.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$19,305.00	

Notes: 60 drums of a solid type waste (usually shreddable solids) and the other 850 drums liquid or sludge for fuel blending. The bulk waste would go to Cement Kiln. Price per gallon includes freight.

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 3 & 4 Docks 1, 4, 5 04/15/2014

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities		
Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	3,491.6	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	3,491.6	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.34916	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$27.85	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$1,256.98	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$1,284.83	

Notes: 0.36 Includes Freight
R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	60	Drums
Number of truckloads needed to transport waste in drums	1	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$1,602.00	per Truckload
Cost to transport Waste in Drums	$1,602.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	46,750.0	gal
Number of truckloads needed to transport bulk free liquid waste	7	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk liquids	$0.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	1,200.0	Mi
Cost per mile	$3.35	per Mile
Cost to transport one truckload of bulk waste	$4,020.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$1,602.00	

Notes: Our Contracted shipping rate comes out to 3.35 mile including fuel surcharge. We would bulk the liquid and send it via rail and the tranport is included in cost.

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$1,207.50	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$4,690.24	
Sampling and Analysis (SA-02)	$7,136.70	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$3,204.00	
Treatment and Disposal (TD-01)	$8,227.42	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$24,465.86	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$7,947.74	
Subtotal	$32,413.60	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$6,482.72	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$38,896.32	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY		
Volume of liquid waste	17,900.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	0.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length (excluding any curbs or berm)	92.0	ft
Width (excluding any curbs or berm)	36.0	ft
Surface Area of Containment System Pad	3,312.0	ft2
Surface Area of Containment System Pad in yd2	368.0	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.5	ft
Volume of Containment System Pad	1,656.0	ft3
Volume of Containment System Pad in yd3	61.3	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Inside Perimeter	242.0	ft
Height	0.5	ft
Surface Area of Containment System Berm	121.0	ft2
Surface Area of Containment System Berm in yd2	13.4	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES		
Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2
VOLUME OF OTHER STRUCTURES		
Volume of Other Structures	0.0	yd3

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 5 & 6 Fuel Blend 04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS

Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	

REMOVAL OF DRUMMED WASTE

Number of Drums	326	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$3.45	
Cost to Remove Waste in Drums	$1,124.70	

REMOVAL OF SOLID MONOLITHIC WASTE

Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	

DRY SWEEP STORAGE PROCESS, HANDLING AREA

Surface area to dry sweep	3,312.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	3.3	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$82.80	
TOTAL COST OF WASTE REMOVAL	$1,207.50	

Container Storage Areas Certification of Closure (CS_07-1)

Number of units requiring certification of closure	2	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$7,947.74	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$4,690.24
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$4,690.24

Facility:	WRR Environmental Services Co., Inc.	Unit:	E2 Area 5 & 6 Fuel Blend	04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-3)

Area of unit to be decontaminated	3,433.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$63.47	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0070	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	24.0	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$1,523.28	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	686.6	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$1,523.28	

Notes: Decon Upper and Lower Fuels Building

Decontamination by Steam Cleaning or Pressure Wash (DC_02-2)

Area of unit to be decontaminated	402.0	ft2
Choose the appropriate level of PPE	Protection Level C	
Labor and equipment cost per hour	$93.83	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0405	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	16.3	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$1,529.43	
Ratio of decontamination fluid to area	0.3	gals per ft2
Volume of decontamination fluid generated	120.6	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$1,529.43	

Notes: Hydra-Pulper

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 5 & 6 Fuel Blend 04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	638.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$63.47	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0405	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	25.8	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$1,637.53	
Ratio of decontamination fluid to area	0.3	gals per ft2
Volume of decontamination fluid generated	191.4	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$1,637.53	

Notes: Drum Cutter Pump and pipe pail press

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	3	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$7,136.70
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$7,136.70

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	3	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	1.5	Work hrs
Cost of Collection per Sampling Event	$142.00	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$2,236.90	per Event

SAMPLING EVENTS

Number of sampling events	3	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$7,136.70	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** E2 Area 5 & 6 Fuel Blend 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (SW 7470) with prep	Liquid	$41.20	1	$82.40	0	$41.20
Metals, furnace, per each (SW 7000s)	Both	$41.20	9	$82.40	0	$370.80
Pesticides/PCBs (EPA 608)	Liquid	$158.36	1	$316.72	0	$158.36
TAL metals (SW 6010/7000s)	Both	$298.36	1	$596.72	0	$298.36
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
TCLP (RCRA) (SW 1311)	Both	$569.25	1	$1,138.50	0	$569.25
Volatile organic analysis (SW 5030/SW 8240)	Both	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$7,830.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$397.42
Total Cost of Treatment and Disposal	$8,227.42

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	11a	
Volume in gallons of liquid waste to be treated and disposed of	11,300.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$3,390.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	12	
Number of drums to be treated and disposed of	120	Drums
Treatment and disposal costs per drum	$37.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$4,440.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$7,830.00	

Notes: Liquid is the Hyda-pulper volume and 1/2 the drums. The other 1/2 drums would be thicker and sent via van to Cement Kiln.

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities		
Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	998.6	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	998.6	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.09986	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$7.97	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.39	per Gallon
Treatment and disposal costs for bulk liquid	$389.45	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$397.42	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	120	Drums
Number of truckloads needed to transport waste in drums	2	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$1,602.00	per Truckload
Cost to transport Waste in Drums	$3,204.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	0.0	gal
Number of truckloads needed to transport bulk free liquid waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	180.0	Mi
Cost per mile	$3.35	per Mile
Cost to transport one truckload of bulk liquids	$603.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of bulk waste	$1,692.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$3,204.00	

Facility:	WRR Environmental Services Co., Inc.	Unit:	DOT Room	04/15/2014

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$293.56	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$542.16	
Sampling and Analysis (SA-02)	$2,284.24	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$1,602.00	
Treatment and Disposal (TD-01)	$7,219.45	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$11,941.41	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$0.00	
Subtotal	$11,941.41	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$2,388.28	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$14,329.69	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY

Volume of liquid waste	4,400.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	0.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD

Length (excluding any curbs or berm)	48.0	ft
Width (excluding any curbs or berm)	14.0	ft
Surface Area of Containment System Pad	672.0	ft2
Surface Area of Containment System Pad in yd2	74.7	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD

Thickness	0.5	ft
Volume of Containment System Pad	336.0	ft3
Volume of Containment System Pad in yd3	12.4	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM

Inside Perimeter	110.0	ft
Height	2.0	ft
Surface Area of Containment System Berm	220.0	ft2
Surface Area of Containment System Berm in yd2	24.4	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM

Thickness	0.5	ft
Volume of Containment System Berm	110.0	ft3
Volume of Containment System Berm in yd3	4.1	yd3

SURFACE AREA OF OTHER STRUCTURES

Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2

VOLUME OF OTHER STRUCTURES

Volume of Other Structures	0.0	yd3

Facility: WRR Environmental Services Co., Inc.	**Unit:** DOT Room		04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS

Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	

REMOVAL OF DRUMMED WASTE

Number of Drums	80	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$3.45	
Cost to Remove Waste in Drums	$276.00	

REMOVAL OF SOLID MONOLITHIC WASTE

Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	

DRY SWEEP STORAGE PROCESS, HANDLING AREA

Surface area to dry sweep	672.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	0.7	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$17.56	
TOTAL COST OF WASTE REMOVAL	$293.56	

Removal of Process Equipment (CS_05-1)

SOLIDIFICATION OR STABILIZATION PROCESS EQUIPMENT

Quantity	0
Unit Cost	$1,080.00
Extended Cost	$0.00

CONVEYOR SYSTEM (40 FOOT SECTIONS)

Quantity	0
Unit Cost	$1,908.77
Extended Cost	$0.00

HOPPERS

Quantity	0
Unit Cost	$180.14
Extended Cost	$0.00

SHREDDERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

BALERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

FRONT-END LOADERS

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00

BACKHOES

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00
TOTAL COST TO REMOVE PROCESS EQUIPMENT	$0.00

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$542.16
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$542.16

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	892.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0090	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	8.0	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$542.16	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	178.4	gal
Decontamination fluid container type:		Bulk
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$542.16	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	1	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$2,284.24
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$2,284.24

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	1	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	0.5	Work hrs
Cost of Collection per Sampling Event	$47.34	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$2,236.90	per Event

SAMPLING EVENTS

Number of sampling events	1	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$2,284.24	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** DOT Room 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (EPA 245.1)	Liquid	$41.20	1	$82.40	0	$41.20
Metals, furnace, per each (SW 7000s)	Both	$41.20	9	$82.40	0	$370.80
Pesticides/PCBs (EPA 608)	Liquid	$158.36	1	$316.72	0	$158.36
TAL metals (SW 6010/7000s)	Both	$298.36	1	$596.72	0	$298.36
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
TCLP (RCRA) (SW 1311)	Both	$569.25	1	$1,138.50	0	$569.25
Volatile organic analysis (SW 5030/SW 8240)	Both	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$7,141.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$78.45
Total Cost of Treatment and Disposal	$7,219.45

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	5	
Volume in gallons of liquid waste to be treated and disposed of	4,070.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$1,221.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	8a	
Number of drums to be treated and disposed of	74	Drums
Treatment and disposal costs per drum	$80.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$5,920.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$7,141.00	

Notes: 0.30 lb includes freight

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities		
Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	178.4	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	178.4	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0010	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.1784	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$14.23	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$64.22	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$78.45	

Notes: 0.36 gal includes freight

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	74	Drums
Number of truckloads needed to transport waste in drums	1	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$1,602.00	per Truckload
Cost to transport Waste in Drums	$1,602.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	0.0	gal
Number of truckloads needed to transport bulk free liquid waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk liquids	$0.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk waste	$0.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$1,602.00	

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$2,117.67	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$4,750.68	
Sampling and Analysis (SA-02)	$19,106.96	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$12,816.00	
Treatment and Disposal (TD-01)	$43,391.68	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$82,182.99	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (CS-07)	$0.00	
Subtotal	$82,182.99	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$16,436.60	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$98,619.59	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY		
Volume of liquid waste	33,000.0	gal
Volume of solid waste	0.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	50.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	0.0	yd3
Volume of monolithic waste	0.0	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length (excluding any curbs or berm)	20.0	ft
Width (excluding any curbs or berm)	96.0	ft
Surface Area of Containment System Pad	1,920.0	ft2
Surface Area of Containment System Pad in yd2	213.3	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.5	ft
Volume of Containment System Pad	960.0	ft3
Volume of Containment System Pad in yd3	35.6	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Inside Perimeter	832.0	ft
Height	0.5	ft
Surface Area of Containment System Berm	416.0	ft2
Surface Area of Containment System Berm in yd2	46.2	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES		
Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2
VOLUME OF OTHER STRUCTURES		
Volume of Other Structures	0.0	yd3

Facility:	WRR Environmental Services Co., Inc.	**Unit:**	Barrel Sheds (8 units)	04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Notes: This is the total for 8 sheds that are the same size

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS		
Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	
REMOVAL OF DRUMMED WASTE		
Number of Drums	600	Drums
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per drum	$3.45	
Cost to Remove Waste in Drums	$2,070.00	
REMOVAL OF SOLID MONOLITHIC WASTE		
Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	
DRY SWEEP STORAGE PROCESS, HANDLING AREA		
Surface area to dry sweep	1,920.0	ft2
Surface area to dry sweep in thousand square feet (MSF)	1.9	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$47.67	
TOTAL COST OF WASTE REMOVAL	$2,117.67	

Removal of Process Equipment (CS_05-1)

SOLIDIFICATION OR STABILIZATION PROCESS EQUIPMENT

Quantity	0
Unit Cost	$1,080.00
Extended Cost	$0.00

CONVEYOR SYSTEM (40 FOOT SECTIONS)

Quantity	0
Unit Cost	$1,908.77
Extended Cost	$0.00

HOPPERS

Quantity	0
Unit Cost	$180.14
Extended Cost	$0.00

SHREDDERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

BALERS

Quantity	0
Unit Cost	$1,804.55
Extended Cost	$0.00

FRONT-END LOADERS

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00

BACKHOES

Quantity	0
Unit Cost	$482.50
Extended Cost	$0.00
TOTAL COST TO REMOVE PROCESS EQUIPMENT	$0.00

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$4,750.68
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$4,750.68

Facility: WRR Environmental Services Co., Inc. **Unit:** Barrel Sheds (8 units) 04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	2,336.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0300	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	70.1	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$4,750.68	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	467.2	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$4,750.68	

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	8	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$19,106.96
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$19,106.96

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES		
Number of sampling locations	8	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.2000	Work hrs per Sample
Number of hours required to collect all samples	1.6	Work hrs
Cost of Collection per Sampling Event	$151.47	per Event
ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES		
Cost of Analysis per Sampling Event	$2,236.90	per Event
SAMPLING EVENTS		
Number of sampling events	8	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$19,106.96	

Facility: WRR Environmental Services Co., Inc. **Unit:** Barrel Sheds (8 units) 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (SW 7470) with prep	Liquid	$41.20	1	$82.40	0	$41.20
Metals, furnace, per each (SW 7000s)	Both	$41.20	9	$82.40	0	$370.80
Pesticides/PCBs (EPA 608)	Liquid	$158.36	1	$316.72	0	$158.36
TAL metals (SW 6010/7000s)	Both	$298.36	1	$596.72	0	$298.36
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
TCLP (RCRA) (SW 1311)	Both	$569.25	1	$1,138.50	0	$569.25
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$43,220.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$171.68
Total Cost of Treatment and Disposal	$43,391.68

Treatment and Disposal of Waste (TD_02-5)

SOLID WASTE TREATMENT AND DISPOSAL

Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	

LIQUID WASTE TREATMENT AND DISPOSAL

Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	0.0	gal
Treatment and disposal costs per gallon	$0.00	per Gallon
Cost to Treat and Dispose of Liquid Waste	$0.00	

DRUMMED WASTE TREATMENT AND DISPOSAL

Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	320	Drums
Treatment and disposal costs per drum	$37.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$11,840.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$11,840.00	

Treatment and Disposal of Waste (TD_02-4)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	0.0	gal
Treatment and disposal costs per gallon	$0.00	per Gallon
Cost to Treat and Dispose of Liquid Waste	$0.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	6	
Number of drums to be treated and disposed of	40	Drums
Treatment and disposal costs per drum	$120.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$4,800.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$4,800.00	

Notes: Oxidizers

Facility: WRR Environmental Services Co., Inc. **Unit:** Barrel Sheds (8 units) 04/15/2014

Treatment and Disposal of Waste (TD_02-3)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	0.0	gal
Treatment and disposal costs per gallon	$0.00	per Gallon
Cost to Treat and Dispose of Liquid Waste	$0.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	26	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$750.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$0.00	

Notes: Lab Packs - Now in Clean Sweep Room

Facility: WRR Environmental Services Co., Inc.	**Unit:** Barrel Sheds (8 units)		04/15/2014

Treatment and Disposal of Waste (TD_02-2)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	0.0	gal
Treatment and disposal costs per gallon	$0.00	per Gallon
Cost to Treat and Dispose of Liquid Waste	$0.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	8A	
Number of drums to be treated and disposed of	180	Drums
Treatment and disposal costs per drum	$88.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$15,840.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$15,840.00	

Notes: Solids sludges to Kiln

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL

Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	

LIQUID WASTE TREATMENT AND DISPOSAL

Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	0.0	gal
Treatment and disposal costs per gallon	$0.00	per Gallon
Cost to Treat and Dispose of Liquid Waste	$0.00	

DRUMMED WASTE TREATMENT AND DISPOSAL

Drummed Waste Type (Optional: Enter Name)	12	
Number of drums to be treated and disposed of	60	Drums
Treatment and disposal costs per drum	$179.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$10,740.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$10,740.00	

Notes: Off site other drums

Facility: WRR Environmental Services Co., Inc. **Unit:** Barrel Sheds (8 units) 04/15/2014

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities

Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	467.2	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	467.2	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$74.70	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.04672	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$3.49	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$168.19	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$171.68	

Notes: 0.36 per gallon includes freight

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	600	Drums
Number of truckloads needed to transport waste in drums	8	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$2.67	per Mile
Cost to transport one truckload of 55-gallon drums	$1,602.00	per Truckload
Cost to transport Waste in Drums	$12,816.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	0.0	gal
Number of truckloads needed to transport bulk free liquid waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$2.25	per Mile
Cost to transport one truckload of bulk liquids	$675.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$0.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	600.0	Mi
Cost per mile	$0.00	per Mile
Cost to transport one truckload of bulk waste	$0.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$12,816.00	

Container Storage Areas Summary (CS_02-1)

Removal of Waste (CS-03)	$457.37	
Demolition and Removal of Pads (CS-04)	$0.00	
Removal of Process Equipment (CS-05)	$0.00	
Removal of Soil (CS-06)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$908.12	
Sampling and Analysis (SA-02)	$2,530.69	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$0.00	
Treatment and Disposal (TD-01)	$8,438.13	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$12,334.31	
Percentage of Engineering Expenses	10.0	%
Engineering Expenses	$1,233.43	
Certification of Closure (CS-07)	$0.00	
Subtotal	$13,567.74	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$2,713.55	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$16,281.29	

Container Storage Areas Inventory (CS_01-1)

MAXIMUM PERMITTED CAPACITY		
Volume of liquid waste	0.0	gal
Volume of solid waste	21.0	yd3
Percent of loose solid debris	0.0	%
Percent of drummed solid waste	100.0	%
Percent of baled waste or other monolithic waste	0.0	%
Volume of loose solid debris	0.0	yd3
Volume of solid waste in drums	21.0	yd3
Volume of monolithic waste	0.0	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length (excluding any curbs or berm)	25.8	ft
Width (excluding any curbs or berm)	23.4	ft
Surface Area of Containment System Pad	603.7	ft2
Surface Area of Containment System Pad in yd2	67.1	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.5	ft
Volume of Containment System Pad	301.8	ft3
Volume of Containment System Pad in yd3	11.2	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Inside Perimeter	100.2	ft
Height	0.5	ft
Surface Area of Containment System Berm	50.1	ft2
Surface Area of Containment System Berm in yd2	5.6	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Containment System Berm	0.0	ft3
Volume of Containment System Berm in yd3	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES		
Surface Area of Other Structures	0.0	ft2
Surface Area of Other Structures in yd2	0.0	yd2
VOLUME OF OTHER STRUCTURES		
Volume of Other Structures	0.0	yd3

Facility:	WRR Environmental Services Co., Inc.	**Unit:**	Clean Sweep Room	04/15/2014

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

AREA OF SITE TO BE GRADED WITHOUT SOIL REMOVAL

Length	0.0	ft
Width	0.0	ft
Area of Site to be Graded Without Soil Removal	0.0	ft2
Area of Site to be Graded Without Soil Removal in yd2	0.0	yd2

Container Storage Areas Removal of Waste (CS_03-1)

REMOVAL OF LOOSE SOLID DEBRIS		
Volume of loose debris waste	0.0	yd3
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per yd3	$1.99	per yd3
Cost to Remove Loose Solid Debris	$0.00	
REMOVAL OF DRUMMED WASTE		
Number of Drums	76	Drums
Choose the appropriate level of PPE	Protection Level B	
Labor and equipment cost per drum	$5.82	
Cost to Remove Waste in Drums	$442.32	
REMOVAL OF SOLID MONOLITHIC WASTE		
Number of monolithic forms	0.0	Forms
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per form	$13.76	per Form
Cost to Remove Monolithic Waste	$0.00	
DRY SWEEP STORAGE PROCESS, HANDLING AREA		
Surface area to dry sweep	603.7	ft2
Surface area to dry sweep in thousand square feet (MSF)	0.6	MSF
Labor and equipment cost per ft2	$25.09	per MSF
Cost to Dry Sweep Area	$15.05	
TOTAL COST OF WASTE REMOVAL	$457.37	

Container Storage Areas Certification of Closure (CS_07-1)

Number of units requiring certification of closure	0	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$0.00	

Notes: This would be included with one certification fee

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$908.12
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$908.12

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	653.8	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0205	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	13.4	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$908.12	
Ratio of decontamination fluid to area	1.0	gals per ft2
Volume of decontamination fluid generated	653.8	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$908.12	

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	2	Sample Location
Number of Surface Water and Liquid Sample Locations	1	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$2,530.69
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$2,530.69

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES

Number of sampling locations	1	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$88.66	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	0.5	Work hrs
Cost of Collection per Sampling Event	$44.33	per Event

ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES

Cost of Analysis per Sampling Event	$2,486.36	per Event

SAMPLING EVENTS

Number of sampling events	1	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$2,530.69	

Facility: WRR Environmental Services Co., Inc. **Unit:** Clean Sweep Room 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Chlorinated herbicides (EPA 515)	Liquid	$219.07	1	$438.14	0	$219.07
Cyanide (SW 9010) with prep	Liquid	$48.84	1	$97.68	0	$48.84
Dioxins & Dibenzofurans (SW 3550/SW 8280)	Solid	$195.70	1	$391.40	0	$195.70
Mercury, cold vapor (EPA 245.1)	Liquid	$41.20	1	$82.40	0	$41.20
Metals screen, 25 metals listed in method (EPA 200.7)	Liquid	$1,476.00	1	$2,952.00	0	$1,476.00
Pesticides/PCBs (EPA 608)	Liquid	$158.36	1	$316.72	0	$158.36
Pesticides/PCBs (SW 3550/SW 8080)	Solid	$158.36	1	$316.72	0	$158.36
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$8,015.50
Treatment and Disposal of Decontamination Fluids (TD-03)	$422.63
Total Cost of Treatment and Disposal	$8,438.13

Facility: WRR Environmental Services Co., Inc. **Unit:** Clean Sweep Room 04/15/2014

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	7B	
Volume in yd3 of solid waste to be treated and disposed of	2.0	yd3
Treatment and disposal costs per yd3	$79.00	per yd3
Cost to Treat and Dispose of Solid Waste	$158.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	165.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$49.50	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	8a	
Number of drums to be treated and disposed of	64	Drums
Treatment and disposal costs per drum	$122.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$7,808.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$8,015.50	

Notes: 2 cubic yard boxes (8 drums) 64 drums of solids 3 drums of liquid to fuel blend

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities

Volume of decontamination fluid from Primary Unit	0.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	653.8	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	653.8	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$74.70	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.06538	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$4.88	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$182.38	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$182.38	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$235.37	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$422.63	

Facility: WRR Environmental Services Co., Inc. **Unit:** EII sludge Dyke 04/15/2014

Tank Systems Summary (TS_02-1)

Removal of Waste (TS-03)	$3,842.56	
Tank System Purging (ignitable waste only) (TS-04)	$0.00	
Flushing the Tank and Piping (TS-05)	$1,145.31	
Excavation, Disassembly, and Loading (TS-06)	$0.00	
Demolition and Removal of Containment System (TS-07)	$0.00	
Removal of Soil (TS-08)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$42,142.19	
Sampling and Analysis (SA-02)	$16,872.64	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$4,732.00	
Treatment and Disposal (TD-01)	$35,238.42	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$103,973.12	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (TS-09)	$3,973.87	
Subtotal	$107,946.99	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$21,589.40	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$129,536.39	

Facility: WRR Environmental Services Co., Inc. **Unit:** EII sludge Dyke 04/15/2014

Tank Systems Inventory (TS_01-1)

UNIT DESCRIPTION AND MAXIMUM PERMITTED CAPACITY

Type of tank system	Aboveground	
Height or length of tank	377.7	ft
Diameter of tank	10.4	ft
Maximum permitted capacity of the tank	141,403.0	gal
Total length of ancillary piping	1,110.0	ft
Nominal diameter of ancillary piping	3.0	in
Maximum capacity of ancillary piping	407.6	gal
Maximum capacity of tank and ancillary piping	141,810.6	gal

SURFACE AREA OF TANK SYSTEM

Surface area of tank (interior and exterior)	24,850.7	ft2

VOLUME OF TANK SYSTEM TO BE REMOVED

Volume of Tank System to be Removed	18,957.4	ft3
Volume of Tank System to be Removed in yd3	702.1	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD

Length	52.0	ft
Width	57.5	ft
Surface Area of Secondary Containment System Pad	2,990.0	ft2
Surface Area of Secondary Containment System Pad in yd2	332.2	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD

Thickness	0.8	ft
Volume of Secondary Containment Pad	88.6	yd3

SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM

Total Length	307.0	ft
Height	4.0	ft
Surface Area of Secondary Containment System Berm	1,228.0	ft2
Surface Area of Secondary Containment System Berm in yd2	136.4	yd2

VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM

Thickness	0.0	ft
Volume of Secondary Containment System Berm	0.0	yd3

SURFACE AREA OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM

Surface Area of Other Structures	0.0	ft2

Surface Area of Other Structures in yd2	0.0	yd2

VOLUME OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM

Volume of Other Structures	0.0	yd3

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

Notes: EII Sludge Dyke. The Tanks are an average diameter by the cumulative height

Tank Systems Removal of Waste (TS_03-1)

Maximum volume of waste to be removed from the tank and ancillary piping	141,810.6	gal
Choose the appropriate level of PPE	Protection Level B	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to remove waste from tank and ancillary piping	0.0004	Work hr per gal
Number of hours required to remove waste from tank and ancillary piping	56.7	Work hrs
TOTAL COST OF REMOVAL OF WASTE FROM TANK AND ANCILLARY PIPING	$3,842.56	

Flushing the Tank and Piping (TS_05-1)

Maximum capacity of the tank and ancillary piping	8,470.0	gal
Number of times tank and ancillary piping are flushed	1	
Total volume of flushing solution	8,470.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to flush tank and ancillary piping	0.0020	Work hr per gal
Number of hours required to flush tank and ancillary piping	16.9	Work hrs
Subtotal of labor and equipment cost to flush tank and ancillary piping	$1,145.31	
Flushing solution is contained in:	Bulk	
Number of drums required to contain flushing solution	0	Drums
Cost of one drum	$80.92	
Cost of drums needed to contain flushing solution	$0.00	
TOTAL COST TO FLUSH TANK AND ANCILLARY PIPING	$1,145.31	

Tank Systems Certification of Closure (TS_09-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$42,142.19
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$42,142.19

Facility:	WRR Environmental Services Co., Inc.	Unit:	EII sludge Dyke	04/15/2014

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	53,919.4	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0050	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	269.6	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$18,270.79	
Ratio of decontamination fluid to area	0.3	gals per ft2
Volume of decontamination fluid generated	16,175.8	gal
Decontamination fluid container type:	Drums	
Number of drums required to contain decontamination fluid for removal	295	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$23,871.40	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$42,142.19	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.0678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	16	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$16,872.64
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$16,872.64

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES		
Number of sampling locations	16	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.1700	Work hrs per Sample
Number of hours required to collect all samples	2.7	Work hrs
Cost of Collection per Sampling Event	$255.61	per Event
ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES		
Cost of Analysis per Sampling Event	$798.93	per Event
SAMPLING EVENTS		
Number of sampling events	16	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$16,872.64	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** EII sludge Dyke 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$28,920.90
Treatment and Disposal of Decontamination Fluids (TD-03)	$6,317.52
Total Cost of Treatment and Disposal	$35,238.42

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	96,403.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$28,920.90	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$0.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$28,920.90	

Notes: 2/3 ship to cement Kiln. 0.30 Gal with freight. The other 45000 gal shipped to 3M freight cost of 675 per 6500 gal tanker trailer.
3M permit will not allow 3M to charge for material.

Facility: WRR Environmental Services Co., Inc. **Unit:** EII sludge Dyke 04/15/2014

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities

Volume of decontamination fluid from Primary Unit	8,470.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	0.0	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	16,177.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0001	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	1.6177	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$129.04	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$182.38	per Day
Number of tanks required	2	Tanks
Subtotal of tank rental costs	$364.76	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$5,823.72	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$6,317.52	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	0	Drums
Number of truckloads needed to transport waste in drums	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of 55-gallon drums	$1,692.00	per Truckload
Cost to transport Waste in Drums	$0.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	45,000.0	gal
Number of truckloads needed to transport bulk free liquid waste	7	Truckloads
Type of waste	Hazardous	
Number of miles	200.0	Mi
Cost per mile	$3.38	per Mile
Cost to transport one truckload of bulk liquids	$676.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$4,732.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of bulk waste	$1,692.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$4,732.00	

Tank Systems Summary (TS_02-1)

Removal of Waste (TS-03)	$3,795.12	
Tank System Purging (ignitable waste only) (TS-04)	$0.00	
Flushing the Tank and Piping (TS-05)	$508.28	
Excavation, Disassembly, and Loading (TS-06)	$0.00	
Demolition and Removal of Containment System (TS-07)	$0.00	
Removal of Soil (TS-08)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$32,756.46	
Sampling and Analysis (SA-02)	$20,404.98	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$6,760.00	
Treatment and Disposal (TD-01)	$22,346.07	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$86,570.91	
Percentage of Engineering Expenses	0.0	%
Engineering Expenses	$0.00	
Certification of Closure (TS-09)	$3,973.87	
Subtotal	$90,544.78	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$18,108.96	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$108,653.74	

Tank Systems Inventory (TS_01-1)

UNIT DESCRIPTION AND MAXIMUM PERMITTED CAPACITY		
Type of tank system	Aboveground	
Height or length of tank	313.0	ft
Diameter of tank	8.9	ft
Maximum permitted capacity of the tank	139,800.0	gal
Total length of ancillary piping	494.0	ft
Nominal diameter of ancillary piping	3.0	in
Maximum capacity of ancillary piping	181.4	gal
Maximum capacity of tank and ancillary piping	139,981.4	gal
SURFACE AREA OF TANK SYSTEM		
Surface area of tank (interior and exterior)	17,627.5	ft2
VOLUME OF TANK SYSTEM TO BE REMOVED		
Volume of Tank System to be Removed	18,712.8	ft3
Volume of Tank System to be Removed in yd3	693.1	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length	98.0	ft
Width	39.0	ft
Surface Area of Secondary Containment System Pad	3,822.0	ft2
Surface Area of Secondary Containment System Pad in yd2	424.7	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.8	ft
Volume of Secondary Containment Pad	113.3	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Total Length	0.0	ft
Height	0.0	ft
Surface Area of Secondary Containment System Berm	0.0	ft2
Surface Area of Secondary Containment System Berm in yd2	0.0	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.0	ft
Volume of Secondary Containment System Berm	0.0	yd3
SURFACE AREA OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM		
Surface Area of Other Structures	0.0	ft2

Surface Area of Other Structures in yd2	0.0	yd2

VOLUME OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM

Volume of Other Structures	0.0	yd3

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

Tank Systems Removal of Waste (TS_03-1)

Maximum volume of waste to be removed from the tank and ancillary piping	139,981.4	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to remove waste from tank and ancillary piping	0.0004	Work hr per gal
Number of hours required to remove waste from tank and ancillary piping	56.0	Work hrs
TOTAL COST OF REMOVAL OF WASTE FROM TANK AND ANCILLARY PIPING	$3,795.12	

Flushing the Tank and Piping (TS_05-1)

Maximum capacity of the tank and ancillary piping	3,740.0	gal
Number of times tank and ancillary piping are flushed	1	
Total volume of flushing solution	3,740.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to flush tank and ancillary piping	0.0020	Work hr per gal
Number of hours required to flush tank and ancillary piping	7.5	Work hrs
Subtotal of labor and equipment cost to flush tank and ancillary piping	$508.28	
Flushing solution is contained in:	Bulk	
Number of drums required to contain flushing solution	0	Drums
Cost of one drum	$80.92	
Cost of drums needed to contain flushing solution	$0.00	
TOTAL COST TO FLUSH TANK AND ANCILLARY PIPING	$508.28	

Tank Systems Certification of Closure (TS_09-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$32,756.46
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$32,756.46

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	39,077.0	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0080	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	312.6	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$21,184.90	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	7,815.4	gal
Decontamination fluid container type:	Drums	
Number of drums required to contain decontamination fluid for removal	143	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$11,571.56	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$32,756.46	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	18	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$20,404.98
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$20,404.98

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES		
Number of sampling locations	18	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.1700	Work hrs per Sample
Number of hours required to collect all samples	3.1	Work hrs
Cost of Collection per Sampling Event	$293.48	per Event
ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES		
Cost of Analysis per Sampling Event	$840.13	per Event
SAMPLING EVENTS		
Number of sampling events	18	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$20,404.98	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Facility: WRR Environmental Services Co., Inc. **Unit:** El Sludge Dyke 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (EPA 245.1)	Liquid	$41.20	1	$82.40	0	$41.20
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$20,940.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$1,406.07
Total Cost of Treatment and Disposal	$22,346.07

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	69,800.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$20,940.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$0.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$20,940.00	

Notes: 1/2 will go to Cement Kiln the other 1/2 to 3M
Kiln costs include transportation. 3M permit does not allow them to charge for material.
WRR pays transporation to 3M current rate 675 per 6500 gallon load.

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities		
Volume of decontamination fluid from Primary Unit	3,740.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	0.0	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	3,740.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0002	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	0.748	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$59.67	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$1,346.40	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$1,406.07	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)
0.36 includes frieght

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	0	Drums
Number of truckloads needed to transport waste in drums	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of 55-gallon drums	$1,692.00	per Truckload
Cost to transport Waste in Drums	$0.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	69,000.0	gal
Number of truckloads needed to transport bulk free liquid waste	10	Truckloads
Type of waste	Hazardous	
Number of miles	200.0	Mi
Cost per mile	$3.38	per Mile
Cost to transport one truckload of bulk liquids	$676.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$6,760.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	200.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of bulk waste	$1,128.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$6,760.00	

Tank Systems Summary (TS_02-1)

Removal of Waste (TS-03)	$3,212.30	
Tank System Purging (ignitable waste only) (TS-04)	$0.00	
Flushing the Tank and Piping (TS-05)	$237.20	
Excavation, Disassembly, and Loading (TS-06)	$0.00	
Demolition and Removal of Containment System (TS-07)	$0.00	
Removal of Soil (TS-08)	$0.00	
Backfill and Grading (BF-01)	$0.00	
Decontamination (DC-01)	$12,029.18	
Sampling and Analysis (SA-02)	$11,395.35	
Monitoring Well Installation (MW-01)	$0.00	
Transportation (TR-01)	$4,056.00	
Treatment and Disposal (TD-01)	$39,456.59	
User Defined Cost (UD-01)	$0.00	
Subtotal of Closure Costs	$70,386.62	
Percentage of Engineering Expenses	10.0	%
Engineering Expenses	$7,038.66	
Certification of Closure (TS-09)	$3,973.87	
Subtotal	$81,399.15	
Percentage of Contingency Allowance	20.0	%
Contingency Allowance	$16,279.83	
Landfill Closure (Cover Installation) (CI-02)	$0.00	
TOTAL COST OF CLOSURE	$97,678.98	

Tank Systems Inventory (TS_01-1)

UNIT DESCRIPTION AND MAXIMUM PERMITTED CAPACITY		
Type of tank system	Aboveground	
Height or length of tank	193.0	ft
Diameter of tank	11.0	ft
Maximum permitted capacity of the tank	118,570.0	gal
Total length of ancillary piping	827.0	ft
Nominal diameter of ancillary piping	3.0	in
Maximum capacity of ancillary piping	303.7	gal
Maximum capacity of tank and ancillary piping	118,873.7	gal
SURFACE AREA OF TANK SYSTEM		
Surface area of tank (interior and exterior)	13,529.3	ft2
VOLUME OF TANK SYSTEM TO BE REMOVED		
Volume of Tank System to be Removed	15,891.1	ft3
Volume of Tank System to be Removed in yd3	588.6	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM PAD		
Length	34.5	ft
Width	57.0	ft
Surface Area of Secondary Containment System Pad	1,966.5	ft2
Surface Area of Secondary Containment System Pad in yd2	218.5	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM PAD		
Thickness	0.8	ft
Volume of Secondary Containment Pad	58.3	yd3
SURFACE AREA OF SECONDARY CONTAINMENT SYSTEM BERM		
Total Length	184.0	ft
Height	3.0	ft
Surface Area of Secondary Containment System Berm	552.0	ft2
Surface Area of Secondary Containment System Berm in yd2	61.3	yd2
VOLUME OF SECONDARY CONTAINMENT SYSTEM BERM		
Thickness	0.8	ft
Volume of Secondary Containment System Berm	16.3	yd3
SURFACE AREA OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM		
Surface Area of Other Structures	0.0	ft2

Surface Area of Other Structures in yd2	0.0	yd2

VOLUME OF OTHER STRUCTURES IN SECONDARY CONTAINMENT SYSTEM

Volume of Other Structures	0.0	yd3

VOLUME OF CONTAMINATED SOIL TO BE REMOVED

Length	0.0	ft
Width	0.0	ft
Depth	0.0	ft
Volume of Contaminated Soil to be Removed	0.0	ft3
Volume of Contaminated Soil to be Removed in yd3	0.0	yd3

Notes: El South Sludge Dyke

Tank Systems Removal of Waste (TS_03-1)

Maximum volume of waste to be removed from the tank and ancillary piping	118,570.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to remove waste from tank and ancillary piping	0.0004	Work hr per gal
Number of hours required to remove waste from tank and ancillary piping	47.4	Work hrs
TOTAL COST OF REMOVAL OF WASTE FROM TANK AND ANCILLARY PIPING	$3,212.30	

Flushing the Tank and Piping (TS_05-1)

Maximum capacity of the tank and ancillary piping	1,760.0	gal
Number of times tank and ancillary piping are flushed	1	
Total volume of flushing solution	1,760.0	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$67.77	per Work Hour
Work rate required to flush tank and ancillary piping	0.0020	Work hr per gal
Number of hours required to flush tank and ancillary piping	3.5	Work hrs
Subtotal of labor and equipment cost to flush tank and ancillary piping	$237.20	
Flushing solution is contained in:	Bulk	
Number of drums required to contain flushing solution	0	Drums
Cost of one drum	$80.92	
Cost of drums needed to contain flushing solution	$0.00	
TOTAL COST TO FLUSH TANK AND ANCILLARY PIPING	$237.20	

Tank Systems Certification of Closure (TS_09-1)

Number of units requiring certification of closure	1	Units
Cost of certification of closure per unit	$3,973.87	
TOTAL COST OF CERTIFICATION OF CLOSURE	$3,973.87	

Decontamination Summary (DC_01-1)

Decontamination of Unit by Steam Cleaning or Pressure Washing (DC-02)	$12,029.18
Decontamination of Unit by Sandblasting (DC-03)	$0.00
Decontamination of Heavy Equipment (DC-04)	$0.00
TOTAL COST OF DECONTAMINATION	$12,029.18

Decontamination by Steam Cleaning or Pressure Wash (DC_02-1)

Area of unit to be decontaminated	29,577.1	ft2
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$67.77	per Work Hour
Work rate to steam clean or pressure wash one ft2	0.0060	Work hr per ft2
Number of hours required to steam clean or pressure wash the unit	177.5	Work hrs
Subtotal of labor and equipment costs to decontaminate unit by steam cleaning or pressure washing	$12,029.18	
Ratio of decontamination fluid to area	0.2	gals per ft2
Volume of decontamination fluid generated	5,915.4	gal
Decontamination fluid container type:	Bulk	
Number of drums required to contain decontamination fluid for removal	0	Drums
Cost of one drum	$80.92	per Drum
Cost of drums needed to contain decontamination fluid	$0.00	
TOTAL COST OF DECONTAMINATION OF UNIT BY STEAM CLEANING OR PRESSURE WASHING	$12,029.18	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website)

Sampling and Analysis Inventory (SA_01-1)

Number of Drilling and Subsurface Soil Samples (2.5-inch boring)	0	Samples
Number of Drilling and Subsurface Soil Samples (4-inch boring)	0	Samples
Number of Concrete Core Samples	0	Samples
Number of Wipe Sample Locations	0	Sample Location
Number of Surface Water and Liquid Sample Locations	9	Sample Location
Number of Soil, Sludge, and Sediment Soil Samples	0	Sample Location
Number of Groundwater Sample Locations	0	Sample Location
Number of Lysimeters to be Sampled	0	Lysimeters

Sampling and Analysis Summary (SA_02-1)

Drilling and Subsurface Soil Sample - 2.5-Inch-Diameter-Holes (SA-03)	$0.00
Drilling and Subsurface Soil Sample - 4-Inch-Diameter-Holes (SA-04)	$0.00
Concrete Core Sample (SA-05)	$0.00
Wipe Sample (SA-06)	$0.00
Surface Water and Liquid Sample (SA-07)	$11,395.35
Soil, Sludge, and Sediment Sample (SA-08)	$0.00
Groundwater Sample (SA-09)	$0.00
Soil-Pore Liquid Sample (SA-10)	$0.00
Analysis of Subsurface Soil Sample (SA-11)	$0.00
TOTAL SAMPLING AND ANALYSIS COST	$11,395.35

Surface Water and Liquid Samples (SA_07-1)

COLLECTION OF SURFACE WATER AND LIQUID SAMPLES		
Number of sampling locations	9	Sample Location
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per work hour	$94.67	per Work Hour
Work rate required to collect samples from one sampling location	0.5000	Work hrs per Sample
Number of hours required to collect all samples	4.5	Work hrs
Cost of Collection per Sampling Event	$426.02	per Event
ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES		
Cost of Analysis per Sampling Event	$840.13	per Event
SAMPLING EVENTS		
Number of sampling events	9	Events
TOTAL COST OF SAMPLING AND ANALYSIS OF SURFACE WATER AND LIQUID SAMPLES	$11,395.35	

Facility: WRR Environmental Services Co., Inc. **Unit:** El South Sludge Dyke 04/15/2014

Surface Water and Liquid Samples (SA_07)
Cost of Analysis per Sampling Event

Method		Standard	Qty	Quick	Qty	Total
Mercury, cold vapor (EPA 245.1)	Liquid	$41.20	1	$82.40	0	$41.20
Targeted TCLP (metals, volatiles, semivolatiles only)	Both	$610.10	1	$1,220.20	0	$610.10
Volatile organic analysis (EPA 624)	Liquid	$188.83	1	$377.66	0	$188.83

Treatment and Disposal Summary (TD_01-1)

Treatment and Disposal of Wastes (TD-02)	$36,571.00
Treatment and Disposal of Decontamination Fluids (TD-03)	$2,885.59
Total Cost of Treatment and Disposal	$39,456.59

Treatment and Disposal of Waste (TD_02-2)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	0	
Volume in gallons of liquid waste to be treated and disposed of	20,000.0	gal
Treatment and disposal costs per gallon	$0.95	per Gallon
Cost to Treat and Dispose of Liquid Waste	$19,000.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$0.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$19,000.00	

Notes: 20000 gallons of F-Code Water
This cost includes rail freight

Facility: WRR Environmental Services Co., Inc. **Unit:** El South Sludge Dyke 04/15/2014

Treatment and Disposal of Waste (TD_02-1)

SOLID WASTE TREATMENT AND DISPOSAL		
Solid Waste Type (Optional: Enter Name)	0	
Volume in yd3 of solid waste to be treated and disposed of	0.0	yd3
Treatment and disposal costs per yd3	$0.00	per yd3
Cost to Treat and Dispose of Solid Waste	$0.00	
LIQUID WASTE TREATMENT AND DISPOSAL		
Liquid Waste Type (Optional: Enter Name)	1	
Volume in gallons of liquid waste to be treated and disposed of	58,570.0	gal
Treatment and disposal costs per gallon	$0.30	per Gallon
Cost to Treat and Dispose of Liquid Waste	$17,571.00	
DRUMMED WASTE TREATMENT AND DISPOSAL		
Drummed Waste Type (Optional: Enter Name)	0	
Number of drums to be treated and disposed of	0	Drums
Treatment and disposal costs per drum	$0.00	per Drum
Cost to Treat and Dispose of Drummed Waste	$0.00	
TOTAL COST FOR TREATMENT AND DISPOSAL OF WASTE	$17,571.00	

Notes: 20000 gallons F-Code Water; 58 570 gallons to Cement Kiln 40000 gallons to 3M. Cement Kiln Price Incudes Freight. As per 3M permit they can not charge for material WRR pays transportation to 3M currently 675 per 6500 gallon tanker trailer.

Treatment and Disposal of Decon Fluid (TD_03-1)

Volume of decontamination fluid generated from closure activities

Volume of decontamination fluid from Primary Unit	1,760.0	gal
Volume of decontamination fluid generated by steam cleaning or pressure washing (DC-02)	5,915.4	gal
Volume of decontamination fluid from heavy equipment (DC-04)	0.0	gal
Total Volume of Decontamination Fluid	7,675.4	gal
Choose the appropriate level of PPE	Protection Level D	
Labor and equipment cost per hour	$79.77	per Work Hour
Work rate to pump decontamination fluid to a holding tank	0.0002	Work hr per gal
Number of hours required to pump decontamination fluid to a holding tank	1.53508	Work hrs
Subtotal of labor and equipment costs to pump decontamination fluid to a holding tank	$122.45	
Number of days required to rent a holding tank	1	Days
Holding tank rental fee (10,000 gal tank per day)	$0.00	per Day
Number of tanks required	1	Tanks
Subtotal of tank rental costs	$0.00	
Cost for treatment and disposal	$0.36	per Gallon
Treatment and disposal costs for bulk liquid	$2,763.14	
TOTAL COST TO TREATMENT AND DISPOSE OF DECONTAMINATION FLUID AS A BULK LIQUID	$2,885.59	

Notes: R.S. Means 2009 Labor Data in Cost Pro adjust up by a factor of 1.678 (Compound Inflation Factor from DNR Website
Traetment is 0.36 includes freight

Transportation of Waste (TR_01-1)

TRANSPORTATION OF WASTE IN DRUMS

Number of drums of waste	0	Drums
Number of truckloads needed to transport waste in drums	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of 55-gallon drums	$1,692.00	per Truckload
Cost to transport Waste in Drums	$0.00	

TRANSPORTATION OF BULK LIQUID

Gallons of liquid waste	40,000.0	gal
Number of truckloads needed to transport bulk free liquid waste	6	Truckloads
Type of waste	Hazardous	
Number of miles	200.0	Mi
Cost per mile	$3.38	per Mile
Cost to transport one truckload of bulk liquids	$676.00	per Truckload
Cost to Transport Bulk Liquid Wastes	$4,056.00	

TRANSPORATION OF BULK WASTE

Number of waste debris boxes	0	Containers
Number of truckloads needed to transport bulk waste	0	Truckloads
Type of waste	Hazardous	
Number of miles	300.0	Mi
Cost per mile	$5.64	per Mile
Cost to transport one truckload of bulk waste	$1,692.00	per Truckload
Cost to Transport Bulk Waste	$0.00	
TOTAL COST OF TRANSPORTATION OF WASTE	$4,056.00	

Part 1

Section M – Closure Cost Estimate and Financial Responsibility

Appendix M-2
Closure Cost Estimate Supporting Documents

Owner Financial Responsibility
Inflation Factor Table

Calendar Year	Ann. Infl. Factor	Compound Infl. Factor	Years Included in Compound Infl. Factor	
	*Implicit Price Deflator ***		From Beginning of theYear	To the End of the Year
1979	1.0850	2.9918	1979	2013
1980	1.0900	2.7574	1980	2013
1981	1.0920	2.5297	1981	2013
1982	1.0600	2.3166	1982	2013
1983	1.0420	2.1855	1983	2013
1984	1.0380	2.0974	1984	2013
1985	1.0330	2.0206	1985	2013
1986	1.0270	1.9561	1986	2013
1987	1.0300	1.9046	1987	2013
1988	1.0340	1.8492	1988	2013
1989	1.0410	1.7884	1989	2013
1990	1.0420	1.7179	1990	2013
1991	1.0406	1.6487	1991	2013
1992	1.0263	1.5844	1992	2013
1993	1.0265	1.5438	1993	2013
1994	1.0256	1.5039	1994	2013
1995	1.0238	1.4664	1995	2013
1996	1.0195	1.4323	1996	2013
1997	1.0200	1.4049	1997	2013
1998	1.0120	1.3773	1998	2013
1999	1.0150	1.3610	1999	2013
2000	1.0210	1.3409	2000	2013
2001	1.0230	1.3133	2001	2013
2002	1.0240	1.2838	2002	2013
2003	1.0183	1.2537	2003	2013
2004	1.0262	1.2312	2004	2013
2005	1.0303	1.1997	2005	2013
2006	1.0316	1.1644	2006	2013
2007	1.0256	1.1288	2007	2013
2008	1.0213	1.1006	2008	2013
2009	1.0092	1.0776	2009	2013
2010	* 1.0095	1.0678	2010	2013
2011	* 1.0213	1.0578	2011	2013
2012	* 1.0177	1.0357	2012	2013
2013	* 1.0177	Assumed		

Note: Inflation factors are finalized each February for the previous fiscal year. This table is updated each March to reflect the final numbers. Until a final number is issued for a year, the annual inflation factor is assumed to be the same as for the previous year.

XX USED 1.0678 X COST PRO 2009 LABOR RATES

HazMat Environmental Group, Inc.

60 Commerce Drive
Buffalo, NY 14218
Phone: (716) 827-7200
Fax: (716) 827-7217

NUMBER WHEN REMITTING

PRO. NO. 246879A

Shipper: WRR ENVIRONMENTAL SERVICES C
5200 State Rd 93
Eau Claire, WI 54701

Consignee: 3M COMPANY
10746 Innovation Rd.-incinerat
Bldg. 47
Cottage Grove, MN 55016

Bill To: WRR ENVIRONMENTAL SERVICES (
5200 Ryder Road
Eau Claire, WI 54701

Please Remit To: HazMat Environmental Group, Inc.
60 Commerce Drive
Buffalo, NY 14218
Phone: (716) 827-7200

Terms are 30 Days from Receipt of Invoice. Thank You!

REFERENCE #	PROCESSOR	BILLING DATE	SHIP DATE	TRACTOR #	TRAILER #	EQUIPMENT	COMMODITY
	CPERRY	3/8/2013	3/8/2013	429	SS43	Tanker	

DESCRIPTION	ACTUAL QUANTITY	BILLING QUANTITY	RATE	CHARGES
3m Company, Cottage Grove, Mn	43,020 Pounds			
Freight Charge		1 Flat	468.65 Flat	$468.65
Fuel Surcharge		468.65 US Dollars	0.38 $/Dollar	$178.09
			Total	* $646.74

D/H TANKERS (NO RENTAL) LD/UNLD 2/$80

5010

43,020 lbs ÷ 6.75 = 6,373 gal

* USED $676.00 for TRANSport to 3m

IN Cost Pro Closure cost

000738

Elite Environmental Corporation

Elite Environmental Corp.
5760 South 108th Street
Suite 126
Hales Corners, WI 53130

(414)507-4060
Kevin@EliteEnvironmentalCorp.com
www.EliteEnvironmentalCorp.com

Invoice

Date	Invoice #
03/18/2013	3333
Terms	**Due Date**
Net 30	04/17/2013

Bill To
WRR Environmental Services Co. Attn: Accts Payable 5200 Ryder Rd. Eau Claire, WI 54701

PO# 13 193

P.O. Number
#1Jen

Activity	Quantity	Rate	Amount
• Bulk Transportation- 03.15.13	1	1,030.00	1,030.00
• Wastewater Treatment Service-	5344	0.115	614.56
• Fuel Surcharge-$4.00 - $4.25	1	164.80	164.80
		Total	**$1,809.36**

2.5 % Interest Per Month on Unpaid Balances.

Have a Billing Question? Please Contact:
Kevin Crosby
414-507-4060
Kevin@EliteEnvironmentalCorp.com

ave gal = 5000

1030 + 164.80 / 5000 .239
+ .115 Disposal
$0.354 (High End)

÷ 5344 Act GAL
$0.3386
Cost this load per gallon

USED $0.36 IN Cost pro Closure Cost Estimate

000739

P.O. Requisition

Use the sheet icon at the far right to create your own copy of this sheet. Do not make changes to this sheet.

12843

UNION PACIFIC

PO BOX 502453
SAINT LOUIS, MO 63150-2453
Phone:
Fax:
E-mail:
URL:

P.O. REQUISITION NO. UTLX 48257
ORDER DATE 1/14/2013
TERMS
F.O.B.
SHIPPED VIA CCC/WN/UP/BNSF

SOLD TO:
WRR Environmental Services
5200 State Road 93
Eau Claire, WI 54701

SHIPPED TO:
Green America Recycling, LLC
10107 Hwy 79
Hannibal MO 63401

QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	AMOUNT
1	TC	Transportation to Green America Recycling	$3,358.00	$3,358.00
633	Miles	Fuel Surcharge	$0.4000	$253.20

Rail Car #: UTLX 48257
Mfst #: 005152633 FLE, 005152634 FLE, 005152635 FLE, 005152636 FLE, 005152784 FLE
Conf #: 42863
Ship Date: 1/11/2013

SUBTOTAL $3,611.20
TAX
TOTAL $3,611.20

Send Correspondence To:
Name
Company Name
Address
State
Phone
P.O. PREPARED BY: JLM

Questions concerning this purchase order?

5000 Freight

APPROVED BY ____________ DATE ____________

Brian Schneider ____________ Date ____________

TOTAL COST TO CEMENT KILN

TRANS TO Bloomer 80 miles @ 2.25 mile =	$720.00
5000 gal per TANKER 20,000 gal RAIL TANKER 4 Trips	
Transfer Fee to Progressive Railroad	250.00
UNION PACIFIC RAILROAD	3,605.00
Green America Recycling (Cement Kiln)	1,343.30
	5,918.30
÷	19,754.20 gal
=	.29959
=	.30 gal

USED $0.30 gal IN COST Pro
Closure COST ESTIMATE

01/14/2013 11413 TRF UTLX 48257.123 11:36:29 AM

GREEN AMERICA
RECYCLING

Green America Recycling LLC
PO BOX 505176 St. Louis, MO 63150-5179

Invoice Date: 03/22/2013 Invoice #: WFD010352

Customer #: 55006350 Page 1 of 1

DATE	DESCRIPTION	CATEGORY	MANIFEST LINE #	CONT. SIZE	UNITS	U/M	$ / UM	AMOUNT
	RECLAMATION CHARGES AS FOLLOWS FOR THE RECYCLING OF MATERIALS							
3/11/2013	MATERIAL RECEIVED UNDER ORDER # - 42863-1							
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 005152633FLE							
	WASTE FLAMMABLE LIQUID	LIQUIDS	1	0	5,018.49	GAL	0.06	301.1100
	MDNR WASTE FEE	MDNR WASTE FEE	1	0	5,018.49		0.008	40.1500
	MANIFEST TOTAL...							$341.26
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 005152634FLE							
	WASTE FLAMMABLE LIQUID	LIQUIDS	1	0	1,527.65	GAL	0.06	91.6600
	MDNR WASTE FEE	MDNR WASTE FEE	1	0	1,527.65		0.008	12.2200
	MANIFEST TOTAL...							$103.88
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 005152635FLE							
	WASTE FLAMMABLE LIQUID	LIQUIDS	1	0	3,734.64	GAL	0.06	224.0800
	MDNR WASTE FEE	MDNR WASTE FEE	1	0	3,734.64		0.008	29.8800
	MANIFEST TOTAL...							$253.96
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 005152636FLE							
	WASTE FLAMMABLE LIQUID	LIQUIDS	1	0	5,208.33	GAL	0.06	312.5000
	MDNR WASTE FEE	MDNR WASTE FEE	1	0	5,208.33		0.008	41.6700
	MANIFEST TOTAL...							$354.17
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 005152784FLE							
	WASTE FLAMMABLE LIQUID	LIQUIDS	1	0	4,265.09	GAL	0.06	255.9100
	MDNR WASTE FEE	MDNR WASTE FEE	1	0	4,265.09		0.008	34.1200
	MANIFEST TOTAL...							$290.03
	ORDER TOTAL...				19,754.20 GAL			$1,343.30

CONTINUED

BILLING QUESTIONS? PHONE # 573.248.0730	**INVOICE TOTAL** $1,343.30
	PAYMENT TERMS NET 30 DAYS

INVOICE TO:

WRR ENV SERVICES
ATTN: JOHN JOHNSON
5200 RYDER ROAD
EAU CLAIRE, WI, 54701

UNION PACIFIC RAILROAD COMPANY

BUILDING AMERICA™

ORIGINAL BILL
FREIGHT

WRR ENVIRONMENTAL SERVICES
5200 STATE ROAD 93
EAU CLAIRE, WI 54701

Invoice Number
259236810

Account Number	Statement Date	Lead Equipment ID	Waybill Number	Shipment Date	Customer Reference Number
071320	01/14/2013	UTLX 48257	697570	01/11/2013	42863

Shipper	Consignee	Commodity Code/Description
WRR ENVIRONMENTAL SERVICES EAU CLAIRE, WI 54701	GREEN AMERICA RECYCLING HANNIBAL, MO 63401	4810560 - WASTE FLAMMABLE LIQUIDS, N.O.S. CLASS 3 UN1993 PG I, II OR III

Revenue Origin	Revenue Destination	Revenue Route
BLOOMER, WI	HANNIBAL, MO	UP -CHGO -BNSF

Units	Weight	Rate	Rate Unit	Amount	Price Authority/Additional charge description	
1	158160	335800	PC	$3,358.00		
633		39	PM	$247.00	UPCQ 96361	FUEL SURCHARGE
TOTALS:	158160			$3,605.00		

Equipment Characteristics:	CAR TYPE T105, LENGTH 049FT 05IN , CAP 204000
Prepaid/Collect Indicator:	PREPAID
Lading Description:	WASTE FLAMMABLE LIQUIDS, N.O.S.-ID=RMBLW083 CAR RAIL, TANK
References:	UPCQ 96361 - UP EPA ID WIR000138180
Movement Route:	WN -NORMW-UP -CHGO -BNSF
Special Handling:	ENDORSED AS HAZARDOUS MATERIAL
Seal Numbers:	8892631 8892630

For Assistance:
Call: (800) 925-6396
WWW.UP.COM
Fax: (402) 233-3139

Remit Payment and Invoice Number To:
UNION PACIFIC RAILROAD
P.O. BOX 502453
SAINT LOUIS, MO 63150-2453
Invoices Remitted after the Due Date may be subject to a 1% Finance Charge

Original Billed Amount :	$3,605.00
Total Amount Paid to Date :	$0.00
Last Payment ID :	
Last Payment Date :	
Due Date :	01/29/2013
Invoice Number :	**259236810**
Amount To Pay :	**$3,605.00**

000742

Form DA-002

REMIT TO:
Clean Harbors Env. Services
PO Box 3442
Boston, MA 02241-3442

OFFICE:
Clean Harbors Env Services Inc
6125 N. Pecatonica Road
Pecatonica, IL 61063
(815) 239-2377

If you have any questions regarding this invoice, please contact your customer service representative at the telephone number listed above

SOLD TO:
Bj michalek
Wrr Environmental Services Company
5200 Ryder Road
Eau Claire, WI 54701 - 0000

JOB SITE/GENERATOR:
Wrr Environmental Services Company
5200 Ryder Road
Eau Claire, WI 54701

Job Description: CH063617B,F-coded process water VIA Cust. TO BA

**** Payable in USD funds ****

Last Service Date	Invoice No	Customer	Sales Order	Purchase Order	Terms
23 Jan 2013	771377746R	WR000001	774950307	WRR12812JEN	NET 30 DAYS

SUMMARY BY LINE TYPE

Disposal	$10,515.08	
Fees	$630.90	
SUBTOTAL	**$11,145.98 USD**	
TAX	**0.00**	
INVOICE TOTAL	**$11,145.98 USD**	**← PLEASE PAY THIS AMOUNT**

Manifest Info	Item ID	Description	Manifest Qty	Manifest UOM	Billing Qty	Billing UOM	Unit Price	Amount
		17 Jan 2013						
005152850FLE 1	DISPSL / A24P	F-coded process water CH063617B	43,927	P	5,267.026	GAL	0.5500	$2,896.86
		18 Jan 2013						
005696489FLE 1	DISPSL / A24P	F-coded process water CH063617B	26,140	P	3,134.293	GAL	0.5500	$1,723.86
		21 Jan 2013						
005696490FLE 1	DISPSL / A24P	F-coded process water CH063617B	43,700	P	5,239.808	GAL	0.5500	$2,881.89
		23 Jan 2013						
005696491FLE 1	DISPSL / A24P	F-coded process water CH063617B	45,680	P	5,477.218	GAL	0.5500	$3,012.47
	FEE	Fuel Surcharge			10,515.080	EA	0.0600	$630.90
							SUBTOTAL	**$11,145.98**
							TAX	**$0.00**
							TOTAL	**$11,145.98**

Interest will be charged at a rate of 1.5% per month for all past due amounts.

Invoice Date: 22 Feb 2013

PLEASE RETURN A COPY OF INVOICE WITH PAYMENT - THANK YOU

11,145.98 Clean Harbors
5,424.00 Rail Freight
800.00 Trans to Plover & unload
250.00 Facility Fee
450.00 US Rail Transfer fee

18,069.98 / 19,208 gal = .941

USED $0.95 gal in Cost Pro Closure Cost Estimate

BUILDING AMERICA

UNION PACIFIC RAILROAD COMPANY

ORIGINAL BILL
FREIGHT

WRR ENVIRONMENTAL SERVICES
5200 STATE ROAD 93
EAU CLAIRE, WI 54701

Invoice Number
259640163

Account Number	Statement Date	Lead Equipment ID	Waybill Number	Shipment Date	Customer Reference Number
071320	02/05/2013	NTLX 1029	412880	02/05/2013	774950307

Shipper	Consignee	Commodity Code/Description
WRR ENVIRONMENTAL SERVICES BLOOMER, WI 54701	CLEAN HARBORS ENVIRONMENTAL BALTIMORE, MD 21230	4810560 - WASTE FLAMMABLE LIQUIDS, N.O.S. CLASS 3 UN1993 PG I, II OR III

Revenue Origin	Revenue Destination	Revenue Route
BLOOMER, WI	BALTIMORE, MD	UP -CHGO -CSXT

Units	Weight	Rate	Rate Unit	Amount	Price Authority/Additional charge description	
1	159347	499000	PC	$4,990.00		
1142		38	PM	$434.00	UPCQ 96361	FUEL SURCHARGE
TOTALS:	159347			$5,424.00		

Equipment Characteristics:	CAR TYPE T108, LENGTH 062FT 10IN , CAP 192000
Prepaid/Collect Indicator:	PREPAID
Lading Description:	WASTE FLAMMABLE LIQUIDS, N.O.S.-ID=RMBLW083 CAR RAIL, TANK
References:	UPCQ 96361 - UP EPA ID WIR000138180
Other Parties:	WRR ENVIRONMENTAL SERVICES - SHIP FROM
Movement Route:	WN -NORMW-UP -CHGO -CSXT
Special Handling:	ENDORSED AS HAZARDOUS MATERIAL
Seal Numbers:	8892641 8892640

For Assistance:
Call: (800) 925-6396
WWW.UP.COM
Fax: (402) 233-3139

Remit Payment and Invoice Number To:
UNION PACIFIC RAILROAD
P.O. BOX 502453
SAINT LOUIS, MO 63150-2453
Invoices Remitted after the Due Date may be subject to a 1% Finance Charge

Original Billed Amount :	$5,424.00
Total Amount Paid to Date :	$0.00
Last Payment ID :	
Last Payment Date :	
Due Date :	02/20/2013
Invoice Number :	**259640163**
Amount To Pay :	**$5,424.00**

000744

X

Form DA 002

Fuller, Bob

From: Piccione, Nick
Sent: Wednesday, April 03, 2013 8:22 AM
To: Maas, Jen; Fuller, Bob; Gunderson, Eric
Subject: FW: HazMat Bulk Liquid Rates

Please see the bulk rates below offered by Hazmat.

Would it be worth sending some of our bulk fuels to GAR via Hazmat tankers if it could eliminate a rail car or two? Their cost per trip is $1,250 + FSC (~$1600 total).

Just something to think about.

Thanks,

Nick

From: Ron C. McGrath [mailto:rmcgrath@hazmatinc.com]
Sent: Monday, March 25, 2013 2:16 PM
To: Piccione, Nick
Cc: Mari Jozefiak; Gary Heselton
Subject: HazMat Bulk Liquid Rates

Nick,

In preparation for our meeting the week of April 22nd please review the proposed rates below for outbound reclaimed solvent loads and out waste fuel loads:

Origin: Eau Claire, WI

Destination:

Hutchinson, MN	$720
Nevada, MO	$2,430
Cordova, IL	$1,425
Cottage Grove, MN	$410
Wheeling, IL	$1,500

Hannibal, MO * $1,250 + Fuel Surcharge

USED $1,650 per trip in Cost Pro
Closure Cost Estimate

HazMat Fuel Surcharge & Accessorial Fees apply to the rates above.

The OB Reclaimed Solvent loads are based on round trips.

The OB waste fuel to Hannibal, MO is a one-way rate.

We look forward to reviewing these rates with you prior to our meeting the week of April 22nd.

Please call me to review.

Thanks,

Ron

Ron McGrath
HazMat Environmental Group, Inc.
rmcgrath@hazmatinc.com
Responsible Care Management System (certified)
Phone (716)748-8285
Fax (716)748-8378
Cell (716) 462-8865
Safety, Service and Satisfaction

GREEN AMERICA RECYCLING

Invoice Date: 03/22/2013 Invoice #: WFD010335

Customer #: 55006350

Green America Recycling LLC
PO BOX 505176 St. Louis, MO 63150-5179

DATE	DESCRIPTION	CATEGORY	MANIFEST LINE #	CONT. SIZE	UNITS	U/M	$ / UM	AMOUNT
	RECLAMATION CHARGES AS FOLLOWS FOR THE RECYCLING OF MATERIALS							
3/18/2013	MATERIAL RECEIVED UNDER ORDER # - 43111-1							
	WRR ENVIRONMENTAL SERVICES CO INC (5200 RYDER ROAD, EAU CLAIRE, WI) MANIFEST # - 006014808FLE							
	WASTE FLAMMABLE LIQUID	DRYSOLID	1	55	2.00	EA	80	160.0000
	MDNR WASTE FEE	DRYSOLID	1	55	2.00		0.4	0.8000
	RIS FEE	DRYSOLID	1	55	160.00		0.03	4.8000
	WASTE FLAMMABLE LIQUID	HYDRO-2	1	55	3.00	EA	35	105.0000
	MDNR WASTE FEE	HYDRO-2	1	55	3.00		0.4	1.2000
	RIS FEE	HYDRO-2	1	55	105.00		0.03	3.1500
	WASTE FLAMMABLE LIQUID	MIXED	1	55	3.00	EA	85	255.0000
	MDNR WASTE FEE	MIXED	1	55	3.00		0.4	1.2000
	RIS FEE	MIXED	1	55	255.00		0.03	7.6500
	WASTE FLAMMABLE SOLIDS, ORGANIC	DRYSOLID	2	55	11.00	EA	80	880.0000
	MDNR WASTE FEE	DRYSOLID	2	55	11.00		0.4	4.4000
	RIS FEE	DRYSOLID	2	55	880.00		0.03	26.4000
	WASTE FLAMMABLE SOLIDS, ORGANIC	MIXED	2	55	10.00	EA	85	850.0000
	MDNR WASTE FEE	MIXED	2	55	10.00		0.4	4.0000
	RIS FEE	MIXED	2	55	850.00		0.03	25.5000
	WASTE FLAMMABLE SOLIDS, ORGANIC	DRYSOLID	3	0	1,020.00	LB	0.25	255.0000
	MDNR WASTE FEE	DRYSOLID	3	0	1,020.00		0.001	1.0200
	RIS FEE	DRYSOLID	3	0	255.00		0.03	7.6500
	FLAMMABLE SOLIDS, ORGANIC	DRYSOLID	4	0	4,080.00	LB	0.1	408.0000
	RIS FEE	DRYSOLID	4	0	408.00		0.03	12.2400
	NON-HAZARDOUS/NON-RCRA/NON-DOT REGULATED MATERIAL	DRYSOLID	5	55	6,347.48	LB	0.1	634.7478
	RIS FEE	DRYSOLID	5	55	634.75		0.03	19.0425
	NON-HAZARDOUS/NON-RCRA/NON-DOT REGULATED MATERIAL	MIXED	5	55	604.52	LB	0.1	60.4522
	RIS FEE	MIXED	5	55	60.45		0.03	1.8135
	NON-HAZARDOUS/NON-RCRA/NON-DOT REGULATED MATERIAL	DRYSOLID	7	0	4.00	EA	10	40.0000

CONTINUED

BILLING QUESTIONS? PHONE # 573.248.0730	**INVOICE TOTAL** $3,770.27
	PAYMENT TERMS NET 30 DAYS

USED IN COST PRO

$88.00 Drum < DrySolid 80 + Fees = $82.80
Mix drums 85 + Fees = $87.95

$37.00 Drum — Hydro-2 35 + Fees = $36.45

INVOICE TO:

WRR ENV SERVICES
ATTN: JOHN JOHNSON
5200 RYDER ROAD
EAU CLAIRE, WI, 54701

Part 1

Section M – Closure Cost Estimate and Financial Responsibility

Appendix M-3
Closure Insurance Certificate

State of Wisconsin
Department of Natural Resources
P.O. Box 7921, Madison WI 53707-7921
dnr.wi.gov

Certificate of Insurance for Closure or Long-Term Care

For Use by Hazardous Waste Facilities
Form 4430-026 (R 8/06)

Name and Address of Insurer (herein called the "Insurer"): Steadfast Insurance Company

1400 American Lane, Schaumburg, IL 60196-1056

Name and Address of Insured (herein called the "Insured"): WRR Environmental Services Co., Inc.

5200 Ryder Road, Eau Claire, WI 54701

Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for long-term care (these amounts for all facilities covered must total the face amount shown below).]

WID990829475

WRR Environmental Services Co., Inc.

5200 Ryder Road

Eau Claire, WI 54701

Face Amount: $634,980.54 Policy Number: ENC 5944078-05

Effective Date: October 1, 2013

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to

provide financial assurance for closure
(insert "closure" or "closure and long-term care" or "long-term care")

for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of ss. NR 664.0143(5), 664.0145(5), 665.0143(4) and 665.0145(4), Wis. Adm. Code, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Wisconsin Department of Natural Resources (the Department), the Insurer agrees to furnish to the Department a duplicate original of the policy listed above, including all endorsements thereon.

(Authorized signature for Insurer)

Robert Hampel
(Name of person signing)

Underwriting Manager
(Title of person signing)

Stan Nans
(Signature of witness or notary)

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section N – Pollution Liability Insurance

N-1 Insurance Policy NR 664.0142(1)

The current liability insurance certificate for the WRR facility can be found in Appendix N-1.

N-2 Third party bodily injury and property damage NR 664.0147(1)

The current liability insurance policy for the WRR facility provides coverage for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations at the facility.

N-3 Coverage levels NR 664.0147(1)

The current liability insurance policy for the WRR facility provides liability coverage for sudden accidently occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

N-4 New Facility NR 670.014(2)(q)

WRR is an established facility so the new facility requirements in s. NR 670.014(2)(q) Wis. Admin. Code do not apply.

Appendix N-1
Liability Insurance Certificate

Of

Part 1

Section N – Pollution Liability Insurance

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/3/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	
R & R Insurance Services, Inc. 2021 S 18th Avenue Suite 202 PO Box 914 West Bend WI 53095-0914	CONTACT NAME: Carolyn zzKnaack PHONE (A/C, No, Ext): (800)548-9326 FAX (A/C, No): (262)334-1179 E-MAIL ADDRESS: Carolyn.Knaack@rrins.com

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
WRR Environmental Services Company Inc	INSURER A : Ironshore Specialty Insurance	
5200 Ryder Rd	INSURER B : Acuity A Mutual Ins Co	14184
	INSURER C : Middlesex Insurance	
	INSURER D : Steadfast Insurance Co	
Eau Claire WI 54701	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: CL1353143104 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC			EPIC001375401	6/1/2013	6/1/2014	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 500,000
							MED EXP (Any one person)	$ 25,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
B	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS X SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS X 19			X71108	6/1/2013	6/1/2014	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
							Underinsured motorist	$ 1,000,000
A	X UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			XS001375501	6/1/2013	6/1/2014	EACH OCCURRENCE	$ 10,000,000
							AGGREGATE	$ 10,000,000
								$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		89-43917-0100131	5/1/2013	5/1/2014	WC STATU-TORY LIMITS / OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
D	Pollution			EPC596695905	6/1/2013	6/1/2014	$25,000 Deductible	$10,000,000
E	Pollution			EPIC001375401	6/1/2013	6/1/2044	$25,000 Deductible	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Cert holder is listed as an additional insured on the general liability policy as their interest may appear. (form U-GL-1175)

CERTIFICATE HOLDER	CANCELLATION
Wisconsin Department of Natural Resources attn: Pete PO Box 7921 Madison, WI 53707-7921	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

000753

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part I

Section O – Manifest System, Recordkeeping and Reporting

O-1 Use of the manifest system NR 664.0071(1)(a)

When WRR receives hazardous waste accompanied by a manifest, the manifest will be signed and dated to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

O-2 The manifest receipt NR 664.0071(1)(b)

If the facility receives a hazardous waste shipment accompanied by a manifest, WRR will do all of the following:

1. Sign and date, by hand, each copy of the manifest.
2. Note any discrepancies, as defined in s. NR 664.0072 (1), on each copy of the manifest.
3. Immediately give the transporter at least one copy of the manifest.
4. Within 30 days of delivery, send a copy of the manifest to the generator and, within 45 days, send one copy of the manifest to the department in a format specified by the department.
5. Retain, at WRR, a copy of each manifest for at least 3 years from the date of delivery.
6. Pay a manifest fee for each manifest submitted. The Department will bill each facility annually for accumulated manifest review fees.

O-3 Manifested shipment from a foreign source NR 664.0071(1)(c)

If a WRR receives hazardous waste imported from a foreign source, WRR shall mail a copy of the manifest to the following address within 30 days of delivery: International Compliance Assurance Division, OFA/OECA (2254A), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

The WRR internal document, *Receipt of shipments from a foreign source*, provides instructions for meeting the requirements of NR 664.0071(1)(c). This document can be found in Appendix O-1.

O-4 Manifested shipment received by rail or water NR 664.0071(2)

If WRR receives a shipment hazardous waste from a rail or water transporter, which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), WRR will do all of the following:

1. Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received.
2. Note any significant discrepancies (as defined in s. NR 664.0072 (1)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.
3. Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received).
4. Within 30 days after the delivery, send one copy of the signed and dated manifest or a signed and dated copy of the shipping paper (if the manifest has not been received within 30 days after delivery) to the generator and, within 45 days, send one copy of the manifest to the department in an electronic format specified by the department.
5. Retain at WRR,a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least 3 years from the date of delivery.
6. Pay a manifest fee for each manifest submitted as designated in ch. NR 670 Appendix II. The department will bill each facility annually for accumulated manifest review fees.

Note: WRR may sign and give to the transporter the shipping paper before completing the incoming waste analysis. If testing reveals a discrepancy, the procedures set for in WRR internal document, *What is a manifest discrepancy?* will be followed. This document can be found in Appendix O-2.

O-5 Manifested shipments from WRR NR 664.0071(3)

When WRR initiates a shipment of WRR generated waste from the facility, WRR will comply with the requirements of Chapter NR 662 Hazardous Waste Generator Standards .

O-6 Shipments from the OECD NR 664.0071(4)

If WRR receives a shipment subject to NR 662 Subchapter H — Transfrontier Shipments for Recovery within the OECD, WRR will comply with the requirements of NR 664.0071(4).

Within 3 working days of the receipt of the shipment subject to subch. H of ch. NR 662, WRR will provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., N.W., Washington, DC 20460, and to competent authorities of all other concerned countries. The original copy of the tracking document will be kept at the WRR facility for at least 3 years from the date of signature.

O-7 State waste codes and manifest copies to generator state [NR 664.0071(5)]

For off-site shipments, WRR will determine whether the consignment state regulates any additional wastes (beyond those regulated federally) as hazardous wastes under its state hazardous waste program.

WRR will also determine whether the generator state requires the facility to submit any copies of the manifest to these states.   Internal WRR document, *Manifest copy requirements for states sending to WRR* is used to determine whether WRR is required to send out the Designated Facility to Generator State (if requied) manifest copy.

A copy of the document, *Manifest copy requirements for states sending to WRR* can be found in Appendix O-3.

O-8 Manifest Discrepancy NR 664.0072

The WRR internal document, *What is a manifest discrepancy?* provides the definition of and procedures for handling manifest discrepancies. This document can be found in Appendix O-2.

O-9 Operating Record NR 664.0073

The WRR internal document, Record Retention Requirements, is located in Appendix O-4. This document lists the records required to be kept by WRR and their retention time.

O-10 Annual Report NR 664.0075

WRR will prepare and submit a single copy of an annual report to the department by March 1 of each year. The annual report shall be submitted on department forms, and will cover facility activities during the previous calendar year. This report will include all of the following:

(1) The EPA identification number, name and address of the facility.
(2) The calendar year covered by the report.
(3) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year. For imported shipments, the report shall give the name and address of the foreign generator.
(4) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information shall be listed by EPA identification number of each generator. Due to the large number of generators shipping hazardous waste to WRR, an alternative submittal method is used.
(5) The method of treatment, storage or disposal for each hazardous waste.
(6) The most recent closure cost estimate under s. NR 664.0142,

(7) For generators who treat, store or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.
(8) For generators who treat, store or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent the information is available for the years prior to 1984.
(9) The certification signed by the owner or operator of the facility or an authorized representative.

O-11 Unmanifested Waste Report NR 664.0076

If an un-manifested waste shipment is discovered at WRR, the procedures set out in the WRR internal document, *What is an unmanifested waste shipment?* will be followed to gather information and submit an un-manifested waste report to the Department.

A copy of this document can be found in Appendix O-5.

Part 1

Section O – Manifest System, Recordkeeping and Reporting

Appendix O-1
Receipt of Shipments from a Foreign Source

Receipt of shipments from a foreign source

Receipts from Canada and Mexico

State Citation: NR 664.0012(1)(a)

The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the regional administrator in writing at least 4 weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

Before WRR can accept waste from Canada or Mexico, EPA - Region V must be notified at least 4 weeks before the first shipment arrives at the facility. A onetime notification is required per stream, per source.

Steps to be taken when a new stream is profiled in by a source in Mexico or Canada:

1. The profile moves through the established acceptance procedure for approval and quoting.
2. The generator is advised of WRR's requirement for notification to the EPA and the waiting period before a shipment can be made to WRR.
3. A copy of the profile and quote letter are given to the Director of Corporate Compliance so the notification can be drafted to the regional EPA office.
4. A copy of the notification letter is given by the Director of Corporate Compliance to Customer Service for the sales file and a copy to the WRR Traffic Department.
5. The notification letter is added to the WRR ESMS database.

Federal Citation: 40 CFR 264.71 (a)(3)

If a facility receives hazardous waste imported from a foreign source, the receiving facility must mail a copy of the manifest and documentation confirming EPA's consent to the import of hazardous waste to the following address within thirty (30) days of delivery: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

When WRR receives hazardous waste shipments from a foreign source a copy of the closed manifest and the EPA consent to import must be sent into the EPA within 30 days of receipt of the waste.

The mailing address is as follows:

Office of Enforcement and Compliance Assurance
Office of Federal Activities
International Compliance Assurance Division (2254A)
Environmental Protection Agency
1200 Pennsylvania Avenue, NW.
Washington, DC 20460.

The EPA consent to import is provided yearly to the CEO of WRR by the EPA. The current consent to import is added to the WRR ESMS database. A copy is given to Administration and WRR Traffic Department.

Part 1

Section O – Manifest System, Recordkeeping and Reporting

Appendix O-2
What is a Manifest Discrepancy?

What is a manifest discrepancy?

Per WDNR regulations, if any of these three items occur, WRR has a manifest discrepancy:

Manifest Discrepancy NR 664.0072(1)

(a) Significant differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are, for bulk waste, variations greater than 10% in weight, and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid or toxic constituents not reported on the manifest or shipping paper. Instructions on handling quantity or type discrepancies can be found in ***Section 1***.

Examples for WRR include:

i) An incorrect drum count for a manifest line item.

ii) When there is a 10% difference in the weight on the manifest and the WRR scale weight.

iii) A difference is found between the manifest description and the WRR lab analytical. **NOTE: If the waste was shipped as nonregutlated (NREG) on a Bill of Lading (BOL) and, through lab analysis, is found to be regulated by the EPA, the shipment is an unmanifested shipment. The steps for handling an unmanifested shipment are found in document "Instructions for handling an unmanifested shipment". If the waste shipment arrived on a manifest, the shipment is handled as a Manifest Discrepancy.**

(b) Rejected wastes, which may be a full or partial shipment of hazardous waste that the treatment, storage or disposal facility cannot accept. Instructions on rejecting waste shipments can be found in ***Section 2***.

Examples for WRR include:

i) A manifested shipment that is shipped with waste codes that are not on WRR's approved waste code list. This does not apply to shipments that are 10-day transfer shipments and WRR is not the receiving facility on the manifest.

ii) The generator disputes the analysis and classification of the waste which results in a disposal cost that is significantly higher than quoted. This rejection is allowed only in the case the original generator is a TSDF.

(c) Container residues, which are residues that exceed the quantity limits for empty containers set forth in s. NR 661.07(2)(a). A container is empty if subds. 1. and 2. or 3. are met:

These are the conditions and limits set forth in S. NR 661.07 (2)(a):

1. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping and aspirating.

2. No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner.

3. One of the following:

a. No more than 3% by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size.

b. No more than 0.3% by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.

Instructions on handling discrepancies involving excessive heel quantities are addressed in ***Section 3***.

Example for WRR would be:

i) After a tanker is pumped off at WRR, a visual inspection and the rescaling of the tanker shows that there is heel remaining in the tanker.

Section 1 - Instructions for handling a manifest discrepancy – quantity and/or type.

1) How is a manifest discrepancy on quantity or type found?

a) A discrepancy in the number of drums shipped under a manifest will be found when the shipment is unloaded and set up for sampling. A count discrepancy is reported to Manifest Discrepancy email list.
b) A discrepancy in the volume of bulk waste shipped is found by Traffic as the empty tanker is scaled.
c) A significant discrepancy for the type of waste is found by the lab and is reported to Manifest Discrepancy email list.

2) **What happens if a manifest discrepancy on quantity or type arises?**

A manifest discrepancy requires generator notification and resolution within 15 days of the waste receipt. This notification can take many forms and can be as simple as a phone conversation with the generator or as formal as a letter sent to them. The manifest will not be broken down and mailed out until the discrepancy has been resolved.

a) Whenever possible, the notification is made to the generator via a phone conversation, date and generator authorization will be noted on the manifest in section 18. This phone call can originate in WRR's Customer Service or Traffic departments.

b) WRR can also resolve these manifest discrepancies through email. This will allow WRR to have evidence that the notification happened and the generator has made corrective actions. The internal WRR distribution list for manifest discrepancies is made up of Environmental Compliance, Customer Service, Traffic and Sales.

c) When the generator has responded to the manifest discrepancy within 15 days of the waste receipt at WRR, a copy of the email is printed and attached to the manifest.

d) Whether notification has occurred via phone or email, if the generator does not reply within 15 days of the waste receipt, WRR Environmental Compliance must be alerted. A letter is sent to the WDNR describing the discrepancy and the attempts WRR has taken to reconcile it with the generator. A copy of the waste manifest accompanies the letter to the WDNR. A copy of the letter is attached to the manifest kept at WRR.

Section 2 - Instructions for handling a manifest discrepancy – load rejection.

1) How is a load rejection discrepancy found?

a) After analysis by the WRR lab, a waste code is assigned that is not on WRR's permitted waste codes.
b) After review of the manifest, a waste code is listed that is not on WRR's permitted waste codes.
c) After analysis by the WRR lab, the generator requests that the load be rejected back to them.

2) **What happens if load rejection arises?**

Upon rejecting waste, the WRR will consult with the generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, WRR can return the rejected waste to the generator. WRR will send the waste to the alternative facility or to the generator within 60 days of the rejection. While arrangements are being made for the shipment of the waste, WRR will maintain the waste in a secure manner.

3) What are the steps to reject a load?

For full or partial load rejections that are to be sent off-site to an alternate facility or back to the original generator, WRR will now become the generator of the shipment and prepare a new manifest in accordance with the following instructions:

(a) Write the generator's (WRR's) EPA ID number in Item 1 of the new manifest. Write the generator's (WRR's) name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space for Item 5.

(b) Write the name of the alternate designated facility and the facility's EPA ID number in the designated facility block (Item 8) of the new manifest.

(c) Copy the manifest tracking number found in Item 4 of the old manifest to the special handling and additional information block of the new manifest and indicate that the shipment is rejected waste from the previous shipment.

(d) Copy the manifest tracking number found in Item 4 of the new manifest to the original manifest reference number line in the discrepancy block of the old manifest (Item 18a).

(e) Write the DOT description for the rejected load in Item 9 (U.S. DOT description) of the new manifest and write the container types, quantity and volume of waste.

(f) Sign the generator's certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation.

(g) For full load rejections that are made while the transporter remains present at WRR, WRR may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the alternate facility space. WRR will retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then WRR will use a new manifest and complete steps (a) to (f).

(h) The old (original) and new manifest paperwork for a partial or full load rejections is handled in the following manner:

   a. WRR sends a letter to the original generator of the waste explaining the reason a new manifest has been opened for the shipment. This letter will explain to the generator that the new manifest supersedes the original manifest. A copy of the original and new manifest accompanies the letter. The letter can be written by the Traffic Manager or Compliance Director.

b. A copy of the letter, original manifest and new manifest is kept at WRR. These documents are added to the ESMS database.

c. The designated facility (alternate facility or original generator) on the new manifest sends a copy to the state and back to WRR as the generator of record on the manifest.

d. When WRR receives back the Designated Facility to Generator, a copy is made and sent into the Department.

e. The original manifest does not accompany the new manifest when the waste leaves WRR. The remaining copies of the original manifest can be filed with the letter, and new manifest copies in the Compliance Directors office.

Section 3 - Instructions for handling a manifest discrepancy – residue.

1) How is a residue discrepancy found?

i) After a tanker is pumped off at WRR, the heel remaining in the tanker exceeds the allowable amount will result in a manifest discrepancy. If the heel is greater than 0.3% by wt of the capacity of the tanker, the manifest must be discrepancied if it isn't removed from the tanker before leaving WRR. This would be more than 135 lbs left in a tanker capable of holding 45,000 lbs of waste.

2) What happens if a residue discrepancy arises?

A manifest discrepancy for residue requires generator notification and resolution within 15 days of the waste receipt. This notification can take many forms and can be as simple as a phone conversation with the generator or as formal as a letter sent to them. The manifest will not be broken down and mailed out until the discrepancy has been resolved.

With customer approval, WRR makes every effort to remove the remaining residue from a tanker via a wash cycle and steaming. If the wash out is done sucessfully, the shipment does not result in a manifest discrepancy. After washing and/or steaming, the empty tanker is rescaled to verify it is empty. The weight of the heel is added to the original scale weight for the shipment.

If steamed after washing, the tanker will leave WRR with a bill of lading stating that the tanker has been steamed and purged.

If the tanker has not been steamed after washing, an "Empty – Last Said to Contain Dichloromethane …" bill of lading will be generated and sent with the empty tanker.

If the generator does not give approval for a tanker washout, the manifest is discrepancied.

3) What are the steps to re-manifest a residue shipment?

For a tanker residue that is to be sent off-site to an alternate facility or back to the original generator, WRR will now be the generator of the waste and prepare a new manifest in accordance with the following instructions:

(a) Write the generator's EPA ID number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space for Item 5.

(b) Write the name of the alternate designated facility and the facility's EPA ID number in the designated facility block (Item 8) of the new manifest.

(c) Copy the manifest tracking number found in Item 4 of the old manifest to the special handling and additional information block of the new manifest and indicate that the shipment is rejected waste from the previous shipment.

(d) Copy the manifest tracking number found in Item 4 of the new manifest to the original manifest reference number line in the discrepancy block of the old manifest (Item 18a).

(e) Write the DOT description for the rejected load in Item 9 (U.S. DOT description) of the new manifest and write the container types, quantity and volume of waste.

(f) Sign the generator's certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation.

(g) For a residue discrepancy that are made while the transporter remains present at WRR, WRR may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the alternate facility space. WRR will retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then WRR will use a new manifest and complete steps (a) to (f).

Part 1

Section O – Manifest System, Recordkeeping and Reporting

Appendix O-3
Manifest Copy Requirements for States Sending to WRR

Manifest copy requirements for states sending to WRR

Arizona

The state of Arizona requires that one copy of each manifest (Generator, Transporter, and TSD Facility) be submitted to ADEQ.

Manifests may be mailed to:

Arizona Department of Environmental Quality
GIS & IT Unit, MS 4415 A-1
MANIFESTS Enclosed
1110 West Washington Street
Phoenix, Arizona 85007

Arkansas

Arkansas does not require submission of the state copy of the manifest to ADEQ.

Illinois

all Illinois generators sending waste to any facility, must submit copies (photocopies) within two days of shipment (for RCRA hazardous and PCB wastes) to:

Illinois EPA -- MC24
PO Box 19276
1021 N. Grand Avenue East
Springfield, IL 62794-9276

Indiana

Indiana no longer requires that copies of the manifest be sent to the Indiana Department of Environmental Management. To replace the information formerly obtained from the manifests, Indiana now requires the submittal of an Annual Hazardous Waste Manifest report to be submitted by both small and large quantity generators each year.

Iowa

Copies of your Uniform Hazardous Waste Manifest are not required by the State of Iowa.

Kansas

Kansas does **not** require copies of manifests be submitted to it regardless of whether the waste originates or is disposed of in the state. Copies of manifests are required when submitting Biennial Reports.

Michigan

Page 2: ``Designated facility to generator State (if required as it is in Michigan)".

Minnesota

You, the generator, must ensure that within 40 days of the facility's receipt of the waste, you, your transporter, or the facility mail a legible photocopy of the *Designated Facility to Generator Copy* to the appropriate Minnesota agency.

Missouri

Missouri requires all in-state and out of state treatment, storage, and disposal facilities to send in a copy of each Hazardous Waste Manifest received to the address:

Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

Nebraska

Nebraska DEQ does not have the manifest-tracking program and does not require generators to routinely submit copies of the manifests to Nebraska DEQ. Manifests are only required under specific circumstances when Nebraska DEQ makes the request for copies of manifests to be submitted; e.g., as a result of follow-up from RCRA compliance inspections or other investigations, or from one-time hazardous waste shipments by Nebraska generators.

New Jersey

No longer requiring submittal of generator copies

North Dakota

Large quantity generators must submit a copy of the signed manifest within 21 days of the date:

Small quantity generators and conditionally exempt small quantity generators are not required to submit manifest copies.

Ohio

Ohio EPA does not require generators or treatment, storage and disposal (TSD) facilities to send copies of manifests.

Texas

The TCEQ does not currently require that a copy of the manifest be sent to the state.

Part 1

Section O – Manifest System, Recordkeeping and Reporting

Appendix O-4
Record Retention Requirements

Record Retentions Requirements

	RCRA	Citation
Inspections	3 years	NR 664.0015(4)
WRR as TSD copy of each manifest	3 years	NR 664.0071(1)(b)5.
WRR as generator copy of each manifest	3 years	NR 662.040(1)
Operating Records	**RCRA**	**Citation**
Descripton and quantity of each Haz Waste received	Until Closure of WRR	NR 664.0073
Method and dates of treatment	Until Closure of WRR	NR 664.0073
Location within facility with cross reference to incoming manifest	Until Closure of WRR	NR 664.0073
Preliminary analysis and incoming load analysis	Until Closure of WRR	NR 664.0073
All facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.	Until Closure of WRR	NR 664.0033
Annual Reports	Until Closure of WRR	NR 664.0075
Unmanifested Waste	Until Closure of WRR	NR 664.0076(1)
Any incident that requires implementing the contigency plan and report to WDNR	Until Closure of WRR	NR 664.0056(10)
Grounwater monitoring	Until Closure of WRR	NR 664.0091(1)(a)
Corrective Action	Until Closure of WRR	NR 664.0091(1)(b)
PE tank integrity certifications	Until Closure of WRR	NR 664.0192
Seconday Containment design	Until Closure of WRR	NR 664.0193
The owner or operator shall develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting or responding to environmental or human health hazards. (Misc. Units)	3 years	NR 664.0015(2)(a)

Record Retentions Requirements

	RCRA	Citation
Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility) and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).(Closed vent systems)	Until Closure of WRR	NR 664.1035(2)(b)1.
Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests(Closed Vents)	Until Closure of WRR	NR 664.1035(2)(b)2.
If engineering calculations are used, a design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions", (Condensers)	Until Closure of WRR	NR 664.1035(2)(d)3.e.
If engineering calculations are used, a design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions", (Carbon Units)	Until Closure of WRR	NR 664.1035(2)(d)3.f.
A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur. (Condensers and Carbon Unit)	Until Closure of WRR	NR 664.1035(2)(d)4.
A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95% or greater (Condensers and Carbon unit)	Until Closure of WRR	NR 664.1035(2)(d)5.

Record Retentions Requirements

	RCRA	Citation
If performance tests are used to demonstrate compliance, all test results. (Condensers and Carbon unit)	Until Closure of WRR	NR 664.1035(2)(d)6.
facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with an organic concentration that equals or exceeds 10% by weight (Subp BB Equip Leaks & Repair)	Until Closure of WRR	NR 664.1063(4)
To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts (Subp BB Equip Leaks & Repair)	Until Closure of WRR	NR 664.1063(8)
Performance tests to determine if a control device achieves 95 weight percent organic emission reduction (Subp BB Equip Leaks & Repair)	Until Closure of WRR	NR 664.1063(9)
For each piece of equipment under Subp BB, the following needs to be in the operating record:	Until Closure of WRR	NR 664.1064(2)(a)
Equipment identification number and hazardous waste management unit identification	Until Closure of WRR	NR 664.1064(2)(a)1.
Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan)	Until Closure of WRR	NR 664.1064(2)(a)2.
Type of equipment (e.g., a pump or pipeline valve).	Until Closure of WRR	NR 664.1064(2)(a)3.
Percent-by-weight total organics in the hazardous waste stream at the equipment	Until Closure of WRR	NR 664.1064(2)(a)4.
Hazardous waste state at the equipment (e.g., gas or vapor or liquid).	Until Closure of WRR	NR 664.1064(2)(a)5.
Method of compliance with the standard (e.g., "monthly leak detection and repair" or "equipped with dual mechanical seals").	Until Closure of WRR	NR 664.1064(2)(a)6.

Record Retentions Requirements

	RCRA	Citation
500 ppmw level of VO to exempt tanks and containers - We are not asking for an exemption from the standard	Until Closure of WRR	NR 664.1083(1)
facility shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls	Until Closure of WRR	NR 664.1083(3)
Procedure for determining no detectable organic emissions	Until Closure of WRR	NR 665.1084(4)
Report if waste vapor pressure is too great for the tank it was stored in	Until Closure of WRR	NR 664.1090(2)
Notices to generators	Until Closure of WRR	NR 664.0012(2)
Latest Facility closure cost estimates	Current copy of cost estimates	NR 664.0142
Annual certification for the waste minimization plan	Until Closure of WRR	NR 664.0073(2)(i)
A generator's land disposal restriction notification to WRR	Until Closure of WRR	NR 664.0073(2)(m)
	and	NR 668.07(1)(b)
As a generatory, WRR's land disposal restriction notifications	3 years	NR 668.07(2)(e)

Part 1

Section O – Manifest System, Recordkeeping and Reporting

Appendix O-5
What is an Un-manifested Waste Shipment?

What is an unmanifested waste shipment?

Per WDNR regulations, WRR has received an unmanifested waste shipment if hazardous waste shipment has arrived without an accompanying manifest.

Section 1 - Instructions for handling an unmanifested waste shipment

1) What are the types of unmanifested waste shipments?

a) The most common unmanifested waste shipment results from the use of a Bill of Lading for a shipment requiring a manifest.
b) The second type of unmanifested waste shipment arrives at WRR with no accompanying paperwork.

2) How is an unmanifested waste shipment discovered?

The staff in the WRR Accounting and Traffic Departments, or their designates, review all incoming shipment paperwork before the paperwork is separated for mailing. The two common items reviewed are generator status and shipment quantity.

a) Generators using Bills of Lading for hazardous waste shipments have their generator status checked in the EPA's Envirofacts database, http://www.epa.gov/enviro/facts/rcrainfo/search.html . If the generator is not found in the database or have a CESQG (Conditionally Exempt Small Quantity Generator) status in the database, the shipment is allowed on a Bill of Lading.

   If the generator status in the database is SQG (Small Quantity Generator) or LQG (Large Quantity Generator), an unmanifested waste shipment has been received by WRR. An internal notification is generated. The internal WRR distribution list for unmanifested waste shipments is made up of Director of Compliance, Customer Service, Traffic and Sales and includes the following information:

   (i) The date WRR received the waste.

   (ii) The EPA identification number, name and address of the generator and the transporter, if available.

   (iii) A description and the quantity of each unmanifested hazardous waste the facility received.

   (iv) WRR load number

A scanned copy of the Bill of Lading, attached to the email, can provide this information.

Customer Service or Sales informs the generator of the receipt of an unmanifested waste shipment and request an explanation as to why the shipment was not manifested into WRR. The generator will also receive a copy of the unmanifested waste report WRR is required to provide to the WDNR under s. NR 664.0076 Wis. Admin. Code.

Any explanation given to Customer Service is provided to Environmental Compliance.

b) The weight of the hazardous waste shipment is reviewed. If the weight of all hazardous waste on the shipment is more than 2200 lbs, WRR has received an unmanifested waste shipment. Internal and external notification steps provided in 2 (a) above should be followed.

c) A CESQG cannot produce more than 2640 lbs in a calendar year. The generator's shipment history with WRR may also be reviewed to see how much hazardous waste has been received during the calendar year. If WRR has received more than 2640 lbs of hazardous waste, WRR has received an unmanifested waste shipment. Internal and external notification steps provided in 2 (a) above should be followed.

Note: Enviroware has two programmed flags for the per shipment and annual quantities that will be activated if more than 2200 lbs of hazardous waste is shipped at one time or if the sum of yearly hazardous waste shipments rise above 2,640 lbs.

d) Besides discovering an unmanifested waste shipment through a paperwork review, drums may arrive at WRR that have no accompanying paperwork. If this situation is discovered by the receiving personnel, the following information from the hazardous waste label is noted:

i) Generator name and address
ii) Generator EPA ID number
iii) Profile number if available
iv) DOT description
v) EPA waste codes
vi) WRR load number

The information is provided to Administrative, Environmental Compliance, Customer Service, Traffic and Sales.

If the waste material is profiled into WRR, the shipment details are added to Enviroware so it can be sampled and analyzed by the WRR lab.

If the waste material does not have a WRR profile established, the drums are put on hold and the generator notified by Customer Service or Sales to send a completed profile to WRR. The profile information is added to Enviroware and drums sampled and analyzed by the WRR lab.

The result of the WRR lab testing and assignment is provided to Environmental Compliance.

Section 2 – Unmanifested waste report

Within 15 days of receipt of the unmanifested shipment, the Director of Compliance will prepare and submit a report to the WDNR. The unmanifested waste report will contain the following information:

a) The EPA identification number, name and address of the facility.
b) The date the facility received the waste.
c) The EPA identification number, name and address of the generator and the transporter, if available.
d) A description and the quantity of each unmanifested hazardous waste the facility received.
e) The method of treatment, for each hazardous waste.
f) The certification signed by the owner or operator of the facility or an authorized representative.
g) A brief explanation of why the waste was unmanifested, if known.

A copy of the unmanifested waste shipment will be provided to the generator.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section A – Container Standards: Inspections

2A-1 At least weekly inspections NR 664.0142(1)

At least weekly, WRR inspects areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. The weekly inspections are scheduled and logged into the WRR Environmental and Safety Management System (ESMS) database.

WRR has eight sheds for the storage of containerized hazardous waste. The integrity of each shed is kept through a preventative maintenance program. In addition, an annual structural inspection is completed on each shed.

2A-2 Frequency of container storage area inspections NR 664.0015(2)(d)

If a weekly inspection of a container area shows a rate of deterioration the containment that would lead to a probability of an environmental or human health incident, the inspection frequency will be increased. The inspection frequency will be increased to detect issues that may go undetected between weekly inspections.

2A-3 Subchapter CC container inspections NR 670.014(2)(e)

WRR manages hazardous waste in the following container types subject to s. NR 664.1086 Wis. Admin. Code:

1. Containers with a design capacity of greater than 0.1 m^3 (26 gallons) but less than 0.46 m3 (121 gallons) requiring level 1 emission control.
2. Containers with a design capacity of greater than 0.46 m^3 (121 gallons) that are in light liquid service requiring level 2 emission control.

All containers used for the storage of hazardous waste and subject to s. NR664.1086 Wis. Admin. Code meet DOT requirements for shipping hazardous materials. In addition to container types subject to s. NR664.1086 Wis. Admin. Code, WRR does manage hazardous waste in varying sized containers including small cans.

For a container requiring level 1 or level 2 controls arriving at the WRR facility, a visual inspection is completed if the container is not to be emptied within 24 hours of arrival. The visual inspection occurs on or before the date the container is accepted at the facility. For the purposes of this section, the acceptance date is the date WRR personnel sign the hazardous waste manifest. The visual inspection includes the container, cover and closure device. The inspection looks for evidence of cracks, holes, gaps or other open spaces when the cover and closure are in place.

If the situation arises that a container requiring level 1 or level 2 controls remains at the facility for a period of one year or more, the container will be visually inspected at least annually for the presence of cracks, holes, gaps or other open spaces when the cover and closure is in place.

If a container requiring level 1 controls is found to be defective, within 24 hours of discovery, an attempt is made to repair the defect. If repairs cannot be done, the defective container will be put in a salvage drum and the salvage drum labeled to identify to contents or the contents of the container are removed to another container, tank or tanker. The defective container is either sent to reconditioning at an off-site facility, crushed for metal recycling or sent to for thermal treatment at an off-site facility.

If a container requiring level 2 controls is found to be defective, within 24 hours of discovery, an attempt is made to repair the defect. Repairs are completed no later than 5 calendar days after the defect is discovered. If repairs cannot be done, the contents are removed to another container, tank or tanker. The defective container is sent to repairs and will not be used again until the defect is repaired.

2A-4 Subchapter CC container emissions control NR 670.014(2)(e)

WRR's fuels building is designed and operated according to the criteria for a permanent total enclosure in Method 204—"Criteria for and Verification of a Permanent or Temporary Total Enclosure" in appendix M of 40 CFR part 51. The fuels building also has two hazardous waste container storage areas; one located on the upper level and one located on the lower level.

The containers stored and managed within the fuels building operate to the standard for containers requiring level 1 control. Therefore the requirements for the inspection and monitoring of air emission control equipment under s. NR 664.1088 Wis. Admin. Code are not applicable as they apply to containers.

2A-5 Subchapter CC container inspection frequency NR 664.0015(2)(d)

If the frequency of container inspections required under Subchapter CC shows a rate of deterioration to the containers or their closures that would lead to a probability of an environmental or human health incident, the inspection frequency will be increased. The inspection frequency will be increased to detect issues that may go undetected between required inspections.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section B – Container Standards:
Containment

2B-1 Containment system integrity NR 664.0175(2)(a)

WRR maintains the containment base in all hazardous waste container storage areas to be free of cracks or gaps and is sufficiently impervious to contain leaks, spills and accumulated precipitation until the collected material is detected and removed.

2B-2 Containment system protection from accumulated liquids NR 664.0175(2)(b)

Hazardous waste storage areas at WRR contain a base that is designed to drain liquids resulting from leaks, spills or precipitation or has containers elevated on pallets to protect the containers from contact with accumulated liquids.

WRR has eight sheds for the storage of containerized hazardous waste. Containers are stored on pallets in each of the eight sheds. Likewise, containers are palletized for storage in the E1warehouse.

In the areas where drums containing hazardous waste are not stored on pallets, the base is designed to drain liquids away from the stored containers. In the portion of the EI building designated as Dock 3, secondary containment is provided by sloped concrete floors constructed with reinforced concrete curbs.

In the portion of the E II warehouse, designated as Docks 1, 4 and 5, secondary containment is provided by sloped, sealed concrete floors constructed with reinforced concrete curbs or concrete block walls.

There are two hazardous waste container storage areas in the fuels building, designated as Area #5 (lower fuel blend area) and Area #6 (upper fuel blend area). Secondary containment is provided by a sealed concrete floor constructed with a minimum six inch high reinforced concrete curb that surrounds the warehouse perimeter.

The hazardous waste container storage areas designated as the DOT Room has secondary containment that is a sloped concrete floor with reinforced concrete curbs or concrete block walls.

2B-3 Containment system capacity NR 664.0175(2)(c)

Table 2B-1 shows the secondary containment system capacities for the hazardous waste container storage areas at the WRR facility.

TABLE 2B - 1

SECONDARY CONTAINMENT CAPACITY AND CONTAINER STORAGE CAPACITY
HAZARDOUS WASTE CONTAINER STORAGE AREAS
WRR ENVIRONMENTAL SERVICES, INC
EAU CLAIRE, WISCONSIN

CONTAINMENT AREA	CONTAINMENT SUBAREAS	TOTAL NUMBER OF DRUMS[1] PER AREA	QUANTITY STORED (GALLONS)	REQUIRED CONTAINMENT CAPACITY (GALLONS)	AVAILABLE SECONDARY CONTAINMENT (GALLONS)
E-I BUILDING		2,261	124,355	12,436	15,018
E-II BUILDING					
Containment Area #1	Tanker Pit available for Docks 1, 4, 5 Areas	N/A	N/A	N/A	3,477
Containment Area #3	Docks 1 and 5	360	19,800	1,980	See Area #7
Containment Area #4	Dock 4	550	30,250	3,025	See Area #7
Containment Area #5	Lower Level Fuels Building	10	550	4,700 (Hydrapulper Gross Capacity)	4,902
Containment Area #6	Upper Level Fuels Building	230	12,650	1,265	3,115
Containment Area #7	Containment Areas #3 and #4	910	50,050	5,005	26,342
DOT Room		80	4,400	440	485
HHW Room		75	4,129	413	454
Tanker Storage Area (planned)		491	27,000	23,903	32,003
BARREL STORAGE SHEDS					
	P-1	80	4,400	440	825
	P-2	80	4,400	440	825
	P-3	80	4,400	440	825
	P-6	80	4,400	440	825
	P-7	80	4,400	440	825
	P-8	40	2,200	220	825
	P-9	80	4,400	440	825
	P-10	80	4,400	440	825

1 Each drum contains 55 gallons N/A = Not Applicable

The containment calculations for each area are found in this sections Appendices as follows:

E-1 Building Containment	Appendix B-1
E-II Warehouse Building Containment	Appendix B-2
Fuels Building Containment	Appendix B-3

Dock 6 Building DOT Room Containment	Appendix B-4
Barrel Storage Shed Containment	Appendix B-5
HHW Room Containment	Appendix B-6
Tanker Storage Area Containment	Appendix B-7

2B-4 Run-on prevention NR 664.0175(2)(d)

All but one hazardous waste container storage areas at WRR are enclosed with roofs and four sidewalls, preventing run-on from precipitation. The Tanker Storage Area is not enclosed with a roof.

The Tanker Storage Area is constructed with an impervious coating on a concrete base surrounded by concrete containment walls and curbing. The joints are filled with chemically resistant materials that prevent migration of chemicals beyond the secondary containment system. The concrete base, walls and curbing is designed to contain 100% of the capacity of a 6,750 gallon tanker. Since area is not enclosed, additional containment capacity is provided for a 24-hour, 25-year rainfall event. All spills within the secondary containment system is emptied with a portable pump into either drums or storage tanks for processing.

2B-5 Accumulated liquids removal NR 664.0175(2)(e)

All container storage areas are inspected at least weekly for leaking containers or spilled drums. In the event accumulated liquid is discovered, the waste material is pumped out of the sump or accumulation area using a portable pump to a drum. The portable pump can pump up to 60 gallons of liquid per minute.

2B-6 Containment for F020-F023, F026, F027 waste NR 664.0175(4)

WRR does not store containerized hazardous waste carrying F020, F021, F022, F023, F026 or F027 waste codes, therefore the requirements of s. NR664.0175(4) are not applicable.

2B-7 Containment design NR 670.015(1)(a)

Drawings of container storage areas showing drainage patterns and containment structures are provided. Table 2B-2 provides the drawing number for each containment area.

TABLE 2B - 2

HAZARDOUS WASTE CONTAINER STORAGE AREAS AND DESIGN DRAWINGS
WRR ENVIRONMENTAL SERVICES, INC
EAU CLAIRE, WISCONSIN

CONTAINMENT AREA	CONTAINMENT SUBAREAS	DRAWING NUMBER
E-I BUILDING	1, 2, 3, 4	Figure 2B-2 EI Storage Area
E-II BUILDING		
Containment Area #1	Tanker Pit available for Docks 1, 4, 5 Areas	Figure 2B-2 EII Storage Area
Containment Area #3	Docks 1 and 5	Included in above Figure
Containment Area #4	Dock 4	Included in above Figure
Containment Area #7	Containment Areas #3 and #4	Included in above Figure
Containment Area #5	Lower Level Fuels Building	Figure 2B-2 Fuels Bldg
Containment Area #6	Upper Level Fuels Building	Included in above Figure
DOT Room		Figure 2B-2 DOT Room
HHW Room		Figure 2B-2 HHW Room
Tanker Storage Area (planned)		Figure 2B-2 Tanker Storage Area
BARREL STORAGE SHEDS		
P-1		Figure 2B-7 Barrel Sheds
P-2		Figure 2B-7 Barrel Sheds
P-3		Figure 2B-7 Barrel Sheds
P-6		Figure 2B-7 Barrel Sheds
P-7		Figure 2B-7 Barrel Sheds
P-8		Figure 2B-7 Barrel Sheds
P-9		Figure 2B-7 Barrel Sheds
P-10		Figure 2B-7 Barrel Sheds

Most container storage areas are concrete based with curbs and pump-out sumps or accumulation areas for the collection of spills. The eight hazardous waste storage sheds utilize steel in place of concrete.

2B-8 Containment design provides protection against accumulated liquids NR 670.015(1)(b)

Secondary containment is provided by sloped concrete floors constructed with reinforced concrete curbs in all hazardous waste container storage areas except in the eight hazardous waste storage sheds. The eight hazardous waste storage sheds utilize steel in place of concrete.

2B-9 Containment capacity in relationship to volume stored NR 670.015(1)(c)

Table 2B-1 lists the storage and secondary containment system capacities for the hazardous waste container storage areas at the WRR facility.

2B-10 Run-on prevention NR 670.015(1)(d)

All but one hazardous waste container storage areas at WRR are enclosed with roofs and four sidewalls, preventing run-on from precipitation.

The Tanker Storage Area is bordered on all four sides by containment walls or curbing. Precipitation falling outside to the storage area will be directed around the area.

2B-11 Analysis and removal of accumulated liquids NR 670.015(1)(e)

All container storage areas are inspected at least weekly for leaking containers or spilled drums. In the event accumulated liquid in discovered, a sample is taken for analysis by the WRR laboratory using the analytical parameters established in the Waste Analysis Plan. The material may be incorporated into the liquid fuels program, waste water disposal program or containerized for treatment off-site. Accumulated liquid removed from covered hazardous waste container storage areas is considered hazardous waste. The waste material is pumped out of the sump or accumulation area using a portable pump to a drum. The portable pump can pump up to 60 gallons of liquid per minute.

The Tanker Storage Area is designed with a shallow sump that assists in the removal of accumulated liquid with a portable pump. The accumulated liquid will be collected into either drums or storage tanks for processing, or allowed to accumulate in the storm water collection system. Spills or leaked waste and accumulated precipitation are removed within 24 hours, or at the earlier practical time to prevent harm to humans and the environment.

2B-12 Storage of containers with no free liquids NR 670.015(2)

All hazardous waste storage areas at WRR are designed to provide storage for containers holding free liquids. All hazardous waste storage areas meet the requirements of s. NR 664.0175(3) Wis. Admin. Code for the storage of waste with no free liquids.

2B-13 No free liquid analysis NR 670.015(2)(a)

WRR does not designate separate storage areas for waste containing no free liquids, therefore the requirements of s. NR 670.015(2)(a) are not applicable.

2B-14 Design of areas for the storage of waste with no free liquids NR 670.015(2)(b)

All hazardous waste storage areas at WRR are designed to provide storage for containers holding free liquids. All hazardous waste storage areas are designed and operated to meet the requirements of s. NR 670.015(2)(b) Wis. Admin. Code for the storage of waste with no free liquids.

Part 2

Section B – Container Standards: Containment

Appendix B-1
E-I Building Containment

The E-I Building hazardous waste storage areas consist of four locations:

1. E-I Receiving/Loading Dock
2. E-I Small and Large Warehouse Rooms, A.I.S. Warehouse Room, and the Wood Shop Room
3. The Residue Storage Room and the north warehouse storage area located north of the E-I Small and Large Warehouse Rooms
4. E-I Building Trailer Pit located in the northwest corner of the E-I Building

Containment in Area #1

The Receiving/Loading Dock containment dimensions are:

Length = 35' + 39'6" – 1' wall thickness = 73.5'
Width = 28' 10.5" - 1' wall thickness = 27.8'
Average Depth = 2" = 0.17'
The sump in the SW corner of this area has a 5 gallon capacity

Total gross containment volume = 73.5' x 27.8' x 0.17' = 347 C.F.
Storage volume available = 347 C.F. x 7.5 gallons/C.F. = 2,600 gallons
Total storage volume available = 2,600 + 5 gallon sump volume = 2,605 gallons

For 10 rows of 55-gallon drums stored north/south, the total drum capacity for this area is approximately = 10 x 30 drums/row = 300 drums
Area for each drum = π x ((24"/12)/2)² = 3.14 S.F.
Drum displacement volume = 3.14 S.F. x 0.17' x 300 drums = 160 C.F.
Equivalent storage volume displaced = 160 C.F. x 7.5 gallons/C.F. = 1,200 gal

Excess available secondary containment = gross available containment - drum displacement = 2,605 – 1,200 = 1,405 gallons

Containment in Area #2

This containment area consist of the E-I Small and Large Warehouse Rooms, A.I.S. Warehouse Room, and the Wood Shop Room. Containment is in the west portion of the Large Warehouse Room where the average depth is 1" and the dimensions are approximately 44' x 28'. There is no sump.

Total gross containment volume = 28' x 44' x 0.08' = 99 C.F.
Containment volume available = 99 C.F. x 7.5 gallons/C.F. = 743 gallons

Containment in Area #3

This containment area consist of the Residue Storage Room and the north warehouse storage area located north of the E-I Small and Large Warehouse Rooms. Containment is in the west end of the north warehouse storage area where there is a small 5" deep sump. It is identified as sump A. The secondary containment area is approximately 20' x 30' and has an average depth of approximately 5/8". The total drum capacity for this area is approximately = 132 drums.

Total gross containment volume = 20' x 30' x 0.05' = 30 C.F.
Containment volume available = 30 C.F. x 7.5 gallons/C.F. = 225 gallons
This does not account for the shallow sump.

Drum displacement volume = 3.14 S.F. x 0.05' x 132 drums = 20.7 C.F.
Equivalent storage volume displaced = 20.7 C.F. x 7.5 gallons/C.F. = 155 gal

Excess available secondary containment = gross available containment - drum displacement = 225 – 155 = 70 gallons

Containment in Area #4

This containment area consist of the Trailer Pit located in the northwest corner of the E-I Building. This is the secondary containment area where liquids flow to when Areas 1 – 3 are filled to their available capacities. The Trailer Pit is 28’ x 43.5’ with an average depth of 17”. There is a 10 gallon sump in the Trailer Pit.

Total gross containment volume = 28’ x 43.5’ x 1.42’ = 1,729 C.F.
Containment volume available = 1,729 C.F. x 7.5 gallons/C.F. = 12,968 gallons

Displacement of the containment volume occurs when there are two trailers parked in the Tanker Pit. Each trailer is assumed to have 8 tires. The tire diameter is 3’. Assume that ¼ of the tire volume displaces the liquid. The volume of a tire equals π x R^2 x t where R is the radius of the tire, and t is the thickness of the tire. Volume = (3.14) x $(1.5)^2$ x (0.83) = 5.86 C.F. and ¼ of the tire volume = 1.47 C.F. per tire.

The volume displaced for 16 tires = 16 x 1.47 x 7.5 gallons/C.F. = 176 gallons

Containment volume for the Tanker Pit with 2 tankers in it:
= 12,968 gallons + 10 gallon sump – 176 gallons
= 12,800 gallons

Total Containment in Areas ## 1 - 4

Available containment for Areas 1 – 4 in gallons
= 1,405 + 743 + 70 + 12,800 = 15,018 gallons

E-I Building Liquid Storage Capacity

Currently there are 16 above ground storage tanks located in the E-I Building. Only one of these, Tank BBB, was used to store hazardous waste in conjunction with the use of the Rotary Drum Vacuum Filter (RDVF). Tank BBB can not currently be used because it has a leak. Neither the RDVF nor Tank BBB have been used for several years. Both the RDVF and Tank BBB will be closed. The other 15 tanks in the building are used to store either water or product. According to NR 664.0190, containment only applies to tanks storing hazardous waste.

Because no tanks and only containers of hazardous waste are stored in the E-I Building, the containment requirements of NR 664.0175(2) are applicable. This code requires that secondary containment be provided for the largest of either 10% of the volume of all hazardous waste containers, or the volume of the largest container, whichever is greatest.

With a 15,018 gallon containment capacity, the total storage capacity could be 150,180 gallons. The total 55-gallons drum equivalent capacity before the containment is exceeded = 150,180/55 = 2,730 drums.

The storage of drums containing hazardous waste in the E-I Building is limited to 2,261 55-gallons drum equivalents which is less than the total number of drums that could be stored before containment is exceeded. Therefore, the containment volume of the E-I Building is sufficient.

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Section B – Container Standards: Containment

Appendix B-2
E-II Warehouse Building Containment

Tanker Pit Containment

Containment area #1 is the tanker pit. Liquids from Docks 1, 4, and 5 can drain into the tanker pit through the door opening located on the southwest corner of the west wall of the pit. There is no sump. Instead, there is a depression in the west end of the tanker pit floor where smaller spills drain to and are contained. Within the depression are two low areas that will collect even the smallest of spills.

There are no containers stored in the tanker pit. Displacement only occurs as a result of two tanker trailers that are parked in the pit. Each trailer is assumed to have 8 tires. The tire diameter is 3'. Assume that ¼ of the tire volume displaces the liquid. The volume of a tire equals π x R^2 x t where R is the radius of the tire, and t is the thickness of the tire. Volume = (3.14) x $(1.5)^2$ x (0.83) = 5.86 C.F. and ¼ of the tire volume = 1.47 C.F.

The volume displaced for 16 tires = 16 x 1.47 x 7.48 gallons/C.F. = 176 gallons

Containment volume for the tanker pit with 2 tankers in it:

= Bldg length x width x average depth x 7.48 gallons/C.F. – 176
= (56' x 27' x 0.323' x 7.48) - 176
= 3,477 gallons

Available containment for tanker pit = 3,477 gallons

E-II Building Containers

Containment area #7 includes Docks 1, 4, & 5, but not the tanker pit. In the 2002 calculations containment area #3 included Docks 1 & 5, and containment area #4 included Dock 4 and the upper fuel blend room. Because of the fire in 2007, the upper fuel blend room is no longer a part of Dock 4. There is now a firewall on the west side of Dock 4.

The 2003 license specified a maximum of 780 drums for Dock 4 and the former upper fuel blend room. Dock 4 occupies an area of (100.4' – 0.5') x (52.25' – 0.5') = 5,169 S.F. As shown on the 2001 Drawing D-2A, the former upper fuel blend room occupied an area of 66.1' x 34.5'. Taking into account the 6" wide concrete curb, the area of the room would be 65.1' x 33.5' = 2,180 S.F. The total area for the 780 drums is 5,169 + 2,180 = 7,349 S.F. Using a ratio of the floor area to allocate the 780 drums:

Dock 4 = (5,169/7,349) x 780 = 550 drums
Upper Fuel Blend Room = 780 – 550 = 230 drums

Using this ratio, the 2003 licensed capacities of hazardous waste for Docks 1, 4, and 5 is:

Dock No.	Maximum Capacity (55-gallon Drums)	Licensed Capacity (gallons)
1	120	6,600
4	550	30,250
5	240	13,200
Totals	910	50,050

Containment for Docks 1, 4, & 5

The 50,050 gallons could be located anywhere on the three docks. Ten per cent of the total licensed capacity is required for containment per NR 664.0175(2)(c):

Minimum required containment = 0.10 x 50,050 = 5,005 gallons

A 5-inch high, 6-inch wide concrete curb surrounds the interior perimeter of the building that covers the tanker pit and Docks 1, 4, and 5. The exception to this is the north, west, and south walls of the tanker pit, and the west wall of the building where there is a concrete block wall that serves in place of the containment curb. As noted above any spilled liquids from Docks 1, 4, and 5 can drain into the tanker pit through the door opening at the southwest corner of the west wall of the pit.

Concrete ramps are located on the east side of Docks 4 and 5 to facilitate unloading and loading of drums from semi-trailers. There are four ramps at Dock 4, and two ramps at Dock 5. Each ramp is 8 feet wide, 10 feet long, and 5-inches high. The volume within the containment occupied by the ramps is:

Ramp volume = 6 x 8 x 10 x 0.42 x 0.5 x 7.48 gallons/C.F.
= 754 gallons

Area of a 2-foot exterior diameter 55-gallon steel drum:
= $\pi \times R^2$
= $3.14 \times (1)^2$
= 3.14 S.F.

Each of the 55-gallon drums occupies an area of 3.14 S.F. The floor area occupied by 910 drums:
= 910 x 3.14
= 2,858 S.F.

The area occupied by the pump up equipment is approximately 400 square feet. Surface area of containment area #7 with 910 drums:

= (100.4' – 0.5') x (52.25' – 0.5')	Dock 4
+ (28.1' x 29')	Dock 1
+ (45.75' – 0.5') x (100.4' – 0.5')	Dock 5
- 2,858 S.F.	Drums Area
- 400 S.F.	Equipment Area
= 7,245 S.F.	

Storage volume available for containment area #7 with 910 drums:
= 7,245 S.F. x 0.5' x 7.48 gallons/C.F. - 754 gallon ramp volume
= 26,342 gallons

Excess containment storage capacity for Docks 1, 4, & 5:
= 26,342 gallons - 5,005 gallons required + 3,477 gallons in Tanker Pit
= 21,337 gallons + 3,477 gallons
= 24,814 gallons

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Section B – Container Standards: Containment

Appendix B-3
Fuels Building Containment

Upper Level Fuels Building Containment Area

The fuels building is split leveled. It is referred to in the following containment computations as the upper and lower levels of the fuels building. The upper level has a 6-inch high by 6-inch wide concrete containment curb. The upper fuels building area was formerly referred to as containment area #6. It is the eastern portion of the fuels building. The containment calculations for Dock 4 show that the containment area drum allocation is 230 drums. The surface area of this containment area is:

= (35.5 – 2 x 0.5) x (63.5 – 2 x 0.5)
= 2,156 S.F.

For a 6-inch high curb around the interior of the building, the maximum containment volume is 2,156 x 0.5 x 7.48 gallons/C.F. which equals 8,063 gallons.

Area of a 2-foot exterior diameter 55-gallon steel drum:
= $\pi \times R^2$
= $3.14 \times (1)^2$
= 3.14 S.F.

Each of the 55-gallon drums occupies an area of 3.14 S.F. The floor area occupied by 230 drums:
= 230 x 3.14
= 723 S.F.

Ten percent of the drum volume is required for containment per NR 664.0175(2)(c):
Minimum required containment = 0.10 x 230 x 55 = 1,265 gallons

Equipment floor area for the upper level is approximately at 600 S.F. Surface area available for containment of the 230 drums:
= 2,156 - 723 - 600
= 833 S.F.

Storage volume available for the upper level containment area with 230 drums present:
= 833 S.F. x 0.5' x 7.48 gallons/C.F.
= 3,115 gallons

Excess containment storage capacity for the upper level containment area:
= 3,115 gallons - 1,265 gallons required containment
= 1,850 gallons

Lower Level Fuels Building Containment Area

The lower level is the western portion of the Fuels Building. The lower level containment wall is 9-inches high. A maximum of ten 55-gallon drums of hazardous waste are stored in the lower portion of the fuels building.

The lower level floor area is:
= (35.5 – 2 x 0.5) x (28 - 0.5) = 948 S.F.
The concrete curb at the rollup door occupies:
= 14 x .5 = 7 S.F.

The gross containment volume with 9" high containment walls is:
(948 - 7) x 0.75 x 7.48 gallons/C.F. = 5,279 gallons
This does not account for drums and equipment that is located on the lower level.

Equipment located within the floor area on the lower level consist of the hydrapulper, slurry pump, plastics grinder, pipe supports, stairway, containment tank for grinder motor, and when in use the aerosol can processing unit. Some of these items are sitting up off the floor on steel supports.

For these computations, the 4,700 gallon gross capacity of the hydrapulper is used for demonstrating containment compliance. However, the hydrapulper does not operate at the gross capacity because when mixing there is a void space between the top of the contents and the inside top of the hydrapulper. This void space allows for expansion during the grinding/mixing operation. The actual processing or operating capacity of the hydrapulper is 3,750 gallons per batch.

As shown above, each of the 55-gallon drums occupies an area of 3.14 S.F. The floor area occupied by 10 drums is:

= 10 x 3.14
= 32 S.F.

The volume occupied by these 10 drums at a depth of 9-inches is:

32 S.F. x 0.75’ x 7.48 gallons/C.F. = 180 gallons

Excess containment storage capacity for the lower level of the fuels building with 9-inch high containment walls:

5,279 gallons gross volume
-180 gallons occupied by 10 drums
-72 gallons occupied by equipment
-125 gallons occupied by aerosol can process
4,902 gallons net available on lower level

This is larger than the 4,700 gallon gross capacity of the hydrapulper and significantly greater than the operating capacity of the hydrapulper.

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Section B – Container Standards: Containment

Appendix B-4
Dock 6 Building DOT Room Containment

The Dock 6 Building hazardous waste storage area consist of the DOT Room. There is a drainage ditch and a sump having a 16 gallon capacity. The dimensions of the room are 43' x 13'. The drainage ditch leading to the 16 gallon sump has dimensions of 11" wide, 4" deep, and 456" long. The change in elevation from the top of the sump to the west door is 4". The average depth for this volume is 2" or 0.167'. WRR typically stores two rows of barrels on either side of the drainage ditch. Each row is 20 barrels deep for a total barrel capacity of 80 barrels.

Total area of DOT Room = 13' x 43' = 559 S.F.

Total area occupied by the drums = 80 barrels x 3.14 S.F./barrel = 251 S.F.

Net containment area for Dock 6 = 559 - 251 = 308 S.F.

Total containment volume = 308 x .167' = 51 C.F.
Equivalent volume = 51 x 7.5 gallons/C.F. = 382 gallons

Capacity of the drainage ditch = ((456" x 4 x 11)/1,728 C.I./C.F.) = 11.6 C.F.
Equivalent volume = 11.6 C.F. x 7.5 gallons/C.F. = 87 gallons

The total containment capacity of the DOT Room in the Dock 6 Building is
= 382 (room) + 87 (ditch) + 16 (sump) = 485 gallons

Total barrel capacity for Dock 6 = 80 barrels x 55 gallons/barrel = 4,400 gallons
Containment required = 4,400 gallons x 10% = 440 gallons

Excess capacity = 485 – 440 = 45 gallons

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Section B – Container Standards: Containment

Appendix B-5
Barrel Storage Shed Containment

Each of the 8 hazardous waste storage sheds are 12' x 20' from inside curb to inside of curb. Each shed has a 6" diameter x 8" deep sump. All barrels are stored on pallets, and the pallets sit on steel grates. All curbs are 6" high, but use 5.5" for the calculations.

The gross containment volume per shed = 12' x 20' x (5.5/12) = 110 C.F.

The sump volume = π x $(3/12)^2$ x 8/12 = 0.13 C.F.

Total containment volume = .13 C.F. + 110 C.F. = 110.13 C.F.

The equivalent volume = 110.13 x 7.5 gallons/C.F. = 825 gallons

Sheds P-1, 2, 3, 6, 7, 9, & 10 maximum hazardous waste storage = 80 drums
or 80 x 55 gallons/drum = 4,400 gallons
Shed P-8 maximum hazardous waste storage = 40 drums = 2,200 gallons

The required containment capacity in Sheds P-1, 2, 3, 6, 7, 9, & 10
= 4,400 gallons x 10% = 440 gallons

Excess containment capacity in Sheds P-1, 2, 3, 6, 7, 9, & 10
= 825 – 440 gallons = 385 gallons

Excess containment capacity in Shed P-8
= 825 – 220 gallons = 605 gallons

Part 2

Section B – Container Standards: Containment

Appendix B-6
HHW Room Containment

The 3” high angle iron option was installed in 2013. The calculations show that for a 2” high curb the containment volume would be 4,542 gallons which is adequate for the maximum quantity stored of 4,129 gallons. Thus, a 3” high curb is more than adequate to meet code requirements.

The NR 666.902(6) container containment code requirements for a HHW Room are the same as the RCRA container requirements in NR 664.0175(2)(c).

Clean Sweep Room Containment Calculation

Max. Capacity	80000	lbs			
N-S Dimension	25.75	ft			
E-W Dimension	24.42	ft			
Concrete			Angle Iron (where different)		
Curb Thickness	6.00	in	Curb Thickness	0.25	in
Containment Dimensions	24.75	ft	Containment Dimensions	25.71	ft
	23.42	ft		24.38	ft
Containment Area	579.56	sq. ft	Containment Area	626.64	sq. ft
Assumed Den.	8.33	lb/gal			
Max. Capacity	9603.84	gal			
Number of Drums	175	bbl			
Drum Diameter	23.5	inches			
Max Drum Capacity	151	bbl	Max Drum Capacity	163	bbl

If the clean sweep room is filled with a single layer of drums over its entire area, there is still not enough space to attain 80,000 lbs of liquid storage at water density.

Maximum Storage Amounts:			
55 Gallon Drum		57	bbl
Half Barrel		22	bbl
	Floor	13	bbl
	Bench	9	bbl
5 Gallon Bucket		34	buckets
1 Gallon Can	(Bench)	384	cans

Maximum Storage Capacity	4129.00	gal			
Increased for Safety (+10%)	4541.90	gal			
Containment Required	454.19	gal			
Conversion	7.48	gal/cu ft			
Area Occupied By Containers	225.48	sq. ft			
Net Area	354.08	sq. ft	Net Area	401.16	sq. ft
Curb Height	2.06	in	Curb Height	1.82	in

Part 2

Section B – Container Standards: Containment

Appendix B-7
Tanker Storage Area Containment

Tanker Storage Area Containment Calculations

Existing Pad Dimensions

North-South		East-West		Corner	
116	ft	50	ft	2	ft
2	in	4	in	4	ft
1394	in	604	in	1152	sq in

24 hr Rainfall:	4.7	in
Pad Area:	843128	sq in

Rainwater Containment Volume

3,962,702	cu in
2,293	cu ft
17,153	gal

Largest Container Volume

6750 gal

Minimum Containment Required

23903 gal

Due to the irregular shape of the containment area, Solidworks software was used to calculate the volume of the Tanker Storage Area from survey data of the area. The containment capacity of the area is calculated to be 32,355 gallons. The Softworks image and Mass Properties of Containment Volume are included with these containment calculations.

There are no drums stored in the Tanker Storage Area. Displacement only occurs as a result of four tankers/trailers that are parked in the area. Each tanker/trailer is assumed to have 8 tires. The tire diameter is 3'. Assume that ¼ of the tire volume displaces the liquid. The volume of a tire equals $\pi \times R^2 \times t$, where R is the radius of the tire, and t is the thickness of the tire. Volume $= (3.14) \times (1.5)^2 \times (0.83) = 5.86$ C.F. and ¼ of the tire volume = 1.47 C.F.

The volume displaced for 32 tires = 32 x 1.47 x 7.48 gallons/C.F. = 352 gallons

Containment volume for the tanker storage with 4 tankers in it is:

= 32,355 gallons – 352 gallons = 32,003 gallons

Excess containment available is:

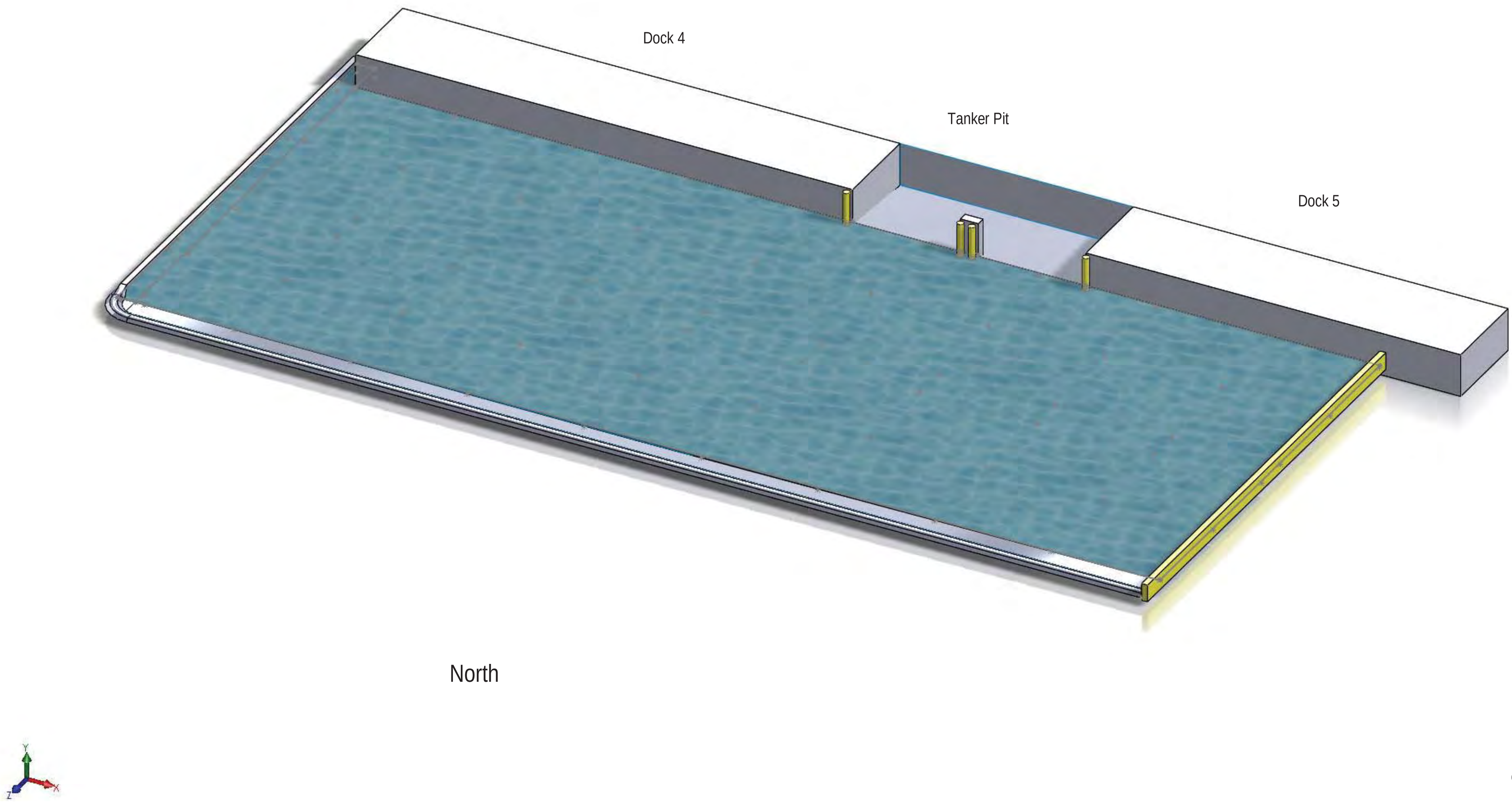
= 32,003 gallons – 23,903 gallons = 8,100 gallons

```
Mass properties of Containment Volume
     Configuration: Default
     Coordinate system: -- default --

Density = 8.35 pounds per US gallon

Mass = 269850.15 pounds

Volume = 32335.19 US gallons

Surface area = 1715191.52 inches^2

Center of mass: ( inches )
        X = 646.03
        Y = -0.73
        Z = -274.87

Principal axes of inertia and principal moments of inertia: ( pounds * square inches )
Taken at the center of mass.
         Ix = (1.00, 0.00, 0.01)        Px = 6904759366.64
         Iy = (0.01, -0.00, -1.00)      Py = 41816858201.75
         Iz = (-0.00, 1.00, -0.00)      Pz = 48716941133.28

Moments of inertia: ( pounds * square inches )
Taken at the center of mass and aligned with the output coordinate system.
        Lxx = 6912492634.72     Lxy = 69474368.11       Lxz = 515625825.99
        Lyx = 69474368.11       Lyy = 48716794468.57    Lyz = 15532140.24
        Lzx = 515625825.99      Lzy = 15532140.24       Lzz = 41809271598.39

Moments of inertia: ( pounds * inches )
Taken at the output coordinate system.
        Ixx = 27300920740.41    Ixy = -57508832.84      Ixz = -47402890062.33
        Iyx = -57508832.84      Iyy = 181727802336.70   Iyz = 69560726.78
        Izx = -47402890062.33   Izy = 69560726.78       Izz = 154432137710.38
```

WRR Environmental Services, Co., Inc. WID 990 829 475

Tanker Storage Containment Area

Drawing Created with SolidWorks



WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section C – Container Standards:
Incompatible, Reactive, Ignitable Waste

2C-1 Ignitables stored 50 feet from property line NR 664.0176

The WRR facility stores ignitable and reactive wastes in containers. The majority of the hazardous waste processed and stored at the facility is ignitable. All areas used to process and store ignitable waste are located at least 50 feet from the facility's property line. Figure 2C-1 shows the WRR property line, 50 foot buffer and its proximity to hazard waste storage areas.[1]

2C-2 Storage of incompatible waste NR 664.0177(3)

Containers of waste that are incompatible with ignitable and other organic materials are stored in separate hazardous waste storage sheds. Shed P-1 is designated for reactive wastes, Shed P-8 is designated for oxidizer wastes and Shed P-10 is designated for corrosive wastes. Figure 2C-2 indicates the location of these three hazardous waste storage sheds.[2]

2C-3 Incompatible waste placed in same container NR 670.015(4)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to liberate gases, heat or undergo hazardous polymerization are segregated from all other wastes. The results of compatibility screening will be documented as required in s. **NR 664.0017(3)** Wis. Adm. Code.

Since identified containers of incompatible wastes are segregated and not processed at the facility, incompatible wastes will not be placed together in the same container.

2C-4 Precautions to prevent violent reaction NR 664.0017(2)(a)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to liberate gases, heat or undergo hazardous polymerization are segregated from all other wastes.

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[1] Item 75
[2] Item 76

2C-5 Precautions to prevent threat to human health and the environment NR 664.0017(2)(b)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health and the environment are segregated from all other wastes.

2C-6 Precautions to prevent uncontrolled flammable fumes or gases NR 664.0017(2)(c)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion are segregated from all other wastes.

2C-7 Precautions to prevent damaging devices or the facility NR 664.0017(2)(d)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to produce a reaction that may damage the integrity of process equipment or the facility are segregated from all other wastes.

2C-8 Precautions to prevent threats to human health or the environment NR 664.0017(2)(e)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to produce a reaction that will not allow the waste to be processed at the facility are segregated from all other wastes. Any waste identified as having a potential to produce a reaction will remain in its container and be sent to a facility capable of processing the waste.

2C-9 Documentation of compliance with NR 664.0017(2) NR 664.0017(3)

WRR does not process reactive or incompatible wastes. Therefore the requirement of s. NR 664.0017(3) Wis. Admin. Code to document through references to published scientific or engineering literature, data from trial tests, waste analyses or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions is not required.

2C-10 Placing incompatible waste in an unwashed container NR 664.0177(2)

WRR does not process reactive or incompatible wastes. The incoming material screening procedure will reveal if there are any incompatibility issues with the waste received at the facility. Incoming waste samples are assessed through the use of process knowledge and laboratory compatibility screening with WRR streams for their potential reactivity characteristics. Any wastes identified as having a potential to produce a reaction, therefore not allowing the waste to be processed at the facility, are segregated from all other wastes. Any waste identified as having a potential to produce a reaction will remain in its container and be sent to a facility capable of processing the waste. There will be not unwashed empty containers that last held incompatible waste at the facility.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section D – Tank Standards:
General Requirements

2D-1 Dimensions and capacities of each tank NR 670.016(2)

WRR utilizes 41 waste tanks for the management of hazardous waste; this includes 38 waste tanks and 3 overflow tanks. The capacity, dimensions, installation date, shell thickness and material of construction of each waste storage tank used at the WRR facility is given in the Table 2D-1. [1]

Table 2D-1
Hazardous Waste Tank Capacities
WRR Environmental Services Co., Inc.
Eau Claire WI

E-ll sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
J	10,730	8,939	25.54 x 10.0	Cone	2008	0.26	Carbon Steel
K	10,730	8,939	25.54 x 10.0	Cone	2008	0.251	Carbon Steel
L	13,280	11,431	26.29 x 11.0	Cone	2008	0.265	Carbon Steel
M	6,180	4,972	18.63 x 10.0	Cone	2008	0.264	Carbon Steel
N	13,280	11,431	26.29 x 11.0	Cone	2008	0.26	Carbon Steel
O	10,730	8,939	25.54 x 10.0	Cone	2008	0.268	Carbon Steel
Q	10,730	8,939	25.54 x 10.0	Cone	2011	0.27	Carbon Steel
R	10,730	8,939	25.54 x 10.0	Cone	2011	0.247	Carbon Steel
S	10,730	8,939	25.54 x 10.0	Cone	2008	0.253	Carbon Steel
V	13,280	11,431	26.29 x 11.0	Cone	2008	0.301	Carbon Steel
W	13,280	11,431	26.29 x 11.0	Cone	2008	0.255	Carbon Steel

[1] Item# 30

X	13,280	11,431	26.29 x 11.0	Cone	2008	0.303	Carbon Steel
Y	13,280	11,431	26.29 x 11.0	Cone	2008	0.257	Carbon Steel
Z	10,730	8,939	25.54 x 10.0	Cone	2008	0.265	Carbon Steel
HH	6,180	4,972	18.63 x 10.0	Cone	2008	0.26	Carbon Steel
Overflow	300	300	6.0 x 3.0	Flat	2008	Not Measured	Carbon Steel

EI sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
A	17,400	16,930	24.67 x 11.0	Flat	1979	0.287	Carbon Steel
B	15,060	14,380	24.0 x 11.0	Flat	1979	0.193	Carbon Steel
C	1,990	1,810	12.0 x 5.33	Flat	1979	0.183	Carbon Steel
D	1,990	1,840	13.83 x 6.0	Flat	1995	0.18	Carbon Steel
E	9,920	9,240	22.27 x 10.0	Flat	1994	0.241	Carbon Steel
F	6,030	5,610	16.21 x 8.0	Flat	1995	0.266	Carbon Steel
G	10,450	9,920	21.29 x 9.08	Flat	1995	0.182	Carbon Steel
H	2,770	2,680	16.0 x 7.0	Cone	1998	0.196	Carbon Steel
ZZ	17,530	16,840	30.1 x 9.0	Flat	1995	0.251	Carbon Steel
Overflow	300	300	6.0 x 3.0	Flat	1995	Not Measured	Carbon Steel
AA	11,960	11,960	20.6 x 10.0	Flat	1979	0.209	Carbon Steel
BB	7,620	7,620	16.17 x 9.0	Flat	1979	0.27	Carbon Steel
CC	2,960	2,740	14.29 x 7.92	Cone	1995	0.204	Carbon Steel

DD	5,440	4,740	10.85 x 9.0	Flat	1995	0.175	Carbon Steel
EE	11,000	10,260	27.75 x 10.0	Cone	1997	0.261	Carbon Steel
FF	13,260	12,410	27.25 x 12.0	Cone	1997	0.276	Carbon Steel
GG	9,930	9,520	21.0 x 9.0	Flat	1979	0.257	Carbon Steel
BBB	Partial Closure	Planned	-	Flat	1979	Not Measured	Carbon Steel

E-1 south sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
QQ	14,770	13,550	20.83 x 11.0	Flat	1980	0.194	Carbon Steel
BF	18,570	17,890	26.67 x 11.0	Flat	1980	0.24	Carbon Steel
TT	14,830	14,010	21.0 x 11.0	Flat	1980	0.176	Carbon Steel
UU	18,130	17,320	26.83 x 11.0	Flat	1980	0.24	Carbon Steel
VV	13,260	12,420	27.29 x 11.0	Cone	1997	0.252	Carbon Steel
WW	14,850	14,150	21.00 x 11.0	Flat	1980	0.25	Carbon Steel
XX	13,260	12,420	27.29 x 11.0	Cone	2001	0.251	Carbon Steel
YY	17,170	16,310	24.25 x 11.0	Flat	1980	0.201	Carbon Steel
Overflow	500	500	6.1 x 4.0	Flat	1980	Not Measured	Carbon Steel

Dimensions of each tank are provided in the tank drawings. Table 2D-2 provides a key to the drawing for each tank. The tank drawings are located within the WRR FPOR Drawings volume and file.

Table 2D-2
Hazardous Waste Tank Drawing Numbers
WRR Environmental Services Co., Inc.
Eau Claire WI

E-ll sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Drawing Number
J	10,730	8,939	2D-1J
K	10,730	8,939	2D-1K
L	13,280	11,431	2D-1L
M	6,180	4,972	2D-1M
N	13,280	11,431	2D-1N
O	10,730	8,939	2D-1O
Q	10,730	8,939	2D-1Q
R	10,730	8,939	2D-1R
S	10,730	8,939	2D-1S
V	13,280	11,431	2D-1V
W	13,280	11,431	2D-1W
X	13,280	11,431	2D-1X
Y	13,280	11,431	2D-1Y
Z	10,730	8,939	2D-1Z
HH	6,180	4,972	2D-1HH
Overflow	300	300	2D-1OF1

EI sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Drawing Number
A	17,400	16,930	2D-1A
B	15,060	14,380	2D-1B
C	1,990	1,810	2D-1C

D	1,990	1,840	2D-1D
E	9,920	9,240	2D-1E
F	6,030	5,610	2D-1F
G	10,450	9,920	2D-1G
H	2,770	2,680	2D-1H
ZZ	17,530	16,840	2D-1ZZ
Overflow	300	300	2D-1OF2
AA	11,960	11,960	2D-1AA
BB	7,620	7,620	2D-1BB
CC	2,960	2,740	2D-1CC
DD	5,440	4,740	2D-1DD
EE	11,000	10,260	2D-1EE
FF	13,260	12,410	2D-1FF
GG	9,930	9,520	2D-1GG

Rotary Drum Vacuum Filtration Room

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Drawing Number
BBB	1,000		

E-1 South sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Drawing Number
QQ	14,770	13,550	2D-1QQ
BF	18,570	17,890	2D-1BF
TT	14,830	14,010	2D-1TT
UU	18,130	17,320	2D-1UU
VV	13,260	12,420	2D-1V V
WW	14,850	14,150	2D-1W W
XX	13,260	12,420	2D-1XX
YY	17,170	16,310	2D-1YY
Overflow	500	500	2D-1OF3

Tank WW contains used oil. This tank was included in the 2003 FPOR as a hazardous waste tank and WRR might use it in the future to store hazardous waste. It is listed as a hazardous waste tank to be consistent with the 2003 FPOR but it will have to be certified prior to use as a hazardous waste tank. It is insulated.

2D-2 Description of feed, safety and by-pass systems NR 670.016(3)

Hazardous waste is added to the hazardous waste storage tanks via pump-ups from containers and bulk tankers. The hazardous waste tanks also provide storage for process residuals. Hazardous waste is removed from the tank systems to be treated on-site or to be sent off-site for treatment.

Air, gear and centrifugal pumps are used to transfer material to and from the hazardous waste storage tanks.

The system of pipe lines and hoses, used to transfer waste to and from the hazardous waste storage tanks, are located above ground. The pipe lines are constructed of stainless steel or black iron pipe. For operations conducted in ambient conditions, chemical suction/discharge transfer hoses are used. For elevated temperature applications, such as residue transfer, braided stainless steel hoses are used. During transfer operations, an operator inspects all piping, hoses and connections to insure all in good operating condition.

Once the pumping operations are completed, the lines are emptied with a nitrogen purge to remove any residual liquid that could remain and hoses are disconnected. When not in use, pipe lines are capped and do not hold liquid.

2D-3 Diagrams of piping, instrumentation and process flow for each tank system NR 670.016(4)

The piping and process flow for each tank system is given in the sludge tank drawings.

Location	Drawing Number
E-ll sludge tank farm	
Pump up line diagram	2D-3 EII Pump Up
Feed line diagram	2D-3 EII Feed
Over flow piping diagram	2D-3 OF1Piping
EI sludge tank farm	
Pump up line diagram	2D-3 EI Pump Up
Feed line diagram	2D-3 EI Feed
Over flow piping diagram	2D-3 OF2 Piping
Rotary Drum Vacuum Filtration Room	
BBB piping diagram	2D-3 BBB Piping

E-1 South sludge tank farm	
Pump up line diagram	2D-3 EI South Pump Up
Feed line diagram	2D-3 EI South Feed
Over flow piping diagram	2D-3 OF3 Piping

2D-4 Spill prevention controls NR 664.0194(2)(a)

Check valves are used to prevent backflows of material in tank filling operations. Check valves are located after pumps and on the hazardous waste tanks. Check valves are placed on tanks before the tank's valve is opened to allow material to be transferred into the tank. This allows material to be added to the tank but prevents material leaving the tank during the transfer operation. Tanks that are equipped with fill pipes have weep holes on the fill pipes to prevent material from back siphoning.

In the EII sludge dike, the hazardous waste tanks are equipped with a set of three valves that must be operated to allow material to be transferred into and removed from the tanks. For filling operations, a gate valve and ball valve must be operated while a check valve prevents material from leaving the tank. To remove material from the tanks, a gate valve, a nitrogen actuated valve and a ball valve must be operated before material will be pumped from the tank. Drawing 2D-4 shows the valve configuration of the tanks in the EII sludge dike.

2D-5 Overfill prevention NR 664.0194(2)(b)

All hazardous waste tanks are connected to overflow tanks. There is one overflow tank located in each hazardous waste tank farm – EII sludge tank farm , EI sludge tank farm and E1 south sludge tank farm.

For the EI sludge tank farm and the E1 south sludge tank farm, if liquid is detected in an overflow tank, an alarm sounds in the area and in the EII warehouse area. A nitrogen actuated valve shuts on the feed line preventing more material being transferred to the tank.

In addition to being connected to an overflow tank, the hazardous waste tanks located in the E-II sludge tank farm are equipped with high level shut offs. If the high level shut off is activated, all the pumps on Dock 4 and the tanker pit are shut off. The pumps cannot be used until they are reactivated by a supervisor. The tank that activated the high level alarm is locked out of the pumps until the liquid level is below the sensor. The pumps will restart only after they have been unlocked by a supervisor.

Levels in the EII sludge tanks can be monitored from the EII warehouse, EII process area and the office area.

2D-6 Sufficient Freeboard in uncovered tanks NR 664.0194(2)(c)

WRR does not process or store hazardous waste in uncovered tanks. Therefore the requirements of NR 664.0194(2)(c) are not applicable.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section E – Tank Standards: Inspections

WRR utilizes 41 waste tanks for the management of hazardous waste; this includes 38 waste tanks and 3 overflow tanks.

2E-1 Inspection schedule for overfill controls NR 664.0195(1)

All hazardous waste tanks are connected to overflow tanks. There is one overflow tank located in each hazardous waste tank farm – EII sludge tank farm, EI sludge tank farm and E1 south sludge tank farm. A daily inspection of the overflow tank's integrity is completed and documented. Outward signs of an overflow, valving and pipe connections are part of this daily visual inspection.

The level sensors in the overflow tanks are inspected and tested weekly to ensure proper operation. The inspection and testing is documented on a weekly form.

The results of all inspections completed on the overflow system are recorded in WRR's ESMS. Corrective actions are opened on items that are indicated as unacceptable in the inspection results.

2E-2 Aboveground portions of tank systems inspected NR 664.0195(2)(a)

Daily inspections are conducted and documented on above ground portions of the hazardous waste tank systems at WRR to detect corrosion or a release of waste. The daily inspections are recorded in the WRR ESMS.

Corrective actions are opened on items that are indicated as unacceptable in the inspection results.

2E-3 Inspection of area surrounding the tank systems NR 664.0195(2)(c)

Included in the daily plant inspection is the inspection of the hazardous waste tank system's secondary containment. Items inspected are the containment's walls and foundation. The presence of liquid, cracks, deterioration or holes are noted on the inspection form.

The daily inspections are recorded in the WRR ESMS. Corrective actions are opened on items that are indicated as unacceptable in the inspection results.

2E-4 Data gathered from monitoring and leak detection equipment NR 664.0195(2)(b)

Testing on materials, prior to storage, ensure that no reactions occur within the tank system that would cause elevated temperatures or pressures. The hazardous waste tanks are designed to operate at ambient temperatures and pressures and are not equipped with temperature or pressure gauges.

2E-5 and 2E-6 Cathodic Protection NR 664.0195(3)(a) and NR 664.0195(3)(b)

At WRR, none of the hazardous waste tank systems are buried, partially buried, or submerged liquid storage systems. The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems" are not required. The requirements of sec. NR 664.0195 (3)(a) and (b) Wis. Admin. Code are not applicable to the hazardous waste tank systems at the WRR facility.

2E-7 Subch. CC inspection schedule for tanks NR 670.014(2)(e)

Per the requirements found in ss. NR 664.1084(3)(d) Wis. Admin. Code, at least annually, a visible inspection is completed on all fixed roof tanks that contain hazardous waste. The visual inspection of the fixed roof and its closure devices is done to check for defects that may result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections or between the roof and the tank wall, broken, cracked or otherwise damaged seals or gaskets on closure devices and broken or missing hatches, access covers, caps or other closure devices.

Fixed roof inspection records are logged into the ESMS database and sent electronically to a WRR advisory group for review and approval.

In the event a defect is found, WRR will make first efforts to repair the defect no later than 5 calendar days after the defect was detected. Complete repairs will be done as soon as possible but no later than 45 calendar days after the defect was detected. A defect's repair may be delayed beyond 45 calendar days if WRR determines that the repair requires emptying or removing from service the tank and no alternative tank capacity is available for the hazardous waste normally managed in the tank. In this case, the defect's repair can be completed the next time the process or the unit generating the hazardous waste held in the tank stops operation. Repairs are completed before the process or unit resumes operation.

Before a new tank system is put into service, an initial inspection of the fixed roof and closure devices will be completed and documented in the WRR ESMS database.

2E-8 Subch. CC inspection frequency for tanks NR 664.0015(2)(d)

Inspections schedules include items and frequencies called for ss. NR 664.1084(3)(d) Wis. Admin. Code. The inspection schedule will be modified if it is discovered that a tank system has a probability of an environmental or human health incident through equipment deterioration or malfunction or operator error that may go undetected between inspections.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section F – Tank Standards:
Existing Tanks

WRR utilizes 41 waste tanks for the management of hazardous waste; this includes 38 waste tanks and 3 overflow tanks.

2F-1 to 2F-8 PE certification of tank assessment NR 670.016(1)

Per the requirements of s. NR 664.0191(1) Wis. Admin. Code, for each existing tank system that does not have secondary containment, a written assessment that attests to the tank system's integrity shall be reviewed and certified by a qualified, registered professional engineer.

All the existing hazardous waste storage tank systems at the WRR facility are located within secondary containment meeting the requirements of s. NR 664.0193 Wis. Admin Code. The written assessment and its elements detailed in s. NR 664.0191(2) Wis. Admin. Code, is not applicable to the hazardous waste tank systems located at the WRR facility.

2F-9 Tanks system found leaking or unfit for use NR 664.0191(4)

If a tank system is found to be leaking or unfit for use, WRR will comply with the requirements of s. NR 664.0196 Wis. Admin. Code.

2F-10 Tanks system or secondary containment removed from service NR 664.0196

A hazardous waste tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, will be removed from service immediately. All applicable actions and reporting required in sections 2F-11 through 2F-22 will be completed before the tank system or secondary containment system is returned to service.

2F-11 Cessation of flow of hazardous waste NR 664.0196(1)

WRR personnel will immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

2F-12 Removal of hazardous waste from tank system NR 664.0196(2)(a)

If the release was from the tank system, WRR personnel, within 24 hours after detection of the leak, will remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

If WRR demonstrates that the hazardous waste cannot be removed from the tank system within 24 hours, the waste removal will be completed at the earliest practicable time to prevent a further release to the environment and to allow inspection and repair of the tank system.

2F-13 Removal of hazardous waste from secondary containment NR 664.0196(2)(b)

If the hazardous waste released was to a secondary containment system, WRR personnel will remove all released materials within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

2F-14 Visual inspection of the release NR 664.0196(3)

WRR will immediately conduct a visual inspection of the release to determine if the release has left containment or has a high probability of doing so.

2F-15 Prevent migration to soil or water NR 664.0196(3)(a)

If the release of hazardous waste has impacted soil or water, WRR personnel will take measures to prevent further migration of hazardous waste into the environment.

2F-16 Removal of visibly contaminated media NR 664.0196(3)(b)

WRR personnel will remove and properly dispose of any visibly contaminated soil or water resulting from a hazardous waste release outside of secondary containment.

2F-17 Notification for releases to the environment NR 664.0196(4)(a)

If a hazardous waste release has occurred outside of containment, or has left containment, WRR will report the release to the Department within 24 hours of is detection. If the release has already been reported pursuant to ch. NR 706 Wis. Admin Code that report will satisfy this requirement.

2F-18 Written report for releases to the environment NR 664.0196(4)(c)

WRR will prepare a written report to the Department within 30 days of the detections of a hazardous waste release outside of containment. This report will, at a minimum, contain the following information:

1. Likely route of migration of the hazardous waste release.
2. Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate).
3. Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data will be submitted to the department as soon as they become available.

4. Proximity to down-gradient drinking water, surface water and populated areas.
5. Description of response actions taken or planned.

2F-19 Tank system integrity and return to service NR 664.0196(5)(b)

If the cause of the release was a spill that has not damaged the integrity of the tank system, WRR will return the tank system to service as soon as the released hazardous waste is removed and any repairs are made.

2F-20 Tank system repair and return to service NR 664.0196(5)(c)

If the cause of the hazardous waste release was a leak from the primary tank system into the secondary containment system, WRR will repair the tank system prior to returning the tank system to service.

2F-21 Tank system component without secondary containment NR 664.0196(5)(d)

All components of the WRR hazardous waste tank systems are either in containment, inside buildings or located over asphalt or concrete making it unlikely there would be release to the soil or surface waters. Components of the hazardous waste tank systems can be inspected visually. If a hazardous waste release to the environment was to occur from a hazardous waste tank system component that was not located within secondary containment, the defective component would be repaired and returned to service. If a major repair is required on the hazardous waste tank system, the requirements of s. NR 664.0196(6) Wis. Admin Code will be met before the system is returned to service.

New tank system components will be installed to satisfy the requirements of s. NR 664.0192 Wis. Admin. Code.

2F-22 PE certification of major repairs NR 664.0196(6)

If WRR has made extensive repairs to a tank system in accordance with s. NR 664.0196(5) Wis. Admin. Code, the tank system will not be returned to service unless WRR has obtained a certification by an independent, qualified registered professional engineer that the repaired system is capable of handling hazardous waste without a release for the intended life of the system. This certification shall be submitted to the department within 7 days after returning the tank system to use.

Extensive repairs can be defined as installation of an internal liner; repair of a ruptured primary containment or secondary containment.

WRR Environmental Services, Co, Inc.
Eau Claire, Wisconsin

Part 2

Section G – Tank Standards:
New Tanks

WRR utilizes 41 waste tanks for the management of hazardous waste; this includes 38 waste tanks and 3 overflow tanks.

2G-1 PE certification of new tank assessment NR 670.016(1)[1]

"New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after March 1, 1991.

WRR has installed or replaced the following tanks after March 1, 1991.

Table 2G-1: New Tank Installations in the E-ll sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
J	10,730	8,939	25.54 x 10.0	Cone	2008	0.26	Carbon Steel
K	10,730	8,939	25.54 x 10.0	Cone	2008	0.251	Carbon Steel
L	13,280	11,431	26.29 x 11.0	Cone	2008	0.265	Carbon Steel
M	6,180	4,972	18.63 x 10.0	Cone	2008	0.264	Carbon Steel
N	13,280	11,431	26.29 x 11.0	Cone	2008	0.26	Carbon Steel
O	10,730	8,939	25.54 x 10.0	Cone	2008	0.268	Carbon Steel
Q	10,730	8,939	25.54 x 10.0	Cone	2011	0.27	Carbon Steel
R	10,730	8,939	25.54 x 10.0	Cone	2011	0.247	Carbon Steel
S	10,730	8,939	25.54 x 10.0	Cone	2008	0.253	Carbon Steel
V	13,280	11,431	26.29 x 11.0	Cone	2008	0.301	Carbon Steel
W	13,280	11,431	26.29 x 11.0	Cone	2008	0.255	Carbon Steel

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Table 2G-1: New Tank Installations in the E-ll sludge tank farm (Cont’d)							
X	13,280	11,431	26.29 x 11.0	Cone	2008	0.303	Carbon Steel
Y	13,280	11,431	26.29 x 11.0	Cone	2008	0.257	Carbon Steel
Z	10,730	8,939	25.54 x 10.0	Cone	2008	0.265	Carbon Steel
HH	6,180	4,972	18.63 x 10.0	Cone	2008	0.26	Carbon Steel
Overflow	300	300	6.0 x 3.0	Flat	2008	Not Measured	Carbon Steel

Table 2G-2: New Tank Installations in the EI sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
D	1,990	1,840	13.83 x 6.0	Flat	1995	0.18	Carbon Steel
E	9,920	9,240	22.27 x 10.0	Flat	1994	0.241	Carbon Steel
F	6,030	5,610	16.21 x 8.0	Flat	1995	0.266	Carbon Steel
G	10,450	9,920	21.29 x 9.08	Flat	1995	0.182	Carbon Steel
H	2,770	2,680	16.0 x 7.0	Cone	1998	0.196	Carbon Steel
ZZ	17,530	16,840	30.1 x 9.0	Flat	1995	0.251	Carbon Steel
Overflow	300	300	6.0 x 3.0	Flat	1995	Not Measured	Carbon Steel
CC	2,960	2,740	14.29 x 7.92	Cone	1995	0.204	Carbon Steel
DD	5,440	4,740	10.85 x 9.0	Flat	1995	0.175	Carbon Steel
EE	11,000	10,260	27.75 x 10.0	Cone	1997	0.261	Carbon Steel

Table 2G-2: New Tank Installations in the EI sludge tank farm (Cont'd)							
FF	13,260	12,410	27.25 x 12.0	Cone	1997	0.276	Carbon Steel

Table 2G-3: New Tank Installations in the E-1 south sludge tank farm

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
VV	13,260	12,420	27.29 x 11.0	Cone	1997	0.252	Carbon Steel
XX	13,260	12,420	27.29 x 11.0	Cone	2001	0.251	Carbon Steel

In accordance with NR 670.016(1), WRR is providing a written assessment reviewed and certified by an independent, qualified, registered PE as to the structural integrity and suitability for handling hazardous waste with this submittal of the feasibility and plan of operation report.

The assessment addresses the applicable sections of NR 664.0192. The original assessments for these tanks can be found in Appendix G-1. The original assessment consists of design calculations, tank and containment system drawings and verification of installation. The most recent annual certification can be found in Appendix G-2.

Information of the applicable sections of NR 664.0192 is detailed below.

2G-2 Design standard NR 664.0192(1)(a)[2]

New tank systems and ancillary equipment have been constructed using design calculations completed by William Hable of Hable Engineering Services, LLC.

Tanks that were installed as replacement-in-kind using pre-March 1, 1991 tank designs are listed in Table 2G-4. These tanks were manufactured and installed identically to the tanks they replaced. The drawings used to design these replacement tanks are part of the new tank assessment submitted with this application. These tanks were manufactured and installed as a matter of routine maintenance. Since there was no modification in tank design, piping or secondary containment, these tank replacements did not require a plan modification under the 1995 Administrative Code NR 680.07 and Appendix I of NR 680.07.

[2] Item 32

Table 2G-4: Replacement-in-Kind Tanks Using Pre-March 1, 1991 designs

Tank	Capacity Gross (gallons)	Capacity Net (gallons)	Tank Dimensions (Total Height, feet x Diameter, feet)	Cone or Flat Bottom	Year Installed	Shell Thickness Fall 2013 (inches)	Material of Construction
D	1,990	1,840	13.83 x 6.0	Flat	1995	0.18	Carbon Steel
E	9,920	9,240	22.27 x 10.0	Flat	1994	0.241	Carbon Steel
F	6,030	5,610	16.21 x 8.0	Flat	1995	0.266	Carbon Steel
G	10,450	9,920	21.29 x 9.08	Flat	1995	0.182	Carbon Steel
CC	2,960	2,740	14.29 x 7.92	Cone	1995	0.204	Carbon Steel
DD	5,440	4,740	10.85 x 9.0	Flat	1995	0.175	Carbon Steel

The PE installation certifications for these tanks are included in Appendix G-1.

2G-3 Hazardous characteristics of wastes handled NR 664.0192(1)(b)[3]

The main characteristic of the waste handled at WRR is flammability due to paint, coatings or ink residues containing characteristic or listed solvents. The waste tanks at WRR contain wastes that have singular components or varying mixtures of the following solvents:

1-1-1 trichloroethane, 2-butanol, acetone, acetonitrile, stoddard solvent, butyl cellosolve, d-Limonene, ethanol, ethyl acetate, ethyl benzene, glycol ether, isopropyl acetate, isobutanol, isopropanol, methanol, MAK, MEK, MIAK, MIBK, methylene chloride, monochlorobenzene, n-propanol, n-propyl acetate, tetrachloroethylene, tetrahydrofuran, toluene, trichloroethylene, and xylenes.

Per NR 664.1084(2)(a)1.c. found in subchapter CC – Air Emission Standards for Tank, for tanks with a capacity of less than 75 m^3 (19, 812 gallons) and using Level 1 controls, the

[3] Item 33

maximum organic vapor pressure limit for the tank is 76.6 kPa (11.11 psia, 574.55 mmHg). All new tanks have a capacity of less than 19,812 gallons. Currently, the greatest vapor pressure exerted by a spent material stored in the WRR waste storage tanks is 5.39 psia for Methylene Chloride Blend waste. Table 2G-5 shows the range of vapor pressures for the waste materials stored in the WRR waste tanks. The product codes listed in Table 2G-5 represent mixtures of various solvents listed above. New spent solvent blends may be added to materials processed at the WRR facility.

Table 2G-5: Vapor Pressures of WRR Waste Materials

Product Code	Specific Gravity	True Vapor Pressure (psia)	HAPs Vapor Pressure (psia)
3MDP134	1.12	0	0
PRPC601	1.172	0	0
1BF221	0.88	0	0
MARQ555	1.079	0	0
NMPC525	1.05	0.01	0
NMPC525W	1.05	0.01	0
STRG605	1.116	0.01	0
VEOL562	0.786	0.01	0.01
VEOL565	0.798	0.01	0.01
MNSP523	0.8	0.01	0.01
1HE804	0.99	0.02	0
MNSP524	0.804	0.02	0.01
VEOL558	0.888	0.05	0.05
VEOL597	0.809	0.06	0.06
MAKB648	0.828	0.07	0.06
CARO685	0.967	0.07	0
PERC537	1.61	0.08	0.08
ANCH685	0.948	0.08	0.03
CCAS589	0.895	0.08	0.06
MCBP001	1.1	0.09	0.09
3MNV595	0.863	0.09	0.09
CCAS571	0.929	0.1	0.03
VEOL577	0.801	0.14	0.14
VEOL564	0.851	0.16	0.12
ANCH685TF	0.948	0.18	0
CARO685TF	0.948	0.18	0
VEOL502	0.853	0.24	0.02

Table 2G-5: Vapor Pressures of WRR Waste Materials (cont'd)			
Material	**Specific Gravity**	**True Vapor Pressure (psia)**	**HAPs Vapor Pressure (psia)**
VEOL552	0.863	0.25	0.01
VEOL563	0.824	0.25	0
PMAB651	0.959	0.26	0
SFKL630	0.814	0.28	0
PKGP666	0.824	0.29	0
VEOL633	0.822	0.33	0
INWA522	0.842	0.36	0
ROBB581	0.835	0.38	0
JLCL556	0.874	0.4	0.07
CRYO550	0.861	0.44	0
3MIP593	0.785	0.48	0
BGLT568	0.832	0.48	0.08
IPAC513	0.788	0.48	0
IPAL513	0.787	0.48	0
AMCL684	0.785	0.48	0
CARO612	0.785	0.48	0
SFKL628	0.87	0.48	0
HEPT619	0.693	0.58	0
3MNV595TF	0.826	0.61	0.05
BGLN683	0.79	0.61	0
CORD519	0.746	0.61	0.08
SFKL629	0.796	0.62	0
PLAS583	0.826	0.63	0
VEOL536	1.439	0.77	0.77
TRCL536	1.45	0.77	0.77
WOOD608K	0.828	0.78	0.27
WOOD608GC	0.83	0.82	0.26
3MNV598	0.826	0.83	0.03
DURA560	0.829	0.84	0.09
STLT521	0.832	0.86	0.24
3MMX592	0.872	0.99	0.1
1FA221	0.88	1	0.44
1HF806	0.99	1.07	0.12
3MNV594	0.797	1.09	0.04
3MEA595	0.9	1.1	0
VEOL508	0.9	1.1	0
EACT555	0.89	1.18	0.13
3MLF555	0.88	1.19	0.03

Table 2G-5: Vapor Pressures of WRR Waste Materials (cont'd)			
Material	Specific Gravity	True Vapor Pressure (psia)	HAPs Vapor Pressure (psia)
MEKB516	0.807	1.2	0
AVEKA	0.994	1.21	0
BRVC567	0.849	1.28	0
LTJV514	0.826	1.29	0.14
BGLT627	0.837	1.34	0.67
SSLT514	0.851	1.41	0.71
SELT619	0.829	1.43	0.77
ACEM415	0.812	1.48	0.45
BRDM586	0.827	1.57	0.05
BGLT544	0.803	1.68	0.02
BRVC619	0.791	1.83	0.03
MEOH515	0.85	1.96	0.95
BGLT566	0.832	2	0.08
NPBP530	1.309	2.03	0
NPBP533	1.333	2.13	0
T wash Wst	1	2.32	1.5
BGLT570	0.805	2.74	0
ACEB674	0.79	2.82	0.02
3MAC591	0.791	2.85	0.01
ACER511	0.791	2.85	0
VEOL544	0.802	2.86	0
MC Soak	0.9	3.07	2.4
MCLB531 Wst	1.2	5.39	5.39

The waste tanks at the WRR facility also can hold aqueous hazardous waste containing solvents or metals. WRR does not store or treat corrosive or reactive waste in its tank systems.

Tanks are constructed of ASTM A 36 Steel.

2G-4 External shell or metal component in contact with soil or water NR 664.0192(1)(c)[4]

The new tanks are set on concrete. The exterior metal tank shell or metal component of the new tank systems are not in contact with the soil or water, therefore a corrosion determination required by NR 664.0192(1)(c) is not applicable.

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2G-5 Soil moisture content, pH, sulfide levels and resistivity NR 664.0192(1)(c)1(a) thru (d)[5]

The new tanks at the WRR facility are set on concrete and not in contact with soil or water, therefore the requirements to determine soil characteristics found in NR 664.0192(1)(c)1(a) through (d) are not applicable.

2G-6 Structure to soil potential NR 664.0192(1)(c)1.e[6]

The new tanks at the WRR facility are set on concrete and not in contact with soil or water, therefore the requirement to determine structure to soil potential found in NR 664.0192(1)(c)1(e) is not applicable.

2G-7 Influence of nearby underground metal structures, such as piping NR 664.0192(1)(c)1.f[7]

The new tanks at the WRR facility are set on concrete and are not influenced by nearby underground metal structures, therefore the requirement of NR 664.0192(1)(c)1(f) is not applicable.

2G-8 Existence of stray electrical current NR 664.0192(1)(c)1.g[8]

The new tanks at the WRR facility are set on concrete and are not subject to stray electrical currents, therefore the requirement of NR 664.0192(1)(c)1(g) is not applicable.

2G-9 Existing corrosion protection measures NR 664.0192(1)(c)1.h[9]

The hazardous waste storage tanks at the WRR facility are painted white as an aid against corrosion and to reflect sunlight. The current coating is Duragurad from Hallman/Lindsey Paints. A copy of the MSDS and Technical Data Sheet for this coating can be found in Appendix G-3. This coating, or a comparable product, will be used to maintain the waste tanks.

2G-10 A description of materials and equipment used to provide external corrosion protection NR 664.0192(1)(c)2[10]

The new tanks at the WRR facility are set on concrete. The exterior metal tank shell or metal component of the new tank systems are not in contact with the soil or water, therefore a

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[5] Item 35
[6] Item 36
[7] Item 37
[8] Item 38
[9] Item 39
[10] Item 40

description of materials and equipment used in corrosion protection required by NR 664.0192(1)(c)(2) is not applicable.

2G-11 through 2G-13 Materials and equipment used to provide external corrosion protection NR 664.0192(1)(c)2.a through NR 664.0192(1)(c)2.c[11]

The new tanks at the WRR facility are set on concrete and not in contact with soil or water. The use of corrosion-resistant materials of construction, corrosion resistant coating with cathodic protection or electrical isolation devices are not required during the use of the tank system or component.

2G-14 Underground tanks that may be adversely affected by vehicular traffic NR 64.0192(1)(d)[12]

New tank systems and components at the WRR facility are installed above ground. There are no underground hazardous waste storage tanks used at the facility.

2G-15 Design consideration to ensure tank foundations maintain load of a full tank NR 664.0192(1)(e)1[13]

The concrete tank foundations for all new tank replacements were constructed prior to March 1, 1991. Copies of the original drawings for the three containment areas are included with the new tank assessments found in Appendix G-1.

The containment walls are constructed of 8” thick, rebar re-enforced concrete.

The concrete pads are re-enforced with 6X6 wire mesh. The concrete pad thickness is not noted on the drawings. There has not been structural failure of the concrete pads in any of the three containment systems since it installation.

The weight produced by the new tanks and their contents is equal to or less than the load produced by the previous tank and its contents.

2G-16 Design consideration to ensure tank is anchored to prevent flotation NR 664.0192(1)(e)2.[14]

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[11] Items 41, 42 and 43
[12] Item 44
[13] Item 45
[14] Item 46

All replacement tanks and components are above ground, therefore this requirement for underground storage tanks and components is not applicable.

2G-17 Design consideration to ensure tank systems withstand the effects of frost heave NR 664.0192(1)(e)3.[15]

All replacement tanks and components are aboveground, therefore this requirement for underground storage tanks and components is not applicable.

2G-18 Foundation, structural support, seams, and connections are adequately designed to ensure tank system will not collapse rupture or fail NR 664.0192(1)[16]

The foundations in all containment areas have been in use and stable prior to the New Tank Standards effective date of March 1, 1991. New installations did not increase the volume, and therefore the weight of the tank and its contents. No additional settling has been observed in the dike systems after the new tank installations.

Structural supports, seams and connections were designed by and certifications prepared by Hable Engineering Services. Copies of the design standards and certifications for new tank installations are located in Appendix G-1.

2G-19 The tank system has sufficient structural strength and compatibility with the wastes to be stored NR 664.0192(1)[17]

Assessments of the structural integrity and suitability of the tanks to hold waste were included in the certifications prepared by Hable Engineering Services. An annual tank assessment certification is completed for the tank systems at WRR by Hable Engineering Services. The most recent annual tank assessment certification is located in Appendix G-2.

2G-20 Detailed description of how tank system is installed NR 670.016(6)[18]

Prior to placing a new tank system componenet in use, the installation is inspected by a professional engineer according the requirements of the applicable sections of NR 664.0192(2) through NR 664.0192(6)

2G-21 Inspection prior to use NR 664.0192(2)[19]

[15] Item 47
[16] Item 48
[17] Item 49
[18] Item 50

After installation, a professional engineer inspects the tanks looking for weld breaks, punctures, coating scrapes, cracks, corrosion, or any other damage that may have occurred during installation. Installation inspections for the new tank system components have been conducted by William Hable of Hable Engineering Services. Records of these inspections for new tank system components can be found in Appendix G-1.

2G-22 All structural damage or inadequate construction or installation is remedied before the tank system is placed in used NR 664.0192(2)[20]

If the inspection by a professional engineer reveals structural damage or inadequate construction, the damage or inadequacies are remedied prior to placing the tank system component into use. The installation inspection certifications for new tank system components, found in Appendix G-1, includes a statement that any damage or inadequacies has been repaired prior to placing the tank system into use.

2G-23 For tank systems placed underground NR 664.0192(3)[21]

WRR does not have any new tank systems or components placed underground. The requirements of NR 664.0192(3) are not applicable to the WRR facility.

2G-24 All tanks and ancillary equipment is tightness tested before being placed in use NR 664.0192(4)[22]

Tank leakage tests are conducted by a certified tank installer in accordance with requirements currently found in the Wisconsin Department of Agriculture, Trade and Consumer Protection (ATCP) regulations. The sections within the ATCP regulations regarding tank installations, inspections and registration were formerly under the Department of Commerce.

2G-25 If the tank system is found to be not tight, all repairs necessary are performed prior to the tank system is placed in use NR 664.0192(4)[23]

If, during the tightness testing, a tank system component is found to be leaking, repairs are made to remedy the situation prior to the tank system being placed into service and the *Checklist for Aboveground Tank Installation* is completed. When the *Checklist for Aboveground Tank*

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[19] Item 51
[20] Item 52
[21] Item 53
[22] Item 54
[23] Item 55

Installation is completed, it is returned to the Bureau of Weights and Measures – Permit Licensing Section.

2G-26 Ancillary equipment is supported and protected against physical damage NR 664.0192(5)[24]

Piping is connected to a system of harnesses and anchors using unistruts. The unistrut connections provide stability while allowing the pipe systems to expand and contract with ambient temperature changes. All supports are designed to carry the weight of the pipe and its contents.

Dikes and buildings provide protection against physical damage to the pipe systems located within them. Pipe systems located outside of containment are located away from traffic areas.

2G-27 Type and degree of corrosion protection NR 664.0192(6)[25]

None of the tank systems or components, located at the WRR facility, are contact with the soil or with water, so the corrosion protection recommendation by an independent corrosion expert is not required.

2G-28 If field fabricated, a corrosion expert supervises the installation of the corrosion protection system NR 664.0192(6)[26]

None of the tank systems or components, located at the WRR facility, are contact with the soil or with water, so the corrosion protection recommendation by an independent corrosion expert is not required.

[24] Item 56
[25] Item 57
[26] Item 58