Permit No. UGW450005

APPENDIX J

Groundwater Quality Discharge Permit BAT Performance Monitoring Plan

Table of Contents

1 INTRODUCTION

Energy*Solutions*, LLC (Energy*Solutions)* has been granted a Groundwater Quality Discharge Permit, (GWQDP) Permit No. UGW450005 hereinafter called the Permit, by the State of Utah. The Permit specifies the construction, operation, and monitoring requirements for all Energy*Solutions* facilities that have a potential of discharging pollutants that may move directly or indirectly into groundwater. To cause the maximum reduction of pollutants achievable, the Permit specifies that "Best Available Technology" (BAT) be used in the construction of all facilities and that facilities be operated according to "Best Management Practices".

The Permit lists individual facilities that have BAT criteria associated with them. This BAT monitoring plan addresses the facilities and their BAT description and performance criteria (Table 1).

The Permit requires that Energy*Solutions* develop and follow a monitoring, inspection and maintenance plan for permitted facilities. BAT inspections are required to be performed daily for those BAT Compliance Monitoring Points noted on Form 1; weekly for those BAT Compliance Monitoring Points noted on Form 2; and monthly for those BAT Compliance Monitoring Points noted on Form 3. Additional, daily inspections for those BAT Compliance Monitoring Points noted on Form 1a are required after precipitation events of greater than 0.1 inch, until such time that all stormwater accumulation has been removed as required by Part I.E.7 of the Permit; and on Form 1b when managing PCB wastes at the shredder facility.

BAT inspections may be suspended at a facility that has been taken out of service for repairs, or due to lack of operational need to use the facility provided there has been no waste handling or washing/decontamination activity for 48 hours prior to the facility being taken out of service. A "out of service" facility must be secured and inaccessible in such a manner so as to minimize any potential threat to ground water while out of service. Any facility taken out of service is not permitted for waste storage or management and shall remain in a dry and secure condition, while out of service, wherein BAT inspections are no longer applicable. The DRC shall be provided at least 48 hour email notification previous to a facility being taken out of service. Upon request, the DRC shall be provided an opportunity to inspect the facility after it has been taken out of service. The DRC will be notified by email, and regularly schedule BAT inspections will resume on the day a facility returns to service.

If failure of BAT occurs at any facility, the BAT Contingency Plan located at Appendix K to the GWQDP shall be implemented.

2 DEFINITIONS

Access Pipe:
A pipe placed to provide access for the monitoring of leak detection system BAT performance criteria.

Allowable leakage rate:

Volume of fluid allowed to enter into leak detection systems through the upper flexible membrane liner of the evaporation ponds, averaged over a seven-day period. Volumes up to the allowable leakage rate do not constitute a failure of BAT.

Best Available Technology (BAT):
The application of design, equipment, work practice, operation standard or combination thereof, at a facility to effect the maximum reduction of a pollutant achievable by available processes and methods taking into account energy, public health, environmental and economic impacts and other costs.

BAT Compliance Monitoring Points:
Designated points of inspection, sampling, analysis, and monitoring to confirm compliance with the Permit.

Bor-o-scope:
Specialized equipment used to perform video inspection of the entire length of the drainage pipe of each collection lysimeter and inspection of other BAT piping as needed.

BAT Contingency Plan (Appendix K to the GWQDP):
Plan for regaining and maintaining compliance with Permit limits and for reestablishing compliance with best available technology. This plan will be implemented if any of the BAT Performance Criteria specified in this plan are not met.

Contact Stormwater:
Stormwater that has contacted waste, such as storm water within the Disposal Cells, Rotary Dump Facility, or Intermodal Unloading Facility (IUF).

Container Storage Compliance:
In accordance with Part I.E.10.a of the Permit, containers in storage at facilities other than the Class A West or 11e.(2) disposal cell shall be managed to prevent the contact of waste with the ground surface and meet the following criteria:

- Closed, strong tight container
- Labeled with generator, waste stream number, and date received
- Stored no more than 365 days before being taken to the disposal cell

Daily Inspection:
For purposes of this plan, daily inspections are required any day that waste or water management activities occur. The daily inspection is not required on weekends or holidays if water and waste management activities are not being conducted. Waste management activities include shipment receipt, unloading, waste placement, or decontamination facility operation. Daily inspection items are defined on Table 1 and Forms 1, 1a, and 1b.

Daily when stormwater is present inspection:
For the purpose of this plan inspected on days when there is storm water accumulation on site

Dry and Secure:

A facility will be dry and secure when all water has been removed from a facility, all water access to the facility is denied, and the facility is locked down and cannot be accessed/occupied without the consent of the Manger, Waste Disposal Operations.

Exposed Pad:
The surface of pad or concrete surface not covered with containers or process material.

Freeboard:
The vertical distance between the spillway elevation of fluid containment system and the water elevation.

Free Drainage:
The drainage of water from one designated area to another, including sloped surfaces and pipelines, in such a manner that water is not blocked or dammed by foreign material including sediment, debris, and other items not approved in the design and construction of a facility. Free drainage includes the movement of water aided by mechanical means such as sumps, pipelines, etc. Free drainage shall be maintained at all facilities as addressed in this plan.

Gravity Flow:
The free movement of water from a higher elevation to a lower elevation for water transfer to designated areas of the facility.

Head/pressure transducer:
An instrument used to detect, measure, and report the water level in a monitoring well or detection sump system.

Leak Detection System:
An engineered system designed to detect leaks in a low-permeability liner and capable of collecting and removing fluid present in the leak detection sump.

Leak Detection Sump:
A sump constructed between an upper and lower low-permeability liner that provides a collection point for detecting, measuring, and removing fluids that have leaked through the upper liner. When fluid is detected in the sump, it is an indication that the upper liner may be leaking.

Monthly Inspection:
Monthly BAT inspections as defined in Table 1 and Form 3 are required to be performed once per month, whether the facility is in operation or not.

Non-contact Stormwater:
Stormwater that has not contacted waste that is within the restricted area.

Pad Integrity:
The physical integrity of a pad structure including but not limited to: the presence of cracks, ruptures, damaged or porous areas, areas of subsidence or thinning.

Pump-back system:
An automatic system that provides for the removal of liquids from the leak detection system and reconveyance of the liquids to the associated evaporation pond.

Pump controller:
An instrument that controls the activation and deactivation of the submersible pump.

Pump-down test:
A test that determines the accuracy of the leak detection system.

Submersible pump:
A pump specially designed and engineered for being submersed in water.

Surface Integrity Discrepancy:
Includes the cleanliness of the pad and either: 1) a crack in the asphalt or concrete with greater than 1/8 inch separation (width), or 2) any significant deterioration or damage of the pad surface.

Transfer Sump:
A collection sump that is used to pump water from one point to another at the facility.

Weekly Inspection:
Weekly BAT inspections as defined in Table 1 and Form 2 are required to be performed once per week, whether the facility is in operation or not.

Weir:
A wall located in a settlement basin designed to control water flow to maximize sediment collection in the basin.

Weir Notch:
A notch located on a weir that allows water to flow from the settlement basin to an area in which water is collected for pumping.

3 RESPONSIBILITIES

The **Quality Assurance Manager (QAM)** or designee is responsible for performing surveillance and/or audit activities to verify implementation and compliance with the requirements of this plan and review of all designated forms as part of the quality assurance review for accuracy and completeness. The QAM is also responsible for providing required verbal notifications to regulatory agencies and the Manager, Compliance and Permitting.

The **Manager, Waste Disposal Operations or designee** is responsible for maintaining assigned facilities in compliance with BAT requirements of the Clive site at all times. The Manager,

Waste Disposal Operations (or designee) shall immediately notify the QAM when any BAT Failure occurs.

The **Radiation Safety Officer (RSO)** or designee is responsible for performing evaluations of any existing threat or potential threat to public health and the environment.

The **Facility Operator or BAT Inspector** performs the routine inspections and provides notification to the Manager, Waste Disposal Operations and Quality Assurance Manager, of any BAT non-compliance. The Facility Operator or BAT Inspector has the authority to initiate repairs when needed.

The **Site Hydrogeologist** or designee is responsible for performing collection lysimeter measurements and determining compliance.

The **Manager, Compliance and Permitting** or designee is responsible for determining sampling parameters for free liquid if present in the collection lysimeters, reviewing all groundwater sampling data, and reviewing video inspection of the lysimeters. The Manager, Compliance and Permitting is responsible for providing required written notification to the regulatory agencies.

The **Manager, Engineering and Maintenance** or designee is responsible for scheduling and oversight of pump down testing if required; and performing preventative maintenance on facility equipment in accordance to the manufacturer specifications and guidelines, and ensuring that spare sump pump and replacement parts (including batteries for portable measuring devices, etc.) are on site at all times for required repairs.

4 BAT PERFORMANCE MONITORING

Energy*Solutions* is responsible for implementing Best Available Technology, summarized in Table 1, BAT Monitoring and Performance Criteria Chart, to prevent discharge of fluids from the following facilities to subsurface soils or groundwater. Table 1 provides a description of BAT for each facility, inspection requirements and frequency, performance criteria, and where each inspection requirement is documented. Compliance with the performance standard(s) will be evaluated by performing and documenting inspections, performing equipment maintenance and repairs as required, and by implementing corrective actions.

4.1 1995, 1997, 2000, Northwest Corner, and Mixed Waste Evaporation Ponds

Each Evaporation Pond is equipped with a leak detection and pump-back system that includes the following: Flow meter, pressure transducer, submersible sump pump, process controller/monitor, and discharge line. Failure of any pumping or monitoring equipment not repaired and made fully operational within 24 hours of discovery is deemed a BAT failure.

In accordance with Part I.E.16 of the Permit, BAT for Mixed Waste facilities other than the Mixed Waste Evaporation Pond is defined by requirements of the State-issued Part B Permit.

Accordingly, the Mixed Waste Evaporation Pond inspection is required only on days that Mixed Waste Facility daily inspections are required under the State-issued Part B Permit.

4.2 1995/1997 Evaporation Pond Lift Station

The 1995/1997 Evaporation Pond Lift Station is designed and constructed to transfer wastewater from the IUF Lift Station and the Containerized Waste Storage Pad into either the 1995 Evaporation Pond or the 1997 Evaporation Pond.

4.3 2000 Evaporation Pond Transfer Pad

The 2000 Evaporation Pond Transfer Pad is designed and constructed with gravity flow to provide free drainage of water from the transfer pad to the collection

4.4 Northwest Corner Evaporation Pond Transfer Facility

The Northwest corner Evaporation Pond Transfer Facility was constructed and designed for trucks to collect and discharge water on a containment surface. The concrete pad slopes towards the pond and an HDPE apron/rub sheet attaches to the edge of the concrete pad. The rub sheet extends down the slope of the pond providing for water transfer over rub sheets thereby, reducing any negative effects on the pond liner.

4.5 Containerized Waste Storage Pad

The Containerized Waste Storage Pad is designed and constructed with gravity flow to providing drainage of stormwater to the Pond Lift Station.

4.6 Intermodal Unloading Facility (IUF)

The IUF is designed with gravity flow to the IUF Lift Station collection manhole. A sump pump is located within the manhole and pumps to a drain line to the 1995/1997 Pond Lift Station.

The IUF is inspected annually during the second quarter to ensure integrity of the concrete surfaces. The inspection may occur one bay at a time. If discrepancies are noted per the definition listed in this plan, repairs shall be made prior to resuming the use of the affected bay. The results of the bay inspections are documented in an engineer's report. The inspection findings, any repairs required, and repairs completed are included in the Semi-annual BAT Monitoring Report.

4.7 Intermodal Unloading Facility Lift Station

The IUF Lift Station is designed and constructed to collect wastewater from the Rail Wash Facility on Track No. 2, the IUF, and the Railcar Digging Facility for transfer via gravity flow to the 1995/1997 pond lift station. An alarm will activate when the water level within the lift station rises above the lowest level of the inlet pipe.

4.8 LARW Box-Washing Facility

The LARW Box-Washing Facility is designed and constructed to provide free drainage of washwater from the wash pad to the floor sumps and through the wastewater drainage pipeline to the concrete holding tanks. The former drain line from the facility to the 1995/1997 pond lift station has been capped and the drain line abandoned. The cap placed over the outlet from the facility is inspected for integrity.

4.9 Rail Wash Facility on Track No. 4

The Rail Wash Facility on Track No. 4 is designed and constructed to provide free drainage of washwater from the rail wash floor and concrete trench to the floor sumps and through the piping that discharges to the collection tank(s) of the adjacent equipment/mechanics building. The rail wash facility floor is inspected to ensure total containment of water and that there is no direct or indirect discharge to subsurface soils or groundwater. The facility also includes an adjacent equipment/mechanics building that contains the collection tank(s) for the washing operations.

4.10 Rail Digging Facility

The Rail Digging Facility located between Track No. 3 and Track No. 4 is designed and constructed to provide free drainage of stormwater from the asphalt containment pad and ramps to three concrete collection basins, for a total of 4 sumps requiring inspection. Water from the collection basin drains to a settling basin. Water continues to drain through piping to the digging facility manhole, continuing on to the IUF Lift Station. The Rail Digging Facility is designed for digging waste from rail cars and transferring it to hauling equipment. No waste storage will occur.

4.11 East Truck Unloading Area

The East Truck Unloading Area includes the Container Holding Pads, Unloading Dock with Ramp and Unloading Area asphalt surfaces. The facility is designed with gravity flow to direct stormwater accumulated on the asphalt surfaces away from the concrete container holding pads. The concrete container holding pads are designed with gravity flow to direct water that accumulates on the concrete surface to collection troughs.

Overnight storage is prohibited at the dock and on asphalt surfaces within the facility. Storage and sampling are restricted to the concrete holding pads. Containers may be placed temporarily on the asphalt surface to facilitate transfer. Temporary is defined as the current acceptance date on the Bates Label. Therefore, this prohibits overnight storage.

4.12 Decontamination Access Control Building

The Decontamination Access Control Building is designed and constructed to provide personnel access to the Restricted Area. The design provides for free drainage from the facility to the wastewater collection tank buried outside the southwest corner of the building.

4.13 Intermodal Container Wash Building

The Intermodal Container Wash Building is used for the decontamination of containers. It was designed with a leak detection system and constructed in order to provide for the free drainage of washwater from the bootwash, and washbays to the sediment basin.

4.14 Shredder Facility

The Shredder Facility is used to size-reduce debris wastes prior to disposal. It is designed to provide free drainage to seven catchbasins, which then drain to the sump in the Rotary Dump Facility before being pumped to the Northwest Corner Evaporation Pond. Because the seven catchbasins are located at least 3.5 feet lower in elevation than the top of Manhole 1, used to pump water to the tanks, inspecting each catchbasin also functions as an inspection for functionality of the submersible pump in Manhole 1. When PCB-Containing waste is stored on the Shredder Pad, additional inspection criteria will be followed in accordance with the TSCA Approval for Shredding Polychlorinated Biphenyl (PCB) Wastes.

An alternate wastewater management system provides for the removal of water from manhole 1 via the use of a submersible pump and pipeline to water storage tanks located on the concrete pad. This system will be used during the shredding of PCB waste and optionally when the drainage system to the Rotary Dump Facility or Northwest Corner Evaporation Pond is out of service. When in use, the alternate wastewater management system and associated valves will be inspected to ensure that the associated valves are in the proper position, the pipeline is not leaking, and the high water level alarms are not activated.

The Shredder Facility is taken out of service and inspected annually during the second quarter, to ensure integrity of the concrete surfaces and to ensure that system valves are operating as designed. If discrepancies are noted per the definition listed in this plan, repairs shall be made prior to resuming the use of the facility. The results of the inspection are documented. The inspection findings, any repairs required, and repairs completed are included in the Semi-annual BAT Monitoring Report. Additional reporting may be required in accordance with the TSCA Approval for Shredding Polychlorinated Biphenyl (PCB) Wastes.

4.15 Rotary Dump Facility

The Rotary Dump Facility is designed and constructed for the thawing, emptying, and washing of railcars. It includes 4 sub-facilities. The Rotary Dump Facility is taken out of service and all areas are inspected annually during the second quarter, to ensure integrity of the concrete surfaces. If discrepancies are noted per the definition listed in this plan, repairs shall be made prior to resuming the use of the facility. The results of the inspection are documented. The inspection findings, any repairs required, and repairs completed are included in the next Semi-annual BAT Monitoring Report.

4.15.1 Thaw Building

The railcars enter the Thaw Building where wall and floor heaters provide heat as necessary to thaw the material for dumping. The rail in the thaw building is underlain with a flexible membrane liner covered with a granular surface. If any liquid is generated, the liquid drains into the granular surface, and is captured by the flexible membrane liner. The liquid then gravity drains via perforated pipe installed above the flexible membrane liner to a collection pipe. The collection pipe located under the granular surface is covered with geotextile material to prevent intrusion from material that may block the pipe. The wastewater free drains via a four-inch PVC pipe that discharges to the west side of the Rotary Building floor. The pipe from the Thaw Building is located one foot off of the Rotary Building floor.

4.15.2 Rotary Building

The Rotary Building is designed for the dumping of waste from railcars onto the Rotary Building Floor. While dumping is in process, water cannons may be used to remove excess material from the railcar. The Rotary Building floor is sloped for free drainage of wastewater to the sediment basin. Wastewater within the sediment basin is pumped via the use of a submersible pump and pipeline to the Northwest Corner Evaporation Pond or wastewater storage tanks at the Alternate Wastewater Management Area. Routing of wastewater at the facility is controlled by locking valves. When the valve in the pipeline to the pond is in the "Closed" position and the valve in the pipeline to the tanks is in the "Open" position, the wastewater is transferred to the Alternate Wastewater Management Area. Notification to the Director is required. When the locking valve in the pipeline to the tanks is in the Closed" position and the valve in the pipeline to the pond is in the "Open" position, the wastewater is pumped to the Northwest Corner Evaporation Pond. The pipeline to the Northwest Corner Evaporation Pond is dual walled from the point where it exits the building to the discharge point in the pond.

4.15.3 Wash Building

The Wash Building is designed for the decontamination of railcars. Non-contaminated water is provided via four 2,500 gallon water storage tanks. Water used in the decontamination process gravity drains via two trenches to a drain pipe. Water from the drain pipe gravity drains to the sediment tank located on the floor of the rotary dump building. The sediment tank is designed with an overflow that drains from the sediment tank onto the Rotary Building floor surface to the

sediment basin. Water within the sediment tank supplies the water cannons within the Rotary Building.

4.15.4 Alternate Wastewater Management Area

The wastewater from the sediment basin is transferred via submersible pump and pipeline to two wastewater storage tanks or to the Northwest Corner Evaporation Pond. A locking valve in the pipeline to the Alternate Wastewater Management Area (tanks) is opened and a locking valve in the pipeline to the pond is closed when the tanks are placed in service. Notification to the Director is provided when the Alternate Wastewater Management Area is placed in service. Each tank is equipped with a float switch that triggers activation of a visual alarm when the water level reaches two feet from the top of the tank. The pipeline transfers wastewater to both tanks. Reuse of the wastewater from these storage tanks at the wash building is prohibited. The tanks are located on a concrete surface.

4.16 East Side Drainage System

The East Side Drainage System is comprised of two separate drainage systems; one for wastewater from decontamination facilities, and one for stormwater. A process flow diagram of the system is provided as Figure 1.

The wastewater system is designed as follows: wastewater is pumped from the Decontamination Access Control Building, the Intermodal Container Wash Building, and the Rail Wash Facility on Track No. 4 within a dual walled pipe system to the 1997 Pond.

The Decontamination Access Control Building Tank, Intermodal Container Wash Building, and the Rail Wash Facility on Track No. 4 are each equipped with shut-off (isolation) valves. These valves when closed will isolate the respective facilities thereby preventing the flow of additional wastewater via the pipelines to the 1997 Pond. This allows for the isolation of facilities and, upon notification to the DRC, manual removal of wastewater for continued operation if a BAT failure or maintenance outage exists at another facility connected to the drainage system or during scheduled maintenance or inspection of the drainage system.

4.16.1 Decontamination Access Control Building Wastewater Flow and Monitoring

Wastewater from the Decontamination Access Control Building drains to a double-walled collection tank outside of the building. A moisture leak detection sensor is located between the walls (annular) of the tank to detect moisture or leakage from the primary wall of the tank. A strobe alarm is located on the outside of the building adjacent to the tank that is activated by the sensor in the tank annular space. A second leak detection sensor is located within the containment pipe to detect a leak in the carrier pipe, which also activates the strobe alarm mounted on the outside of the building adjacent to the tank. A high water level float alarm set so as to maintain the water level in the tank below the level of the inlet pipe activates strobe alarms located inside the building above the boot wash and the respirator wash sink. An isolation valve (P1-V01) is located at the collection tank of the Decontamination Access Control Building. This

isolation valve when closed will prevent additional wastewater from transfer to the Rail Wash Facility on Track No. 4.

4.16.2 Rail Wash Facility on Track No. 4 Wastewater Flow and Monitoring

Wastewater is pumped from the collection tank at the Decontamination Access Control Building to the Rail Wash Facility on Track No. 4 through a dual wall pipe designated as Pipeline No.1. The inside pipe of the dual wall system is designated as the carrier pipe and the outer pipe is designated as the containment pipe. Pipeline No. 1 discharges into the wash water collection tank at the Rail Wash Facility on Track No. 4. Wastewater from the Rail Wash Facility on Track No. 4 collection tank is pumped through a dual wall pipe (Pipeline No. 2) to Manhole No. 1. An isolation valve (P2-V01), is located at the collection tank at the Rail Wash Facility on Track No. 4. This isolation valve when closed will prevent additional wastewater transfer via Pipeline No. 2 to Manhole 1.

4.16.3 Intermodal Container Wash Building Wastewater Flow and Monitoring

Wastewater from the Intermodal Container Wash Building sump is pumped to Manhole No. 1 through a dual wall pipeline designated pipeline No. 3 where it connects (via manifold) with Pipeline No. 4. An isolation valve (P3-V01) is located at the sedimentation sump in the Intermodal Container Wash Building. This isolation valve will prevent additional wastewater from transfer via Pipeline No. 3 to Manhole No. 1 when closed.

4.16.4 Manhole No. 1 Wastewater Flow and Monitoring

Manhole No. 1 is a dry manhole (receives no storm or wastewater) that provides access to a manifold system connecting pipelines No. 2, 3, and 4. Manhole No. 1 is located in close proximity to the Rail Wash Facility on Track No. 2 near the SW corner of the building. Within Manhole 1, dual wall pipelines No. 2 and No. 3 are joined with a manifold and exit the manhole as dual wall Pipeline No. 4. routed to the 1997 Pond. Check valves prevent water from backflowing into Pipelines No. 2 and No. 3. Wastewater flows from Manhole No. 1 to Manhole No. 2 via Pipeline No. 4 then to the 1997 Pond via the dual wall pipe designated as Pipeline No. 4a. A leak detection sensor and drip leg (2 total) is installed in each containment pipe of Pipelines No. 2 and No. 3 at Manhole No. 1 to detect leakage from the carrier pipes. The sensors activate a strobe alarm mounted to the exterior of the adjacent Track 4 Rail Wash Building. In addition, a sight canister is installed on each drip leg to collect any water, for visual detection, that may flow from the drip leg.

4.16.5 Manhole No. 2 Wastewater Flow and Monitoring

Pipeline 4 carries wastewater to Manhole 2 located north of the 1997 Pond. Pipeline 5 carries stormwater from the stormwater collection/transfer sump to Manhole No. 2. Pipelines No. 4a and No. 5a carry wastewater and stormwater from Manhole 2 to the 1997 Pond. The carrier pipelines pass through Manhole 2, keeping Manhole 2 dry and the water streams separate. A leak detection sensor and drip leg (4 total) is installed in each containment pipe of Pipelines No. 4, No. 4a, No. 5 and No. 5a at Manhole No. 2 to detect leakage from the carrier pipes. The sensors activate a strobe alarm mounted on a post adjacent to Manhole 2. In addition, a sight canister is installed on each drip leg to collect any water, for visual detection, that may flow from the drip leg.

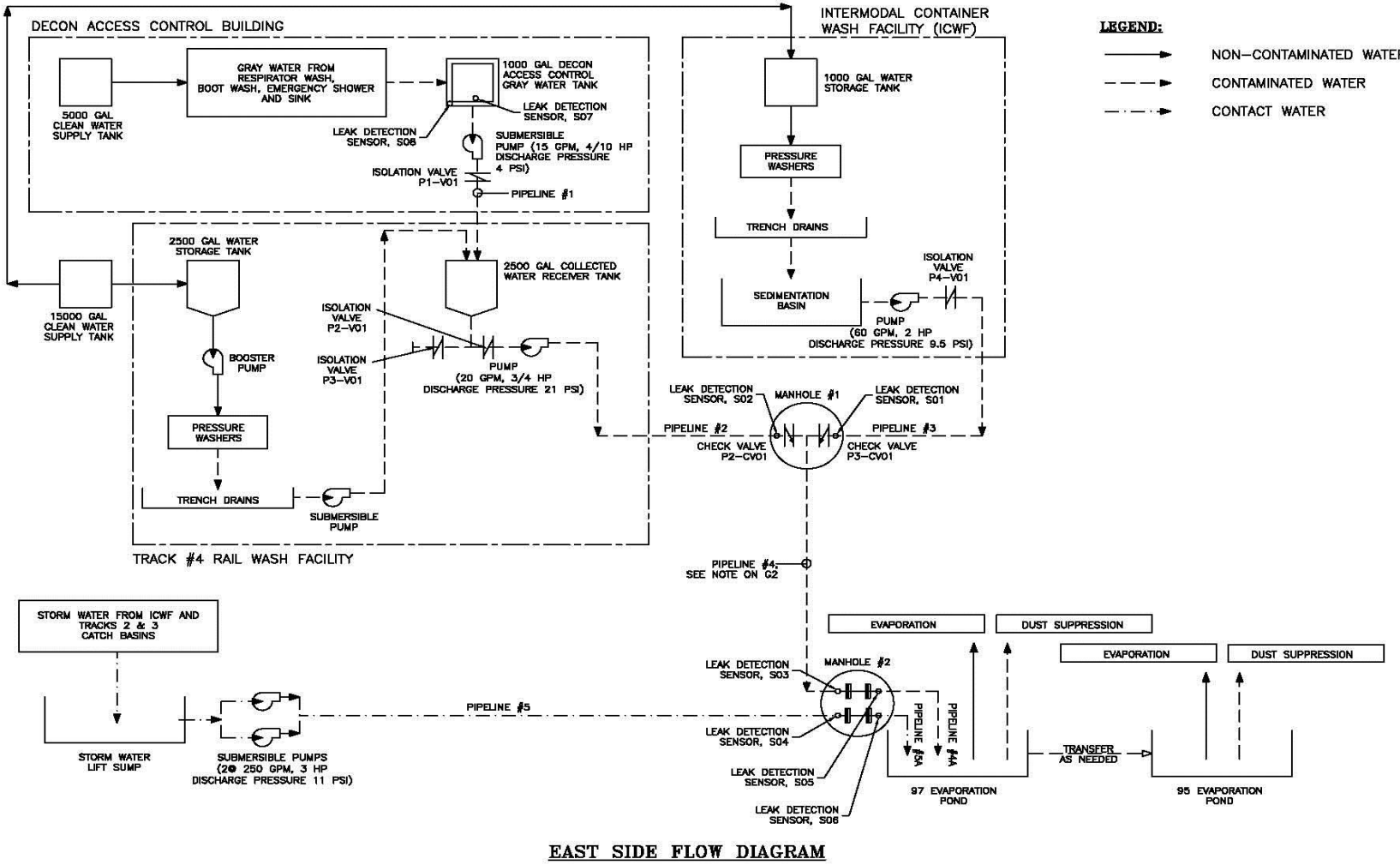
4.16.6 Stormwater Lift Sump Flow and Monitoring

Stormwater is collected by the catchbasins located south of the Intermodal Container Wash Building, north and south of the IUF, and between Tracks 2 and 3 and routed to the stormwater lift sump. The collected water is pumped from the sump and routed to the 1997 Pond through Pipeline No. 5.

A high water level float alarm is installed in the stormwater lift sump to indicate high water conditions within the sump due to system failure. The alarm activates a strobe alarm mounted to a post adjacent to the sump. If the high water level alarm is activated at the stormwater lift sump, ponding will occur at the catchbasins before water will overtop the stormwater lift sump. The alarm is inspected during the second week of each month.

4.16.7 Annual Pipe Pressure Testing

All carrier pipes (Pipelines No. 1, No. 2, No. 3, No. 4, No. 4a, No. 5 and No. 5a) within the East Side Drainage System will be pressure tested annually during the third quarter of the calendar year to ensure integrity. The Time-Pressure Drop method described in ASTM F1417 shall be used to determine the test criteria. In addition, the leak detection probes (8 total) will also be inspected and tested annually at the same time as the pipe pressure testing. The testing shall be conducted under the direction of a certified Professional Engineer qualified to perform pipe integrity testing. Notification of shut down of the system for testing purposes will be provided at least 48 hours prior to the Director. A written report including test results will be maintained in the operating record.



EAST SIDE FLOW DIAGRAM

FIGURE 1 – EAST SIDE FLOW DIAGRAM

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REV: 08-02-12

4.17 South Ditch

The Vitro drainage ditch culvert replacement (hereafter referred to as the South Ditch) was constructed to reduce a potential source of groundwater mounding near well GW-60. Since the ditch does not entirely free drain, the ditch contains a sump to lift remaining water from the ditch to the Southwest Corner Pond. The Southwest Corner Pond is a non-contact water collection and storage pond outside the restricted area and is not subject to the Ground Water Quality Discharge Permit. The pump may be removed from the sump during freezing weather. When the pump is removed, manual water removal will begin within the same working day after water is discovered to be above the sump grate.

4.18 LLRW Operations Building

Wastewater from the restricted area of the LLRW Operations Building drains to a 2,500 gallon double-walled collection tank outside of the building. A moisture leak detection sensor is located at the bottom of the tank between the walls (annular space) of the tank to detect moisture or leakage from the primary wall of the tank. A strobe alarm located adjacent to the tank is activated by the sensor in the tank annular space. A high level float alarm (orange strobe) is set to indicate when the tank is three-quarters full (approximately 625 gallons remaining capacity). A high-high-level float alarm (red strobe) is set just below the maximum capacity of the tank (approximately 125 gallons remaining capacity). The bootwash and sample prep room floor drains are the lowest elevation floor drains in the building, and therefore will provide the earliest indication if the tank is overfilled.

4.19 SRS DU Storage Building

The SRS DU Storage Building is designed to protect SRS DU waste from the elements. The storage building is a steel building on concrete foundation with an asphalt floor.

4.20 Evaporation Pond Ancillary Equipment to Facilitate Evaporation

Ancillary equipment intended to facilitate evaporation at all Evaporation Ponds will be constructed of UV resistant, PVC piping that is set a minimum of 2 feet from the top of berm. The inlet pipe is located over a rub sheet to protect the liner. Water is conveyed to the piping and fed back into the pond.

24 hours prior to use of ancillary equipment at an approved evaporation pond, verbal or email notification will be provided to DRC in order to provide opportunity for inspection.

Any proposed change in a test design or construction of ancillary equipment at an evaporation pond must adhere to the following BAT principles:

- Equipment that conveys contact wastewater (such as pumps, pipe, hoses, etc.) and is not located directly on the pond liner shall be placed inside a watertight secondary containment system that drains into the pond.
- Equipment that is placed onto or over the pond liner shall be placed so that the integrity of the pond liner is protected; i.e., placed on rub sheets or otherwise arranged to minimize the potential for the pond liner to be damaged.
- Spillage of contact wastewater outside of the pond or secondary containment or damage to the pond liner shall be responded to in accordance with the BAT Contingency Plan.

4.21 Stormwater Management

The Clive facility is inspected daily for the accumulation of stormwater. Water management personnel collect and transfer stormwater from within the restricted area to the evaporation ponds. Collected stormwater and water contained within the evaporation ponds may also be used for minimal engineering and dust control purposes at the Class A West embankment and for dust suppression activities at the Shredder Facility. The management of stormwater at the facility shall occur according to the following requirements:

Stormwater runoff at the Class A West, and 11e.(2) Disposal Cells which has contacted the waste (i.e. contact stormwater), shall be contained. The priority schedule listed below shall be followed for removal of stormwater that falls inside the restricted area. This includes runoff from waste disposed in excavated, below grade areas of the Disposal Cells.

Within 24 hours of discovery of any accumulation of contact stormwater, removal of said wastewater shall commence. Wastewater removal shall occur in accordance with the priority list below.

1) Contact stormwater inside the footprint of the Class A West, and 11e.(2) Disposal Cells
2) Contact stormwater at the Rotary Dump Facility
3) Contact stormwater at the IUF
4) Contact wastewater at any facility (e.g. BAT Failures, facility maintenance, etc.)
5) Non-contact stormwater within the restricted area

If water removal equipment is not effective for use at higher priority water accumulation areas, said equipment may be used at the next lower priority location where it will be effective provided that higher priority collection is not interrupted. This is defined as a bypass of priority collection (e.g., if water removal equipment cannot navigate the terrain in the embankments, it can be used to remove water from a priority two location, if necessary; or if a pump is not usable to transfer water at a priority one location and cannot be used at a priority two location, it can be used at the priority three location, or the next lower priority, where it will be effective).

If conditions improve so that water removal equipment can now access or be used at the previous higher priority inaccessible area, the water removal equipment will return to the high priority area immediately.

Within 24 hours the Manager, Compliance and Permitting or designee shall provide notification and justification to the Director whenever equipment bypasses a higher priority for use at a lower priority location.

Approval must be obtained from the Director to interrupt (stop) collection from a higher priority location for the purpose of collecting water from a lower priority location.

If stormwater removal at a lower priority location interrupts listed higher priority collection without required approvals, contingency actions shall be performed in accordance with the BAT Contingency Plan.

5 QUALITY ASSURANCE/QUALITY CONTROL

The Quality Assurance Manager or designee will conduct surveillance activities to ensure the requirements of the BAT Performance Monitoring Plan have been implemented, as required. Surveillance activities will be performed in accordance with the currently approved Quality Assurance Program Document. The Quality Assurance Manager or designee will also review inspection forms for accuracy and completeness.

The Manager, Waste Disposal Operations or designee will conduct a monthly assessment of the daily and weekly inspections to ensure inspection activities are performed in accordance with this plan. Assessments will be conducted in accordance with currently approved procedures in accordance with ES-QA-PR-002, Quality Assurance Surveillances. The applicable site director or designee will also perform reviews of inspection forms for accuracy and completeness.

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
1995, 1997, 2000, Northwest Corner, and Mixed Waste Evaporation Ponds	Freeboard between pond water level and spillway elevation, measured vertically	Daily – visual inspection	Minimum of 24 inches of freeboard.	Form 1 (Form 4 for MW Pond)
	Leak detection system and monitoring equipment including: leak detection system pump, head pressure transducer, and flow meters	Daily – Record water flow meter reading. Daily – Record fluid head reading from pressure transducer. Weekly – Calculate seven-day average flow rate.	Pressure transducer ≤ 1.0 foot. Flow rate initial action levels for each evaporation Pond: 1995 Pond – 155 gal/day 1997 Pond – 160 gal/day 2000 Pond – 355 gal/day NW Pond – 300 gal/day MW Pond – 160 gal/day	Form 1(Form 4 for MW Pond) Form 2
	Leak detection system pump	Annual – inspection and maintenance.	Procedure CL-EN-PR-023, *Annual Evaporation Pond Pump Inspection*	Procedure CL-EN-PR-023, form CL-EN-PR-023 F1
	Pump functionality and return pipe integrity	Monthly – inspect piping from leak detection system to pond through the manual removal of water.	Pump operational; no leakage from piping	Form 3
1995/1997 Evaporation Pond Lift Station	Water level within the lift station	Daily – Inspect for visual alarm activation. Monthly – Confirm alarm function	Water level not to exceed the lowest level of the inlet pipe (set point for alarm) Alarm trips manually	Form 1 Form 3

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
2000 Evaporation Pond Water Transfer Pad	Gravity flow from the pad to the collection sump.	Daily when stormwater present – free drainage; sump water level Weekly – Surface integrity	Free drainage; water below grate of sump See definition "Surface Integrity Discrepancy"	Form 1a Form 2
Northwest Corner Evaporation Pond Transfer Facility	Concrete pad with HDPE apron for water transfer and collection.	Monthly – Surface integrity; inspect pad apron for signs of cracks, tears, or holes	No holes, cracks, or tears at the seam between the concrete apron and HDPE liner. See definition "Surface IntegrityDiscrepancy"	Form 3
Containerized Waste Storage Pad	Minimize stormwater from contacting waste	Daily when stormwater present – free drainage; sump water level; cleanliness of pad surface Weekly – Surface integrity; container storage compliance cleanliness of pad surface	Free drainage; water below grate of sump See definitions "Surface Integrity Discrepancy" and "Container Storage Compliance"	Form 1a Form 2

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
Intermodal Unloading Facility (IUF)	Minimize stormwater contact with waste	Daily - free draining conditions for unloading pad and stormwater drainage pipeline system. Daily when stormwater present – free drainage; sump water level, and cleanliness of pad surface Weekly – Surface integrity; container storage compliance, and cleanliness of pad surface Annual – Clean entire surface for detailed surface integrity inspection (see section 4.7)	Free drainage; water below grate of sump See definitions "Surface Integrity Discrepancy" and "Container Storage Compliance"	Form 1 Form 1a Form 2 Engineer's report of annual inspection
IUF Lift Station	Contain contact water within facility	Daily – Inspect for visual alarm activation. Monthly – Alarm function	Water level not to exceed the lowest level of the inlet pipe (set point for alarm) Alarm trips manually	Form 1 Form 3
LARW Box Washing Facility	Contain contact water within facility	Daily-Sump water level; free drainage; holding tank water level. Weekly – surface integrity; pipeline cap;	Sump water level below grate; free drainage; tank water level ≤ ¾ full; see definition "Surface Integrity Discrepancy"; pipeline cap intact;	Form 1 Form 2

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
Rail Wash Facility on Track No. 4	Contain contact water within facility	Daily-Sump water level; free drainage (including concrete trench); and water level in collection and storage tanks. Weekly – surface integrity, sump pump operational; inspection of collection and storage tanks. Monthly – Alarm function	Sump water level below grate; free drainage; see definition "Surface Integrity Discrepancy" Alarm trips manually	Form 1 Form 2 Form 3
Rail Digging Facility	Minimize stormwater contact with waste	Daily- cleanliness of asphalt and concrete surface. Daily when stormwater present – free drainage; sump water level. Weekly – Surface integrity	Free drainage; water below grate of sump (4) See definition "Surface Integrity Discrepancy"	Form 1 Form 1a Form 2
East Truck Unloading Area and Container Holding Pads	Minimize stormwater contacting waste	Daily when stormwater present – free drainage; collection trough water level Weekly – Surface integrity; container storage compliance	Free drainage; water level ≤ ¾ full See definitions "Surface Integrity Discrepancy" and "Container Storage Compliance"	Form 1a Form 2

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
Decontamination Access Control Building	Contain contact water within facility	Weekly – Free drainage to the wastewater collection tank; level of wastewater in the tank; leak detection system check Monthly – Alarm function	Free drainage; water level not to exceed the lowest level of the inlet pipe (set point for alarm); no fluid in drip leg 7 Alarm trips manually	Form 2 Form 3
Intermodal Container Wash Building	Contain contact water within facility	Daily-Sediment basin water level; free drainage; Weekly – surface integrity; leak detection system	Sump water level below grate; free drainage from bootwashes to troughs, from washbays to troughs through to the sediment basin; see definition "Surface Integrity Discrepancy"; no fluids in leak detection system	Form 1 Form 2
Shredder Facility	Minimize stormwater contact with waste	Daily- free drainage. Daily when stormwater present – free drainage; sump water level; water level of catchbasins Weekly – surface integrity Annual – Clean entire surface for detailed surface integrity inspection	Free drainage to catchbasins; water below grate of sump (7) Shredded material removed from the outfeed pad by the end of shift. See definition "Surface Integrity Discrepancy"	Form 1 Form 1a Form 2 Engineer's report of annual inspection

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
Shredder Facility Alternate Wastewater Management System	Minimize stormwater contact with waste	Daily when in use – free drainage; pipeline integrity; high water level alarm; surface integrity Monthly – Alarm function	Free drainage; water below grate of sump (7); pipeline not leaking; high level alarm off; see definition "Surface Integrity Discrepancy" Alarm trips manually	Form 1b Form 3
Rotary Dump Facility – Thaw Building	Minimize stormwater contact with waste and contain contact water within all facilities. Consists of the Thaw, Rotary, and Wash buildings. Contain contact water within facility	Weekly – free drainage (within Thaw Building and at discharge pipe); surface integrity	Free drainage; discharge pipe not blocked; see definition "Surface Integrity	Form 2
Rotary Dump Facility – Rotary Building	Contain contact water within facility	Daily– free drainage; sediment basin water level Weekly – surface integrity; leak detection system Annual – Clean entire surface for detailed surface integrity inspection (includes Thaw Building and Wash Building concrete surfaces)	Free drainage; water below grate of sediment basin See definition "Surface Integrity Discrepancy"; no fluids in leak detection system	Form 1 Form 2 Engineer's report of annual inspection

TABLE 1
BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
Rotary Dump Facility – Wash Building	Contain contact water within facility	Daily-free drainage; water in trenches below grates. Weekly – surface integrity (including east curb and seals around stairway footing)	Free drainage; see definition "Surface Integrity	Form 1 Form 2
Rotary Dump Facility – Alternate Wastewater Management Area	Contain contact water within facility	When in use, Daily inspection for leakage in the pipeline from sediment basin to wastewater storage tanks; activation of visual alarms at wastewater storage tanks Weekly – free drainage; pipeline integrity; high water level alarm; surface integrity Monthly – Alarm function	Free drainage;; pipeline not leaking; high level alarm off; see definition "Surface Integrity Discrepancy" Alarm trips manually	Form 1 Form 2 Form 3
East Side Drainage System	Contain contact water within system	Daily – Manhole 1, 2, and stormwater lift station alarms Weekly – Monthly – Leak detection system check ; Alarm function Annual – Pressure test	Alarms off No fluid in drip legs 1-2 (manhole 1) or 3-6 (manhole 2) Alarm trips manually See section 4.17.7	Form 1 Form 3 Engineer's report of annual inspection

ENERGYSOLUTIONS

TABLE 1

BAT MONITORING AND PERFORMANCE CRITERIA

FACILITY	BAT DESCRIPTION	INSPECTION AND MAINTENANCE	PERFORMANCE CRITERIA	DOCUMENTATION
South Ditch	Reduce a potential source of groundwater recharge via timely transfer of water to Southwest Corner Pond	Daily when stormwater present – pump operating Monthly – Alarm function	Pump operates while water in sump or manual removal Alarm trips manually	Form 1a Form 3
LLRW Operations Building	Contain contact water within facility	Daily – Alarm status Monthly – Free drainage to the wastewater collection tank; Annual - Alarm function	Alarms off Bootwash and sample prep room floor drains free drain Alarm trips manually	Form 1 Form 3Engineer's report of annual inspection
SRS DU Storage Building	Prevent stormwater from contacting waste	Daily when stormwater present – Surface integrity; container storage compliance; check for presence of water. Monthly – Surface intergrity; container storage compliance, check for presence of water	See definitions "Surface Integrity Discrepancy" and "Container Storage Compliance"; remove any water observed	Form 1a Form 3
Evaporation Pond Ancillary Equipment to Facilitate Evaporation	Contain contact water within the pond	Daily – pond liner integrity; system containment	Maintenance of pond liner integrity and prevention of spillage outside of pond or secondary containment.	Form 1