

Great Salt Lake Minerals

Storm Water Pollution Prevention Plan (SWPPP)

Introduction

Great Salt Lake Mineral (GSL) Storm Water Pollution Prevention Plan (SWPPP) was developed based on the requirements of Utah Pollutant Discharge Elimination system (UPDES) Permit Number UT0000647, II (C), “Storm Water Pollution Prevention Plan Requirements”.

Pollution Prevention Team

The following individual has been designated to lead GSL Pollution Prevention Efforts:

Bryan Lee Howick
EHS Manager
Phone: (801) 732-3151

The Pollution Prevention Team shall be responsible for the development, implementation, maintenance, and revision of the SWPPP. The Pollution Prevention Team shall evaluate (potential) impacts of operational changes to the SWPPP and communicate the status of the storm water program to GSL Management.

Description of Potential Pollutant Sources

Potential sources which could add pollutants to storm water include:

- Sulfate of Potash plant SOP spilled on ground
- Concentrated Sugar Byproduct (Binder) in spilled SOP product
- Sodium Hypochlorite (in secondary containment)
- Diesel Fuel and Gasoline (in secondary containment)
- Flocculent (in secondary containment)
- Defoamer (in secondary containment)
- SOP Loading Operations
- Calcium Chloride (in secondary containment)
- Heavy and Light De-dust Oil (in secondary containment)
- Yellow prussiate of soda
- Potassium chloride

- Methyl Isobutyl Carbinol Reagent (in secondary containment)
- Flotation Reagent
- Salt
- Various Oils and Greases located around mobile shop (in secondary containment)
- Various waste drums of oil and grease

Site Map

A site map was generated as part of this SWPPP to detail:

- Drainage direction and discharge points from all wastewater associated activities,
- Locations of any erosion or sediment control structures,
- Locations of handling, loading, unloading or storage of chemicals or potential pollutants,
- Locations of past spills or leaks,
- Locations of salt piles,
- Locations of vehicle fueling stations and maintenance areas,
- Locations of receiving streams and surface water bodies, and
- Locations of outfalls and discharges from facility.

The overview site map provides locations for all above bulleted items with the exception of locations of vehicle fueling and maintenance areas and outfall locations. Attachment A to the site map is an excerpt from GSL's Spill Prevention Control and Countermeasure (SPCC) plan and provides a detailed map of all areas at GSL subject to SPCC provisions. Attachment B to the site map is an overview of all UPDES permitted discharges with the exception of Outfall 009.

Outfall 009 is a permitted discharged of concentrated brines from GSL's west desert facility to the Behren's trench. Outfalls 002 through 008 are flushing pond discharges and are not relevant to storm water discharges. Outfall 001 is the most important discharge for the purposes of storm water discharge. The location of Outfall 001 is noted on Attachment B to the site map.

Inventory of Exposed Materials

Below is an inventory of the types of materials handled at the site that potentially may be exposed to precipitation. With the exception of the waste mineral salt blocks, no current structural or nonstructural control measures to reduce pollutants in storm water runoff currently exist.

- **Sulfate of Potash plant SOP spilled on ground** – GSL’s SOP production and handling operations routinely spill SOP product to the ground during loading, production and maintenance activities.
- **Concentrated Sugar Byproduct (Binder) in spilled SOP product** – When SOP product is spilled on the ground and exposed to rainwater, the CSB can be transported via storm water to discharges
- **Yellow prussiate of soda** – YPS is added to salt as a caking agent.
- **Potassium chloride** – KCl is added to the SOP to enhance potassium content.
- **Salt** – Runoff from salt plants add salt to storm water discharges
- **Various waste drums of oil and grease** - Although all waste oil and grease drums are on secondary containment, lack of storage spaces at GSL periodically exposes waste drums to precipitation.

Spills and Leaks

Historical spills and leaks include a 200 gallon spill of sodium hypochlorite and a 150 gallon spill of Concentrated Sugar Binder.

Sampling Data

For a summary of existing discharge sampling data from outfalls, all Outfall discharge monitoring data is located in GSL’s environmental files. Historical storm water sampling data can be found electronically at: S:\Environmental\Water\SWPPP\Storm Water Reporting 72108.

Outfall monitoring data include; on a monthly basis, volumetric flow rates, pH, visible oil or grease sheen observation, and an oil a grease analytical result if a visible sheen is noted. Storm water visual monitoring procedures require than examinations be made of samples collected within the first 30 minutes of when the runoff or snowmelt begins discharging. The examinations document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen and other obvious indicators of storm water pollution.

Summary of Potential Pollutant Sources and Risk Assessment

Below, find a narrative description of the potential pollutant sources from the following activities:

Access Roads/Rail Lines and Loading Operations – Rail loading operations does present the potential for storm water pollution. Improvements have been made to the load out area. In 2010 secondary containment was added to the heavy and light de-dust oil tanks and systems.

Outdoor storage activities – Outdoor storage of salt, SOP and KCl present potential for storm water pollution to discharges.

Outdoor vehicle storage and Vehicle Maintenance Sites – Fueling vehicles that have tanks greater than 65 gallons are parked in secondary containment pursuant to SPCC plan requirements. Vehicle maintenance areas with oil storage have secondary containment. The potential for storm water pollution to discharges from outdoor vehicle storage and vehicle maintenance sites has been significantly decreased with the implementation of the GSL SPCC Plan.

Significant Dust or Particulate Generating Processes – There is significant potential for storm water pollution from dust and particulate generated from production and loading activities. GSL has added infrastructure to decrease fugitive dust loading, including internal dust filtration units on the inside of the SOP storage silo. GSL is in the process of adding a pneumatic conveyance process to decrease spillage of SOP product to the ground and entrainment into the air.

Onsite Waste Disposal Practices – GSL currently stores oil and grease waste awaiting disposal in uncovered areas which are periodically exposed to precipitation. A significant pollution prevention project would be to identify a suitable location for oil and grease drummed wastes.

Measures and Controls

GSL has developed a description of storm water management controls appropriate for the facility and implemented those controls. The controls are predicated on SPCC Plan compliance and are discussed below:

Good Housekeeping – Drums with waste are stored over secondary containment. Trucks with tanks that contain greater than 65 gallons are parked over secondary containment. Petroleum and lubricant liquids are contained in secondary containment. GSL is currently working towards implementing other housekeeping measure geared toward decreasing solid SOP and salt spillage. These initiatives are currently underway.

Preventative Maintenance – GSL currently has two oil/water “skimmers” located in the east ditch and behind the vehicle maintenance shop. These skimmers are emptied quarterly and inspected more regularly. If inspections dictate, the skimmer contents are cleaned more frequently.

Spill Prevention and Response Procedures – Spill Prevention measures are communicated in the GSL current SPCC Plan. Spill response supplies are stored at various locations at GSL

including: in the stores warehouse, at the vehicle maintenance shop, at Pump Station 112, at Pump Station 113 and at Pump Station 114.

Inspections – Above ground storage tank inspections are performed on a monthly basis for all above ground storage tanks. EHS employees perform routine walks around the facility to ensure that methods are followed to prevent storm water discharge. Oil skimmers are checked weekly to ensure that they are maintained. Secondary containments for ASTs are checked periodically to ensure that the secondary containment is clear of rainwater and/or product.

Employee Training – Employee training consistent with the requirements of this SWPPP are provided pursuant to GSL's SPCC plan.

Recordkeeping and Internal Reporting Procedures – Above ground storage tank inspections, and quarterly storm water monitoring records are stored in a paper format in the EHS files. Discharge monitoring reports are stored in both paper form in the EHS files as well as in electronic format at: S:\Environmental\Water\UPDES\Submitted DMRs.

Sediment and Erosion Control and Management of Runoff

Traditional storm water management practices to divert, infiltrate, reuse and otherwise manage storm water runoff are only utilized minimally at GSL. GSL does have a storm water control infiltration area. Waste mineral salt blocks are stored in the infiltration area prior to shipment off site as solid waste. Additionally, GSL employs oil skimmers in the east ditch and behind the mobile vehicle maintenance shop to remove any oil that makes its way into the ditches.

Comprehensive Site Compliance Evaluation

Qualified personnel shall conduct site compliance evaluations at approximate one year intervals and the evaluations shall provide:

- Evaluation of areas contributing to a storm water discharge associated with industrial activity. The areas shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. The salt mineral block infiltration area and the oil skimmers shall be observed to ensure that they are operating correctly.

- Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in the section titled “Description of Potential Pollutant Sources” and the pollution prevention measures and controls identified in the section titled “Measures and Controls” shall be revised as appropriate within 2 weeks of the evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.
- A report summarizing the scope of the evaluation, personnel making the evaluation, the dates of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan.

Requirement to keep SWPPP Current

This SWPPP shall be amended whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

Non-Storm Water Discharge Certification

Non-storm water discharges were evaluated on March 15, 2011. The evaluation method utilized was to determine whether a water discharge was of a storm water nature, or whether the discharge was of an industrial nature. Five non-storm water discharges of an industrial nature were determined to exist at GSL. The non-storm water discharges are identified and characterized as follows:

- **SOP sump discharge** – The SOP sump discharges continuously, pumping water from the sump underneath GSL’s SOP facility and silo complex. This discharge consists of water that collects beneath the silo complex.
- **Salt Scrubber AH-500 Blowdown Discharge** – Salt Scrubber AH-500 Blowdown Discharge is an industrial discharge from an air pollution control scrubber which controls

particulate dust from the salt cooling circuit ancillary equipment. This discharge consists of water and salt.

- **Salt Scrubber AH-502 Blowdown Discharge** – Salt Scrubber AH-502 Blowdown Discharge is an industrial discharge from an air pollution control scrubber which controls particulate from the salt plant circuit. This discharge consists of water and salt.
- **Salt Scrubber AH-505 Blowdown Discharge** - Salt Scrubber AH-505 Blowdown Discharge is an industrial discharge from an air pollution control scrubber which controls particulate dust from the salt special products circuit. This discharge consists of water, salt and various minerals utilized in making specialty animal feed salt blocks.
- **Salt Scrubber AH-513 Blowdown Discharge** – Salt Scrubber AH-513 Blowdown Discharge is an industrial discharge from an air pollution control scrubber which controls particulate dust from the salt plant dryer. This discharge consists of water and salt.

The on-site drainage points observed during the evaluation were:

SOP sump discharge – Sump discharge to east ditch

Salt Scrubber AH-500 Blowdown Discharge – Blowdown discharge to east ditch at Salt Plant.

Salt Scrubber AH-502 Blowdown Discharge – Blowdown discharge to east ditch at Salt Plant.

Salt Scrubber AH-505 Blowdown Discharge – Blowdown discharge to east ditch at Salt Plant.

Salt Scrubber AH-513 Blowdown Discharge – Blowdown discharge to east ditch at Salt Plant.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

GREAT SALT LAKE MINERALS CORPORATION

Corey Milne, Site Manager and Responsible Official