

**United States Environmental Protection Agency**  
**Region X**  
**POLLUTION REPORT**

**Date:** Monday, January 1, 2007

**From:** Anthony Barber

**To:** Chris Field, EPA Region 10 (POLREP List)

**Subject:** Polrep #2

Agrium Acid Spill

3010 Soda Springs Road, Soda Springs, ID

Latitude: 42.7390200

Longitude: -111.5384200

<b>POLREP No.:</b>	2	<b>Site #:</b>	pending
<b>Reporting Period:</b>		<b>D.O. #:</b>	
<b>Start Date:</b>	12/28/2006	<b>Response Authority:</b>	CERCLA
<b>Mob Date:</b>	12/28/2006	<b>Response Type:</b>	Emergency
<b>Demob Date:</b>	12/31/2006	<b>NPL Status:</b>	
<b>Completion Date:</b>		<b>Incident Category:</b>	Removal Assessment
<b>CERCLIS ID #:</b>		<b>Contract #</b>	
<b>RCRIS ID #:</b>			

**Site Description**

Agrium Conda Phosphate Operations (CPO) is located about 5 miles north of the community of Soda Springs, Idaho, and about 50 miles southeast of Pocatello. Various phosphate-related products such as phosphoric acid are produced at this plant.

Phosphogypsum is a byproduct or waste product created from the production of fertilizers and related products. At Agrium CPO a slurry of phosphogypsum is discharged during processing to a "gypstack", which is an impoundment where the solid portions of the slurry settle out and the liquid portions are decanted to a ditch and pumped back into the process. Early in their lives, gypstacks more closely resemble small reservoirs. Over years of use, the solids mound up and resemble small man-made mountains. Agrium CPO has 2 such gypstacks. The old gypstack (#1) has been in operation for more than 10 years. The new gypstack (#2) was constructed during recent months.

On the morning of Wednesday, 12/27/06 at about 8:20 A.M. plant operators discovered that sometime after about 3:00 A.M that morning, the levee around Gypstack #2 failed at the south end of its eastern side. It was reported by plant personnel that the levee had failed near the bottom and that the top of the levee sank down replacing the eroded materials for a total of about 16" in height. This occurred along a length of the levee about 50 feet long and wide enough to operate heavy equipment like a track hoe on. An estimated 4 to 5 million gallons of "gypwater", containing phosphoric acid and other contaminants, at an estimated pH of about 2 were released through the failed levee. About 1 million gallons accumulated on the facility grounds, and about 3.7 million gallons (including some snowmelt and water runoff) were estimated to have accumulated in an adjacent farm field between the plant and Highway 34. The farm belongs to the Torgeson family.

After breaching the levee, the spilled "gyp water" flowed into the ditch surrounding Gypstack #2. This gyp water decant ditch collects water from both gypstacks and transports it to two process ponds at the southern end of the facility. The volume of the spill quickly overwhelmed the capacity of the ditch and it overflowed in several locations.

Gypwater accumulated on facility grounds just north of Gypstack #2 and between the dike (also called the "decant ditch") and the tailings pond to the east of Gypstack #2. Gypwater also overflowed from the ditch onto the field along the south end of the decant ditch near where the ditch splits into the two process ponds. Woodall Springs is located about half a mile northeast of Gypstack #2. Gypwater also overflowed from the ditch into an irrigation ditch that transports water from Woodall Spring southward to the fields behind the Torgeson farm. Woodall Ditch parallels the decant ditch between the tailings pond and Gypstack #2. Gypwater flowed along Woodall Ditch out into the fields behind the Torgeson family homes.

The farm field is located to the east of the plant facility adjacent to the plant. The farm home is located about 2500 feet from the facility. The family has several dogs and about 10 horses at the farm. The horses were moved by Agrium CPO personnel just after the spill to an area away from the spill to minimize risk of exposure to the gypwater. The farm residents were away on vacation at the time of the spill, but have since returned and have been briefed by EPA and Agrium CPO personnel on the spill. The next closest home is about 1 mile southwest of the spilled gypwater location, and belongs to the Lowry family. There are potable water wells located at both the Torgeson and Lowry residences. About 10 preexisting monitoring wells are scattered near and at the plant, as well as at least 2 production water wells.

### **Current Activities**

12/29/06

Weather: Partly cloudy. Patches of fog. Southeast wind 7-8 mph. High 21F. Low 1F.

Personnel on site: 1 EPA, 2 EPA-START, 1 IDEQ, ~75 Agrium

OSC Barber met with IDEQ Mark Dietrich and Doug Tanner at their office in Pocatello at 8:00, after which, Barber and Tanner traveled to the facility spill site. Unified Command with Agrium, EPA, and IDEQ was formally established at 12:45. Pumping ponded gypwater from the Torgeson field to the decant ditch remained the highest priority. Other activities included: developing plans for a semi-permanent 1800-foot long pipeline, cleaning and repairing the decant ditch and head gate; enhancing equipment access to the areas of contamination; survey of horizontal extent of contamination; controlling diversion of water from Woodall Spring away from the spill; using lime to neutralize selected locations, especially that which was nearest to the Torgeson farm; working on monitoring, production and potable water well sampling and analysis plan; pumping gypwater from the irrigation ditch into the decant ditch; media interview; and sampling the tap water at the Torgeson farm (to be done on a daily basis for the next 90 days). Agrium is to be working on a set of deliverables requested by IDEQ and EPA, including a written incident action plan, volume estimation (including calculations), recovery rate calculation and documentation, sampling plan, chemical profile of the spilled gypwater, extent of contamination survey, etc.

12/30/06

Weather: Partly cloudy to mostly clear. Patches of fog. Southeast or east wind 5-6 mph. High 20F. Low -4F.

Personnel on site: 1 EPA, 2 EPA-START, ~80 Agrium

As of 07:30 it was reported that 1.76 million gallons of gypwater had been recovered.

**SAFETY NEAR MISS:** An Agrium worker accidentally stepped into a temporary sump in the Torgeson field gypwater recovery area and was immersed in a mix of gypwater and freshwater above his waist. He was immediately taken to a shower, and decontaminated. No injury was reported. Unified Command took steps to address this safety concern by directing emphasis on good marking of such areas and reminding workers and supervisors of this hazard.

By this morning most of the released gypwater was frozen. The average depth of the ice was 8 to 10 inches. Much of this ice was broken up and moved into stockpiles or windrows for later transport to the south end of the top of Gypstack #1. The 1800-foot long pipeline from the Torgeson field to the decant ditch was about 60% completed today. A map of showing the impacted areas was released. A presentation on the conceptual model for well monitoring was given by the groundwater specialist consultant on-site, and approval to proceed with the written version was given by Unified Command. Minor problems with leakage of Woodall Spring water was noted and addressed. Agrium General Manager Charlie Ross and OSC Barber met with and briefed part of the Torgeson family on the spill and response to it. A 10 day plan was agreed to by Unified Command that covers activities and priorities for that period. Plans for EPA and Agrium to split-sample and analyze gypwater were postponed until Tuesday. IDEQ will now work with Agrium to perform this sampling and analysis, with input from EPA on the analytes to be considered.

### **Planned Removal Actions**

Agrium is to continue to remove contaminated ice and water, continue to characterize the impacted area, and continue to coordinate other recovery, removal, and remediation actions with IDEQ and EPA.

Due to the relative stability of the situation, Unified Command decided to transition from an emergency response phase to a removal / recovery phase of operations. Therefore EPA will demobilize from the site

on the morning of 12/31, and command will transfer from a unified status to Agrium Incident Command with government oversight primarily provided by IDEQ.

### **Next Steps**

Transition from Unified Command to Agrium Incident Command with regulatory oversight.

Ensure Agrium Incident Command understands deliverables EPA expects.

Demobilize safely.

Coordinate a media press release update sometime next week describing the status of the response and cleanup and the transition from the emergency response phase and Unified Command.

### **Key Issues**

Harsh winter conditions are a challenge to the response from both a health and safety and logistics perspective.

Timely recovery of the gypwater should be accomplished while Woodall Spring water diversion can be maintained and before significant additional snow falls. As complete a removal of the gypwater as reasonably possible will help avoid additional spread of contamination in the event that the spring water can no longer be adequately diverted. Additional snow fall will complicate recovery efforts by hiding demarcation markings and adding to the volume to be removed.

Once recovery of liquid and frozen gypwater is completed, there is still the potential for contamination to exist in the soil of the impacted areas. IDEQ, EPA, or both should provide oversight of a thorough assessment of the area and any further soil cleanup needed. Additionally, the potential for groundwater contamination should be followed up on. Of particular note is that other contaminants, such as cadmium or others, beyond phosphoric acid and pH may be of concern.

[response.epa.gov/AgriumAcidSpill](https://response.epa.gov/AgriumAcidSpill)