

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

Date: Monday, July 9, 2007

From: Greg Weigel

To: Chris Field, EPA Region 10 (POLREP List) Calvin Terada, EPA ERU

Subject: FMC Pond 16S

Hwy 30, 3 miles west of Pocatello, Pocatello, ID

Latitude: 42.9028000

Longitude: -112.5586000

POLREP No.:	3	Site #:	10EY
Reporting Period:		D.O. #:	
Start Date:	4/12/2007	Response Authority:	CERCLA
Mob Date:	4/12/2007	Response Type:	Time-Critical
Demob Date:		NPL Status:	NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:	IDD984666610	Contract #	
RCRIS ID #:			

Site Description

FMC manufactured elemental phosphorus from the late 1940s until December 2001. Since 2001, FMC has decommissioned and dismantled the manufacturing plant and closed waste ponds. RCRA closed Pond 16S covers an area of approximately 10.2 acres and contains approximately 140 acre feet of phosphorus containing waste from the elemental phosphorus manufacturing process. The Pond 16S RCRA cap consists of a seven foot thick evapo-transpiration layer composed of soil, gravel and sand, which overlays a geo-synthetic composite barrier and drainage system over the waste. A pressure monitoring and gas collection system was installed around the perimeter. Eight temperature monitoring sensors were also installed in well casings on top of the cap that extend through the geo-synthetic barrier to above the waste.

In June 2006, visible air emissions were observed coming from the temperature monitoring ports (TMPs) at Pond 16S. Air emissions were subsequently observed by Shoshone Bannock Tribal staff in September, 2006. These were thought to be emissions of phosphorus pentoxide, from the auto-ignition of phosphine gas. FMC reported that phosphine gas had collecting in TMP well casings, where it was auto-igniting. The auto-ignition concentration of phosphine is 20,000 parts per million (ppm). The concentration of phosphine gas that is immediately dangerous to life and health is 50 ppm. In November 2006, the EPA On-Scene Coordinator and START contractor conducted removal site assessment activities at Pond 16S. Additional, follow-up air sampling was conducted by EPA and START contractor in December, 2006. Air samples were collected of ambient air in the vicinity of Pond 16S, as well as from a TMP. Analytical results showed phosphine concentrations up to 360 ppm from the TMP. Additionally, hydrogen cyanide and hydrogen sulfide gasses were detected at significant concentrations. In ambient air, hydrogen sulfide was detected at low levels; phosphine and hydrogen cyanide were not detected in ambient air.

In December 2006, EPA issued a Unilateral Administrative Order under CERCLA, requiring FMC to characterize gas generation under the cap, conduct ambient air monitoring, and design, construct and operate a gas extraction and treatment system capable of drawing down gas concentrations under the cap to safe levels. The scope of work was subsequently modified to also require FMC to implement an interim gas extraction and treatment system until the larger system can be designed and built.

Current Activities

On May 29 and 30, 2007, the EPA OSC, accompanied by Shoshone Bannock Tribal personnel, was on site to oversee the start of field activities for sample collection to implement the gas characterization and ambient air monitoring work plans. The EPA-approved gas characterization and ambient air monitoring work plans require FMC to characterize gasses under the Pond 16S cap, conduct ambient air monitoring to determine any releases of gas around Pond 16S that may present a threat to public health, and evaluate possible gas leakage through the cap. Specifically, FMC was required to:

1) Collect 3 rounds of Pond 16S source gas samples from TMPs.

- 2) Collect 11 rounds of ambient air samples over a 30-day period at three downwind fence-line locations, under specified atmospheric conditions.
- 3) Collect soil gas samples from 27 soil borings around the perimeter of Pond 16S, approximately 5 feet outside of the cap edge.
- 4) Collect air samples from within 2 inches of the surface of the Pond 16S cap by walking transects within 10 separate grids over the cap.

On May 31, 2007, two Tedlar bags with tail gas from sampling TMPs caught fire due to auto-ignition of phosphine gas. Nobody was injured, but FMC discontinued TMP sampling until a new procedure could be worked out that did not require tail gas to be collected in Tedlar bags.

On June 7, the EPA OSC, accompanied by Shoshone-Bannock tribal personnel, was on site to oversee continued sample collection per the gas characterization and ambient air monitoring work plans.

On June 22, FMC completed sample collection per the gas characterization and ambient air monitoring work plans.

On July 5, EPA provided conditional approval of FMC's Pre-Final (60%) Design Analysis Report for design of a gas extraction and treatment system capable of reducing gas concentrations under the Pond 16S cap to safe levels. The conditional approval required FMC to, among other things, evaluate data from gas characterization and ambient air monitoring and address in 100% design.

Next Steps

EPA Public Meetings will be held at Fort Hall evening of July 11, and in Pocatello evening of July 12.

FMC is to provide Final (100%) Design by end of July incorporating EPA's comments on Pre-Final (60%) Design.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
RST/START	\$30,000.00	\$22,000.00	\$8,000.00	26.67%
Intramural Costs				
Total Site Costs	\$30,000.00	\$22,000.00	\$8,000.00	26.67%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

response.epa.gov/FMCPond16S

POLREP #3 Last Updated 9/27/2007