

United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Tuesday, January 27, 2015

From: Perry Gaughan, OSC

Subject: EPA ERT Geophysics Assessment Report

Boyd's Creek III Oil Site
Oil Well Road, Glasgow, KY
Latitude: 36.9428600
Longitude: -85.9426100

POLREP No.:	39	Site #:	Z426
Reporting Period:	6/01/14 to 1/23/15	D.O. #:	
Start Date:	6/1/1993	Response Authority:	OPA
Mob Date:	6/1/1993	Response Type:	Non-Time-Critical
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:		Contract #	
RCRIS ID #:		Reimbursable Account #	
FPN#			

Site Description

Over recent months, the National Pollution Fund Center and US Coast Guard Case Officers have encouraged EPA Region 4 to conduct additional efforts at closing this Site out since it has been an ongoing response since the early 1990's. The OSC received additional funding from NPFC to conduct an additional geophysics assessment upgradient of the collection system in an effort to find remnants of old abandoned oil wells. Similar efforts performed by OSCs Webster and Eger during the 1990s and 2003 proved successful in finding abandoned wells and has decreased the flow of oil contaminated groundwater to the collection system.

This Site involves an ongoing discharge of crude oil into Boyd's Creek and the Barren River Lake which is a navigable waterway. This ongoing removal action was continued under an Interagency Agreement between EPA Region 4 and the Tennessee Valley Authority. Funding was obtained under the OSC's OPA authority and through support from the National Pollution Fund Center in December, 2008.

Current Activities

During the week of June 2nd, 2014, EPA ERT's Greg Powell and technical contractors from SERAS conducted the geophysics assessment upgradient of the oil water collection system. A report summarizing these assessment findings was submitted to the OSC during the week of Jan 19th, 2015. (Documents Section - SERAS report and Figures Attachment)

Based on the findings of the geophysics study, two new anomalies were found which should be further investigated. (See Figure 8 of Figures Attachment in Document Section) In a follow up email from Greg Powell he recommended that; " Anomaly One will have to be evaluated using a Geoprobe or hollow stem auger rig to evaluate the presence or absence of brine and crude oil. Flow should occur down dip along the possible fracture identified in the VLF. The fracture would provide sufficient weakness to account for the shallow karst features that have developed at the soil bedrock interface. I conducted a cursory lineament analysis of the Glasgow South Quadrangle. Numerous lineaments appear to be present with a southeast to northwest orientation. These lineaments probably represent fracture zones that have developed.."

Anomaly Two can be evaluated with an excavator. Bedrock is shallow in this area and ERT recommends cutting a south to north trench along the high conductivity trend. This should be the first exploration area due to the ease of evaluating the presence of abandoned wells.

Planned Removal Actions

TVA continues operation and maintenance of the Oil/Water collection system on Site. Approximately 1500 gallons of oil was collected in January 2015 and some minor repairs to the collection sumps are planned for February.

Next Steps

Geoprobe assessment of the upper field anomaly and shallow excavation of the anomalies near the collection system are currently being planned for the spring of 2015.

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