U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Fred Boling Oil Wells Lease - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #3**
Progress - Plugging of Abandoned Oil Wells Continues
Fred Boling Oil Wells Lease

Reynolds Station, KY
Latitude: 37.7425100 Longitude: -86.7431700

To:
From: Perry Gaughan, On Scene Coordinator
Date: 7/30/2014
Reporting Period: July 7 through July 18, 2014

1. Introduction

1.1 Background

Site Number:	Z4XA	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	11/15/2013	**Start Date:**	11/16/2013
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:	E14409	**Reimbursable Account #:**	

1.1.1 Incident Category

This is an abandoned oil well lease located north of Fordsville, Kentucky which qualifies for a removal action under the Oil Pollution Act.

1.1.2 Site Description

The Fred Boling Oil Well Lease consists of twenty-three (23) abandoned oil wells sitting on an 81 acre tract of farm land along Bates Hollow Road near Weberstown, Hancock County, Kentucky. The farm owner has been complaining of crude oil discharging into several tributaries on her land and affecting drinking water for her livestock and farmland downstream. Recently, she has made several complaints to Kentucky Oil and Gas officials (KOG) as well as Kentucky Department Environmental Protection and other state officials. KOG's Greg Welsh referred the property owner to EPA Region 4 ERRB's Chuck Eger for follow up action under the Oil Pollution Act.

The 23 identified oil wells were drilled in the 1940s through 1960's and continuously produced crude oil until the late 1990's. Visual inspection by KOG's Welsh, the EPA OSC and USCG Strike Team members found numerous wells leaking at land surface and impacting tributaries to Sugarcamp Creek, a contributing stream to Panther Creek in Hancock County. Panther Creek is a tributary to the Green River, which is over three hundred miles in length in Kentucky. The Green River, which empties into the Ohio River, serves as an important transportation artery for the coal industry. The Ohio River flows westerly into the Mississippi River. The farm land upon which the Fred Boling Oil Well Lease occupies is rural and hilly, with numerous tributaries to the Sugarcamp Branch of Panther Creek.

II. Assessment Findings:

On Tuesday, November 5th, EPA OSC Perry Gaughan met KOG's Greg Welsh and two USCG Strike Team members to inspect the 81 acre farm. Several of the abandoned well locations were leaking crude oil to land surface and impacting adjacent creeks. (see supporting photographs) Approximately one third of a mile west of the residence, a large twenty-five foot long sludge pit downgradient of a tank battery was filled with crude oil and sludge to a depth exceeding four feet. EPA estimates that it could be holding as much as 14,000 gallons of crude oil and it is also impacting a neighboring stream.

III. Access and Owner Concerns:

The OSC had a lengthy conversation with the property owner on signing an access agreement to perform the well plugging operations. Her initial concern was that she was reluctant to grant access to EPA subcontractors because she didn't want her farmland "torn up with random access roads to well locations". She simply wanted the contractors to treat the land as "if it were their own backyard". The OSC and Kentucky Oil and Gas' Greg Welsh stated that only previously used access roads would be used and graded as necessary and that all land would be brought back to its original state to the best of our ability.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Fred Boiling Oil Well # 4N Tuesday, July 8 2014

This well consisted of 5.5" casing, hydraulic rods, pump jack and 2" production tubing. Initially, ERRs and oil well service contractors (Barnett and Smith) opened the well and extracted 335' of corroded production tubing. 365' of 2" wash tubing was inserted and wash down of the well interior was performed throughout the day in preparation for geophysical logging and cementing.

On Wednesday, July 9th, Southern Well Services, Henderson, Kentucky logged the well for placement of a cast iron bridge plug and determination of water bearing sands/zone. The depth of the well was determined to be 344' and a cast iron bridge plug was set at 308' on a tubing collar. The cement bond log showed good cement on the backside of the casing so no casing perforations were performed. The tool used to set the cast iron bridge plug was hung presumably on corroded casing, so Sothern Well extracted the remainder of their equipment and left the site to allow the oil service subcontractor to extract the tool prior to cementing.

On Thursday, July 10th, Barnett and Smith came back to the well with 2" tubing with a fishing tool. Attempts to fish the tool from the well were unsuccessful and an impression block was dropped to determine if a different fishing tool was needed. From the impression block, it appeared to Barnett and Smith that a different type of fishing tool was needed and WRS arranged for the tool to be fabricated by a local machine shop. The decision was made to temporarily abandon the well and move to the next well to continue plugging operations.

Fred Boiling Oil Well # 7N Thursday, July 10 2014

This well consisted of 6.25" casing, hydraulic rods, pump jack and 2" production tubing. Initially, ERRs and oil well service contractors (Barnett and Smith) opened the well and extracted 320' of corroded production tubing. 360' of 2" wash tubing was inserted and wash down of the well interior was performed throughout the day in preparation for geophysical logging and cementing.

On Friday, July 11th, Southern Well Services, Henderson, Kentucky logged the well for placement of a cast iron bridge plug and determination of water bearing sands/zone. The depth of the well was determined to be 365' and a cast iron bridge plug was set at 327' on a tubing collar. The cement bond log showed good cement on the backside of the casing so no casing perforations were performed. Cementing was performed later that afternoon and the well was filled with 64 sacks of grout to complete the well plugging.

Fred Boiling Oil Well # 4N Monday, July 14 2014

On Monday, July 14th, ERR's contractors and Barnett and Smith came back to the well with 2" tubing and a specialized tool to retrieve the plug setting tool. Numerous attempts were made to retrieve the tool but were unsuccessful. The crew felt like they were attaching to corroded casing and simply pulling up casing. The decision was made to abandon the fishing operation and a conference call was made to EPA's Chuck Eger and the OSC.

Since ERRs and Barnett and Smith had exhausted all options, EPA gave ERRs permission to simply cement the well as is and the cost of the tool would be absorbed by the project. Of note, this was the first time in several years that EPA/contractors had lost a plug setting tool down hole. Cementing was performed later that afternoon and the well was filled with 60 sacks of grout to complete the well plugging.

Fred Boiling Oil Well # W 1-B Tuesday, July 15 2014

This well consisted of 5.5" casing, 7.0" surface casing, and 2" production tubing. Initially, ERRs and oil well service contractors (Barnett and Smith) opened the well and extracted 365' of corroded production tubing. 390' of 2" wash tubing was inserted and wash down of the well interior was performed throughout the day in preparation for geophysical logging and cementing.

On Wednesday, July 16th, Southern Well Services, Henderson, Kentucky logged the well for placement of a cast iron bridge plug and determination of water bearing sands/zone. The depth of the well was determined to be 396' and a cast iron bridge plug was set at 297' on a tubing collar. The cement bond log showed poor cement behind the casing and the well was perforated at 180' to protect water producing sands/zone. Cementing was performed later that afternoon and the well was filled with 40 sacks of grout to complete the well plugging.

Fred Boiling Oil Well # 8N Wednesday, July 16 2014

This well consisted of 5.5" casing, 7.0" surface casing, and 2" production tubing. Initially, ERRs and oil well service contractors (Barnett and Smith) opened the well and extracted 310' of corroded production tubing. 320' of 2" wash tubing was inserted and wash down of the well interior was performed throughout the day in preparation for geophysical logging and cementing.

On Thursday, July 17th, Southern Well Services, Henderson, Kentucky logged the well for placement of a cast iron bridge plug and determination of water bearing sands/zone. The depth of the well was determined to be 326' and a cast iron bridge plug was not placed because the casing was determined to be highly

corroded. The cement bond log showed poor cement behind the casing and the well was perforated at 165' and 60' to protect water producing sands/zone. Cementing was performed later that afternoon and the well was filled with 65 sacks of grout to complete the well plugging.

2.1.2 Response Actions to Date

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

No information available at this time.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.