U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Beaver Creek Bridge Crude Oil Spill - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #11**
Replugging Efforts of the Abandoned Oil Well Continues
Beaver Creek Bridge Crude Oil Spill

Glasgow, KY
Latitude: 36.9914130 Longitude: -85.9861300

To:
From: Perry Gaughan, OSC
Date: 2/5/2015
Reporting Period: 1/22/2015 to 2/06/2015

1. Introduction

1.1 Background

Site Number:	Z4ZB	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	9/19/2014	**Start Date:**	9/19/2014
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:	E14459	**Reimbursable Account #:**	

1.1.1 Incident Category

Region 4 Emergency Response and Removal Branch (ERRB) responded to a continuous release of crude oil along a one half mile section of Beaver Creek three miles west of Glasgow, Kentucky. Response efforts were initially requested by Kentucky Dept Environmental Protection (KDEP) and are being performed under the OSC's Oil Pollution Act authority.

1.1.2 Site Description

The spill Site is along the flood plain of a 50 acre farm three miles west of Glasgow. Crude oil continues to emanate from a creek bank into a 100 yard section of Beaver Creek in a remote section of the creek. Approximately a one half mile stretch of the creek has been impacted. The spill is located immediately south of a recent interchange construction by Kentucky DOT along the Louie B. Nunn Expressway between Interstate 65 and Glasgow, Ky.

1.1.2.1 Location

The spill is located along Beaver Creek on a 50 acre farm along State Route 1297 where it runs under the Louie B. Nunn Expressway.

1.1.2.2 Description of Threat

The crude oil release is emanating from the Harrison No. 2 abandoned oil well 80 feet from Beaver Creek. There are two additional abandoned oil wells on the flood plain but test trenching operations conducted in December of 2014 confirmed the source as the Harrison No. 2 well. According to Kentucky Oil and Gas, this well was most likely improperly plugged in the mid 1980's.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA working with Kentucky DEP and the property owner has located three former well locations along the Harrison flood plain adjoining Beaver Creek east of Glasgow. Kentucky DOT has recently built an interchange on the L. Nunn Expressway on an 8 acre parcel of the farm upgradient of the creek.

The Harrison No. 2 well was initially uncovered and cemented on October 3rd by EPA and ERRs contractors (reference Polrep #3). However, test trenching operations near the well in December 2014 indicated that oil was continuing to flow from the well. Based on the latest well operations during Feb 2015, the cast iron bridge plug placed on Oct 1st 2014 was most likely set on bad, corroded casing which resulted in the plugging failure.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Based on the continuing release of crude oil to Beaver Creek, the OSC requested and received additional funding from the National Pollution Fund Center (NPFC) in mid January 2015 (see Polrep #10 OPA 90 Funding Request). Emphasis during the most current replugging operation were centered around the removal of 2" production tubing and metal debris from 200-600 feet. The oil producing zone has been reported to be the Leeper formation at a depth of 600 feet.

Jan 22nd through Feb 6th 2015

Since additional funding from NPFC in mid Jan 2015, milling operations to remove the 2" production tubing continued. Downhole operations in January were hampered by what appeared to be a collapse in the 7" surface casing at approximately 30 feet. Several attempts to place 5 1/2" casing inside the 7" were unsuccessful and eventually a casing shoe was designed to get past the shallow obstruction (see site photos). Since the placement of 200 feet of 5 1/2 casing downhole operations have been more successful. Milling efforts initially were being performed with water but in late January, the OSC consulted with the oil well subcontractor and decided to switch to milling with drilling mud. Since this change in operations, better milling efficiency has been achieved where as much as 42 feet of tubing and metal debris has been cleared in one day.

On Feb 5th, the rig operator noted an apparent collapse in the well at 282' but was successful in milling through the collapse zone which was most likely limestone. By Friday, Feb 6th well operations had reached 335'. On Feb 6th, the well subcontractor and OSC consulted with EPA Region 4 technical advisor Chuck Eger to discuss milling progress. Eger suggested trying different types of mill bits to determine the most efficient ones to use in future ops but felt that 40 feet of milling progress per day was good progress.

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

The OSC is working with Kentucky Oil and Gas in identifying previous drillers in the area. Once identified, EPA will pursue normal responsible party liability and request plugging records by operators. Wells in this area of Kentucky date back to 1930's to 1940's. Wells in an area of Boyds Creek less than ten miles from this site date back to 1865 (Civil War).

2.1.4 Progress Metrics

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

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

Continue removal/ milling through the 2" production tubing from 200 to 600 feet and place a new cast iron bridge plug at the oil producing zone. The well will be cemented from 600 feet to land surface.

2.2.1.2 Next Steps

2.2.2 Issues

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

3.1 Unified Command

3.2 Cooperating Agencies

Kentucky DEP, Kentucky Oil and Gas, Kentucky DOT

4. Personnel On Site

ERRs (CMC Inc.) - 1 response manager, 1 equipment operator, 3 laborers.
Barnett and Smith (Oil well service subcontractor) - 1 rig operator/ supervisor, 2 oil rig laborers.

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.