U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Chaparral Energy Alva Spill - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VI

Subject: **POLREP #3**
Final POLREP
Chaparral Energy Alva Spill
FPN= E13614
Alva, OK
Latitude: 36.9132200 Longitude: -98.9232000

To:
From: Mike McAteer, OSC
Date: 7/29/2013
Reporting Period:

1. Introduction

1.1 Background

Site Number:	V6P7	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Emergency
Response Lead:	PRP	**Incident Category:**	
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	4/21/2013	**Start Date:**	4/21/2013
Demob Date:		**Completion Date:**	6/5/2013
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:	E13614	**Reimbursable Account #:**	

1.1.1 Incident Category

Emergency Response under OPA Authority. RP-lead.

1.1.2 Site Description

At approximately 1500 hours on Saturday April 20, 2013, Chaparral Energy employees discovered that oil from a storage tank battery had escaped the secondary containment around the battery and released into a nearby creek. The cause of the release appears to be due to the fact a generator failed causing the salt water tanks to overfill which then pushed the salt water into the oil tanks causing them to overfill and release out the top of the oil tanks. Oil then seeped under the north wall of the containment wall and flowed downhill approximately 200 feet into Greenleaf Creek, a tributary to the Salt Fork of the Arkansas River. Chaparral estimates about 309 bbls of oil released from the tank battery.

OSC McAteer and START were mobilized to the site on Sunday April 21.

1.1.2.1 Location

Site is located approximately 20 miles northwest of the city of Alva, Woods County, Oklahoma. It is a sparsely populated rural area of northwestern Oklahoma. Cattle ranching is the predominant land use in the immediately area.

1.1.2.2 Description of Threat

Approximately 300 barrels of crude oil discharged from this Chaparral tank battery out into Greenleaf Creek. The oil spread approximately 2,000 feet downstream in the creek before it was dammed off. The creek normally contains water except in drought periods and it may be a gaining stream fed by groundwater. The creek is occasionally used as a source of drinking water by livestock (cattle).

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Tuesday April 23, and Wednesday April 24: Chaparral Energy and their contractors continued to remove free product gathered in pooled water in Greenleaf Creek. The creek was pumped dry by the RP during the initial phases of the response on Sunday April 21 which left contaminated sediments at the bottom of the creek bed. The RP's contractor also built an underflow dam upstream of the impact area to keep back any flow in the creek until the sediments have been excavated.

At the end of the operational period on Wednesday, approximately 7 discrete pools of oil on water remained in the creek. Also, about 70% of the sediments in the creek have been removed and staged onsite. Oiled debris continues to be removed from the creek and also staged onsite.

To date, approximately 1690 bbls have been removed from the impacted creek and of this, the RP estimates that 287 bbls of this is pure crude product.

2.1.2 Response Actions to Date

On **Sunday April 21**, Chaparral employees and their contractors initially responded by using vac trucks to remove crude oil on the surface of the creek water. Due to a lack of resources, very few absorbent booms or pads were used in the initial response phase (Saturday April 21). After several hours of running vac lines into the creek, the creek dried out and the oil in the creek was then deposited on the creek bed sediments. EPA advised Chaparral to increase manpower and oil removal equipment in order to remove the oil not removed by the vac trucks. Chaparral then hired an oil response contractor. who mobilzed to the site late on Saturday April 21. Absorbent boom and pads were then applied to the creek and two overflow dams were erected (upstream end and downstream end of spill pathway) overnight. Contractors also began to remove contaminated soil from the spill area around and downgradient of the tank battery and containment wall. The soil is being staged on thick visqueen upgradient of the tank battery.

On **Monday April 22,** Chaparral contractors continued to use boom and absorbent pads to remove pools of free product in the creek. Oiled debris (leaves, sticks, tree limbs) lying in the creek were also being removed. Following an onsite meeting with a representative of the Oklahoma Corporation Commission (OCC), it was decided that it would be best to excavate contaminated sediments in the creek bed instead of trying to wash the sediments to remove the oil. The contaminated sediments will be staged alongside the contaminated soil excavated from around the tank battery. This soil and sediment will later be bioremediated under the supervision of the OCC. A severe thunderstorm moved over the site area at about 1900 hours and work in the creek area was then suspended for the night.

April 23 to April 26. Chaparral contractors continued to removel free product from pooled areas in the creek, as well as oiled debris lying in the creek. Boom and pads were deployed as necessary. Excavation of oiled sediments in the creek bed was conducted over a three day period. All visible oiled sediments were hauled by end dumps directly to the staging area west of the tank battery area. By April 25, no visibly contaminated sediments were left in the creek and no free product was noted either. With EPA approval and oversight, Chaparral opened the upstream dam and re-introduced water to the impacted area of the creek. The underflow dam downstream was kept in place and boom was deployed at various locations along the creek. Chaparral also added water to the impacted area of Greenleaf creek from onsite frac tanks. Small areas of sheen were noted in the creek after re-introduction of the water. EPA inspected the creek again on April 26 and noted very little visible sheen in the creek. EPA demobilized from the site on April 26 and asked that the downstream underflow dam and boom be kept in the creek while Chaparral worked on creek bank repair and re-vegetation over the next couple of months.

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

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

The EPA OSC conducted a final inspection of the spill area on June 5, 2013. No visible sheen or any oil was seen anywhere in the impacted area of Greenleaf Creek. The underflow dam at the downstream end of the impact area was still in place and hard and soft boom were still in place downstream of the underflow dam. EPA noted small fish (minnow sized) as well as at least 4 turtles in the creek. Bermuda grass had already begun to spread over the upland areas near the creek that were disturbed during the cleanup action. Chaparral had also constructed an earthen wall along the creek side of the tank battery containment wall as an extra precaution against any possible future spill.

EPA contacted the USGS Tulsa office to seek assistance with re-vegetation of the creek banks. USGS worked directly with the Alva office of the Natural Resources Conservation Service (NRCS) to create a re-vegetation plan for the impacted area on Greenleaf creek. The property owner along with Chaparral will work over the summer and into next spring with replanting native grasses and trees that will help re-stabilize the creek banks.

OCC will continue to work with Chaparral on management of the contaminated soils and debris staged west of the tank battery. Chaparral had planned to add bio enhancement to this landfarmed soils to increase microbial breakdown of the oil.

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

- Chaparral Energy Inc.
  - Enviro Clean, Inc.
  - Black Sheep, Inc.
  - American Scientifc

- U.S. EPA
  - Weston Solutions, Inc (START Contractor)

- Oklahoma Corporation Commission (OCC)

- Natural Resources Conservation Service (USDA)

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.