

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Apache Powder Superfund Site - Removal Polrep  
Initial and Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IX

**Subject:** POLREP #1  
Initial and Final  
Apache Powder Superfund Site  
C6  
St. David, AZ  
Latitude: 31.8984330 Longitude: -110.2468398

**To:** Harry Allen, EPA Region 9  
Andria Benner, EPA Region 9 Superfund

**From:** Richard Martyn, On-Scene Coordinator

**Date:** 12/8/2014

**Reporting Period:** 10/28/2014 - 10/29/2014

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	C6	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	PRP Oversight
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/28/2014	<b>Start Date:</b>	10/28/2014
<b>Demob Date:</b>	10/29/2014	<b>Completion Date:</b>	10/29/2014
<b>CERCLIS ID:</b>	AZD008399263	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

PRP - lead Time Critical Removal Action (TCRA)

#### 1.1.2 Site Description

The "Removal Site" is located on the Apache Nitrogen Products, Inc. (ANPI) facility, which is also a National Priority List (NPL) Superfund site under CERCLA, known as the Apache Powder Superfund Site (Site). According to plant records, acquisition of property presently comprising the Apache Nitrogen products, Inc. (ANPI) facility began in 1919. The Apache Powder Company officially began operation of its manufacturing processes in 1922. The primary products manufactured at the start-up were mixed nitric and sulfuric acids used for the production of nitroglycerin (NG). In 1968, the Apache Powder Company began manufacturing detonation cord containing pentaerythritol tetranitrate (PETN) at the Cord plant. Manufacturing of detonation cord ceased in April 1994. In the mid-1950s, ANPI broadened its product line to include ammonium nitrate, nitrogen-based fertilizers, blasting agents, and nitric acid. Today, ANPI manufactures various forms of ammonium nitrate fertilizers, prill, liquid ammonia nitrate, aqua ammonia, nitric acid, and the agriculture product AN20.

Historically, the Apache Powder Company's Curtiss Plant was the site of continuous industrial use related to the production of NG explosives from 1922 to 1981. It was the first explosives plant to be established in Arizona and was closely tied in terms of ownership and customer base to the copper mining industry in Arizona, New Mexico, and Sonora. Historical periods of construction occurred during the initial building phase in 1920-1922 and subsequent construction episodes between 1951 and 1954 in which additional NG production facilities were added.

##### 1.1.2.1 Location

The Site is located in Cochise County, Arizona, approximately seven miles southeast of the incorporated town of Benson and 2.5 miles southwest of the unincorporated town of St. David. The Site covers approximately nine square miles and includes 1,200 acres of land owned by ANPI, formerly known as the Apache Powder Company. The Site is located in a portion of Section 12, Township 18 South, Range 20 East, and portions of Section 6, 7, and 8 in Township 18 South, Range 21.

The San Pedro river bounds the eastern side of the Site, running from the southeast corner of the property north towards the northwest corner. The San Pedro River is a significant riparian corridor. The San Pedro River National Riparian Conservation Area, owned by the Bureau of Land Management, is located approximately two miles south of the Site along the San Pedro River. The upland areas of the Site can be described as "badland" terrain. The primary undeveloped landscape consists of high desert chaparral mesquite bosques (woodlands) and riparian cottonwood stands that line the property drainages including the San Pedro River.

#### 1.1.2.2 Description of Threat

The "Removal Site" is located at Building #51 along the historic powder line within the Apache Powder Superfund Site. The Removal Site poses a threat to human health and the environment because of the presence of explosive materials, NG waste materials in Building #51 and detonation cord containing PETN in Building #232. These buildings are located along the historic Powder Line at the Site. A controlled burn is planned to destroy both explosive material at one time in Building #51. This is a PRP-lead Site.

The proposed removal of these explosives materials would be taken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C., Section 9604(a)(1) as amended.

#### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On February 14, 2014, EPA received written notification from ANPI that in conjunction with ANPI's on-going survey and demolition activities, ANPI personnel and/or contractors initially discovered and subsequently identified two potentially explosive residual waste materials at the Site. Specifically, in August 2013, ANPI discovered two hods (i.e., wooden carts) in Building #51 along the historic Powder Line that potentially contain residual NG mixed with peach pits and floor sweepings. In September 2013, ANPI discovered approximately 50 linear feet of 85-Grain PETN detonation cord in Building #232, also located along the historic Powder Line. These potentially explosive materials were discovered as part of ANPI's effort to complete the surveying and inventorying of the structures and buildings along the former Powder Line.

## 2. Current Activities

### 2.1 Operations Section

#### • 2.1.1 Narrative

The activities conducted for this TCRA are described in detail in ANPI's Time Critical Removal Action Workplan, Building #51 Demolition, Revision 1.0, dated September 10, 2014, prepared by Hargis + Associates, on behalf of ANPI. The Plan describes the preparations, plans and procedures that were used in implementing the TCRA. The standard operating procedures (SOPs) are separated into activities to be performed during the pre-burn, controlled-burn and post-burn, controlled-reburn (if necessary), and ash waste characterization phases of the Removal Action.

The key elements of the TCRA Workplan applicable to this event are the following:

#### Pre-Burn Procedures

- Building #51 Preparation

#### Controlled Burn Procedures

- Detonation Cord Preparation
- Hod Preparation
- Air and Seismic Monitoring
- Video Monitoring
- Road Closure
- Emergency Services Standby
- Site Sweep
- Initiate Burn
- Active Fire Watch
- Passive Fire Watch

#### Post Burn Inspection

- Inspect for residual explosives the day after controlled burn

#### Ash Waste Characterization

- Sample ash for residual contaminants after safe to enter

#### Confirmation Soil Sampling

- Sample soil for residual contamination after ash removal

ANPI hired the following contractors to provide technical expertise and support on the execution of this TCRA:

- Southwest Energy, LLC (SWE) to conduct site preparation, monitoring and controlled burn activities.
- Stantec (formerly JBR Environmental) to conduct air modeling and design the appropriate air

monitoring program. Stantec was also responsible for developing background documentation need for the Open Burn Permit issued by ADEQ.

- Hargis + Associates to prepare the TCRA Workplan, conduct post-burn sampling and to coordinate with EPA to ensure that all applicable Superfund (CERCLA) requirements are met.
- Spray Systems Environmental (SSE) to conduct asbestos and lead abatement activities at Building #51 prior to the controlled-burn.

ANPI also coordinated extensively and relied upon the technical expertise of the following organizations and agencies:

- Local Emergency Planning Committee (LEPC)
- Local Fire Departments from Benson and St. David, Arizona
- Tucson Police Department, Bomb Squad (TPD)

### **2.1.2 Response Actions to Date**

March-August 2014 – Pre-Planning and Preparation

ANPI conducted preparation and planning activities as outlined below:

- Coordinated with local authorities, including the LEPC on radio and telephone compatibility, emergency response coverage and on-site supervision, burn plans, radios, personnel protective equipment (PPE), escape routes, safety zones and ambulance and fire engine support.
- Coordinated with Federal Aviation Administration and U.S. Border Patrol regarding time and date of planned controlled-burn.
- On 8/13/14, ANPI submitted an application for an Open Burn Permit from Arizona Department of Environmental Quality (ADEQ). ADEQ issued Permit #5861 authorizing ANPI to conduct the controlled burn by October 31, 2014. In support of obtaining the permit, ANPI prepared the following supporting information:
  - o Meteorological Monitoring Plan
  - o Community Exposure Monitoring Plan
  - o Plant Site Area Monitoring Plan
- Developed additional plans to support the TCRA, including:
  - o Seismic Monitoring Plan
  - o Video Monitoring Plan
  - o Contingency plan
- Reviewed ANPI's Health and Safety Plan (HASP) to ensure personnel involved with the TCRA were fully prepared.
- On 9/10/14, submitted a TCRA Removal Action Workplan for Building #51 to EPA and ADEQ.

#### **August-October 2014 – Community Notification Activities**

- Early August 2014, EPA sent an EPA Fact Sheet notifying the public about the planned Removal Action and 8/20/14 health and safety briefing for the immediate neighbors.
- On 8/12/14, ANPI sent a letter to nearby residences notifying them of the controlled burn planned for 9/18/14 and inviting them to the 8/20/14 meeting.
- On 8/20/14, held a community meeting at the St. David High School to inform nearby residents of the planned controlled-burn event. The meeting was attended by representatives from the Benson and St. David Fire Departments, the LEPC, the Tucson Bomb Squad, EPA, ADEQ and various contractors representing ANPI responsible for specific activities, as well as a few neighbors.
- On 9/10/14, ANPI placed a notice in the local newspaper, the San Pedro Valley News, announcing the controlled-burn scheduled for 9/18/14. ANPI sent a similar reminder post-card at the same time to the immediate neighbors about the Removal Action and pending Apache Powder Road closure.
- On 9/16/14, the planned controlled burn was postponed because of a major storm event moving through Arizona that week and the LEPC and other emergency responders being pulled to work on emergency stand-by.
- On 10/13/14, ANPI sent out follow-up postcards to the immediate neighbors reminding them that the controlled burn had been rescheduled for 10/28/14 and the road closure. A similar updated notice was placed in the San Pedro Valley News on 10/22/14.

#### **October 13-24, 2014 – Pre-Burn Procedures (1-2 weeks prior to controlled-burn)**

- ANPI and its contractor, Spray Systems Environmental (SSE) installed a steel column support beneath the floor where the hods were located to ensure the hods would fully burn before the floor collapsed during the controlled-burn.
- ANPI and SSE constructed a wooden cover over the hods to prevent materials from falling into the hods during the abatement of the lead and asbestos.
- ANPI and SSE then removed the asbestos, lead, and the roof planking and trusses from Building #51.
- ANPI grubbed the vegetation within 200' of the perimeter of Building #51 to limit any material that may ignite during the controlled-burn.

October 27-30, 2014 – Controlled Burn Activities

*Monday, October 27, 2014*

- *12:00 midnight – ANPI personnel set up on-Site road blocks with caution tape and a security watch to ensure no trespassers entered the Site.*

*Tuesday, October 28, 2014*

- Approximately 6:00 am – All field personnel responsible for controlled burn arrive at ANPI facility.
- Approximately 6:00-7:30 am – SWE/TPD personnel transported 50' of detonation cord from Building #232 to Building #51 in advance of the start of the controlled-burn.
- Approximately 6:00 am – Benson and St. David Fire Departments set up 3 fire department trucks and one ambulance at several stand-by locations across the site. The trucks and ambulance remained in place until the end of the active fire watch.
- Approximately 6:30-7:30 am – SWE and TPD personnel prepared Building #51 for fire ignition. Materials used to initiate ignition included diesel fuel, aspen pads, black powder bags, safety fuse, etc.
- Starting at 6:30 am – ANPI and Stantec personnel set-up of three air monitoring and two seismic monitoring stations. Air samples were collected from 45 to 15 minutes prior to start of open burn event and for 15 to 45 minutes after start of controlled-burn.
- 7:00 am – All observation/oversight personnel arrive at ANPI facility.
- 7:30 am – ANPI conducted a final security sweep of the Site to ensure that only authorized personnel were within the 2,515' safety-distance of Building #51.
- 7:45 am – ANPI began video monitoring of Building #51. ANPI and SWE personnel activated and operated the video equipment from the prill tower. Video operated until end of active and passive fire watch (operated until 8:00 am October 29, 2014).
- 8:00 am – Cochise County Sheriff's Department set up road blocks on Apache Powder Road which were in effect until the active fire watch was determined to be over at approximately 10:00 am. An electronic billboard was installed on Apache Powder Road a week prior to notify nearby residents of pending road closure for the controlled-burn.
- 8:00 am – SWE and TPD lit safety fuse lit (7 minute delay) to begin controlled burn
- 8:07 am – Ignition had occurred, followed initially by grey and then black smoke (from the ignition fluids), then followed by flames visible at roof-line level of Building #51. Black smoke began moving off-site towards the north-west.
- 8:30-8:45 am - Fire at Building #51 was well-underway and burned quite hot and clean. Black smoke had dissipated.
- 9:00-9:15 am – Fire consumed inner part of Building #51 within earthen berms and began to burn outer support timbers. Smoke became grey-white in color and moved upwards from the structure, and was no longer as visible off-site.
- 9:30-9:45 am – Fire began to die back, with continual smoking (grey-white color) and lower level flames observed around the exterior support timbers.
- 10:00 am – Controlled-burn event had subsided with only residual smoke evident. Active determined to be over. Decisions were made as to when Fire Department and Bomb Squad personnel would reconvene on Wednesday, October 29, 2014 to determine if the passive fire watch was over. Benson Fire Department Chief recommended that ANPI continue to let fire burn passively to consume as much of the building as possible and to not use water or any other suppressant to put out any residual flames or smoke.
- 10:30 am – Apache Powder Road was re-opened to traffic and electronic billboard was no longer activated.
- 11:30 am – EPA, ADEQ, and LEPC personnel who observed controlled-burn from ANPI's control room via video began to leave facility.
- 12:00 noon continuing throughout the following night – ANPI personnel continued passive fire-watch as the remaining exterior timbers outside the earthen-berms slowly burnt down. The entire interior structure had been consumed by fire by 8:00 am the following morning, October 29, 2014.

*Wednesday, October 29, 2014*

- 8:00 am – ANPI and the Tucson Bomb Squad, and Fire Chiefs from Benson and St. David Fire Departments reconvened and determined that the burn area was safe for re-entry and the controlled-burn event had been successfully completed. This determination ended the passive fire watch. Overnight, the fire had continued to burn hot and consistently for 24 hours and it had consumed the entire structure of Building #51, and a portion of the outside support timbers. A small portion of exterior timbers remained unburned. No water needed to be put on the ash. The fire burned itself out.

*Thursday, October 30, 2014*

- 4:00 pm – Hargis + Associates (ANPI contractors) collected one grab sample from the residual ash at the approximate location of the hod containing the NG waste materials. Soil sampling will be conducted in mid-November, in accordance with the procedures outlined in the ANPI TCRA Workplan, once the ash sample analytical results are returned from the laboratory and the ash has been removed. Soil sampling results will be provided in the TCRA completion report.

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

On March 4, 2014, EPA sent a letter to ANPI, the PRPs, requesting ANPI prepare a Removal Work Plan for the removal of explosives materials. EPA made this request after ANPI notified EPA on February 14, 2014, about the discovery of explosives materials in Buildings #51 and Building #221 located along the historic powder line at the Site. The requirement to conduct removal actions is a provision (XV, Emergency Response) of the Consent Decree, which was signed by ANPI and EPA on July 16, 2009.

### **2.1.4 Progress Metrics**

No specific post-burn soils or ash sampling data is available yet. Quantities of waste ash and/or

waste building materials that were not fully burned are also not available. ANPI will submit the *Final TCRA Completion Report* with this information to EPA and ADEQ for review by February 16, 2015.

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

## **2.2 Planning Section**

### **2.2.1 Anticipated Activities**

#### **2.2.1.1 Planned Response Activities**

#### **2.2.1.2 Next Steps**

EPA will complete the Administrative Record for the TCRA by December 15, 2014. EPA is awaiting the final contractor report from ANPI on the post-burn sampling results.

#### **2.2.2 Issues**

No outstanding issues identified.

## **2.3 Logistics Section**

No information available at this time.

## **2.4 Finance Section**

### **2.4.1 Narrative**

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**

Personnel from ANPI, the Benson and St. David Fire Departments, the Tucson Bomb Squad and Southwest Energy (ANPI's field contractors) were on-site on beginning at 6:00 am for the controlled burn on the morning of Tuesday, October 28, and again on Wednesday morning, October 29, 2014 to conduct the post-burn inspection. EPA, ADEQ, LEPC and ANPI personnel and contractors were on-site beginning at 7:00 am through 11-12 am on Tuesday, October 28, 2014 to observe the event from ANPI's control room via remote video.

## **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**

The primary document for planning and managing the TCRA field activities was the ANPI Time-Critical Removal Action Workplan, Building #51 Demolition, Revision 1.0, dated September 10, 2014, prepared by Hargis + Associates, on behalf of ANPI. Additional communication documents were prepared by ANPI to re-notify the immediate neighbors of the postponement of the controlled-burn from the original date of September 18, 2014 to October 28, 2014, due to an unexpected storm event in Arizona during September. EPA is preparing an Administrative Record containing relevant documents for the TCRA which will be available after December 19, 2014.