U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Kiskimere Groundwater Investigation - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: **POLREP #2**
Kiskimere Groundwater Investigation

Parks Township, PA
Latitude: 40.6210540 Longitude: -79.5794678

To:
From: Richard Rupert, OSC
Date: 1/19/2015
Reporting Period: 09/24/14 to 01/19/14

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	
Response Lead:	EPA	**Incident Category:**	Removal Assessment
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:		**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

1.1.2 Site Description

EPA is conducting a removal site evaluation to assess environmental concerns that could be attributed to an off-site release in areas surrounding the Shallow Land Disposal Area (SLDA) and Parks Township (Parks) active remediation sites. The Site includes the Community of Kiskimere which is located on the southern border of the SLDA and neighboring properties in an area of concern (AOC) surrounding the SLDA and Parks Sites. Residents in Kiskimere and surrounding areas consume water sourced from either privately owned wells or municipal systems. The 44-acre SLDA is a former nuclear burial site having 10 disposal trenches that is undergoing cleanup by USACE. The Parks Township site is undergoing remediation due in part to groundwater and soil contamination from the operation of a nuclear fuel facility. Open (non-collapsed) abandoned room-and-pillar coal mines in the Upper Freeport seam underlie a significant portion of the Site area including Kiskimere, the SLDA and Parks Sites, and most of the uplands areas above the Kiskiminetas River flood plain. The coal seam apparently outcropped at lower elevations on site where it was historically strip mined.

1.1.2.1 Location

The address for the Kiskimere Groundwater Well Investigation Site (Site) is the intersection of Kiskimere and Eisenhower Streets in Parks Township which is located in Armstrong County approximately 23 miles east-northeast of Pittsburgh, PA. The Site includes the Community of Kiskimere and neighboring properties in an area of concern (AOC) surrounding the SLDA and Parks Sites. The SLDA and Parks Sites adjoin along a common border that somewhat traces along a small tributary located between the Sites; Dry Run.

The Community of Kiskimere is located between the Kiskiminetas River and the southwest border of the SLDA site. Commercial property is located north of the remediation sites, and rural woodland and farmland border the SLDA to the south and east. Local ground surface elevation ranges from approximately 770 feet at the Kiskiminetas River to approximately 950 feet east of Kiskimere. The Kiskiminetas River is located approximately 900 feet west of Kiskimere where it flows northwestward in a meandering course until it joins the Allegheny River approximately eight miles downstream. The Kiskiminetas River receives Site runoff from two tributaries near the Site. Dry Run is a small intermittent stream that collects surface water and seeps in the upper trench area of the SLDA. It flows along the northern border of the SLDA and reportedly loses some water to the mine through the strip mine tailings near the lower trench area (Trench 10) before emptying into the river. Carnahan Run is a larger, perennially flowing stream on the southern border of the study area.

Open (non-collapsed) abandoned room-and-pillar coal mines in the Upper Freeport seam underlie the majority of the Site. The top of the Upper Freeport coal is approximately 840 feet elevation above mean sea level (amsl). The seam is oriented with a slight southward dip beneath the Site and has an underlying clay layer.

1.1.2.2 Description of Threat

Chemicals of potential concern (COPC) include volatile and semi-volatile organic compounds, metals and radionuclides originating from the nuclear manufacturing industry that may have migrated from nearby sources or disposal areas to off-site drinking water, groundwater, surface water and sediment matrices and that may present a threat to human health and/or the environment.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The United States Army Corps of Engineers (USACE) conducted an investigation of the radiological contamination at the SLDA site under the Formerly Utilized Sites Remedial Action Program (FUSRAP) consistent with guidance issued by the EPA. The results of these investigations are presented in the RI report (USACE 2005). To support preparation of the RI report, USACE conducted a number of field investigations from August 2003 through January 2004 to determine the nature and extent of radioactive contamination at the SLDA Site. Prior to this fieldwork, in-depth historical record searches and analyses were conducted, and detailed interviews performed with individuals familiar with disposal operations at the SLDA. In conducting the RI, USACE collected samples from surface and subsurface soils, trench waste, the five water-bearing geologic units, sediment, surface water, and groundwater seeps. This sampling program indicated that surface water and sediment in Carnahan Run were uncontaminated, while low levels of radioactive contamination were present at on-site locations in Dry Run and groundwater seeps in the upper trench area. Groundwater at the SLDA Site, outside of perched areas within the trenches, did not appear to be contaminated, other than some localized areas in the upper trench area in the upper shallow bedrock water-bearing zone down gradient of disposal trenches 1 and 2. Some low levels of contamination were identified at this location, which may have been associated with the radioactive wastes in these two trenches. In summary, the contaminated media identified at the SLDA Site were the trench wastes, surface and subsurface soils, and sediment in Dry Run.

Residents from both the Community of Kiskimere and its adjacent neighboring towns (Vandergrift and Leechburg), have contacted EPA and expressed concern that their well water may have been and may currently be contaminated by leachate from the disposed materials at the SLDA and Parks clean-up Sites. During late August 2011, EPA conducted a focused Site Investigation to determine if residents were being exposed to radiological and chemical contaminants related to the nearby sites. Samples were collected from residential wells, surface water and sediments and analyzed for gross alpha/beta, radium 226/228, gamma spec, metals, mercury, uranium, and volatile organic compounds (VOCs). The results indicated that the radionuclides, metals, and organic contaminants in the private wells and environmental samples were within a normal range of background concentrations found in the Parks Township area. Although sample results did not show levels of contamination that would cause a health concern, EPA determined that additional information was needed to further characterize the groundwater.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Removal assessment activities that have occurred since POLREP #1 are listed below.

2.1.2 Response Actions to Date

2.1.2.1 Under direction of the OSC, START conducted a review of various historical records including correspondence, inspections, investigations, photos, media reports, etc., compiled and provided to the OSC by Ms. P. Ameno, an informed local community activist. The files were reviewed in response to concerns from Ms. Ameno that improper radioactive waste disposal practices were used at the Site during its years of operation as a radioactive research facility and disposal facility. Review comments were provided to the OSC on 9/15/14.

2.1.2.2 February 2014 validated analytical results related to the second EPA Monitoring Wells sampling event were reviewed. Organics and inorganics results were conservatively compared against federal and state drinking water standards and EPA regional screening levels and are briefly discussed below.

> All Target Compound List (TCL) trace volatile organic compound (TVOC) concentrations were below Maximum Contaminant Levels (MCLs), Pennsylvania Medium Specific Concentrations for Residential-Use Aquifers with TDS < 2500 (MSCs), Regional Screening Levels for tap water (RSLs TR10-6, HQ=0.1) and Contract Required Quantitation Limits (CRQL).
>
> All TCL semi-volatile organic compounds (SVOC) including 1,4-dioxane were non-detected.
>
> The total and dissolved metals, mercury and uranium validation report indicated total lead was detected In EPA04 at 5.6 ug/L which slightly exceeded the MSC (5.0 ug/L). Lead was not detected in the filtered sample. Manganese was detected In EPA01 at 1,480 and 1,620 ug/L respectively for the total and filtered samples, and in EPA02 at 329 and 317 ug/L. Manganese concentrations exceeded the MSC (300 ug/L) in both the filtered and unfiltered samples at EPA01 and EPA02. Arsenic, barium, cobalt, and iron were also detected above the RSLs for tap water.

Alpha spec and gamma spec radionuclide results continue to be reviewed by EPA.

Laboratory data, including radionuclide results, were summarized and included with a summary letter report that was provided to the OSC on 12/23/14.

2.1.2.3 March 2014 validated analytical results related to the EPA/USACE split sampling event in the SLDA were received and reviewed. Organic and inorganic results are briefly discussed below.

Trace concentrations of TCL TVOCs (e.g. < 2 ug/L) were detected in four of the nine samples collected in the SLDA (a.k.a. three of the eight wells sampled). Low level or trace detections of 1,1-dichloroethane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, cis-1,2-dichloroethene, m,p-xylene, and trichloroethene were below MSC and MCL benchmarks. Trichloroethene (1.5 ug/L, 1.5 ug/L) was the only compound that exceeded the conservative RSL for tap water (0.28 ug/L) in the duplicate sample set collected at MW52.

Only low concentrations of diethylphthalate (2.1 J ug/L, 4.4 J ug/L) were detected in 10L31 and MW14; concentrations that are below benchmarks. No other SVOCs were detected in the samples.

There were no metals that exceeded MCLs. In five of the seven wells sampled for metals, one or more detections exceeded MSC concentrations including (highest concentration, MSC are shown): cobalt (20.6 ug/L, 11 ug/L), lead (8.8 ug/L, 5 ug/L), manganese (884 ug/L, 300 ug/L), and nickel (164 ug/L, 100 ug/L). Aluminum, barium, beryllium, iron, were also detected at concentrations that exceeded RSLs for tap water.

Radionuclides, including alpha and gamma spec results, continue to be reviewed by EPA.

Laboratory data are being summarized and will be included with a summary letter report to be provided to the OSC.

2.1.2.4 On 10/26/14, START mobilized to the site area to conduct a groundwater, drinking water and mine outfall sampling event. On 10/27/14, the OSC and SAO met START on site. Sampling activities continued through 10/28/14 and demobilization occurred on 10/29/14. In all, six samples were collected from four of the five EPA monitoring wells plus HW-15 (a non-functioning residential well). Ten (10) samples including one duplicate pair were collected from nine residential wells where access was granted to EPA by property owners. One duplicate set of surface water samples was collected from the mine outfall located above Carnahan Run (location 001). One trip blank, one rinsate blank, and two field blank samples were also collected during this sampling event. Sampling was conducted in accordance with the approved SAP.

Monitoring well EPA03D was not sampled due to having an insufficient storage and recharge rate. EPA04 was sampled; however, it too had an insufficient recharge rate and the pumping water level dropped 4.5 feet prior to stabilization (purge rate = 80-100 ml/min).

Drinking water samples from residential wells were collected from either indoor or outdoor faucets/spigots by START at locations agreed upon between the OSC and home owner. The surface water duplicate sample was collected directly from the mine outfall located above Carnahan Run.

The samples were packaged and sent to KAP Technologies, Inc. (organics), ChemTech Consulting (inorganics) and NAREL (rad). Laboratory space was procured by the EPA Region III Client Services Team (CST). Samples were analyzed for TCL TVOAs, SVOCs plus 1,4-Dioxane, TAL total and dissolved metals plus mercury and uranium, and radionuclide analyses including Alpha Spec AM-241, Pu-238/239/240/242, Th-230/232, U-234/235/238 and Gamma Spec (incl: Co-60, Cs-137, Th-234, Bi-212, Pb-212, Pb-214, K-40, Ra-226, Ra-228).

2.1.2.5 On 12/10/14 and 12/17/14, respectively, validated organic and inorganic laboratory results related to the 10/27/14 sampling event were received. START uploaded the data into SCRIBE and provided a draft summary of VOC and SVOC results for drinking water samples, including a sample location map, to the OSC on 12/16/14.

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

Awaiting receipt and review of the validated radionuclide data pertaining to the October 2014 sampling event.

Planning for additional groundwater, drinking water and air sampling is underway.

2.2.1.1 Planned Response Activities

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

No information available at this time.

4. Personnel On Site

10/27/14: EPA-2
START-5

10/28/14: EPA-2
START-5

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.