



Annual Groundwater Monitoring Fact Sheet

Luckey FUSRAP Site

U.S. Army Corps of Engineers
Buffalo District

Building Strong®

February 2012

Formerly Utilized Sites Remedial Action Program (FUSRAP)

FUSRAP was initiated in 1974 to identify, investigate, and cleanup or control sites throughout the United States that were part of the Nation's early atomic weapons and energy programs during the 1940s, 1950s, and 1960s.

When implementing FUSRAP, the Corps follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Site Description

The Luckey Site is located at 21200 Luckey Road near the Village of Luckey, Ohio, 22 miles southeast of Toledo. The site is bordered by Luckey Road to the west, Gilbert Road to the south, and abandoned railroad tracks to the east. The site is zoned industrial and is currently vacant. The site covers approximately 40 acres that contain open, grass covered areas and former manufacturing buildings. Several of the open areas were previously used to store byproducts from magnesium and beryllium processing.

Site History

In 1942 a magnesium processing facility was built at the site and was operated for the U.S. government by National Lead during World War II until 1945. In 1949, the Atomic Energy Commission (AEC) built a beryllium production facility at the site where Brush Beryllium Company (later Brush Wellman) produced beryllium oxide, beryllium hydroxide, and beryllium pebbles. In late 1951 and early 1952, the AEC sent approximately 1,000 tons of radioactively contaminated scrap metal to the site in anticipation of resuming magnesium processing at the facility. The scrap metal, which contained radioactivity within guidelines at the time, was stored at the site and never used for its intended purpose. Records also indicate that beryllium scrap from other AEC operations was sent to the Luckey Site for reprocessing. Some of this scrap metal may have been contaminated with radioactivity.

Brush Beryllium Company operated the facility until 1958 when beryllium production ceased. However, sintering and powder blending operations, established at the facility in 1957, continued until 1962.

In 1959, AEC contracted with Brush Beryllium Company to close the facility. Closing operations consisted of constructing a two-acre dike enclosed landfill on the northeast corner of the property. Sludge material from three on-site lagoons was moved to the landfill, which was reportedly capped, graded, and seeded. The General Services Administration sold the facility in 1961 and the site has had various owners since then.

Scope

Annual groundwater monitoring is currently being performed to obtain additional information and to establish a baseline of groundwater data prior to implementing the Groundwater Operable Unit Record of Decision (ROD), which is monitored natural attenuation (MNA) of groundwater. Twenty-one (21) groundwater wells, shown on figure 1 of the 2011 Annual Groundwater Monitoring Data located at <http://www.lrb.usace.army.mil/fusrap/luckey/>, are sampled annually (during the summer season) for beryllium, lead, isotopic uranium (U-234, U-235, U-238) and total uranium (presented as elemental mass and the sum of three isotopes). These wells represent 16 locations identified in the ROD, 4 additional locations (MW-05, MW-54, MW-55, and MW-56) that were selected to evaluate elevated uranium concentrations and the potential for contaminant migration, and the nearest downgradient residence (GW0002).

Hydrogeologic conditions and the nature and extent of groundwater contamination associated with the site were presented in the ROD. Groundwater occurs in three primary water-bearing zones; shallow, intermediate, and deep bedrock and is present under unconfined and semi-confined conditions. The horizontal flow of groundwater within these zones in the vicinity of the site is northerly and northwesterly. Constituents of concern (COCs) and associated U.S. Environmental Protection Agency's Maximum Contaminant Levels (MCLs) include beryllium (4 µg/L), lead (15 µg/L), sum of isotopic uranium (27 pCi/L), and total uranium (30 µg/L). A contiguous plume of COC-contaminated groundwater is not present.

More Information

For more information about the Luckey annual groundwater monitoring, please visit the Buffalo District Web page at: www.lrb.usace.army.mil/fusrap/luckey.



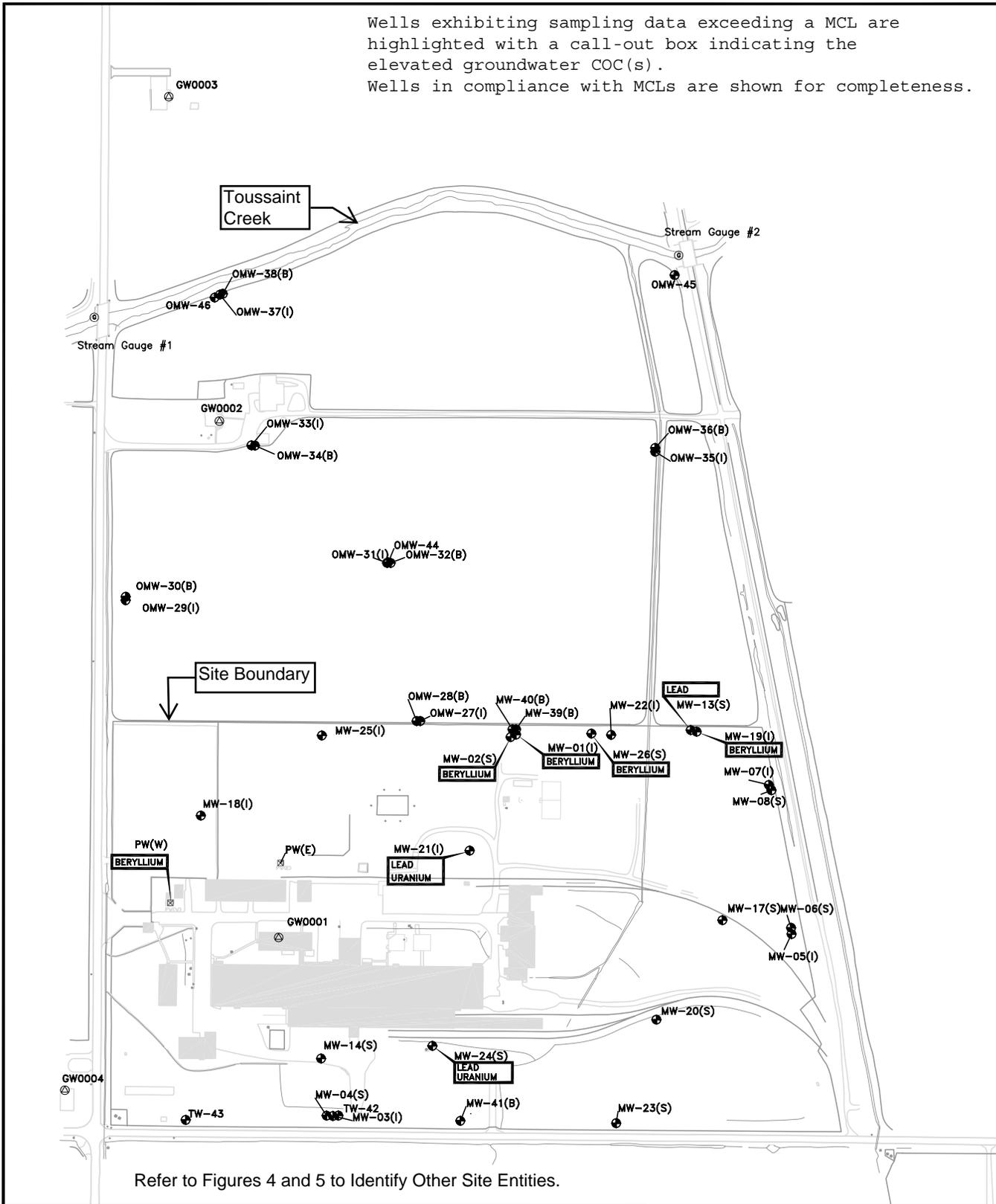
Table 1
Interim (Annual) Monitoring Program for Groundwater

Well ID	Rationale	Analytical Parameters ¹	Sample Frequency
GW0002	Residential drinking water system, applies until soils remedy is implemented	Beryllium ² , Lead ² , and Uranium (total elemental and isotopic)	Annually
MW-01(I)	Elevated beryllium concentrations	As above	As above
MW-02(S)	Elevated beryllium concentrations	As above	As above
MW-05(I)	Contaminant migration potential, applies until soils remedy is implemented	As above	As above
MW-19(I)	Contaminant migration potential	As above	As above
MW-21(I)	Elevated lead concentrations	As above	As above
MW-24R(S)	Elevated uranium concentrations	As above	As above
MW-25(I)	Contaminant migration potential	As above	As above
MW-26(S)	Elevated beryllium concentrations	As above	As above
MW-27(I)	Elevated beryllium concentrations	As above	As above
MW-31(I)	Off-site contaminant detection	As above	As above
MW-32(B)	Vertical migration within bedrock	As above	As above
MW-50(I)	Elevated uranium concentrations	As above	As above
MW-51(S)	Off-site contaminant detection	As above	As above
MW-52(I)	Off-site contaminant detection	As above	As above
MW-53(I)	Off-site contaminant detection	As above	As above
MW-54(S)	Contaminant migration potential	As above	As above
MW-55(I)	Contaminant migration potential	As above	As above
MW-56(I)	Elevated uranium concentrations	As above	As above
PW(E)	Site east production well	As above	As above
PW(W)	Site west production well	As above	As above

Notes: 1 Method Reference
 Beryllium, total & dissolved (USEPA SW846, 6010B)
 Lead, total & dissolved (USEPA SW846, 6010B)
 Uranium, total (ASTM D5174 [KPA])
 Uranium-234, -235, -238 (Alpha Spectroscopy)

2 Analyzed in filtered (45 micron) and unfiltered samples

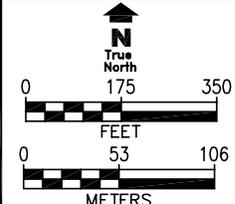
Wells exhibiting sampling data exceeding a MCL are highlighted with a call-out box indicating the elevated groundwater COC(s).
Wells in compliance with MCLs are shown for completeness.



Refer to Figures 4 and 5 to Identify Other Site Entities.

XREF Files: luckfeet DRIVES FENCE FIELDS IABOUNDS IAINFO ROADS RR-RAIL STRUCT TOPO TREES UTILSTRC WATER IMAGE Files: Army\logblik.bmp feet.tif feet.tif 2_foot.tif
 File: W:\CAD Gov\Luckey\tw041612\533-FS_rev4\Fig3-3 Fs_PhaseII\lgw rev1 cap.dwg Layout: Layout2 User: evansstev Jun 02, 2003 -- 11:00am

	BUILDING		RESIDENTIAL WELLS/TAP WATER
	LOW LYING AREAS		GROUNDWATER MONITORING WELLS
	FENCE LINE		STREAM GAUGE
	STREAMS & CREEKS		
	ABANDONED RAILROAD GRADE		
	WELL CONTAINS ELEVATED BERYLLIUM		
	WELL CONTAINS ELEVATED LEAD		
	WELL CONTAINS ELEVATED URANIUM		



U.S. Army Corps of Engineers
Buffalo District

USACE - Buffalo District
Luckey Site Groundwater ROD

Figure 10. Monitoring Well Locations