



## SITE HAZARD ASSESSMENT

### Worksheet 1: Summary Score Sheet

**SITE NAME:** Spokane Gun Club

**Rank:** 2

Cleanup Site ID: 14851

Completed on 1/24/2022 for inclusion

Facility/Site ID: 50340

on the February 2022 Hazardous Sites List.

### LOCATION OF SITE

19615 E. Sprague

Township 25N, Range 45E, Section 17

Spokane Valley, Spokane County, WA 99037

Latitude, Longitude: 47.65836, -117.14055

Tax Parcel ID: 55174.9043, 55174.9021, 55174.9084, 55174.9022

### SITE DESCRIPTION

#### Within Currently Defined Site Boundaries

Based on currently available information, the Spokane Gun Club Site includes the tax parcels listed above. The Site includes 74 acres of property zoned for light industrial use, and was recently vacated by the Spokane Gun Club. Contamination of the property occurred in 1948 until July 2021, when the Site was used as a shooting range. The Site is bounded by a vacant property to the north along West Appleway Avenue and East Sprague Avenue to the south. On parcels 55174.9021 and 55174.9022 is the Gun Club building and trap and skeet shooting structures. The Site uses municipal water provided by the Consolidated/IRR District 19 System 2.

#### Historical Owners and Operators

| <u>From</u> | <u>To</u> | <u>Owner/Operator</u> | <u>Site Uses</u>     |
|-------------|-----------|-----------------------|----------------------|
| 1938        | 1948      | Unknown               | Undeveloped farmland |
| 1948        | 2021      | Spokane Gun Club      | Shooting range       |

#### Area Surrounding the Site

At this time, the site is mostly undeveloped grassy fields. The surrounding properties include a vacant property to the north along West Appleway Avenue, residential property and the newly constructed Ridgeline High School to the east, East Sprague Avenue to the south and residential property and the Irrigation District property to the west.

The Site is located approximately 7547 feet from the Spokane River to the south. The Greenacres Landfill is approximately 4207 feet to the east.

### SITE CHARACTERIZATION AND/OR REMEDIATION

In August 2018, Hart Crowser conducted a Phase I and Phase II Environmental Site Assessment at the same time. During the Phase I, three environmental conditions of concern were identified; stockpiles of unknown origin, soil samples taken at six and/or 12 inches that contained lead, arsenic and polycyclic aromatic hydrocarbons (PAHs) above Model Toxic Control Act (MTCA) Method A cleanup levels, and the Gun Club would periodically recover lead shot northeast of the shooting stations.

During the initial Phase II, 23 test pits were excavated along the parcel boundary and at the extent of shot fall from the shooting range (750 feet from shooting stations). Depths of soil samples range from six to 12 inches below ground surface (bgs). Soil sample results show lead, arsenic and PAHs to be above MTCA Method A



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cleanup levels.

In November 2018, an interim action was conducted to remove the contaminated stockpiles and remediate lead contaminated soil. A soil sample labeled Test pit-12 which had lead contaminated soil above MTCA Method A clean up levels was excavated and disposed of at Waste Management's Resource Conservation and Recovery Act (RCRA) Subtitle D landfill, Graham Road in Medical Lake, Washington. Confirmation soil samples show lead to be below clean up levels.

Additionally, a data gap Phase II was conducted between 2018 and 2021. Sixty-nine test pits were excavated at depths ranging from six inches to nine feet bgs. As expected for a shooting range, lead pellets and fragmented clay targets were found throughout the property at varying depths. On parcel 55174.9084, a stockpile was found near the southwest corner. The stockpile consisted of fragmented clay target debris, plastic shotgun shell wadding, soil, concrete debris and wood.

Soil samples were taken every twelve inches in each of those sixty-nine pits between ground surface and the bottom of the test pit. Soil sample results show lead, arsenic and PAHs to be above MTCA Method A clean up levels.

Initially, the site had been enrolled into Voluntary Cleanup Program (VCP), however, after further review Ecology management decided that cleanup will be supervised by Ecology under an order or decree. Based on that decision, the site was terminated from VCP and awaits the formal process.

### ADDITIONAL INFORMATION COLLECTED BY THE SITE HAZARD ASSESSOR

Ecology visited the Site in October 2019. The Site was functioning as shooting range, and no observations contradict the site conditions described in the previous sections.

### SPECIAL CONSIDERATIONS

Checked boxes indicate routes applicable for Washington Ranking Method (WARM) scoring

☐ **Surface Water**

Not scored, based on subsurface contamination and distance to nearest surface water.

☐ **Air**

Not scored, based on subsurface contamination and ground cover.

☒ **Groundwater**

Subsurface soil contamination that could potentially leach into groundwater

### ROUTE SCORES

Surface Water/ Human Health: 0.0

Surface Water/ Environment: 0.0

Air/ Human Health: 0.0

Air/ Environment: 0.0

Groundwater/ Human Health: 74.8

**Overall Rank: 2**

## **SITE HAZARD ASSESSMENT**

### **Worksheet 1: Summary Score Sheet**

#### **REFERENCES**

- 1 ESRI. Accessed 2021. World Annual Evapotranspiration. Accessed through <http://www.arcgis.com/home/webmap/viewer.html?layers=ad3f8cc18fc74e6894ee220acd15020a>
- 2 Hart Crowser. Remedial Investigation/Feasibility Study. September 20, 2021.
- 3 NOAA National Centers for Environmental Information. Accessed 2021. Global Summary of the Year 2012-2018-Spokane Felts Field Station. Requested from <http://www.ncdc.noaa.gov/cdo-web>
- 4 Spokane County. Accessed 2021. Imap <http://8gismap.spokanecounty.gov/map/>
- 5 WA Dept of Ecology Water Rights Tracking System (WRTS). Accessed 2021. <http://ecypwr/waterrighttrackingsystem/waterRights/default.aspx>
- 6 WA Dept of Ecology Well Report Viewer. Accessed 2021. <http://fortress.wa.gov/ecy/watersources/map/wccswebmap/default.aspx>
- 7 WA Dept of Ecology. Accessed 2021. What's in my Neighborhood. <http://fortress.wa.gov/ecy/neighborhood/>
- 8 WA Dept of Health Office of Drinking Water. Accessed 2021. Source Water Assessment Program (SWAP) map. [Http://fortress.wa.gov/doh/swap/index.html](http://fortress.wa.gov/doh/swap/index.html)
- 9 WA Dept of Transportation. Accessed 2022. <http://wsdot.wa.gov/data/tools/geoportal/>



## **SITE HAZARD ASSESSMENT**

### **Worksheet 2: Route Documentation**

**SITE NAME:** Spokane Gun Club

Cleanup Site ID: 14851

Facility/Site ID: 50340

#### **1. SURFACE WATER ROUTE**

**List those substances to be considered for scoring:**

Not Scored

**Explain the basis for choice of substances to be used in scoring:**

**List those management units to be considered for scoring:**

**Explain basis for choice of unit to be used in scoring:**

#### **2. AIR ROUTE**

**List those substances to be considered for scoring:**

Not Scored

**Explain the basis for choice of substances to be used in scoring:**

**List those management units to be considered for scoring:**

**Explain basis for choice of unit to be used in scoring:**

#### **3. GROUNDWATER ROUTE**

**List those substances to be considered for scoring:**

Lead, PAHs and Arsenic

**Explain the basis for choice of substances to be used in scoring:**

Substances detected in soil above cleanup levels.

**List those management units to be considered for scoring:**

Soil

**Explain basis for choice of unit to be used in scoring:**

Groundwater contamination has not been detected. Used soil data.

**Worksheet 4**  
**Surface Water Route**

**Not Scored**

**CSID: 14851**

**Site: Spokane Gun Club**

## Worksheet 5

### Air Route

**Not Scored**

CSID: 14851

Site: Spokane Gun Club

## Worksheet 6

### Groundwater Route

Scored

CSID: 14851

Site: Spokane Gun Club

#### 1.0 SUBSTANCE CHARACTERISTICS

##### 1.1 Human toxicity

| Substance           | Drink. Wat. Stnd |       | Acute Toxicity   |       | Chronic Toxicity     |       | Carcinogenicity               |       |
|---------------------|------------------|-------|------------------|-------|----------------------|-------|-------------------------------|-------|
|                     | Value<br>(ug/L)  | Score | Value<br>(mg/kg) | Score | Value<br>(mg/kg/day) | Score | Adj. CPFo<br>(risk/mg/kg-day) | Score |
| Arsenic             | 10               | 8     | 763              | 5     | 3.00E-04             | 5     | 1.50E+00                      | 7     |
| Lead                | 15               | 6     | <.001            | 10    | x                    | 0     | X                             | 0     |
| PAHs-benzo(a)pyrene | 0.2              | 10    | 50               | 10    | 3.00E-04             | 5     | 8.00E-01                      | 5     |

Maximum score: 10

Bonus points: 2

Source: WARM Toxicity Database

Human Toxicity Score: 12

Range: 1-12

##### 1.2 Mobility

| Substance | Solubility      |       |
|-----------|-----------------|-------|
|           | Value<br>(mg/L) | Score |
| Arsenic   | K>1             | 3     |
| Lead      | .1<K<1          | 2     |
| PAHs      | 1.62E-03        | 0     |

Maximum value: 3

Source: WARM Toxicity Database

Mobility Score: 3

Range: 1-3

##### 1.3 Substance quantity

Quantity: 150,313 Cubic Yards of Contaminated Soil

Basis: estimate from site reports

Source: Sept 20, 2021 RI/FS Report

Substance Quantity Score: 7

Range: 1-10

##### 2.1 Containment

Description: soil is contaminated

Source: site reports

Containment Score: 10

Range: 0-10

## SUBSTANCE PARAMETER CALCULATION

SUB = (Human Toxicity + Mobility + 3) x (Containment + 1 ) + Substance Quantity

205.0

## 2.0 MIGRATION POTENTIAL

### 2.2 Net precipitation

Amount (in.): ~18.5 inches  
Source: NOAA & USGS

Net Precipitation Score: 1  
Range: 0-5

### 2.3 Subsurface Hydraulic Conductivity

Description: boulder, cobbles, gravel, and sand with interbedded silt lenses  
Source: RI/FS by Hart Crowser

Hydraulic Conductivity Score: 4  
Range: 1-4

### 2.4 Vertical Depth to Aquifer

Depth (ft): 98 ft bgs  
Source: Site Manager-Ted Uecker

Depth to Aquifer Score: 6  
Range: 1-8

## MIGRATION PARAMETER CALCULATION

MIG = Depth to Aquifer + Net Precipitation + Hydraulic Conductivity

11.0

## 3.0 TARGETS

### 3.1 Aquifer Usage

Description: Spokane Valley-Rathdrum Prairie Aquifer  
Source: iMap, WDOH Water System Database

Aquifer Use Score: 10  
Range: 1-10

### 3.2 Distance to Nearest Drinking Water Well

Distance (ft): 700 ft municipal Supply (irrigation district)  
Source: iMap, WDOH Water System Database

Well Distance Score: 4  
Range: 0-5

### 3.3 Population Served by Drinking Water Wells within Two Miles

No. of people: 17,428  
Source: WDOH Water System Database, Well Log Viewer

Population Served Score: 100.0  
Range: 0-100

### 3.4 Area Irrigated by Wells within Two Miles

Area (acres): 4,000  
Source: Water Resources Explorer

Area Irrigated Score: 47.4  
Range: 0-50



**TARGET PARAMETER CALCULATION**

161.4

TAR = Aquifer Use + Well Distance + Population Served + Area Irrigated

**4.0 RELEASE**

Evid. of release?     None

Release Score (REL): 0.0

Source:

Range: 0 or 5

**GROUND WATER ROUTE CALCULATION**

74.8

GW = (SUB x 40/208) x {(MIG x 25/17) + REL + (TAR x 30/165)} / 24

Range: 0-100

# Washington Ranking Method

## Route Scoring Summary and Ranking Calculation

**CSID:** 14851  
**Site:** Spokane Gun Club

| Human Health Route Scores |       |          |
|---------------------------|-------|----------|
| Pathway                   | Score | Quintile |
| Surface water             | 0.0   | 0        |
| Air                       | 0.0   | 0        |
| Groundwater               | 74.8  | 5        |

| Quintile   | Value |
|------------|-------|
| High (H)   | 5     |
| Middle (M) | 0     |
| Low (L)    | 0     |

$$(H^2 + 2M + L) / 8$$

Human Health Priority Bin Score: 3.1

| Environmental Route Scores |       |          |
|----------------------------|-------|----------|
| Pathway                    | Score | Quintile |
| Surface water              | 0.0   | 0        |
| Air                        | 0.0   | 0        |

| Quintile | Value |
|----------|-------|
| High (H) | 0     |
| Low (L)  | 0     |

$$(H^2 + 2L) / 7$$

Environmental Priority Bin Score: 0.0

### FINAL MATRIX RANKING

| Human Health<br>Priority | Environmental Priority |   |   |   |   |     |
|--------------------------|------------------------|---|---|---|---|-----|
|                          | 5                      | 4 | 3 | 2 | 1 | n/a |
| 5                        | 1                      | 1 | 1 | 1 | 1 | 1   |
| 4                        | 1                      | 2 | 2 | 2 | 3 | 2   |
| 3                        | 1                      | 2 | 3 | 4 | 4 | 3   |
| 2                        | 2                      | 3 | 4 | 4 | 5 | 3   |
| 1                        | 2                      | 3 | 4 | 5 | 5 | 5   |
| n/a                      | 3                      | 4 | 5 | 5 | 5 | NFA |

n/a - not applicable

NFA - no further action

**Site Rank:** 2