

# **SAMPLING AND ANALYSIS PLAN TRAP RANGE SOIL SAMPLING INDEX SPORTSMEN'S CLUB INDEX, WASHINGTON**

## **1.0 INTRODUCTION**

### **1.1 Site Location**

The Index Sportsmen's Club site is in the south-central part of Snohomish County approximately ½ mile west of the Town of Index, Washington. The trap range is located on National Forest System land within the Skykomish Ranger District of the Mt. Baker-Snoqualmie National Forest, in the NE1/4NE1/4 of Section 19, Township 27 North, Range 10 East, W.M.(Figure 1). The Burlington Northern-Santa Fe rail line runs adjacent to, and approximately 400 feet North of the northern boundary of the site. The North Fork Skykomish River runs approximately 500' south of the southern boundary, and joins the South Fork Skykomish River approximately ¾ mile downstream (Figure 2). The nearest residence is located across the river, approximately 1/8 mile to the southwest.

### **1.2 Site Description**

The Index Sportsmen's Club has operated at the site under Forest Service issued Special Use Permits since May of 1947. The trap range occupies approximately 3.7 acres as shown on Figure 3. The site contains a clubhouse, ten shooting platforms, two traps, a picnic shelter, a ball diamond and an outdoor toilet (Figure 4). The clubhouse is served by electricity, a septic tank with drain-field and city water. The cleared area of the site (shown in Figure 4) is level and is covered with grassy vegetation. The surrounding area is wooded with a mixture 10" – 20" diameter conifer (75%) and hardwoods (25%). Soils on the site are primarily alluvial sands and gravels. There are no surface waters present on the site.

### **1.3 Objective**

As indicated above, the Sportsmen's Club has operated a trap range at this site for nearly 56 years. The primary objective of this sampling effort is to gather data on concentrations of lead in the soils. This information will be used to evaluate the need for further investigation at the site. This effort is not intended to be of sufficient intensity to fully characterize the site.

### **3.0 HEALTH AND SAFETY**

The site is nearly level and mostly cleared of vegetation, posing limited exposure to natural hazards. Sampling activities that are undertaken in the wooded area will expose workers to potential trip and fall hazards due to uneven terrain, downed logs, tree limbs and brushy vegetation. Site workers are required to wear lug-soled boots and hard hats.

Soil sampling could cause workers to come into direct contact with elevated lead concentrations in soils. To reduce exposure, workers are required to wear disposable rubber or latex gloves. Ripped or torn gloves will be replaced immediately. Used gloves will be placed in a small plastic garbage bag for disposal. Upon completion of sampling workers will thoroughly wash hands in soap and water.

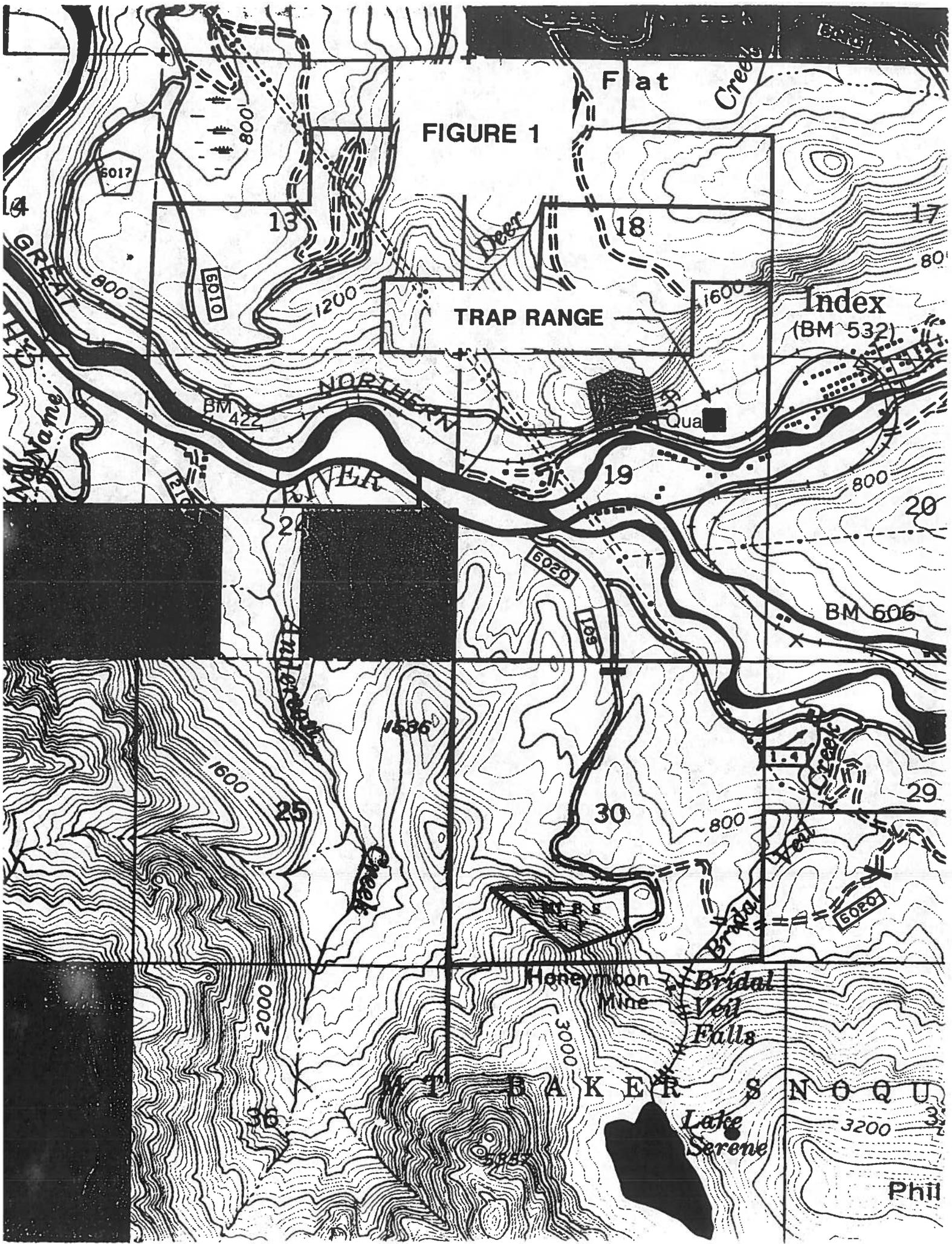


FIGURE 1

TRAP RANGE

Index  
(BM 532)

Honeymoon Mine

Bridal Veil Falls

Lake Serene

M T BAKER SNOQU

Phil

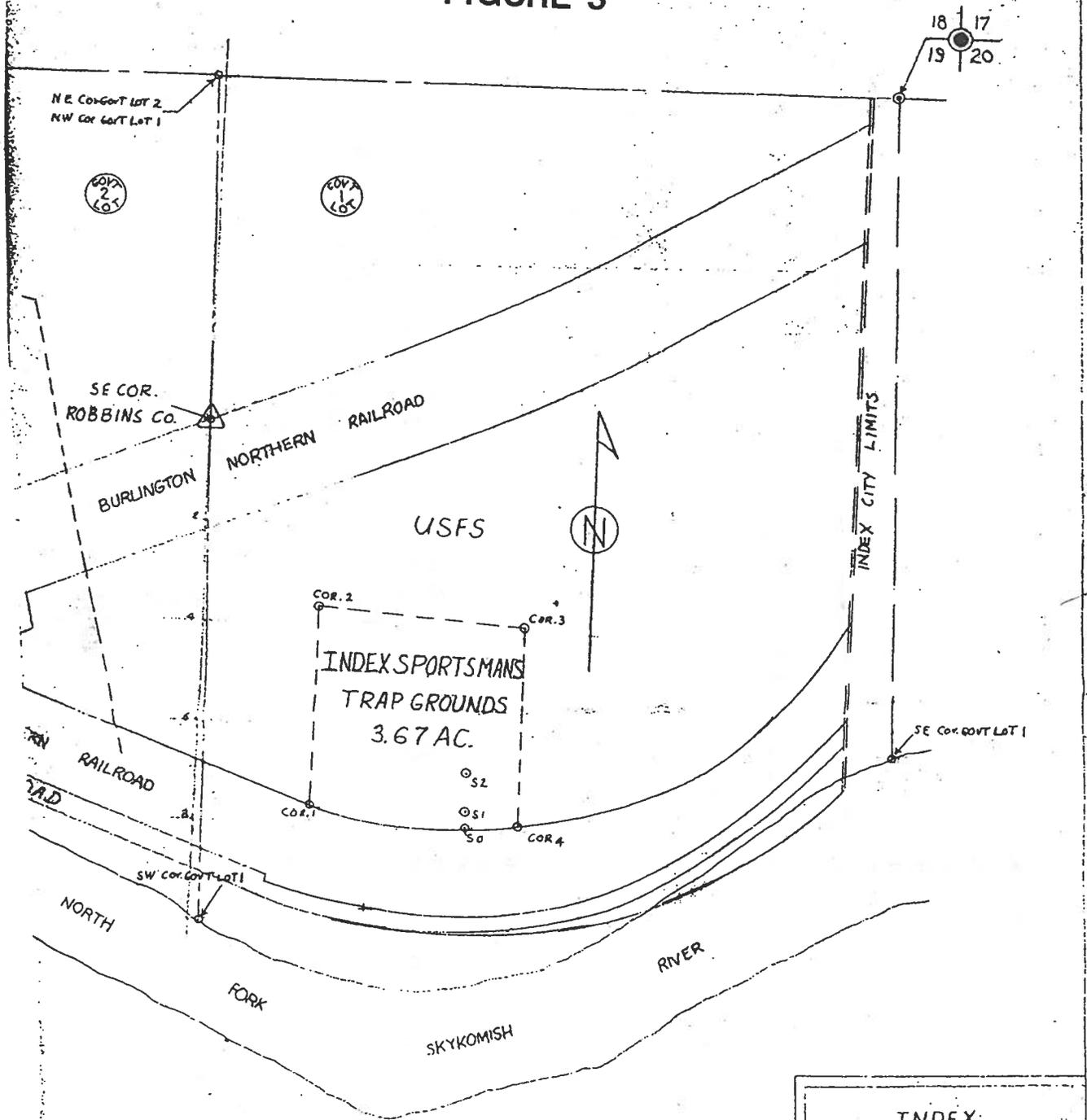
FIGURE 2

TRAP RANGE



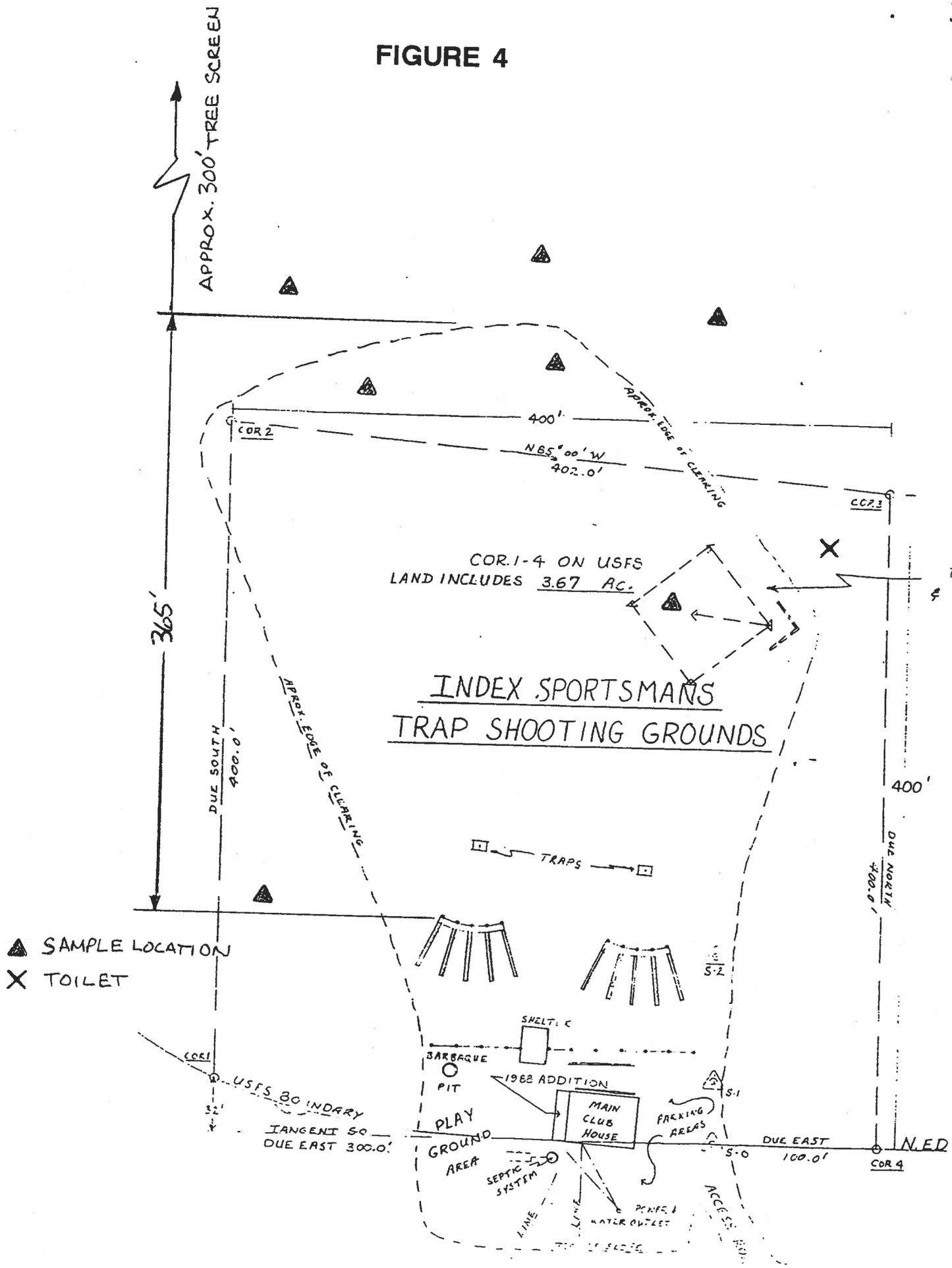
NE 1/4, SEC. 19, T. 27, R. 10E.

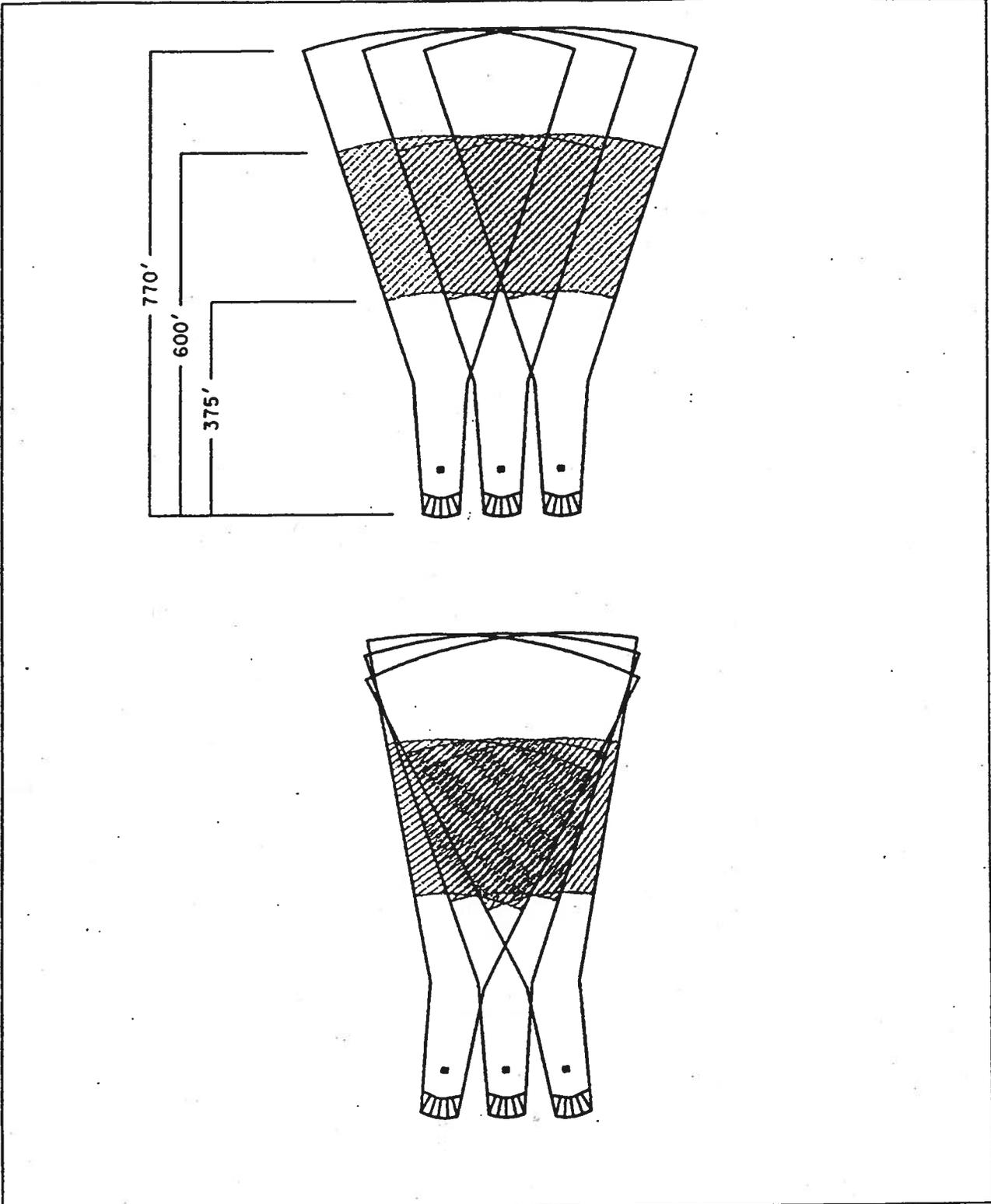
FIGURE 3



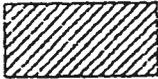
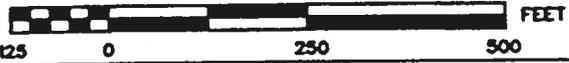
INDEX  
SPORTSMAN'S CLUB  
PROPERTY LOCATION  
FROM BRUNTON & TAPE SURVEY  
OF 1964. DRAWING NO. 1  
SCALE: 1" = 200'. DCM, 1982.

FIGURE 4





SCALE 1" = 250'



Area of maximum shotfall

Figure 4-2. Theoretical shotfall zone and area of maximum shotfall at trap fields. The typical layout of multiple trap fields is shown at the top of the page and a modified layout to minimize the total shotfall zone is shown at the bottom of the page.

1875



1875

# SVL ANALYTICAL, INC.

One Government Gulch - PO Box 929 ■ Kellogg ID 83837-0929

(208) 784-1258 ■ Fax (208) 783-0891

## INVOICE

ATT: Pat Toman  
 Skykomish Ranger District  
 PO Box 305  
 Skykomish WA 98288

INVOICE No. : 105259  
 Date : 3/27/03  
 Comment :

Number of Samples	Analyses Performed	COST FACTORS					Price	
		Base Cost	#ANLYT	RL	FTA	%DISC	Unit	Total
9	ICP 1st Element	20.00	1	1.00	1.0	0	20.00	180.00
9	DIGESTION	15.00	1	1.00	1.0	0	15.00	135.00
9	pH (soil)	15.00	1	1.00	1.0	0	15.00	135.00
							SUBTOTAL	\$450.00
							OTHER	\$0.00
							TOTAL	\$450.00

#ANLYT = Number of Analytes in multi-analyte run (IC, ICP, etc.)  
 RL = Report Level Multiplier  
 FTA = Fast Turnaround Multiplier



**SVL ANALYTICAL, INC.**

One Government Gulch ■ P.O. Box 929 ■ Kellogg, Idaho 83827-0929 ■ Phone: (208)784-1258 ■ Fax: (208)783-0891

**REPORT OF ANALYTICAL RESULTS**CLIENT : Skykomish Ranger District  
PROJECT:Sample Receipt: 3/17/03  
Report Date: 3/27/03Page 1 of 1  
SVL JOB: 105259

SVL ID	CLIENT SAMPLE ID		Pb 6010B	% Sol. 999	pH-S 9045
S327340	ISC-01	3/12/03	49.1mg/kg	83.6%	5.80
S327341	ISC-02	3/12/03	49.0mg/kg	88.7%	5.23
S327342	ISC-03	3/12/03	1930mg/kg	80.3%	5.23
S327343	ISC-04	3/12/03	90000mg/kg	84.7%	5.63
S327344	ISC-05	3/12/03	105000mg/kg	71.8%	5.93
S327345	ISC-05A	3/12/03	152mg/kg	75.3%	5.77
S327346	ISC-06	3/12/03	1130mg/kg	76.9%	5.56
S327347	ISC-07	3/12/03	1080mg/kg	77.4%	5.55
S327348	ISC-08	3/12/03	623mg/kg	79.0%	5.97

Soil Samples: As Received Basis

Certificate: WA DOE NO. C074; DOH NO. 050

Reviewed By: Blake Johnson Date: 3/27/03

Client :Skykomish Ranger District							SVL JOB No: 105259	
Analyte	Method	Matrix	Units	Prep Blank	True—LCS—Found	LCS %R	Analysis Date	
Lead	6010B	SOIL	mg/kg	<0.50	84.7	85.8	101.3	
pH Soil	9045	SOIL		5.64	8.60	8.52	99.1	
							3/25/03	
							3/26/03	

LEGEND:

LCS = Laboratory Control Sample

LCS %R = LCS Percent Recovery

N/A = Not Applicable

Client : Skykomish Ranger District					SVL JOB No: 105259				
Test Method Matrix	QC SAMPLE ID		Duplicate or MSD		Matrix Spike			Analysis Date	
	Units	Result	Found	RPD%	Result	SPK ADD	%R		
Pb 6010B SOIL	1 mg/kg	49.1	164 M	20.9	133	100	83.9	3/25/03	
% Sol. 999 SOIL	1 %	83.6	85.2	1.9	N/A	N/A	N/A	3/18/03	
pH-S 9045 SOIL	1	5.80	5.82	0.3	N/A	N/A	N/A	3/26/03	

LEGEND:  
 RPD% =  $(|SAM - DUP| / ((SAM + DUP) / 2)) * 100$  UDL = Both SAM & DUP not detected. \*Result or \*Found: Interference required dilution.  
 RPD% =  $(|SPK - MSD| / ((SPK + MSD) / 2)) * 100$  M in Duplicate/MSD column indicates MSD.  
 SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added  
 QC Sample 1: SVL SAM No.: 327340 Client Sample ID: ISC-01

CLIENT: Pat Toman  
 Skykomish Ranger District  
 PO Box 305

SAMPLE RECEIPT CONFIRMATION

SVL JOB No: 105259  
 Received: 3/17/03  
 Expected Due date: 3/31/03

skykomish WA 98288  
 FAX: (000)000-0000

SVL#	M	ClientID	sampled	Time	By	Received	Sample Comments
327340	S	ISC-01	3/12/03	:		3/17/03	
327341	S	ISC-02	3/12/03	:		3/17/03	
327342	S	ISC-03	3/12/03	:		3/17/03	
327343	S	ISC-04	3/12/03	:		3/17/03	
327344	S	ISC-05	3/12/03	:		3/17/03	
327345	S	ISC-05A	3/12/03	:		3/17/03	
327346	S	ISC-06	3/12/03	:		3/17/03	
327347	S	ISC-07	3/12/03	:		3/17/03	
327348	S	ISC-08	3/12/03	:		3/17/03	

ADDITIONAL COMMENTS FOR JOB: Sample Cooler/Container temp not measured upon receipt.

[ ] These samples will be DISPOSED 45 days after job completion.  
 [X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal sevy (208-784-1258) if you have questions regarding the receipt of these samples. 3/17/03 13:32

# 105259

Site Name: Index Sportsmen's Club  
Contents: Soil Samples  
Quantity: 9 Samples  
ISC - 01  
ISC - 02  
ISC - 03  
ISC - 04  
ISC - 05  
ISC - 05A  
ISC - 06  
ISC - 07  
ISC - 08

Sample Collection Date: March 12, 2003

Instruction: Use total digestion analysis method  
Analyze all samples for total Lead and soil Ph

Packed and Sealed for Shipping March 13, 2003

Batrick J. Toman

For information contact Pat Toman at:  
Mail:

360-677-2414  
P.O. Box 305  
Skykomish, WA 98288

Rec. Heidi Barnes  
3-17-03  
11:15

Came in cardboard box  
by mail







## Index Sportsman Club Reconnaissance Soil Sampling

March 12, 2003

### Weather and site Conditions

Overcast with occasional sprinkles. Heavy rain day before ended during night. The ball diamond had an area of standing water; otherwise the soils were damp. Within the cleared area of the shooting range, ground cover consists of grass and forbs with considerable moss. Organic material/duff comprised the top 1-2 inches. Some areas are mostly bare of ground cover. Surface soils were sandy loam with a high rock content.

Samples outside the cleared area were taken from the forest floor of a second-growth Douglas fir/salal site. Some grass has migrated from the clearing and established in more open areas. The forest canopy is not closed. No attempt was made to determine how far into the forest, shot has traveled.

Sample No.	Time	Location	Depth (in.)	Comment
ISC-01	0915	3 feet outside clearing just behind and west of the west shooting platform.	4-6	Some shotgun casings in vicinity of sample – no shot observed. Background sample
ISC-02	0922	Within clearing, radially 32 feet from NW corner of clearing	1-3	Moss layer removed
ISC-03	0926	Within clearing, 16 feet from northern most edge of clearing	0-2	Soil surface mostly bare.
ISC-04	0933	10 feet outside the clearing beyond sample No. 2	0-2	Under tree canopy
ISC-05	0936	43 feet outside clearing beyond sample No. 3	0-2	Lots of shot in duff and surface soil, under tree canopy
ISC-05A	0940	Same as Sample No. 5	4-6	Shot distinguishable at this depth
ISC-06	0950	21 feet outside clearing (from ballfield fence)	2-4	Grass covered mound, sandy soil, shot visible
ISC-07	0950	Same as sample No. 6	2-4	Duplicate sample
ISC-08	0958	Between first and second bases of ballfield	0-1	Composite of three surface samples w/in 10-foot radius. Surface bare-no organic mat'l, sandy soil, but evidence of recent saturation

All samples obtained by clearing duff or organics from soil with a shovel, scooping sample with a plastic spoon. Shovel and spoon were washed in water and rinsed with distilled water prior to each sample. Samples were placed in plastic ziplock bags.



FIGURE 4

