

X

Surface Soil Sample Collection Form

Sample No. SA1-1C
 Job ~~17800-36~~ Upper Columbia
 Job No. 17800-36
 Sampling Method composite - 4 site
 Composite Sample Yes No

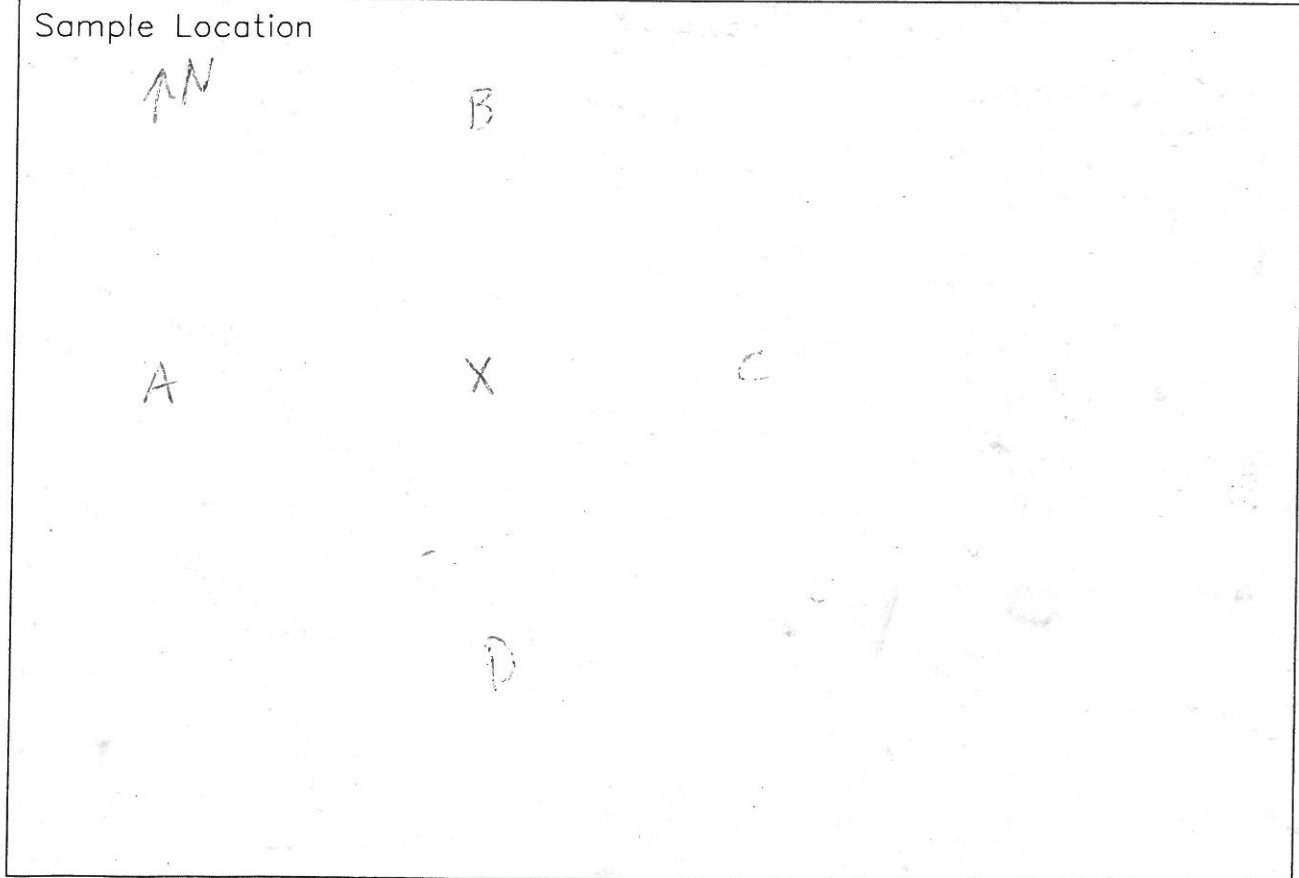
Collected by K. J. / WM
 Date 10/30 1110
N73.9957.51
E 2372137.11
400 Mft amsl

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

5" snow, rain overcast. First-second growth, not recently impacted by human activity

Remarks slight boreal, lots of willows ~ 3" of snow remaining
(A) 1/2" v. SANDY TOP UNDER ORGANICS / MOIST, BROWN, SL. GRAVELLY, SANDY SILT w/TRACE ORGANICS. (B) 1/2" O-LAYER / MOIST, BROWN, GRAVELLY, SANDY SILT w/SCATTERED ORGANICS (C) 2" O LAYER / LAYER OF CHARCOAL / MOIST, BLACK, v. GRAVELLY SANDY SILT w/SCATTERED ORGANICS (D) 1/2" O LAYER / MOIST, BROWN, GRAVELLY SANDY SILT w/SCATTERED ORGANICS.

Sample Location



Surface Soil Sample Collection Form



Sample No. SA1-2C

Collected by WDM/KJH

Job 17800-36

Date 10/30/12 1547

Job No. UPPER COLUMBIA

N 743188.53

Sampling Method COMPOSITE FOUR SITE

E 2372434.92

Composite Sample Yes No

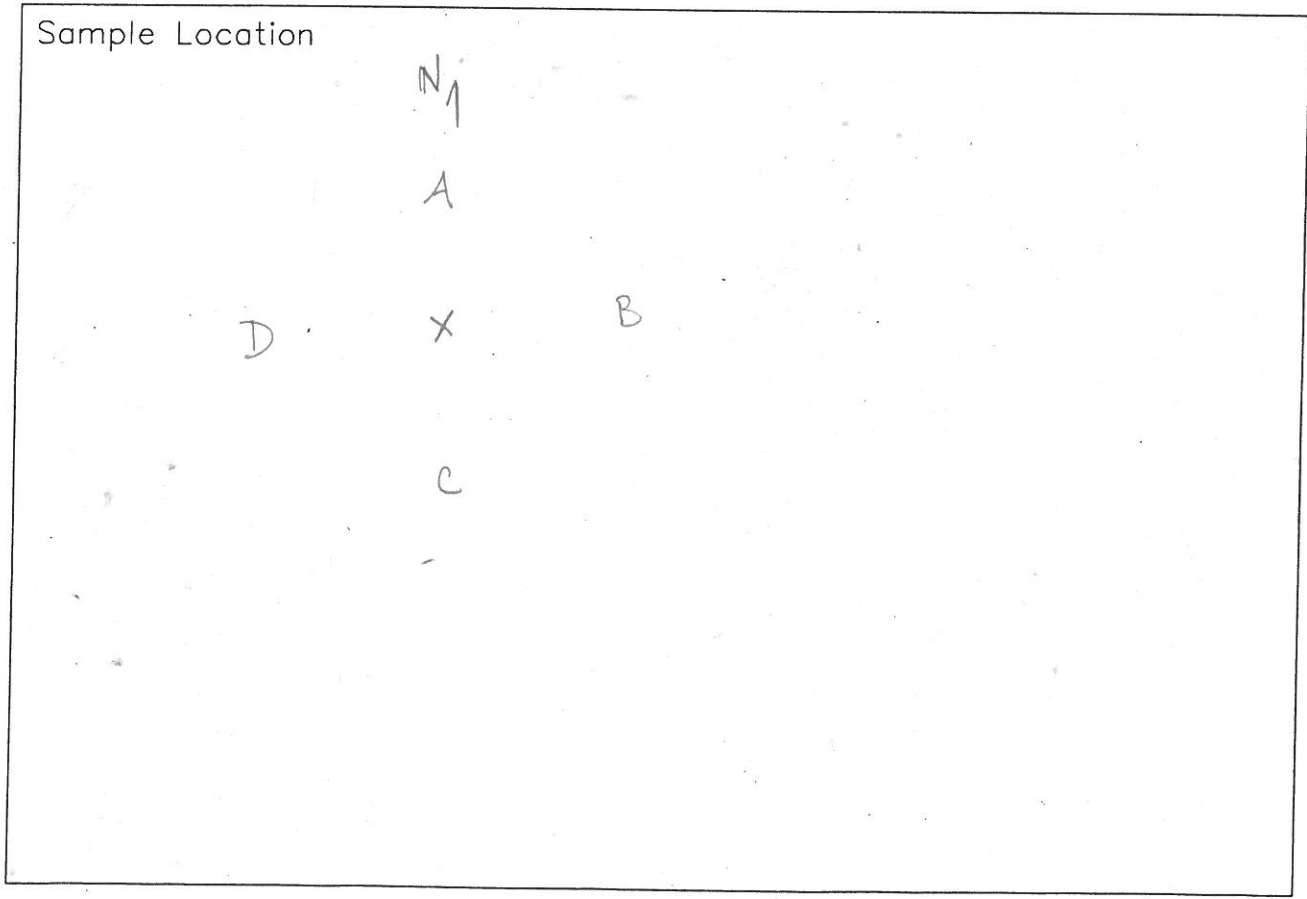
elev 4235.76 AMSL

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A. Moist brown, sandy silty GRAVEL trace organics
B. Moist red-brown sandy silty
Gravel, trace organics
C. Moist, brown sandy silty GRAVEL trace organics
D. Moist, brown sandy silty GRAVEL trace organics

Remarks overcast rain, ~8" snow. Sample mowed due to poor availability
of sub samples, little evidence of human activity

Sample Location



16:11 X

Surface Soil Sample Collection Form

Sample No. SAI-3C

Collected by PRC/SMF

Job ULR

Date 10-30-2012

Job No. 17800-36

Sampling Method 4-pt COMPOSITE

Composite Sample Yes No

→ **FIELD DUP COLLECTED**

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Damp to moist, dk brown, slightly gravelly, silty sand to sandy SILT (B)

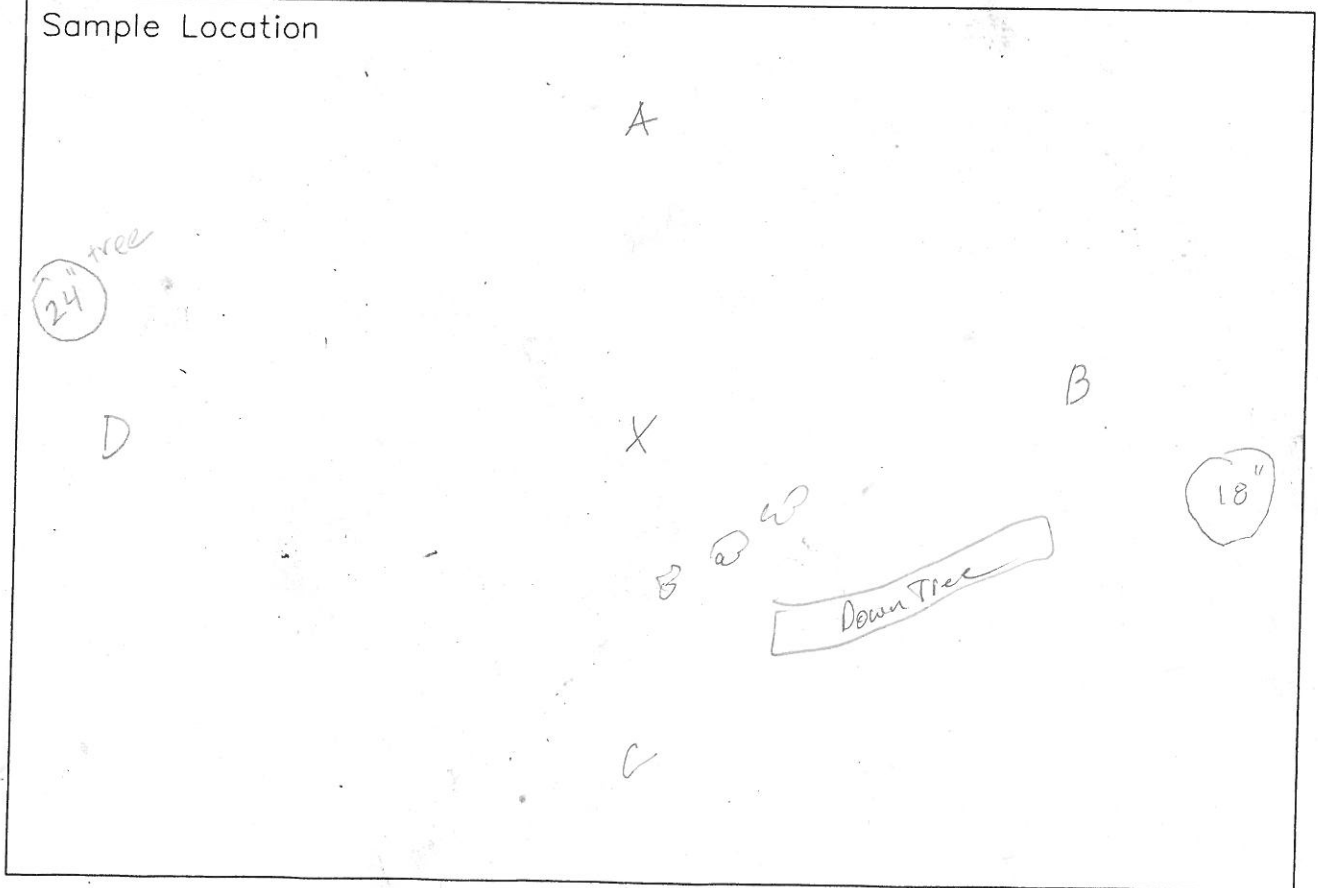
Lots of organic material. Damp to moist, dk brown with scattered GREY, very

gravelly sandy SILT. (C) Damp to moist, dk brown, gravelly sandy silt. (D)

Remarks ASPECT = ~~158°~~ ^{158°} SLOPE = 25° 1/2" duff (pine needles) on
A and B and C. 1" duff on D.

Small trees dot the study area. 8-12" of snow. Raining @ time
of sample collection. Scattered shrubs, and 300' downlope from dirt
logging road.

Sample Location



backing at
A 984
B 985
C 986
D 987

Notes A 988
B 989
C 990
D 991

SITE FACING A
[992]



Surface Soil Sample Collection Form

(1) 16:45
(2) 16:50
(3) 16:55
(4) 17:00

X

Sample No. ~~SA1-3P~~ SA1-3P

Collected by PEC

Job VCR

Date 10/30/2012

Job No. 17800-36

Sampling Method HAND AUGER

Composite Sample Yes No

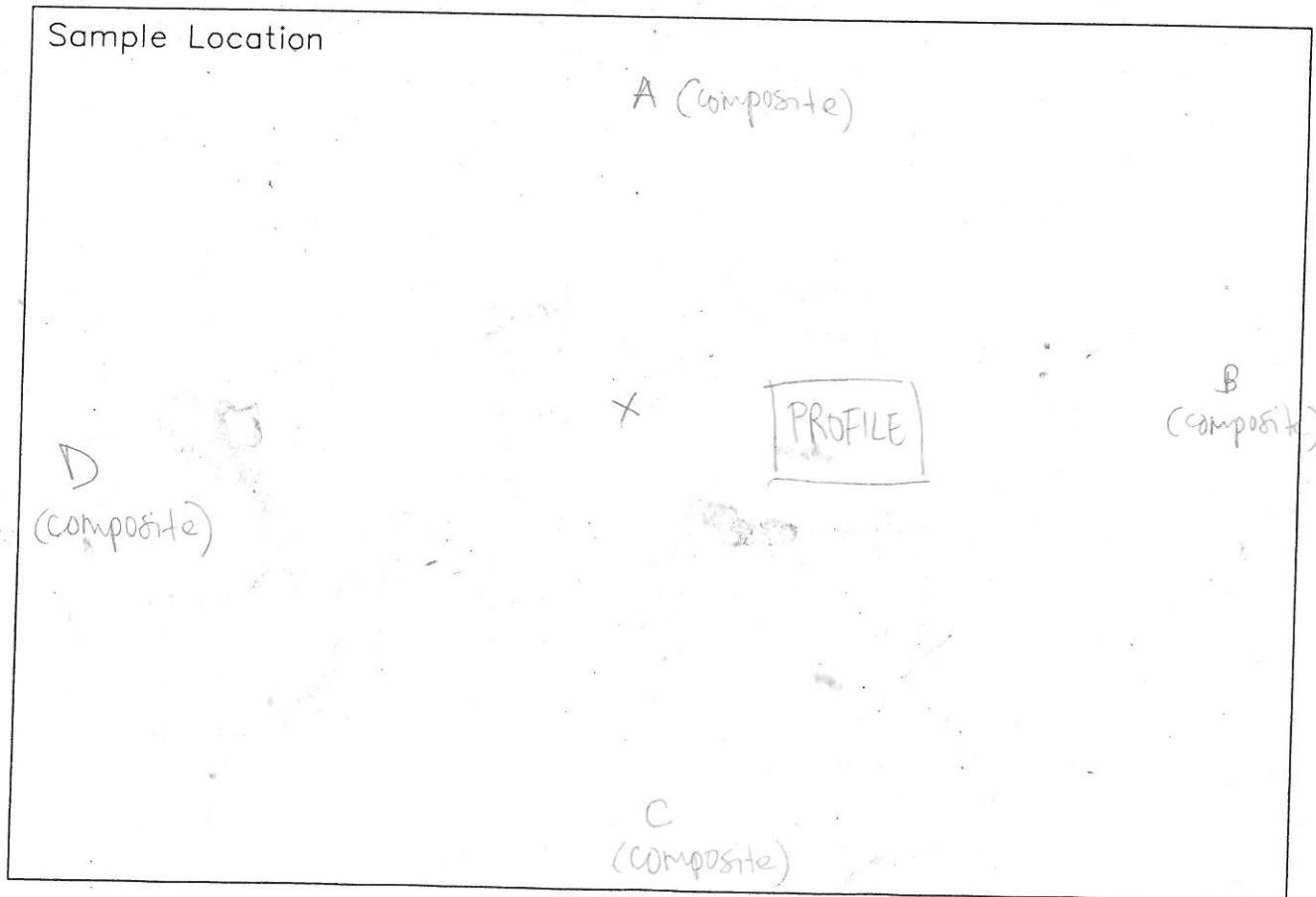
E: 2373768.63'
N: 742363.40' > SPW NAD 83
Elev. 3,971.74' (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (1) (0-3") 1" dirt pineleaves, Damp to moist, dark brown, gravelly sandy SILT with abundant org
- (2) (3-6") Red brown damp to moist, trace gravel, sandy silt to silty SAND, scattered org,
- (3) (6-12") Damp, red brown, silty sand to sandy SILT; trace gravel, with scattered org.
- (4) (12-24") Damp, light brown, slightly gravelly, sandy SILT

Remarks Roots throughout site
same as SA1-3C

Sample Location



Surface Soil Sample Collection Form

Sample No. SA1-4C
Job Upper Columbia
Job No. 17800-36
Sampling Method Composite - 4 site
Composite Sample Yes No

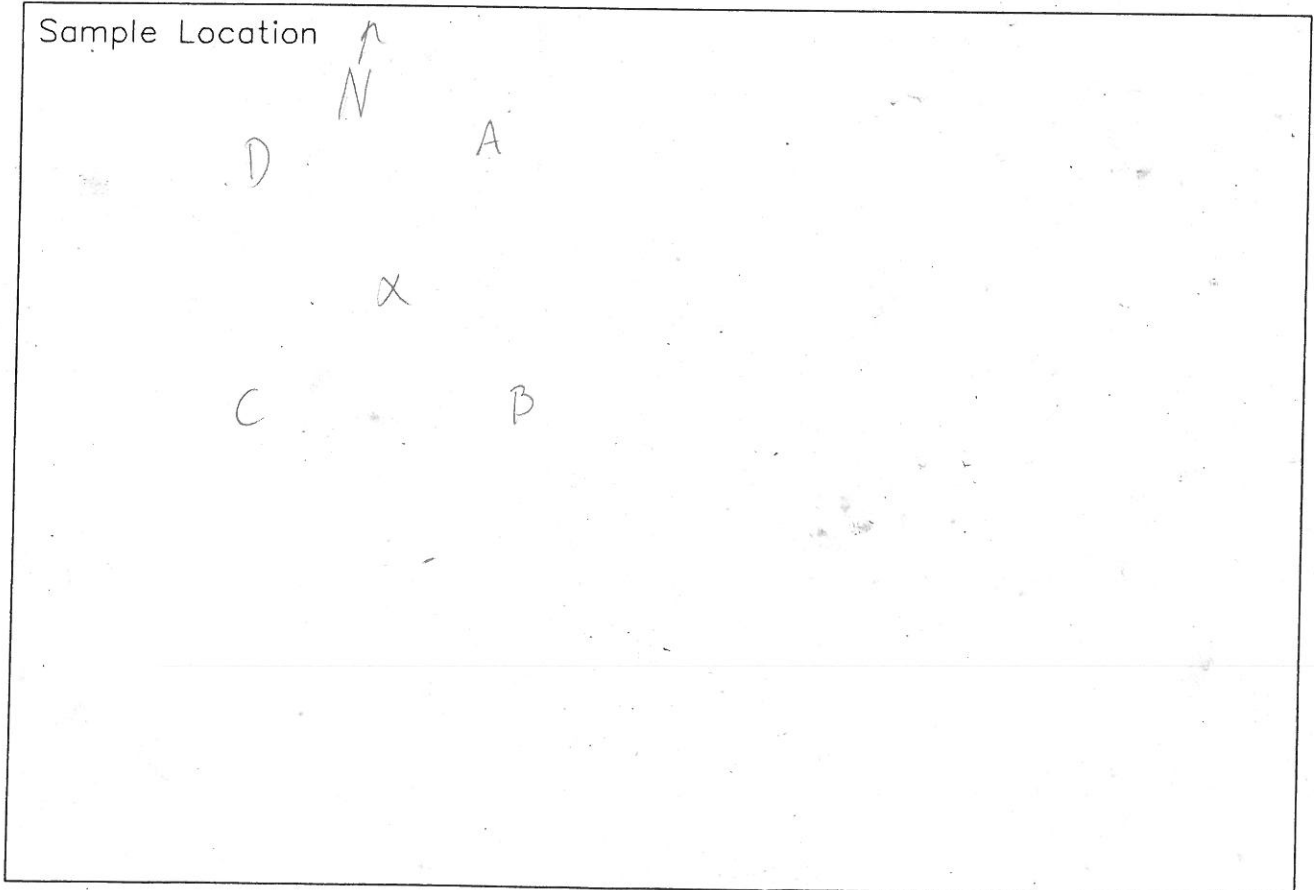
Collected by KJW/LWM
Date 10/30 1335
N 741237.89
E 2373718.73
elev 3887.27 amsl

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- A. Moist, brown, slightly gravelly, sandy SILT, abundant organics + root
- B. Moist, brown, slight, gravelly sandy SILT, abundant organics + roots
- C. Moist brown, slightly gravelly sandy SILT, trace/scattered organics
- D. Moist, brown, gravelly silty SAND, scattered organics

Remarks ~8" snow, rain overcast cedar forest, no evidence of human activity, or 1-2" of rot/duff/... on all locations. Little evidence of human activity.

Sample Location



Sample time: 13:04

Surface Soil Sample Collection Form

Sample No. SAI-5C

Collected by PRC/SMF

Job 17800-36

Date 10/30/2012

Job No. VCR

Sampling Method 4-pt composite

COORD: E 2375378.42
(SPN-NAD 83) N 743205.88
FEET
ELEV: 4,274 (MSL)

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Moist, dark brown, gravelly sandy SILT with abundant organics (roots and moss to 1/2" depth)

(B) 1" duff and roots, Soil is same as site A (C) 1/4" duff pine needles

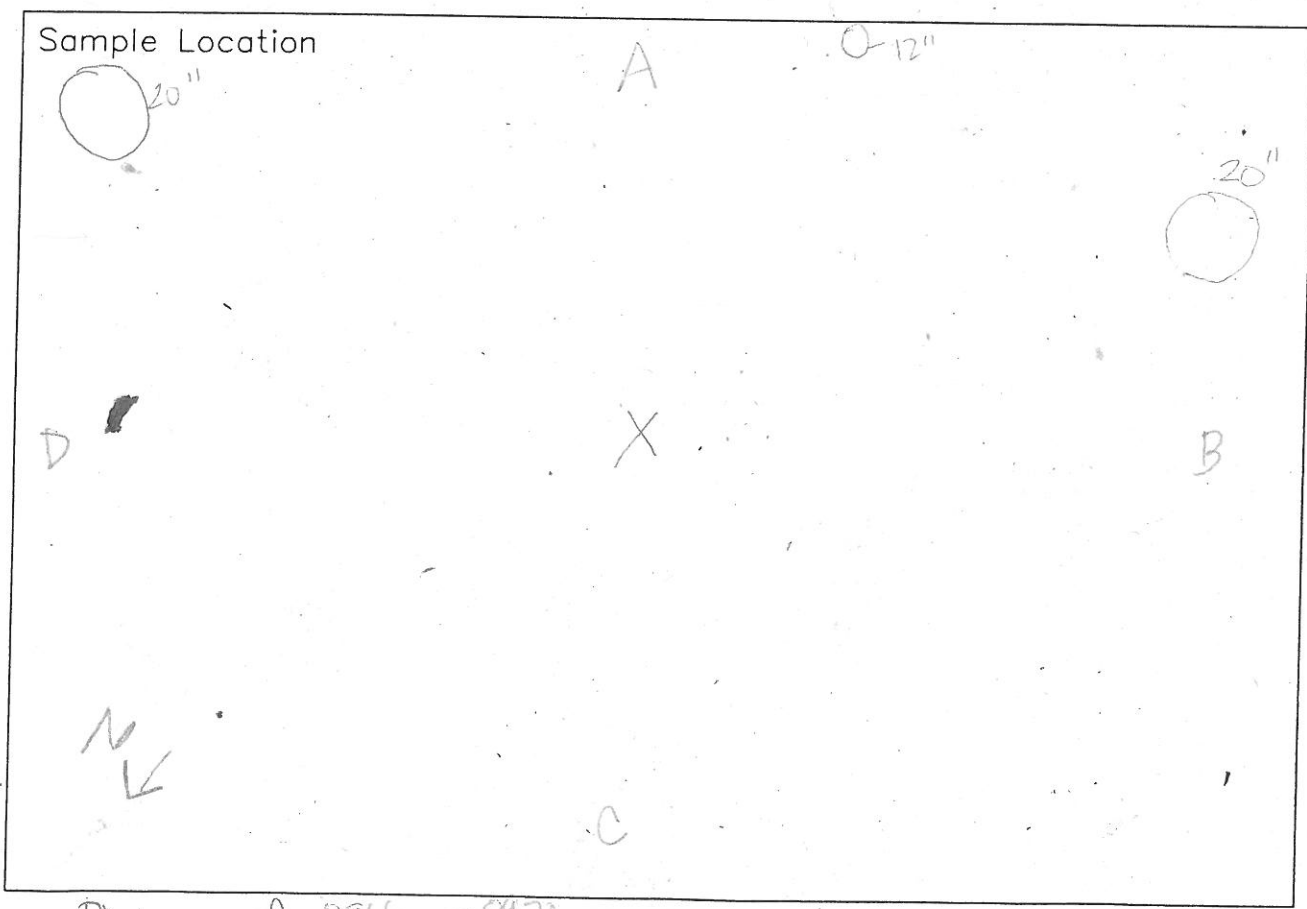
Moist, dark brown, slightly gravelly sandy SILT, (D) Duff 3/4" sticks/pine needles

Remarks ASPECT: 153° ^{145°} SLOPE: 18° (toward A)

Area appears to have been logged 10+ years ago, Some evergreen

Saplings 12 to 15' tall, Small shrubs throughout.

↓
Damp
dark
brown
gravelly
silty
SAND.



Pictures A 0966 → 0970
 B 0967 → 0971 (soil area w/ tape measure)
 (+ toward) C 0968 → 0972
 D 0969 → 0973

0974 Site photo



Surface Soil Sample Collection Form



Sample No. SA1-6C

Collected by PRC/SMF

Job UCR

Date 10/30/2012

Job No. 17800-36

E: 2375847, 36' Elev: 3989.22' (NAD83)
N: 741549, 62'

Sampling Method 4-PT COMPOSITE

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT; NON-SOIL SUBSTANCES)

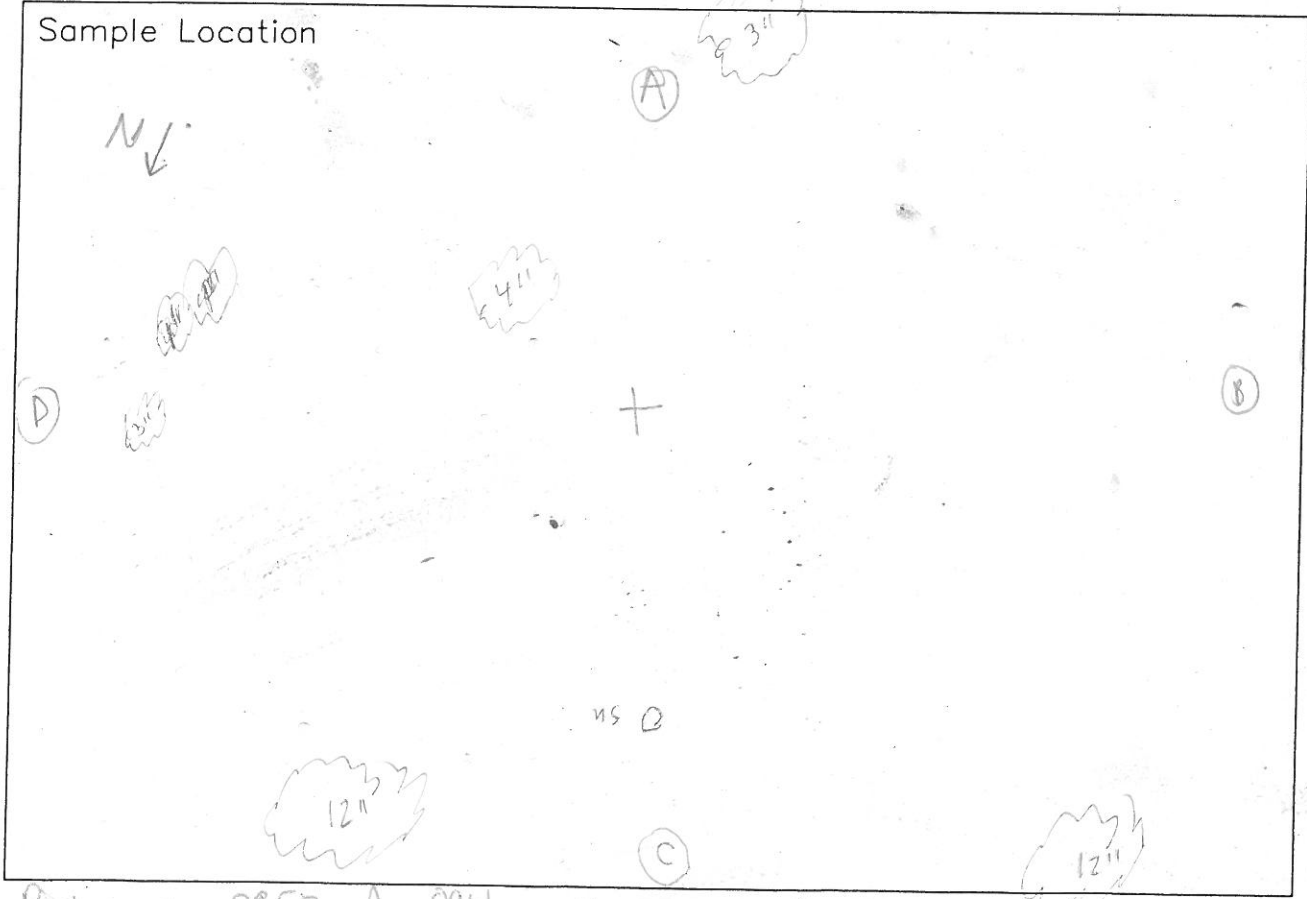
(A) Below 1/4" of surface duff, damp to moist, dark brown, slightly gravelly silty SAND to sandy SILT, (B) Damp to moist, dark brown, gravelly silty SAND with occasional cobbles. (C) Damp, brown to grey-brown, gravelly silty sand and brown

Remarks 4-6" of snow covering sample area. Grass observed on surface of all sample points. Roots in all samples

Aspect ^{152°} 160°. Slope toward A ~2°, relatively flat. Numerous small dogfir trees and shrubs in area.

sand with grey silty sand at the very bottom 1" of duff including decomposing still

Sample Location



- Pictures:
- 0957 A 0961
 - 0958 B 0962
 - 0959 C 0963
 - 0960 D 0964



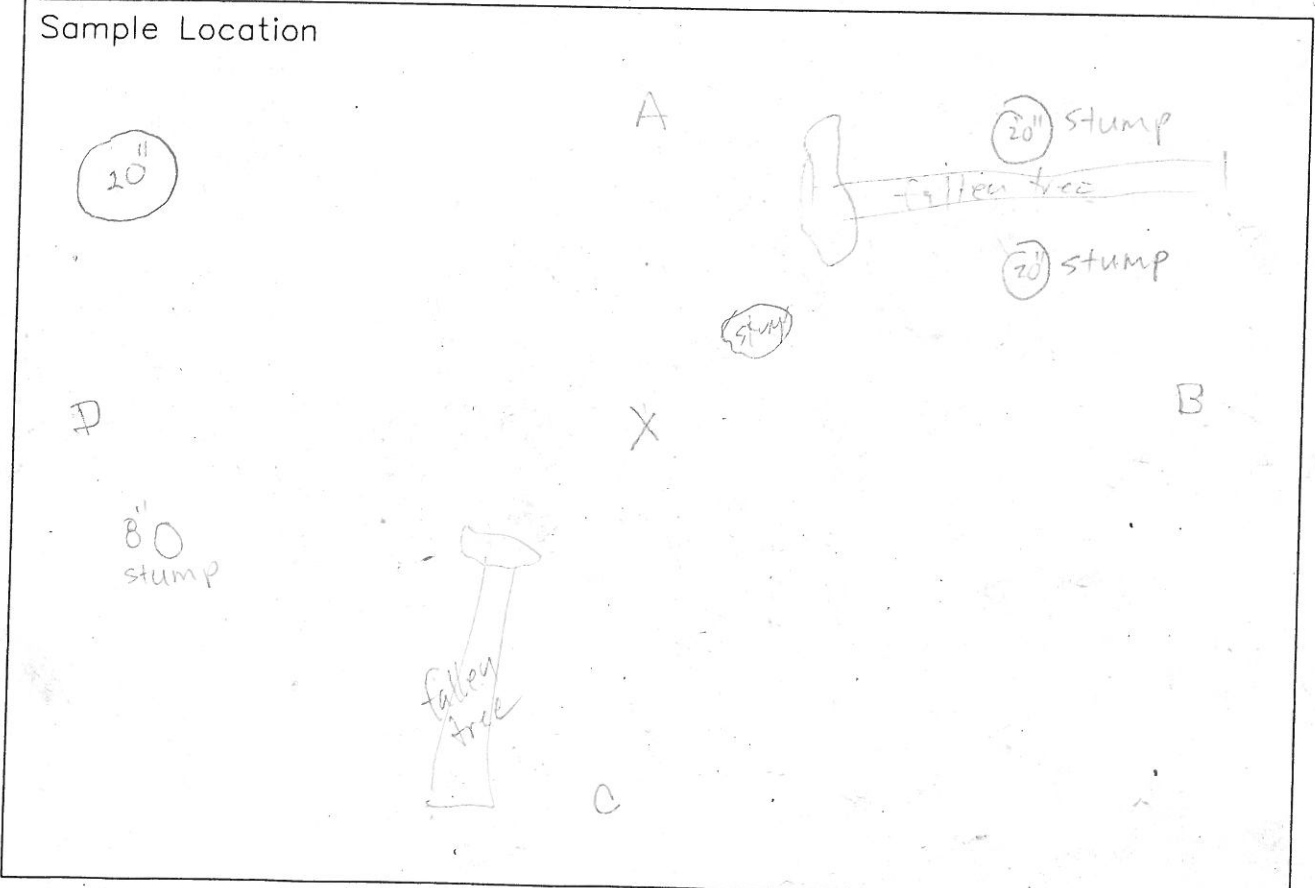
Surface Soil Sample Collection Form

Sample No. SA1-7C
 Job 17800-3b
 Job No. JCR
 Sampling Method 4-pt composite
 Composite Sample Yes No

Collected by PRC/SMF
 Date 10/30/2012
 COOPD: E 2376942.22
 N 743668.31
 ELEV: 3,855.75' (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)
 (A) Grass at surface. No duff. Damp to moist, brown, slightly gravelly, silty sand to sandy SILT. (B) Grass at surface. Some decomposing wood. Damp to moist, brown, gravelly, silty sand to sandy SILT. (C) 1" decaying wood. Otherwise same as B. (D) → over

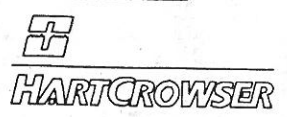
Remarks Sample shifted approx. 50' North due to site constraints (extremely thick vegetation.) ASPECT ~~51°~~ 76°. SLOPE 25°. Abundant roots at all sample sites.
Area logged with ~5 yrs, bordered to south by older logged area that has extremely thick deciduous trees.



Photographs { 975 A 979 }
 EACING { 976 B 980 }
 { 977 C 981 }
 { 978 D 982 }

sample area + tape measure

Site facing downslope 98.3



Surface Soil Sample Collection Form

Sample Area: ~~14725~~
0915 X

Sample No. SA1-8C

Collected by PRC, SMF

Job UCR

Date 10-30-2012

Job No. 17800-36

Sampling Method Comp 4 pt Composite

N: 740875.84' N Elev: 3,934.97' (MSL)
E: 2377190.81'
(SPN NAD 83 FT)

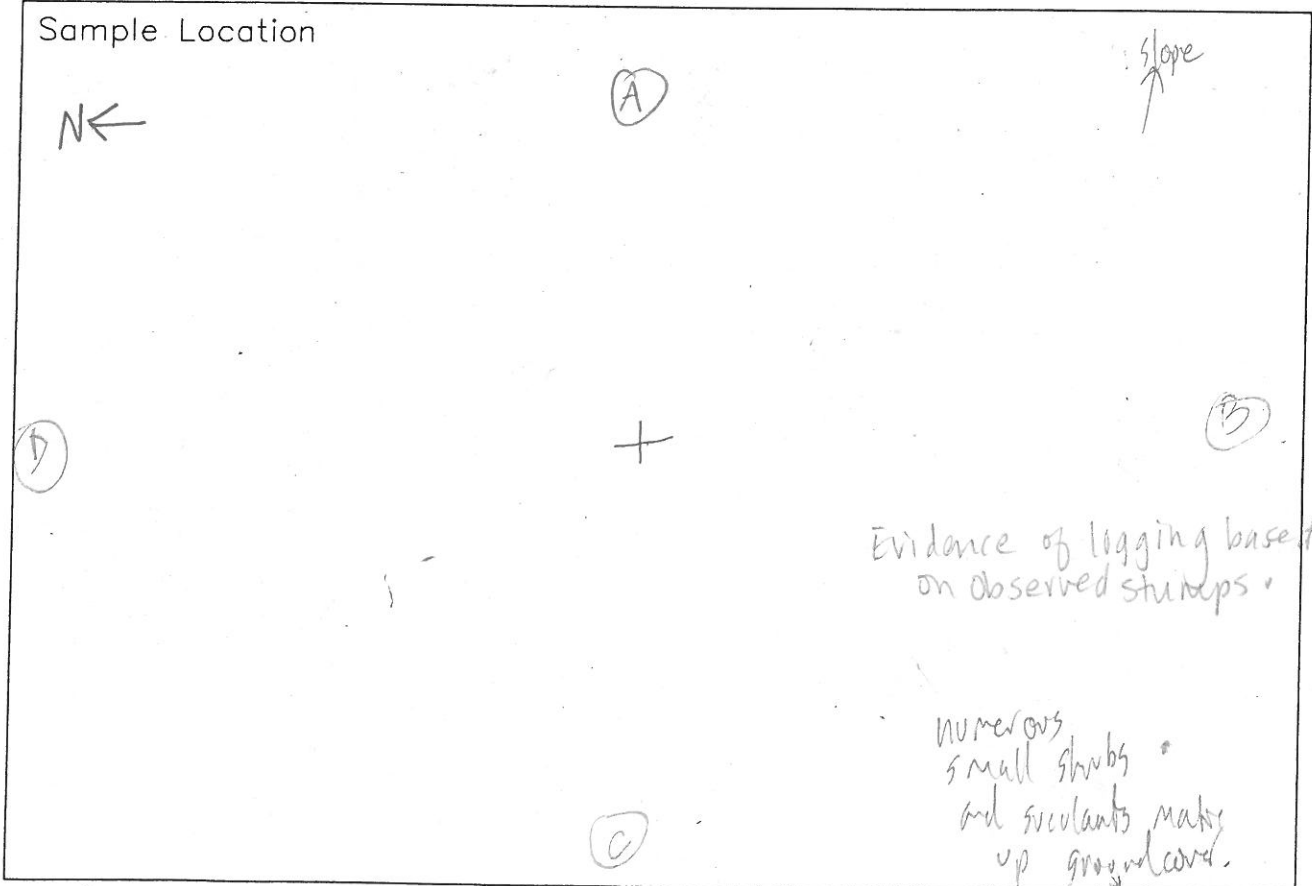
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Dark, moist to damp, dark brown, gradually sandy SILT with abundant organic material (roots). (B) Same as A, but containing almost-fully decomposed wood at 2" depth. (C) Top 1" same as A and B; then transitions to brown, very sand SILT. (D) same as A and B (top 2"), then transitions to bottom like on C (brown, very sandy silt) last 1"

Remarks Logged ~ 5 yrs ago. Snow covers area. 82°
Large ripples in all sample areas. Slope toward subsample A. ASPECT IS 90° [EAST].
No obvious signs of human disturbances. Slopes to E @ ~ 14°

Sample Location



Evidence of logging based on observed stumps.

Numerous small shrubs and succulants matting up ground cover.

Pictures - 0940 → A 0952
0944 B 0953
0950 C 0954
0951 D 0955

Geophoto
0956

FIELD DUPLICATE

X

Surface Soil Sample Collection Form

Sample No. SAI-3C-Field Dup

Collected by KJH/WD

Job Upper Columbia

Date 10/30/12 Time: 1702

Job No. 17400-36

Sampling Method Composite

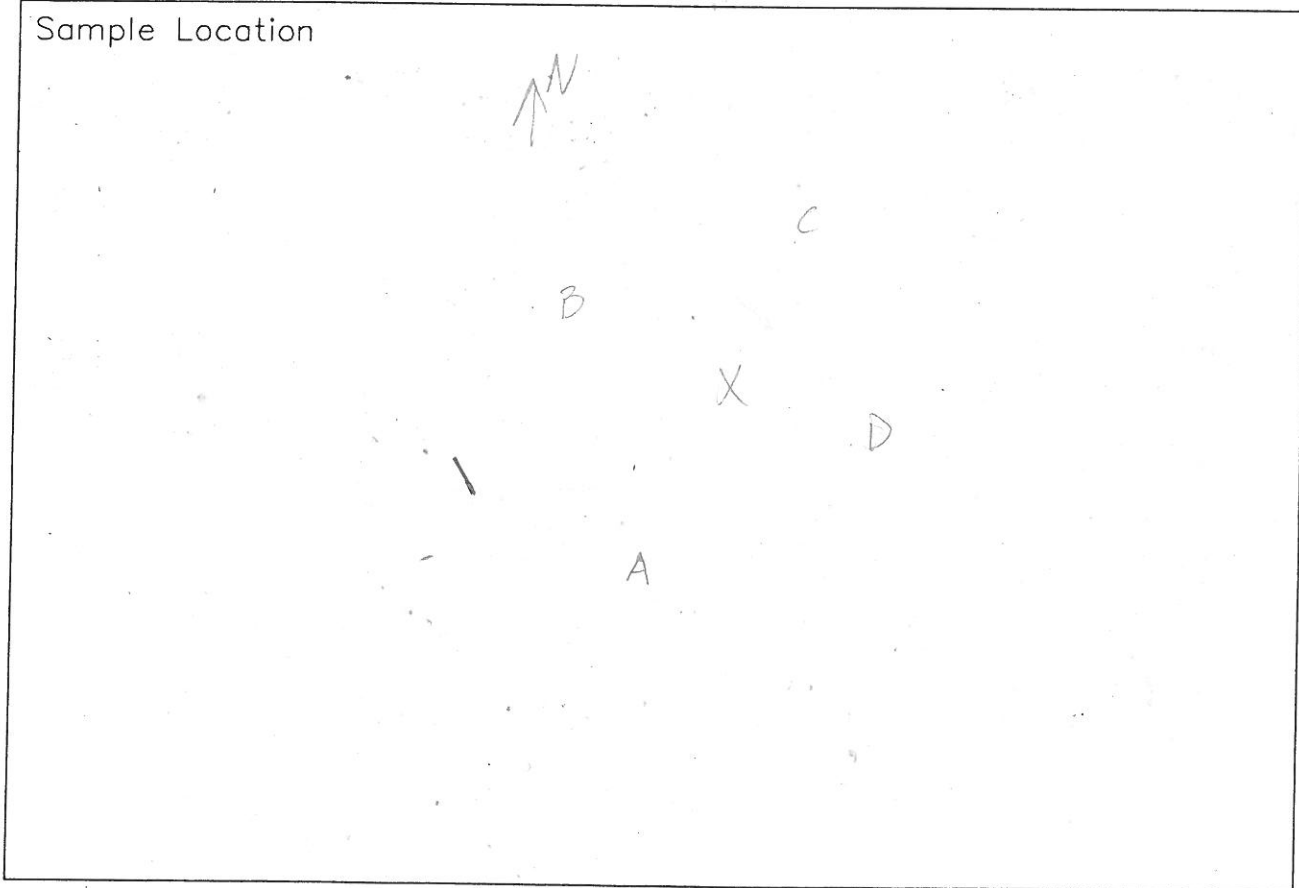
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A. Moist, brown, slightly gravelly, sandy SILT, trace organics
B. Moist dark brown gravelly, sandy SILT, trace organics
C. Damp, light brown, gravelly silty SAND abundant organics
D. Moist, brown, slightly gravelly, sandy SILT.

Remarks ~ 4" snow, rain, overcast, lots of drift.
Second growth forest, lots of downed timber
See SAI-3C form

Sample Location



Surface Soil Sample Collection Form

Sample No. SA2-1C

Collected by PRC/SMF

Job UCR

Date 10/31/2012

Job No. 17800-36

COORD. E 2385172.55

N 743806.9

Sampling Method 4-pt Composite

ELEV: 2,729.67'

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 4" of F. Duff moist, dark brown, sandy SILT @ surface grading to brown to red-brown silty SAND to sandy SILT trace gravel, w/ scattered roots and organics

(B) 2" of F. Duff damp, dark brown to brown, ^{slightly gravelly} sandy SILT to silty SAND, w/ scattered organics, roots etc.

Remarks Steep area with abundant organic material (pine needles and leaf litter). Aspect 115°. Slope 18°. Thick trees and downed timbers. No evidence of logging.

Sample Location

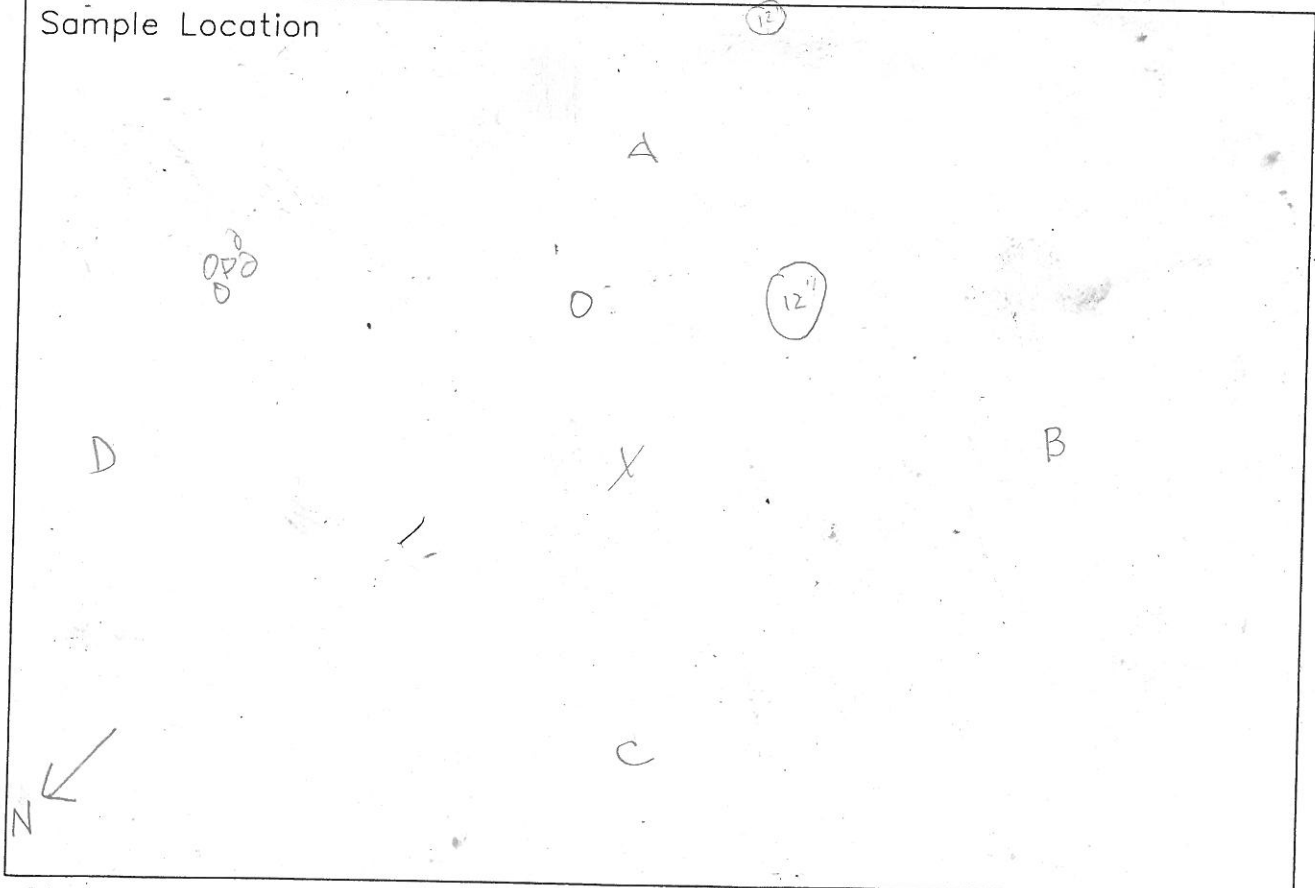


Photo #s
 looking toward
 A 993
 B 994
 C 995
 D 996

Sample notes
 A 997
 B 998
 C 999
 D 1000

Site photo 1001
 facing downslope



Surface Soil Sample Collection Form

Sample No. ST2-2C

Collected by RJH/WM

Job Upper Columbia

Date 10/31/12 0930

Job No. 17800-36

N

Sampling Method composite

E

Composite Sample Yes No

elev

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

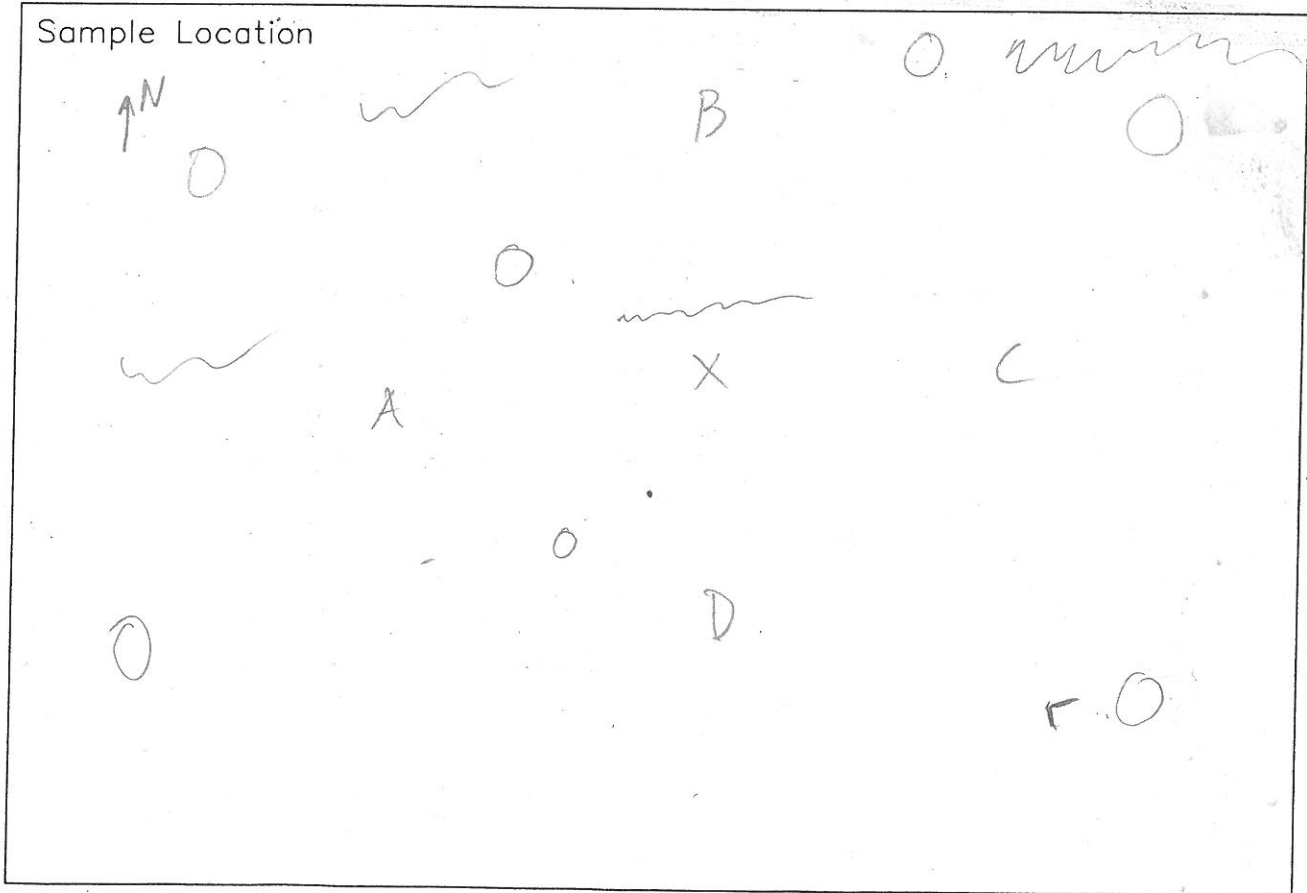
A. Moist, brown, slightly gravelly, sandy SILT, scattered organics ~ 0.5" duff

B. Moist, brown, slightly gravelly, sandy SILT, scattered organics, small sand layer below 1" duff

C. Moist brown, gravelly, sandy SILT, " " 2-3" duff. D. Moist. Grey-brown

Remarks ^{slope} aspect = 15° ^{via} aspect = 309° ^{slightly granular, silty, SAND, scattered organics, 1" duff!} second growth cedar forest, ~~no~~ evidence of old logging of the area. canopy ~ 70%. overcast, rain, thick duff, no snow

Sample Location



tree = downed timber

O = ~~tree~~ tree

X

Surface Soil Sample Collection Form

Sample No. SA2-1P through 4P

Collected by KJH/WM

Job Upper Columbia

Date 10/31/12 - 10/13

Job No. 17800-36

see SA2-2C

Sampling Method hand auger

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-3" Moist, brown gravelly sandy SILT 3-6" Moist brown gravelly silty SAND

trace organics 6-12" Moist, brown to l-brown gravelly sandy SILT, few organics

12-24" Moist brown gravelly sandy SILT transitions to damp red-brown silty SAND @ ~20"

Remarks see SA2-2C, large rock at ~3.5"

Sample Location

see SA2-2C



@ 1516 X

Surface Soil Sample Collection Form

Sample No. SA2-3C

Collected by PRC/SMF

Job VCR

Date 10/31/2012

Job No. 17800-36

Sampling Method 4-pt composite

Composite Sample Yes No

E - 2388 545.28' E
N - 741289.68' N
Elev 3,106.44' (MSL) > SPN NAD 83

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

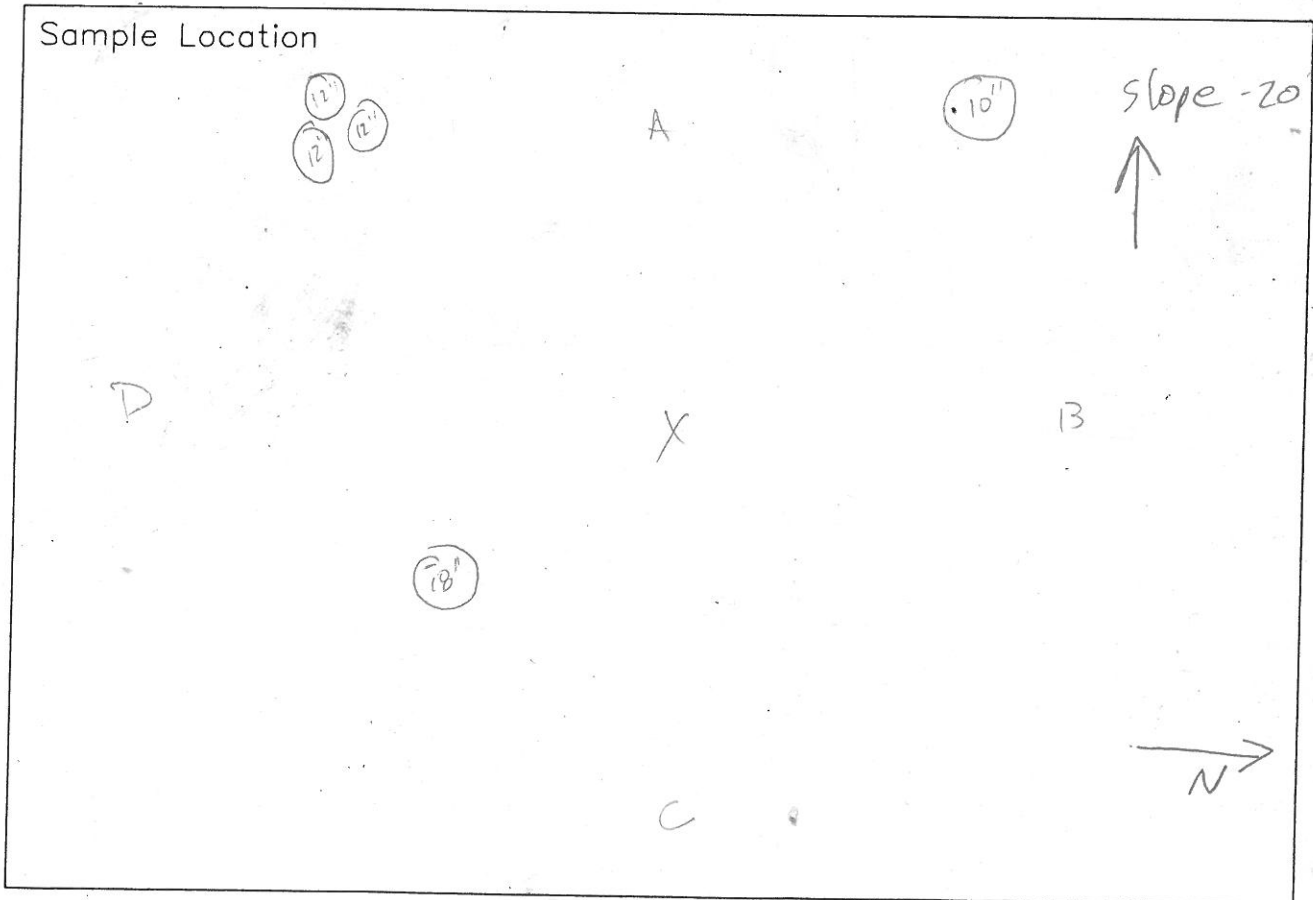
- (A) Damp, lt. brown, silty SAND, trace gravel, 2" duff, Abundant leaves and pine needles.
- (B) Same as A, with 3" duff.
- (C) Damp, dk brown and light brown, silty SAND, trace gravel, 1" duff, abundant roots.
- (D) Damp, brown, silty sand to sandy SILT, trace gravel, 2" duff, abundant roots.

Remarks Aspect 288°, Slope 20°

Thick heavy leaf and pine needle cover on ground. Numerous small shrubs in sample area. No evidence of recent logging or human disturbance.

Weather - cloudy

Sample Location



Photos
Looking toward

A	1031
B	1032
C	1033
D	1034

Sample locations

A	1055
B	1036
C	1037
D	1038

Site looking toward

A	1039
---	------



Surface Soil Sample Collection Form

@1200
~~@1000~~ X

Sample No. SA2-4C

Collected by PRC/SMF

Job VCR

Date 10/31/2012

Job No. 17800-36

Sampling Method 4-pt Composite

Composite Sample Yes No

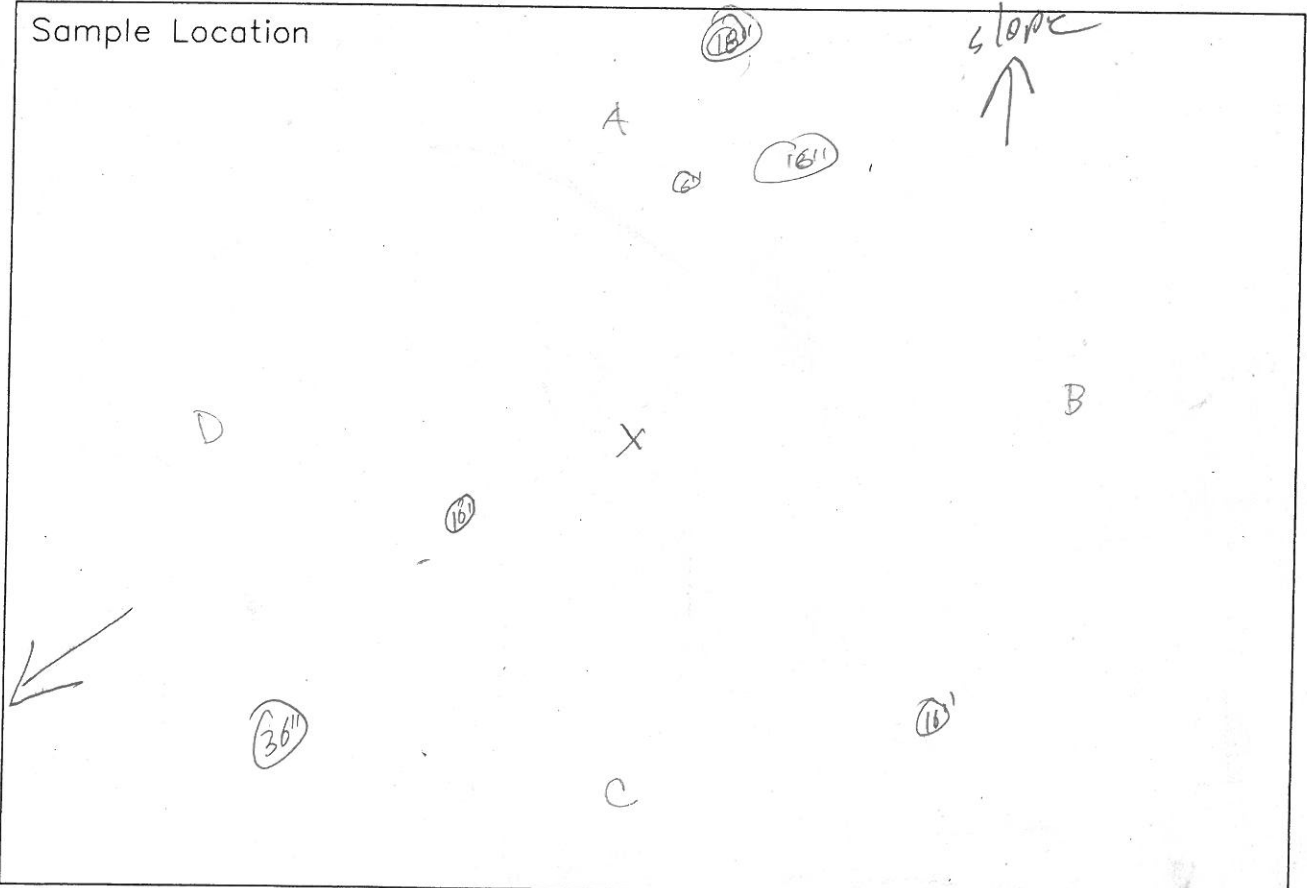
E-2385880.52 > SPN NAD83
 N-742247.04 (ft)
 Elev. 2,190.74 (MSL)

FIELD DUPLICATE COLLECTED

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) Damp to moist, brown, sandy silty GRAVEL covered w/ 2" duff. Roots throughout.
- (B) Damp, brown to H. brown, gravelly sandy silt to silty SAND with 1" duff and abundant roots.
- (C) Damp, brown to red brown, gravelly silty SAND with 2" duff and abundant roots.
- (D) Damp, brown, slightly gravelly silty SAND to sandy SILT w/ 4" duff and abundant organic (roots) throughout site.

Remarks ASPECT 110° SLOPE 28° heavy leaf litter and downed saplings
Forest had no evidence of recent human disturbances



looking at sample { 1003 A 1007 }
 { 1004 B 1008 }
 { 1005 C 1009 }
 { 1006 D 1010 }
 } samplings to caption

Surface Soil Sample Collection Form

Sample No. SA2-5C

Collected by KJH/LWM

Job Upper Columbia

Date 10/31/12 1323

Job No. 17900-36

N 739091.93

Sampling Method composite 4 sit

E 238545.622

Composite Sample Yes No

elev 2089.64

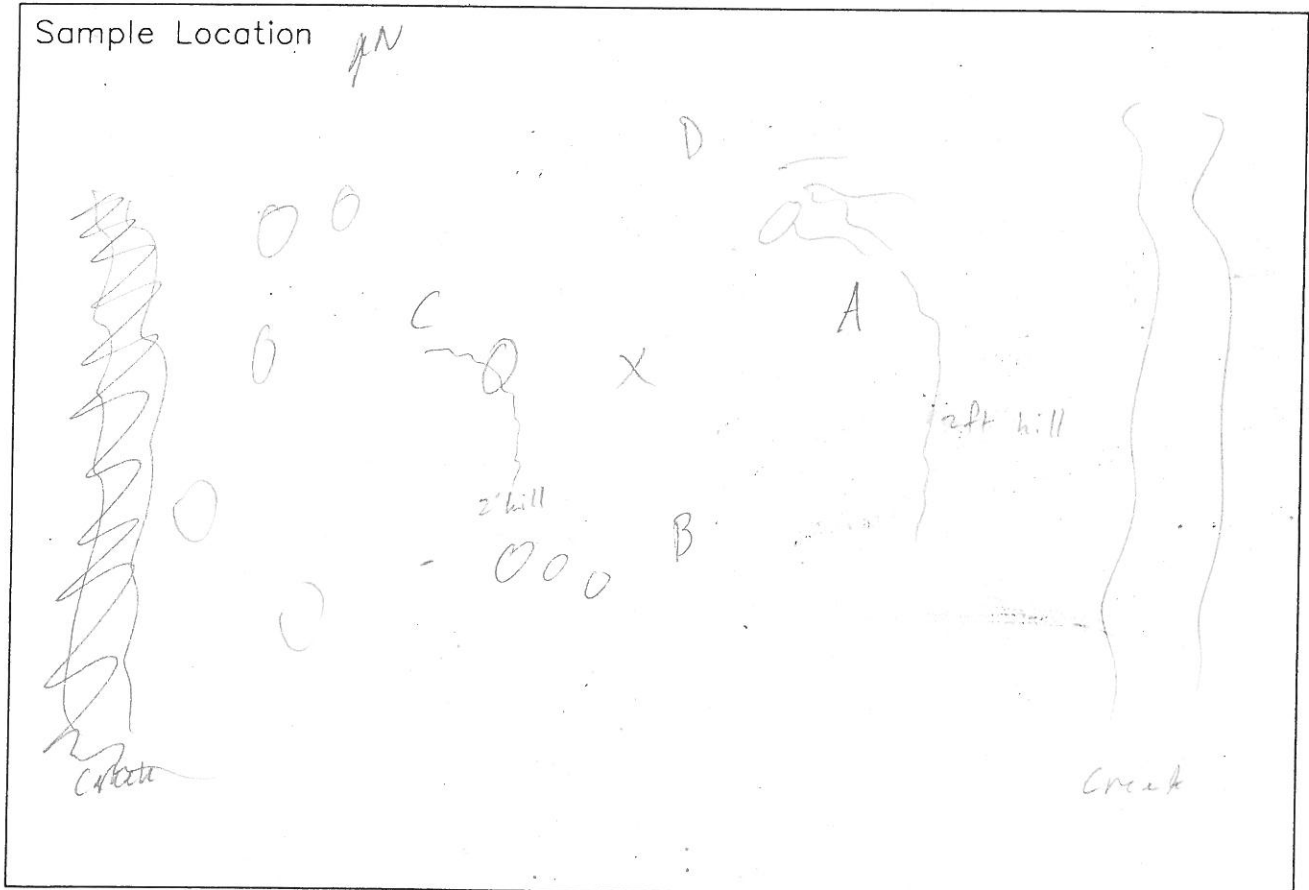
aspect

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A: moist, grey brown, slightly gravelly fine sandy SILT. B: Moist, grey brown, fine sandy SILT, few organics. C: Moist, brown to grey, silty fine SAND abundant organics. D: Moist grey brown gravelly to coarse SAND, few organics.

Remarks stream bed, heavy amount of living material over stream deposits.

Sample Location



@ 13:44

Surface Soil Sample Collection Form

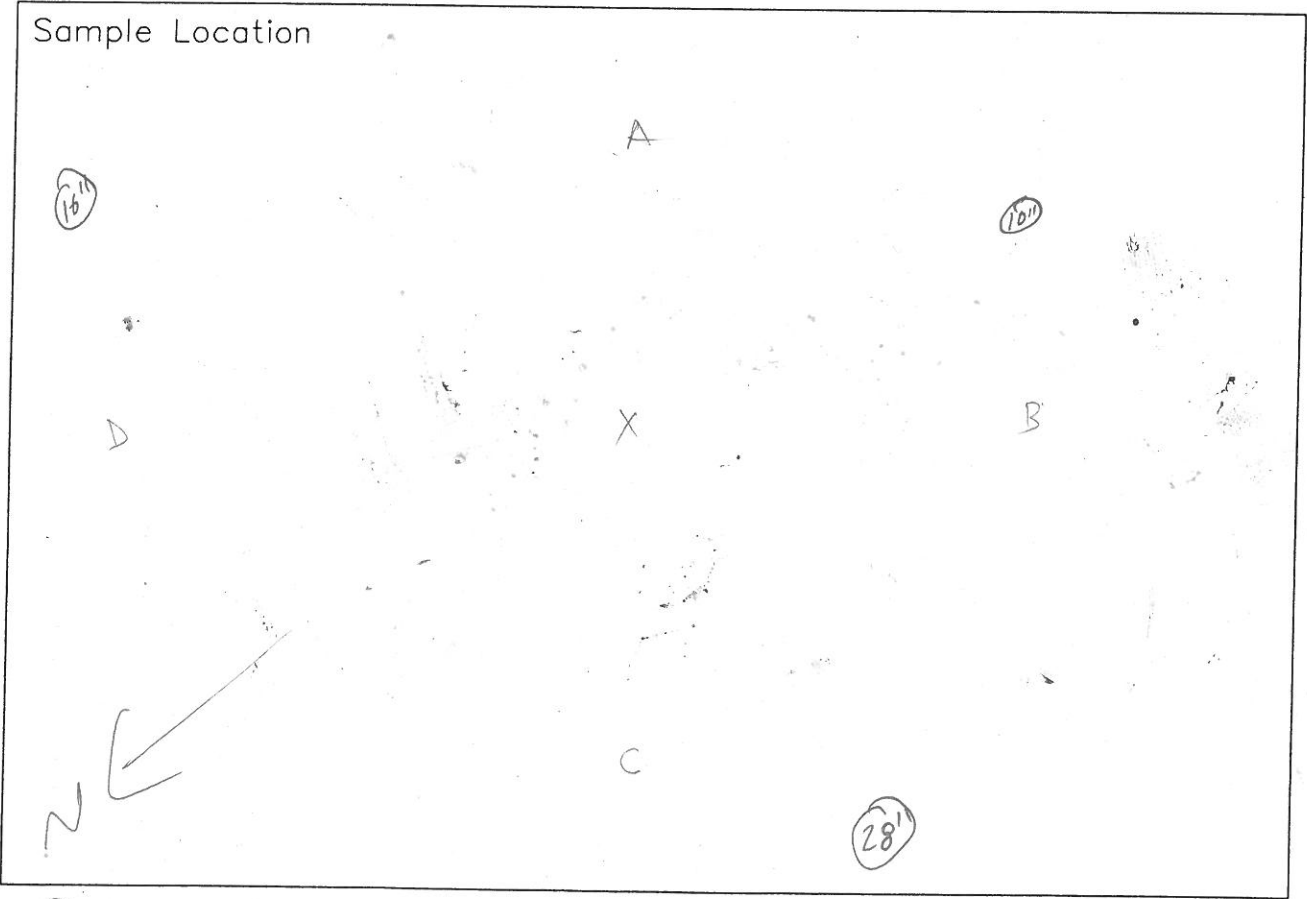
Sample No. SA2-6C
 Job OCR
 Job No. 17800-36
 Sampling Method 4-pt composite
 Composite Sample Yes No

Collected by PRL/SMF
 Date 10/31/2012

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) Damp, dark brown, gravelly silty SAND ^{to sandy silt} w/ abundant organics. ~1" of duff ^{of pine needles}
- (B) Damp, brown, same as A 2" of duff
- (C) Moist, dark brown, sandy silt face gravel w/ abundant roots and 2" of duff

Remarks Aspect - 160° slope - 19°
No evidence of recent logging. Relatively ~~thin~~ sparse forest w/ pine trees. Thick layer of pine needles throughout sampling site. Thick groundcover throughout site.



Photos facing points

A 1020	A 1025	} Sub Sample } Photo
B 1021	B 1026	
C 1022	C 1027	
D 1023	D 1028	





Surface Soil Sample Collection Form

Sample No. SA2-7C

Collected by RJM/WM

Job Upper Columbia

Date 10/31/12 1455

Job No. 17800-26

N. 738952.18

E. 2787592.35

Sampling Method Composite 4-site

elev. 2731.13

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist, grey-brown to black, gravelly very silty SAND 1/2" organic layer on top

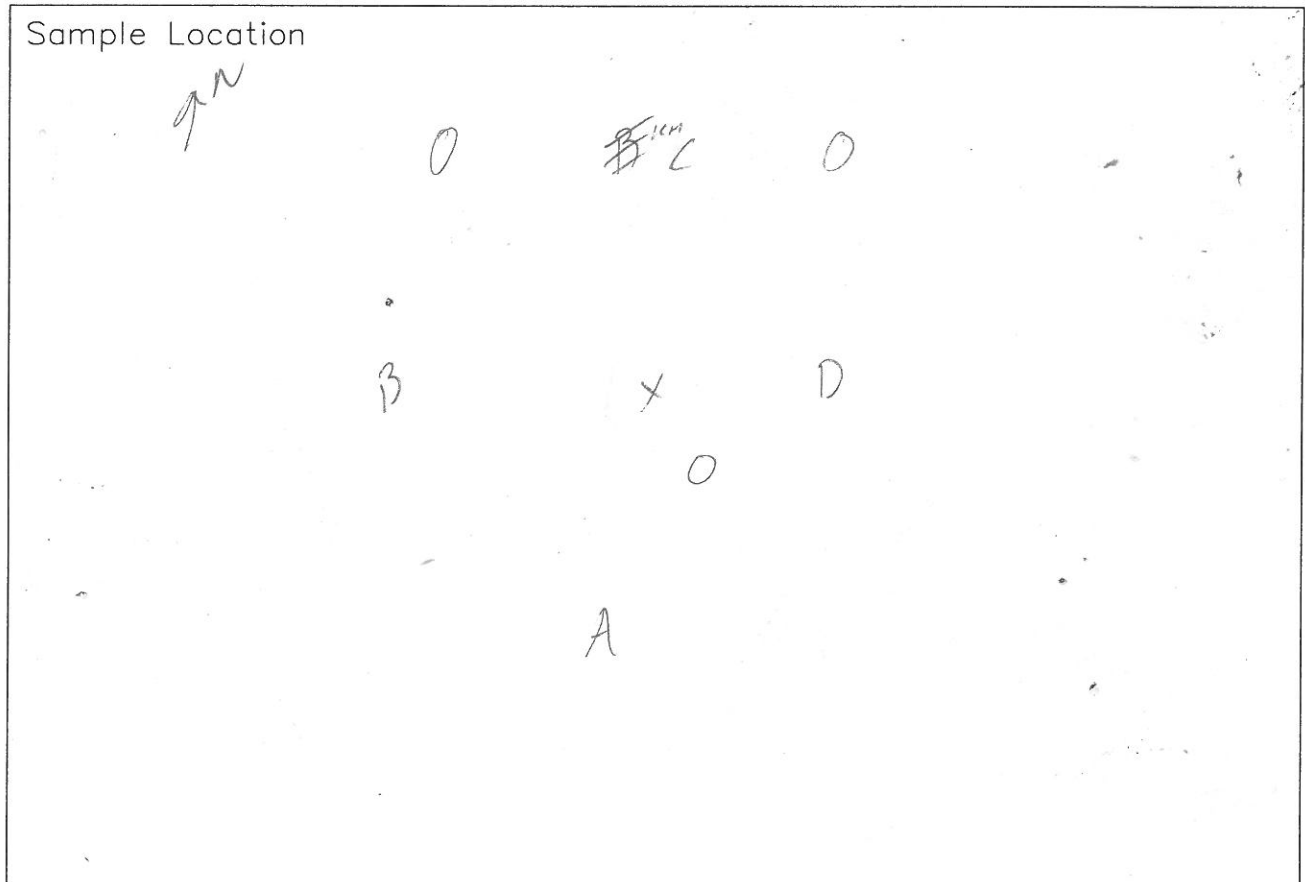
B " " " " " " " " " " " " " " " "

C " " " " " " " " silty SILT 1" " " " "

D " " " " " " " " " " " " " " " "

Remarks aspect 230° (SW) Alder forest, few pines & willow, lots of pine needle duff
slope 10° Forest use, game trail running through original sample
moved sample to W

Sample Location



O = tree

Surface Soil Sample Collection Form



Sample No. SA2-80

Collected by KJH/WM

Job Upper Columbia

Date 10/31/12 1128

Job No. 17800-36

aspect = 308

Sampling Method Composite 4 site

N:
E:

Composite Sample Yes No

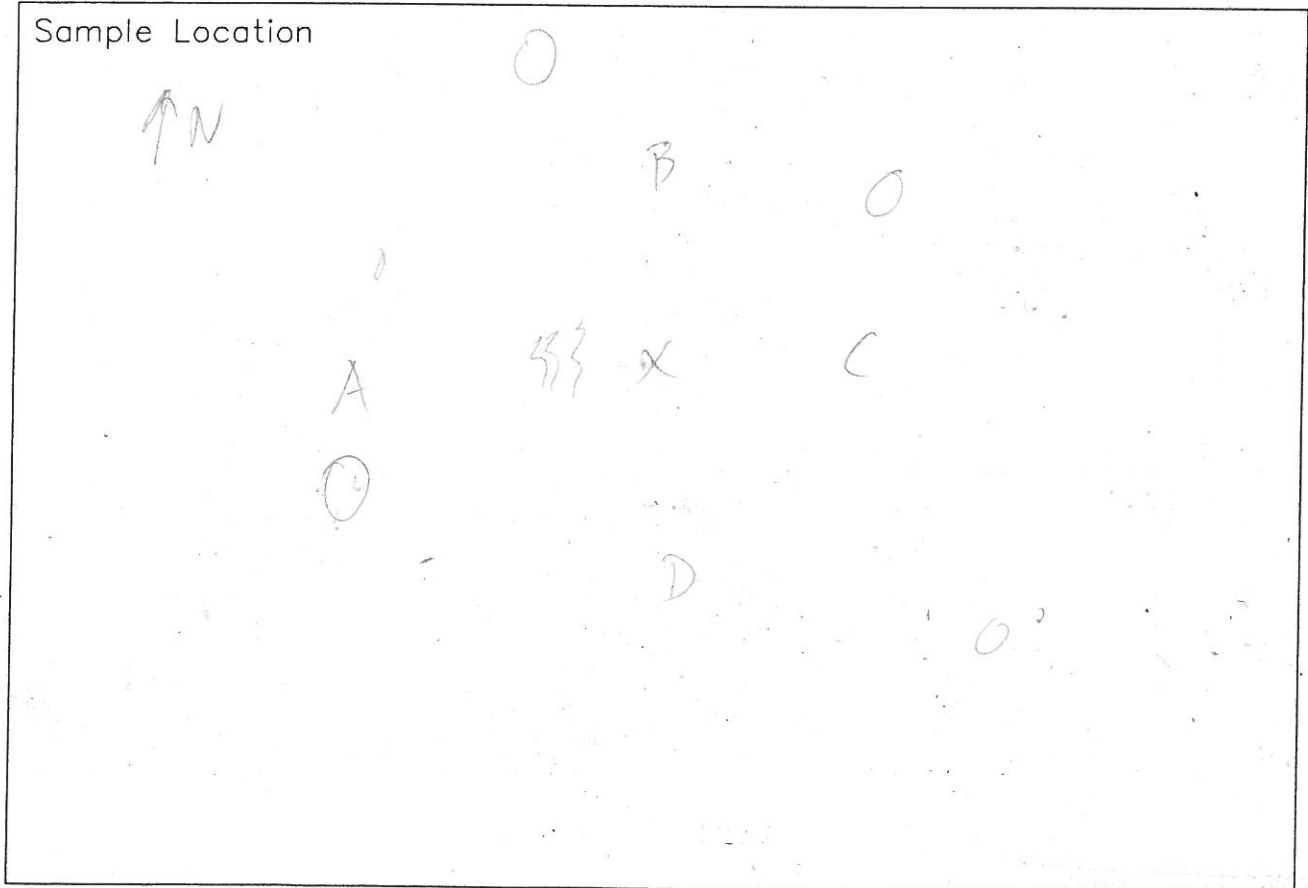
elev:
slope = 15°

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist, brown, gravelly, very silty SAND scattered organics D Moist brown gravelly
sandy SILT trace organics C Moist brown gravelly, sandy SILT w/ 1" black layer
over brown B Moist brown gravelly sandy SILT w/ 1" black layer

Remarks 50% canopy overcast; heavy leaf litter; steep area, forest land
lots of alder + birch

Sample Location



FIELD DUPLICATE

@1215

Surface Soil Sample Collection Form



Sample No. SA2-4C-DUPE

Collected by PRC/SMF

Job 17800-36

Date 10/31/2012

Job No. UCR

Sampling Method 4-pt composite

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) Damp, brown and lt. brown, slightly gravelly sandy silt. 2" forest duff with abundant roots
- (B) Same as A except gravelly to slightly gravelly. 3" duff.
- (C) Damp, grey and brown, sandy silty GRAVEL to silty sandy gravel. 3"-forest duff and abundant roots.
- (D) Damp, gray and brown, gravelly silty sand to sandy SILT. 1" forest duff, abundant roots

Remarks _____

Sample Location

Surface Soil Sample Collection Form



Sample No. SA3-1C

Collected by KSH/LM

Job Upper Columbia

Date 10/31/12 1613

Job No. 17800-36

N: 744303.72

E: 2370369.60

Sampling Method Composite 4-site

elev 3343.95

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist, brown, very silty SAND trace gravel & organics, trace fern

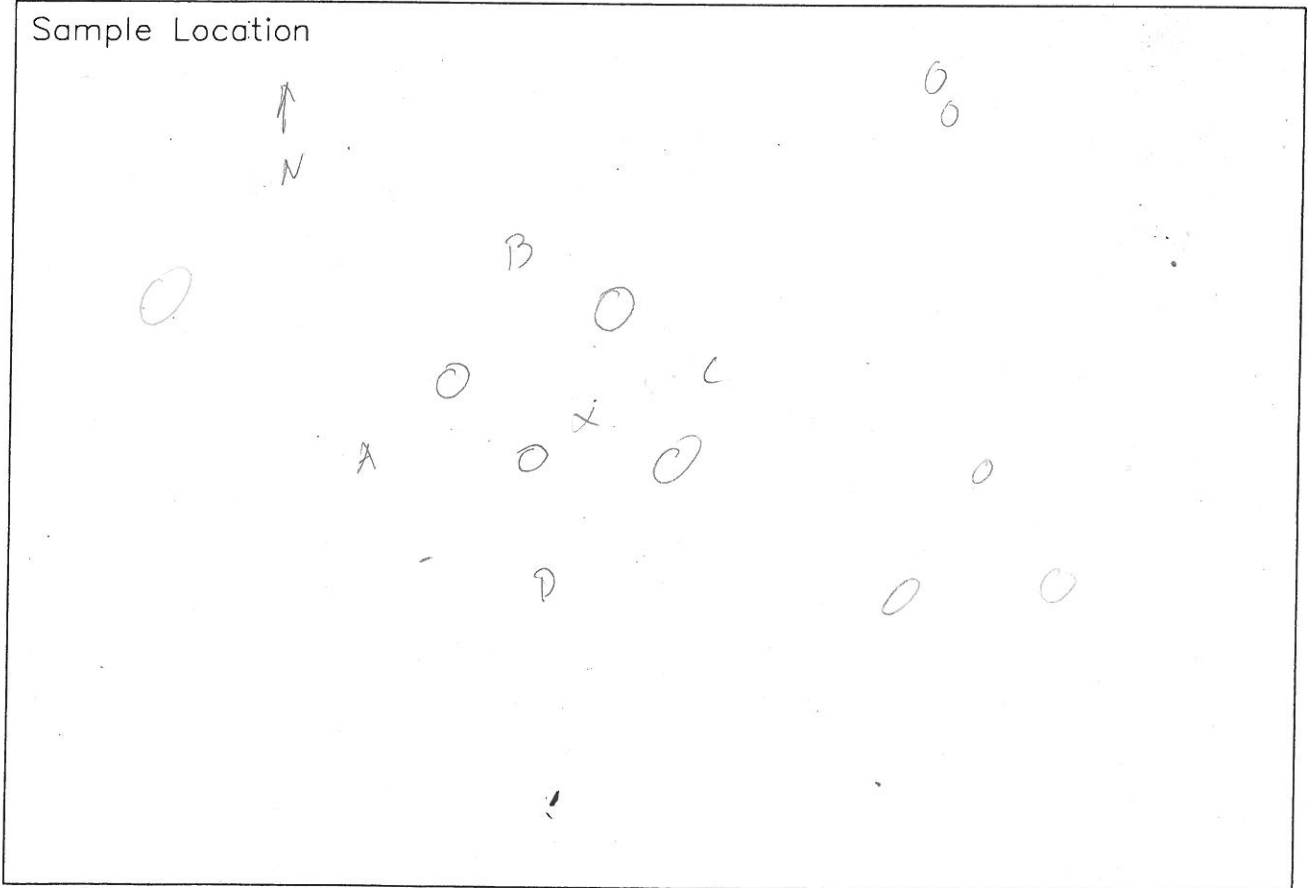
B " " black to brown, trace gravel sandy SILT, trace organics

C Moist, black to brown, sandy SILT trace gravel & organics

D " " " " scattered gravelly sandy SILT trace organics

Remarks slope = 22° aspect = 316° open alder forest; no evidence of human activity
lots of leaf litter, overcast, no rain

Sample Location



O = trees/alder clumps

Surface Soil Sample Collection Form



Sample No. SA3-2c

Collected by KJH/WM

Job Upper Columbia

Date 11/1/12 933

Job No. 17400-36

N 74363475

Sampling Method Composite - Ulsite

E 239163295

Composite Sample Yes No

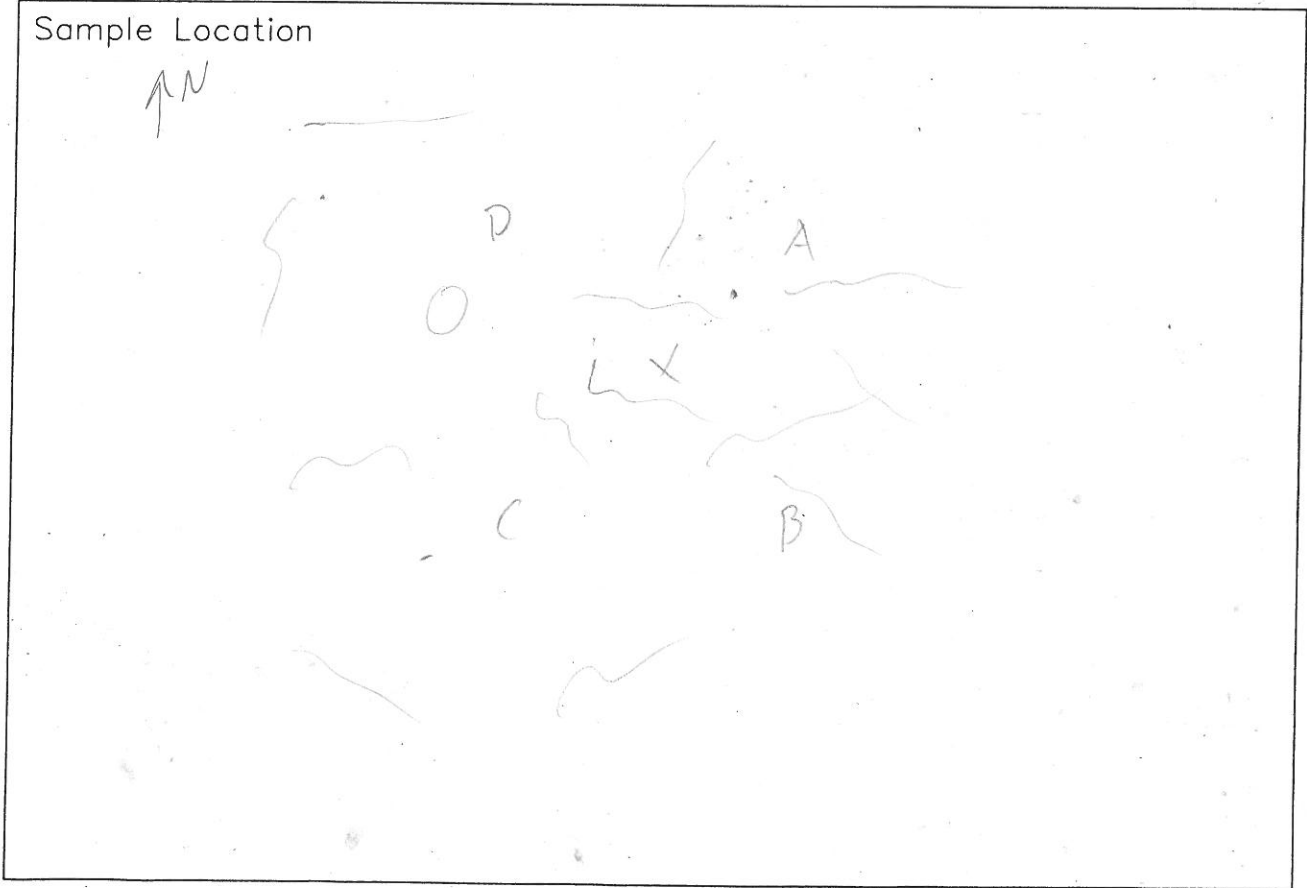
elev 3662.62

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) MOIST, LT. BROWN, V. SANDY SILT w/ SCATTERED CHARCOAL FRAG.
(B) MOIST, GRAY BROWN, SL. GRAVELLY TO V. GRAVELLY SANDY SILT
w/ TRACE ORGANICS (NO CHARCOAL), (C) MOIST, BROWN, SANDY SILT
w/ SCATT. ORGANICS (D) MOIST, LT. BROWN, SL. SANDY SILT w/ TRACE GRAVEL, SCATT. OR

Remarks forgot pin flags, dug small hole to mark subsamples & used shovel as
picture marker. Logging area, logged 5-8 yrs ago. canopy = 25%. lots of wood debris.
slope = 8° → NE DOWN GRADIENT
aspect = 20° NE

Sample Location



~ = downed wood
O = tree stump

@ 16:29
X

Surface Soil Sample Collection Form

Sample No. SA3-3C

Collected by PRC/SMF

Job UCR

Date 10/31/2012

Job No. 17800-36

Sampling Method 4-pt composite

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

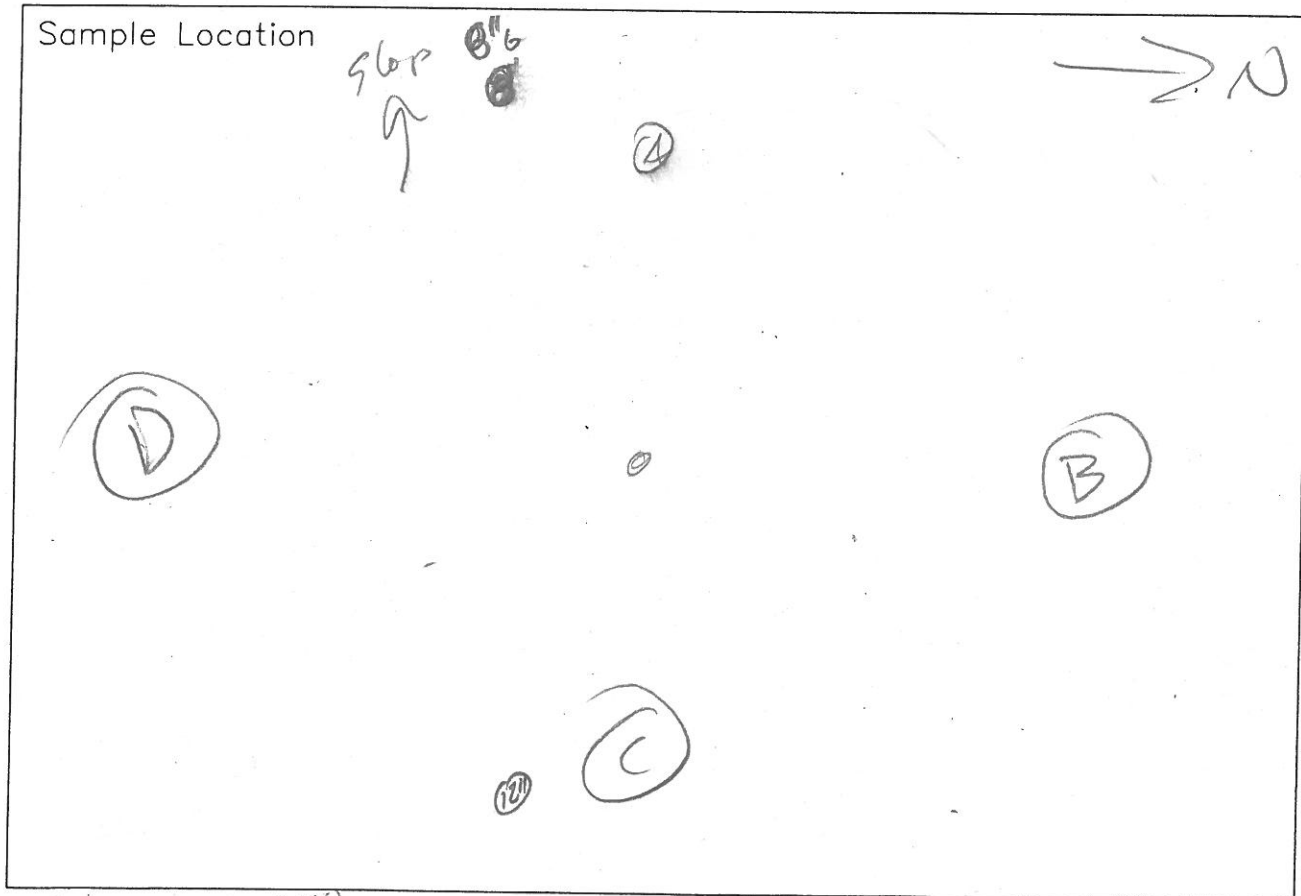
- (A) Damp, dk. brown grading to brown, gravelly silty SAND with abundant organics/roots, 1" duff
- (B) Same as A but with grass at surface
- (C) Same as A but with cobbles and 2" duff
- (D) Same as A, with 1" duff

Remarks ASPECT 296°, SLOPE

Area has been logged in the past, but no evidence of recent human disturbances. Steep slope w/ grassy vegetation w/ abundant shrubs.

Weather = cloudy

Sample Location



Photos
Looking toward:
A 1040
B 1041
C 1042
D 1043

Sample Locations
A 1044
B 1045
C 1046
D 1047

Site looking toward A
1048

Surface Soil Sample Collection Form



Sample No. SA 3-4C

Collected by KJH / WM

Job Upper Columbia

Date 11/11/12 1025

Job No. 17900-36

N 742712.01

E 2391683.01

Sampling Method composite 4-site

elev 3578.95

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Damp, BROWN, SANDY SILT TRACE GRAVELS + ORGANICS (B) Damp,

GRAY BROWN TO GRAY SL. SANDY ~~TRACE~~ TRACE ORGANICS (C) MOIST,

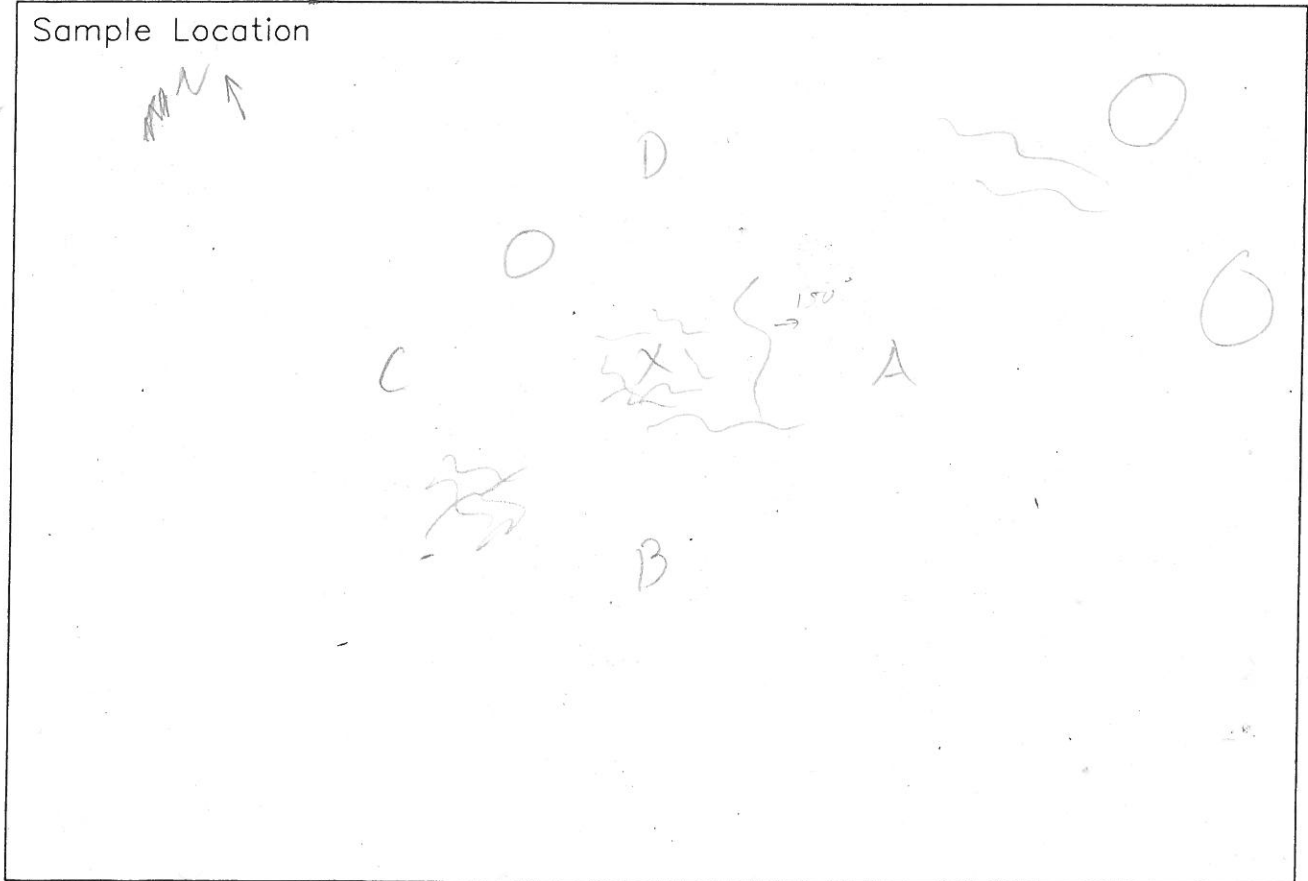
BROWN TO BLACK, V. SANDY SILT ^{SCATT} TRACE ORGANICS + CHARCOAL.

(D) 2" WOOD DUFF / 1/2" FINE GRAY SAND, DAMP, LT. BROWN, GRAYELLY SANDY SILT, TRACE ORG.

Remarks logging area ~ 5-8 yrs ago. No evidence of recent activity. Rain, overcast

Canopy = 0%
slope = 150°
aspect = 12

Sample Location



CHARCOAL
LENSE
~ 5" BGS
FOR (D)

O = dead tree clumps
~ = downed wood

Surface Soil Sample Collection Form

P1-1050
P2-1055
P3-1100
P4-1105



Sample No. SA3-1P through 4P

Collected by KJH/LJM

Job Upper Columbia

Date 11/1/12

Job No. 17900-3b

Sampling Method hand dig

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-3" Damp, brown, sandy SILT, trace organics 6" Damp, brown, slightly gravelly
sandy SILT, trace organics 12" Damp brown, slightly gravelly, very sandy
SILT, scattered organics 12-24" Damp, brown, slightly gravelly, very coarse sandy SILT
trace organics

Remarks See SA3-4C

Sample Location

See SA3-4C

@ 0902

Surface Soil Sample Collection Form

X

Sample No. SA3-5C

Collected by PEC/SMF

Job UCR

Date 11/1/2012

Job No. 17800-36

Sampling Method 4-pt composite

E - 238 9989.05'
N - 740968.17' \rightarrow SPN
NA08?
Elev - 3,299.26' MSL

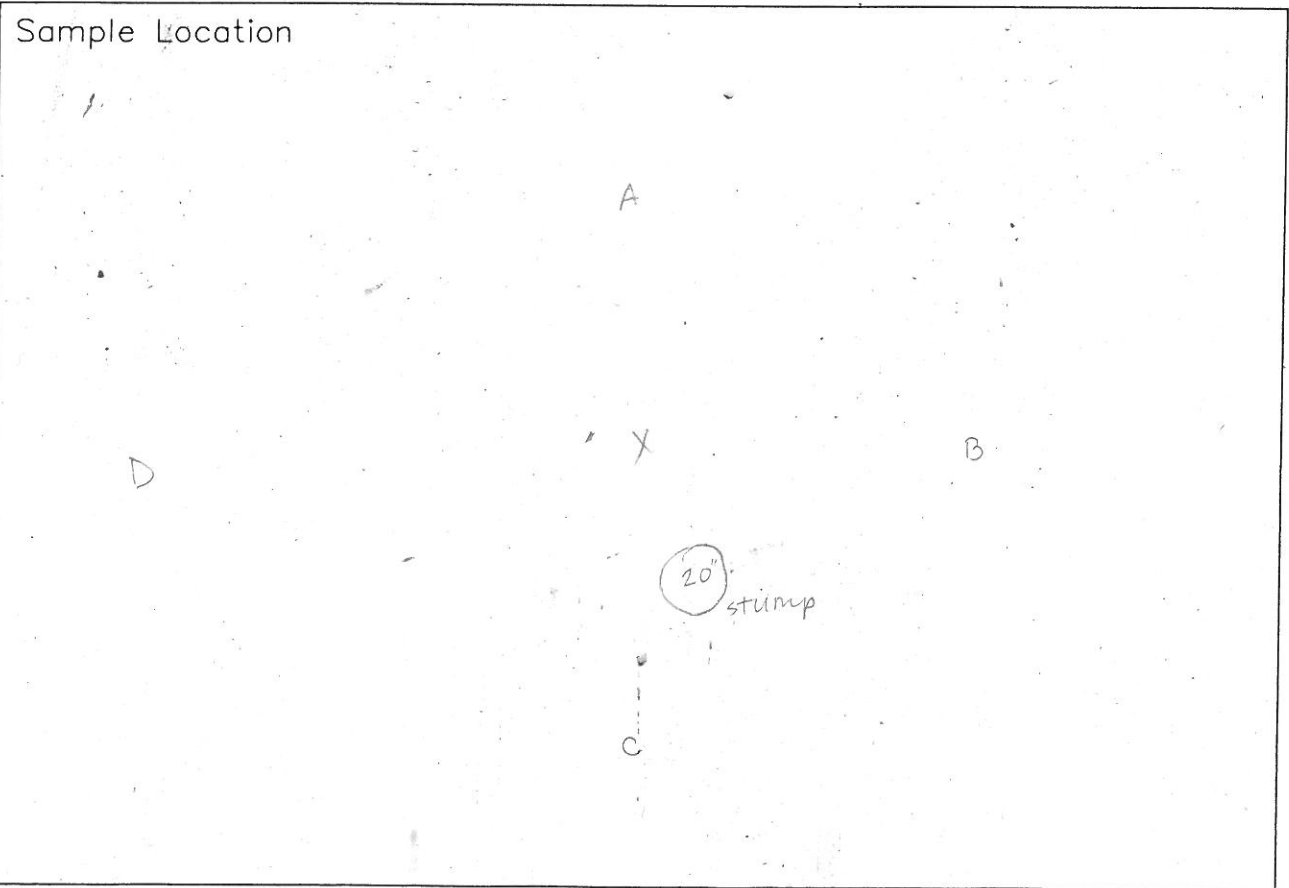
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 3-4" decaying wood on top. Damp to moist, dark brown to black layer on top grading to brown. Slightly gravelly sandy SILT to silty SAND with roots and occasional wood pieces.

(B) Same as A but with TRACE GRAVEL and 2" wood debris/organics on surface

Remarks ASPECT 155°, SLOPE 13°. Evidence of recent logging. Heavily vegetated by small brush. Entire area appears to have been disturbed. NO visible cat tracks. Possible burning in area but no specific evidence at site.



Photos looking forward

- A 1049
- B 1050
- C 1051
- D 1052

- Sample locates
- A 1053
 - B 1054
 - C 1055
 - D 1056

- Site looking toward
- A 1057



Surface Soil Sample Collection Form



Sample No. SA3-6C

Collected by ARC/SMF

Job VCR

Date 11/1/2012

Job No. 17800-36

E 2391763.52

Sampling Method 4-pt composite

N 741703.75

Composite Sample Yes No

Elev ~~3244~~ 3,243.66'

→ DUPLICATE COLLECTED

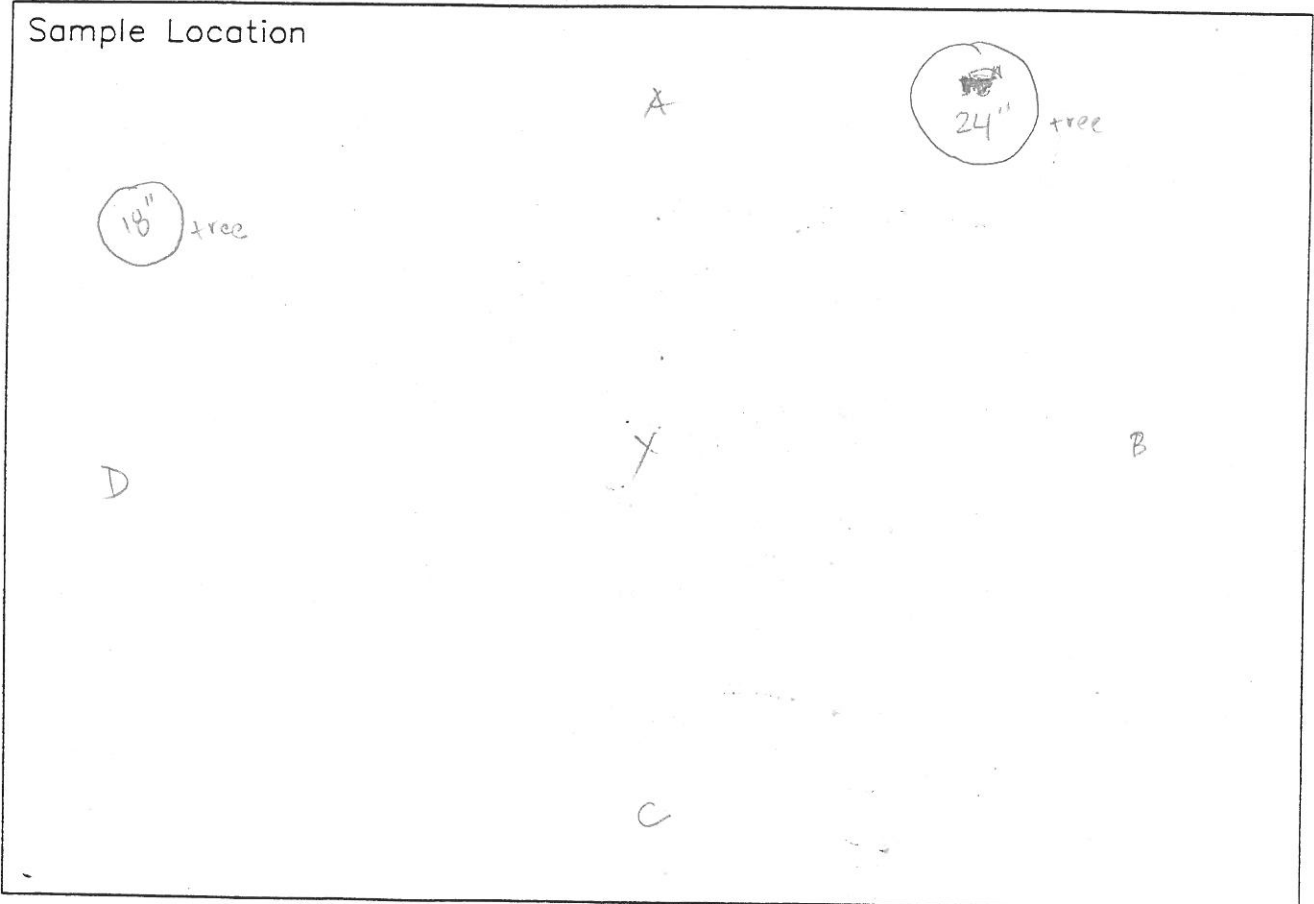
Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

ASPECT 133°. SLOPE 30°. (A) 2" duff to 3", abundant pine needles, grades to moist dk. brown to black-sandy SILT with abundant organics. (B) Same as A but dk. brown to brown. (C) Same as A, but with more organic matter (decomposing roots).

2.3" duff
↓
ⓓ →

Remarks Moved approx. 50' upslope to avoid extremely thick vegetation. Below heavily logged area. Burned material pushed down hill ~500' upslope from sample site. Thick pine needle cover on ground surface. Very steep area.

Sample Location



Photos looking toward

A	1076
B	1077
C	1078
D	1079

Sample locates:

A	1080
B	1081
C	1082
D	1083

Site photo toward -A

1084



Surface Soil Sample Collection Form



Sample No. SA3-7C

Collected by KJH/LDM

Job Upper Columbia

Date 11/1/12 1254

Job No. 17800-36

N 743668.68

Sampling Method 4 site composite

E 239329.50

Composite Sample Yes No

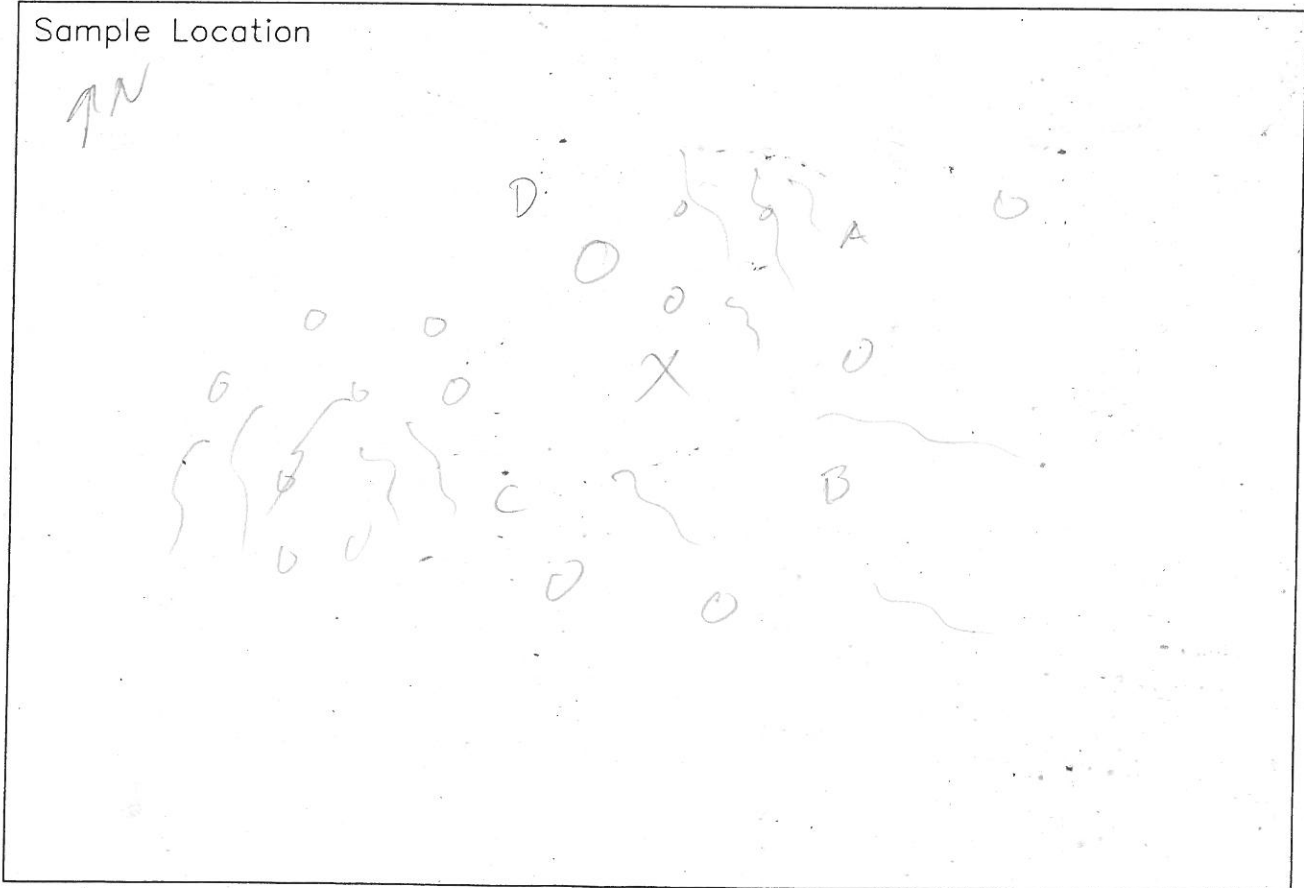
elev 3354.69

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- ~~(A) DAMP, DRK BROWN TO BLACK, SL. SANDY SILT, ABUNDANT ORG.~~
- ~~(B) DAMP, DRK BROWN TO BLACK, SL. SANDY SILT, ABUN. ORG.~~
- ~~(C) DAMP, DRK BROWN, SL. SANDY SILT w/ TRACE GRAVEL, SCAT. ORGANICS~~
- ~~(D) DAMP, DARK-DARK BROWN, SANDY SILT w/ TRACE GRAV. + ABUN. ORGANICS~~

Remarks Rain, canopy = 90%, no evidence of human activity, some
slope = 5°
aspect = 50°
all scat nearby

Sample Location



O = tree
 ~ = down wood

Surface Soil Sample Collection Form



Sample No. SA3-8C

Collected by KJH/WDM

Job Upper-Columbia

Date 11/1/12

Job No. 17900-26

N 7441220.87
E 2394318.36
elev 3134.99

Sampling Method composite 4 sites

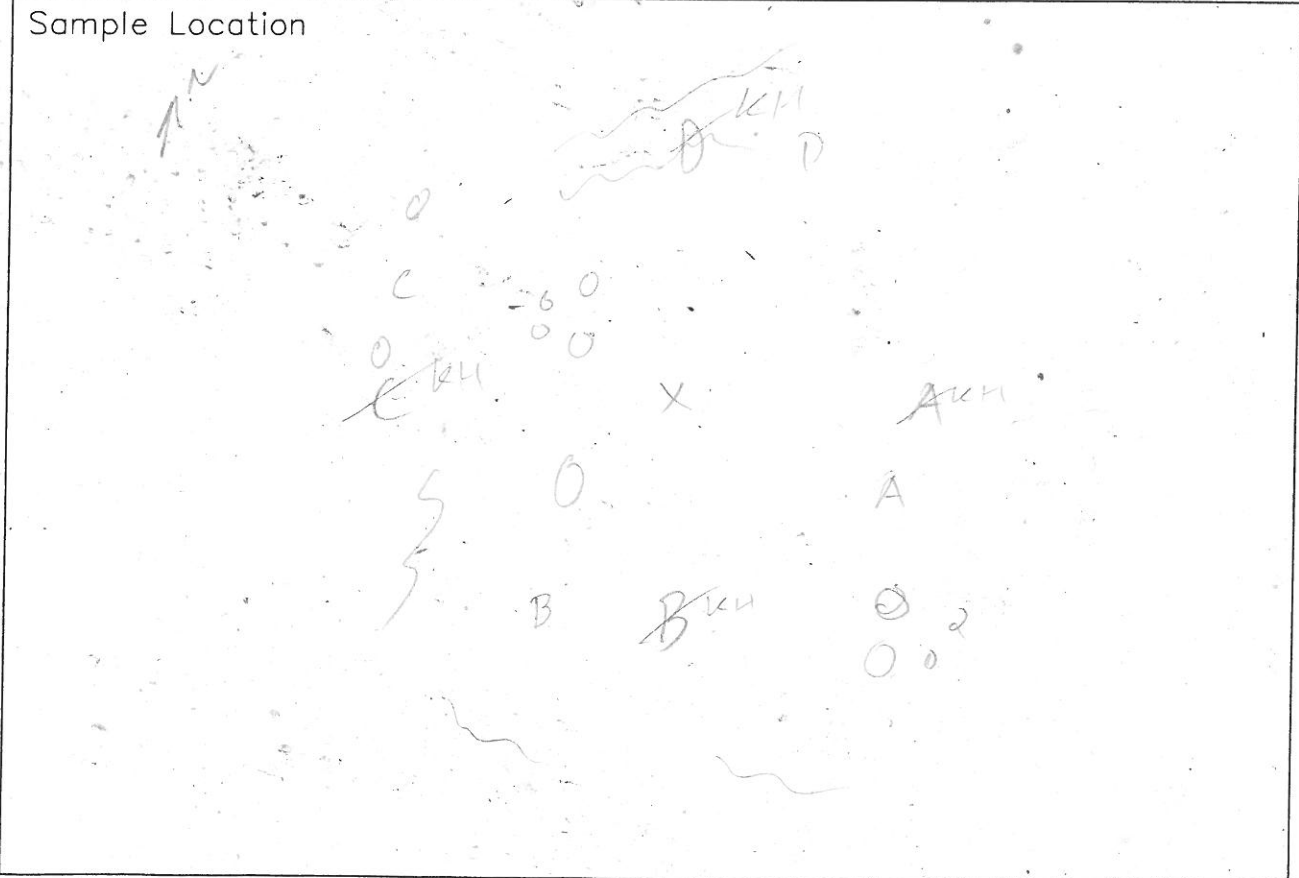
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (D) moist, brown, silty sand, trace organics w/ charcoal at 3" BGS
- (A) moist, black-brown, silty sand w/ trace gravels + org.
- (B) damp, moist, black, sandy silt, trace charcoal / 5" BGS gray-brown / 2" DWF
- (C) damp, brown, silty sand

Remarks Forest canopy ~ 60% rain: lots of leaf & needle litter, no evidence of human activity
slopes 17°
aspect 115
no pin flags, use shovel + holes to mark subsample

Sample Location



wavy line = downed wood
circle = trees

Surface Soil Sample Collection Form

@ 1314



Sample No. SA3-6C-DUP

Collected by PRC/SMF

Job VCR

Date 11/1/2012

Job No. 17800-36

Sampling Method 4-PT COMPOSITE

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1" duff. Moist, dk. brown to black, sandy silty GRAVEL with scattered roots.

(B) Same as A. (C) 1/2" duff. Moist, dk. brown to dk. gray, sandy silty GRAVEL

with scattered roots. (D) 2" duff. Moist, dk. brown to dk. gray (same as C)

Remarks ASPECT 133°. SLOPE 30°.

Sample Location

See SA3-6C

Photos
looking
toward
A 1085
B 1086
C 1087
D 1088

Sample
Locations

A 1089
B 1091
C 1092
D 1093 or 94(?)

toward A
1095



Surface Soil Sample Collection Form

Sample No. SAL-1C

Collected by KJH/LDM

Job Upper Columbia

Date 11/2/12 855

Job No. 17800-36

N 737502.36

Sampling Method composite LI-Site

E 2390079.60

Composite Sample Yes No

elev. 2211.19

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) MOIST, DRK BROWN, GRAVELLY SILTY SAND ABUNDANT ORG.

(B) Damp BROWN ~~GRAVELLY~~ SILTY SANDY GRAVEL w/TRACE ORG.

(C) MOIST BROWN, SL. GRAVELLY, SL. SANDY SILT SAT. ORG.

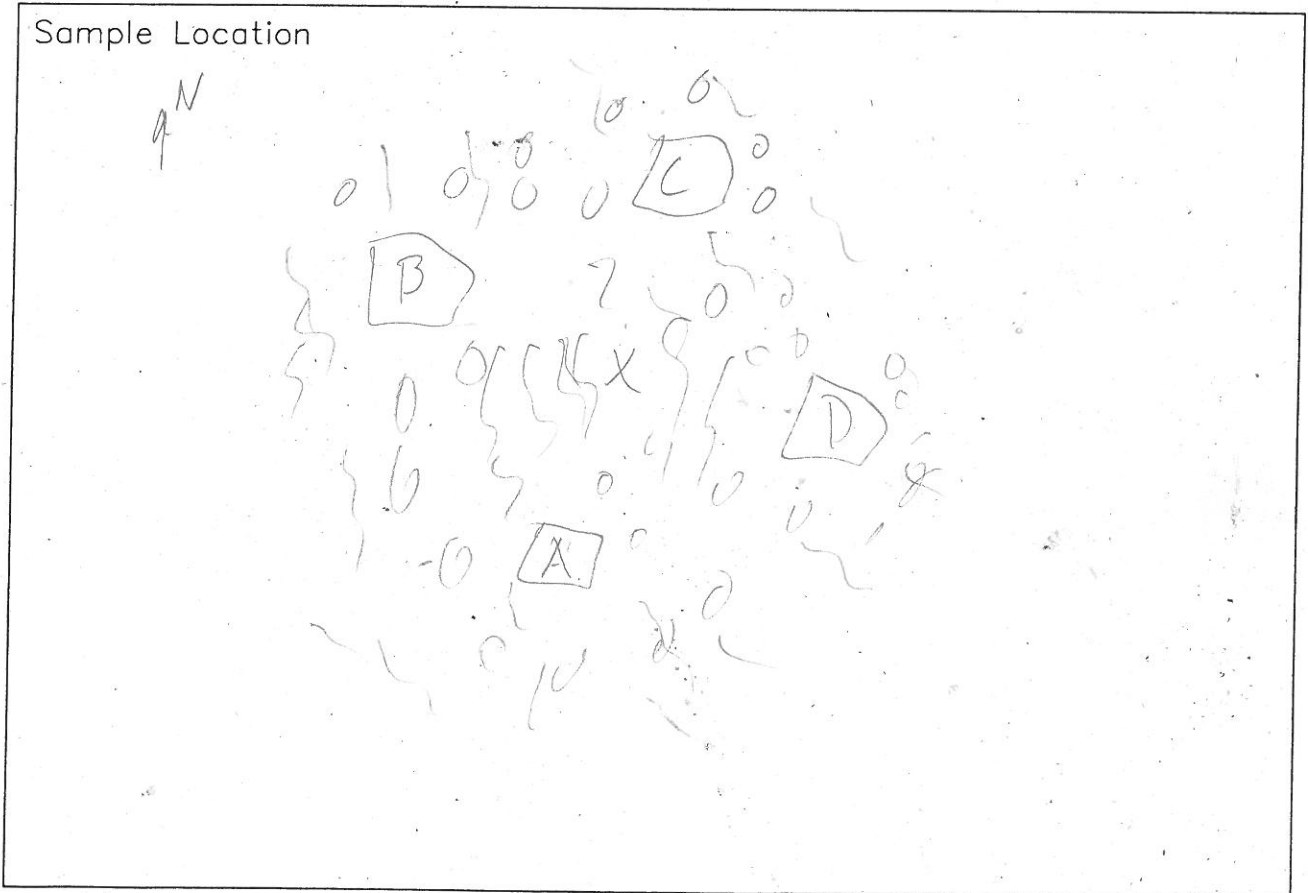
(D) MOIST, GRAY-BROWN, SANDY SILTY GRAVEL, TRACE ORG.

Remarks Dense willow with scattered pines, no evidence of human/garage.

slope: 25

aspect: 140

Sample Location



O = willow bunch
w = downed branch

Surface Soil Sample Collection Form

1-0940
2-0945
3-0950
4-0955



Sample No. SAL-1P

Collected by KJH/WPH

Job Upper Columbia

Date 11/2/12

Job No. 17800-36

Sampling Method hand auger

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-3 MOIST, DAK BROWN, GRAVELLY SANDY SILT, ABUNDANT ORG.

3-6 MOIST, DAK BROWN, GRAVELLY SANDY SILT, ABUNDANT ORG.

6-12 MOIST, BROWN, SL. SANDY SILTY GRAVEL (LGE CRSTS), SCAT. ORG.

12-24 MOIST, BROWN, SL. SANDY SILTY GRAVEL, SCAT-ABUNDANT ORG.

Remarks see SAL-1C

ROOT PENETRATION TO 16" BGS

Sample Location

see SAL-1C



HARTCROWSER

Surface Soil Sample Collection Form

@ 1000 X

Sample No. ~~SA4-2C~~ SA4-2C

Collected by PRC/SMF

Job VCR

Date 11/1/2012

Job No. 17800-36

E 2390032.31

Sampling Method 4 pt. composite

N 739375.27

Composite Sample Yes No

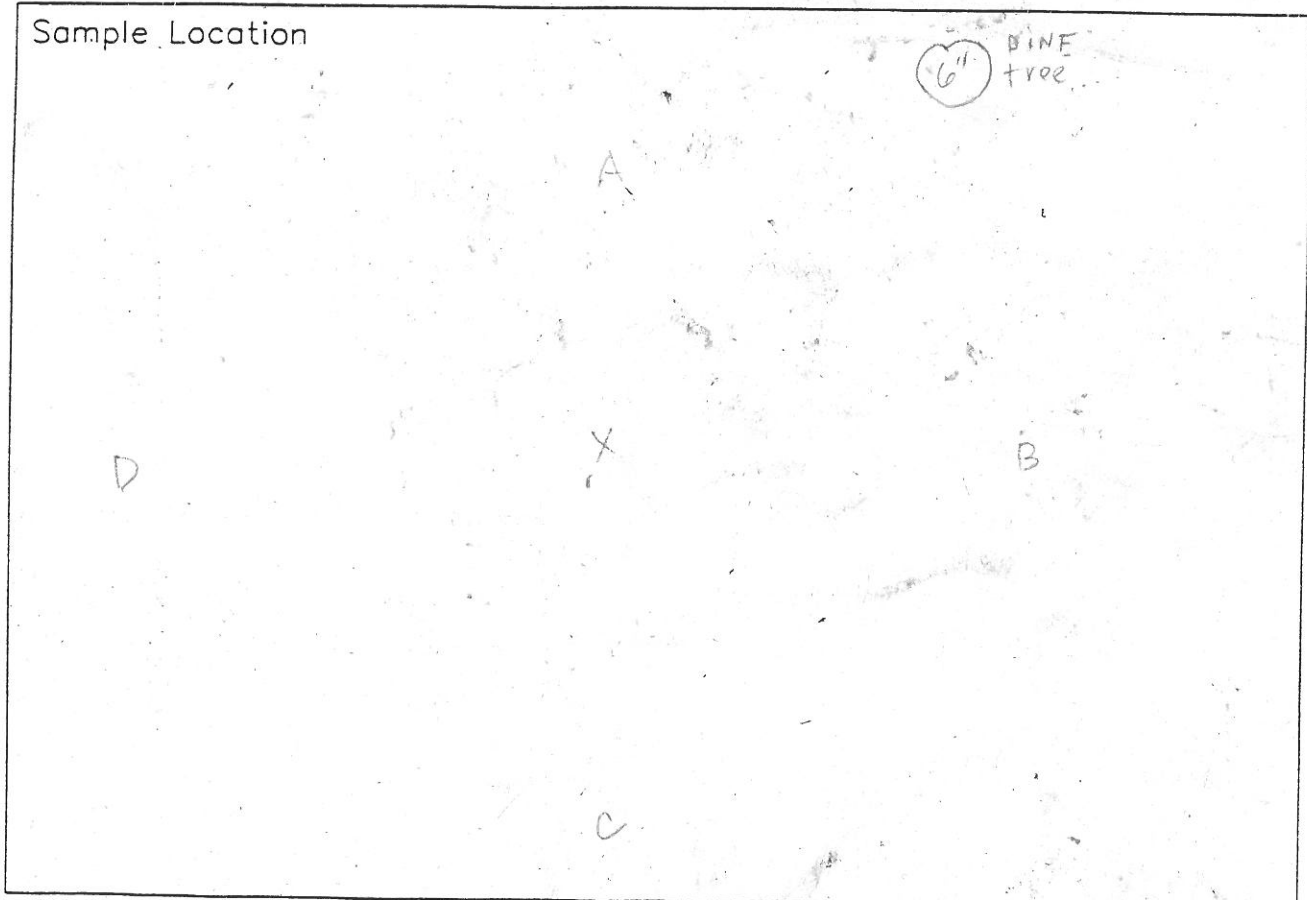
Elev. 2,824.26'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/2" duff (grass and decaying grass). Damp to moist, dk. brown, slightly gravelly, silty sand to sandy SILT with scattered roots and organic material. (B) 1/4 to 1/2" moss and grass cover. Soil same as A. (C) 1/2" grass decaying leaves at surface →

Remarks: ASPECT 192°. SLOPE 34° Relatively clear area surrounded by thickets. Lots of annual grasses

Sample Location



Photos	A	1058	Soil holes	A
Looking	B	1059		B
toward	C	1060		C
	D	1061		D

Site photo toward A

Surface Soil Sample Collection Form



Sample No. S44-34

Collected by KJH/WDM

Job Upper Columbia

Date 11/2/12 1030

Job No. 17800-36

738624.54 N

Sampling Method composite - 4 site

2392190.92 E

Composite Sample Yes No

2287.16 elev.

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) DRY GRAY BROWN, GRAVELLY F.C SAND, ABUNDANT ORG.

(B) DAMP, BROWN, GRAVELLY SILTY SAND

(C) MOIST, BROWN, SL. SILTY SANDY GRAVEL, SCAT. ORG.

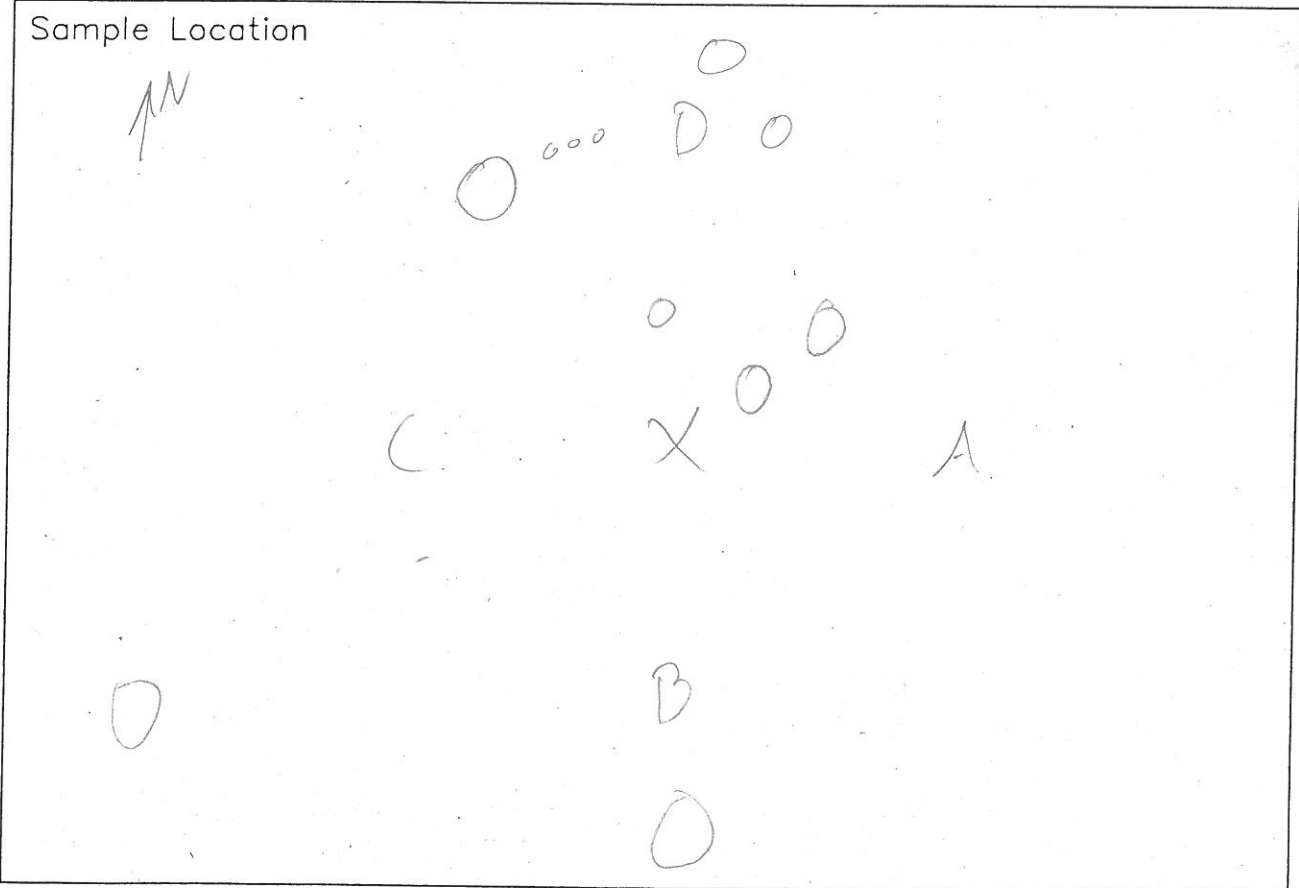
(D) DAMP BROWN, SL. SILTY SANDY GRAVEL, SCAT. ORG.

Remarks steep hillside by a ridge, canopy = ~50%, lots of pine needles


slope = 30

aspect = 95°

Sample Location



Surface Soil Sample Collection Form

@ 1112 

Sample No. SA4-4C

Collected by PRC/SMF

Job VCR

Date 11/1/2012

Job No. 17800-36

E 2391291.81

Sampling Method 4-PT COMPOSITE

N 740271.13

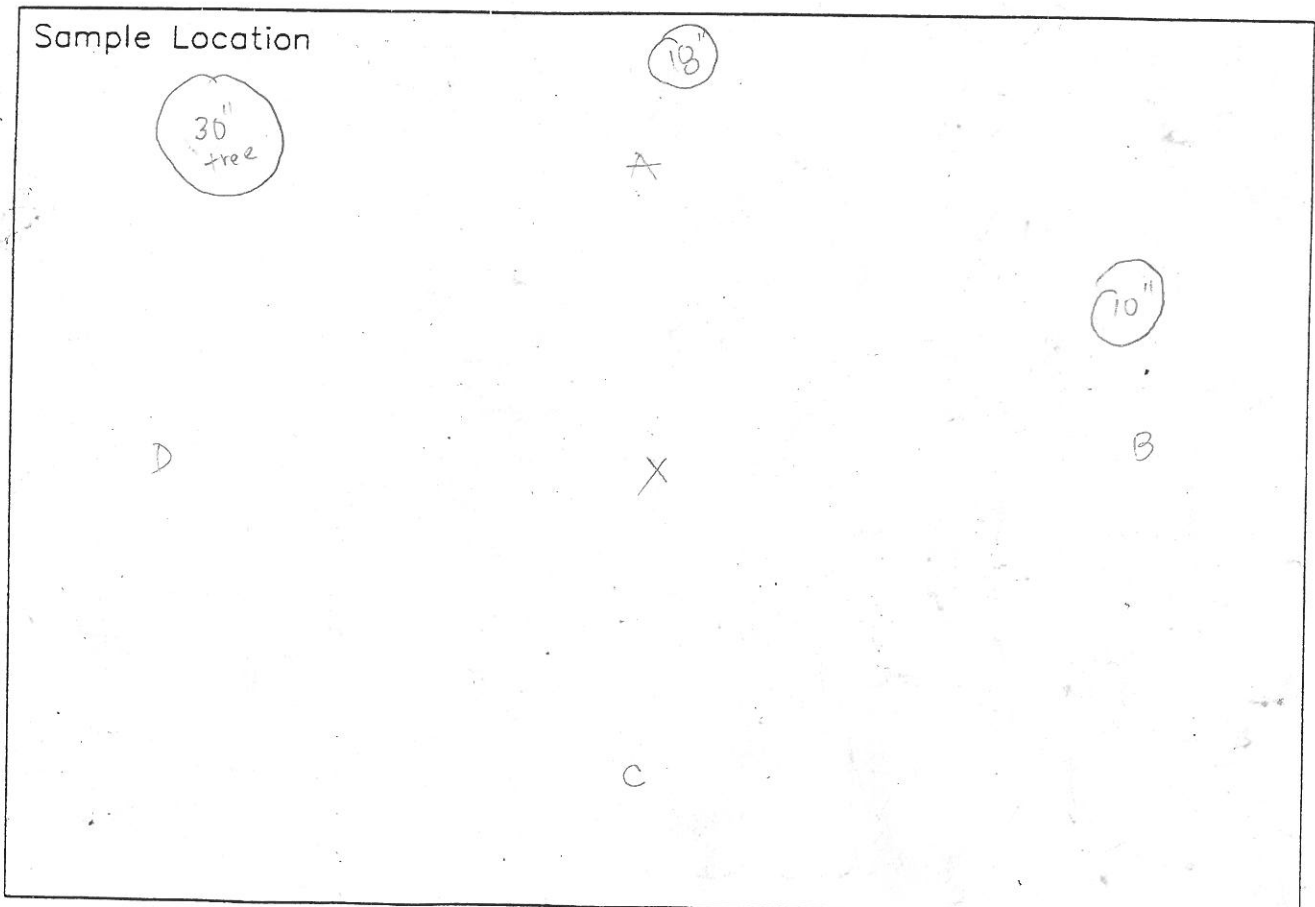
Composite Sample Yes No

ELEV. 2,966.25'

Sample Description (moist., color, ^{grades to} minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Damp to moist, dk. brown to black, slightly gravelly, silty sand to sandy SILT, with abundant organic material (roots and wood pieces).
 (B) Damp to moist, dk. brown to black, slightly gravelly, silty sand to sandy SILT w/ abundant wks. 1/2" duff and pine needles.

Remarks ASPECT 167°. SLOPE 15°. Moved sample location to achieve 500' clearance from road. Area heavily vegetated with shrubs, many fallen trees and decomposed wood throughout site. Moderate to heavy rain during sampling.



Photos looking toward
 A 1067
 B 1068
 C 1069
 D 1070

Sample locations
 A 1071
 B 1072
 C 1073
 D 1074

Site photo looking toward A



1075



Surface Soil Sample Collection Form

Sample No. SA4-SC

Collected by PRC/SMF

Job VCR

Date 11/1/2012

Job No. 17800-36

E 2393347.87

Sampling Method 4 PT COMPOSITE

N 740384.67

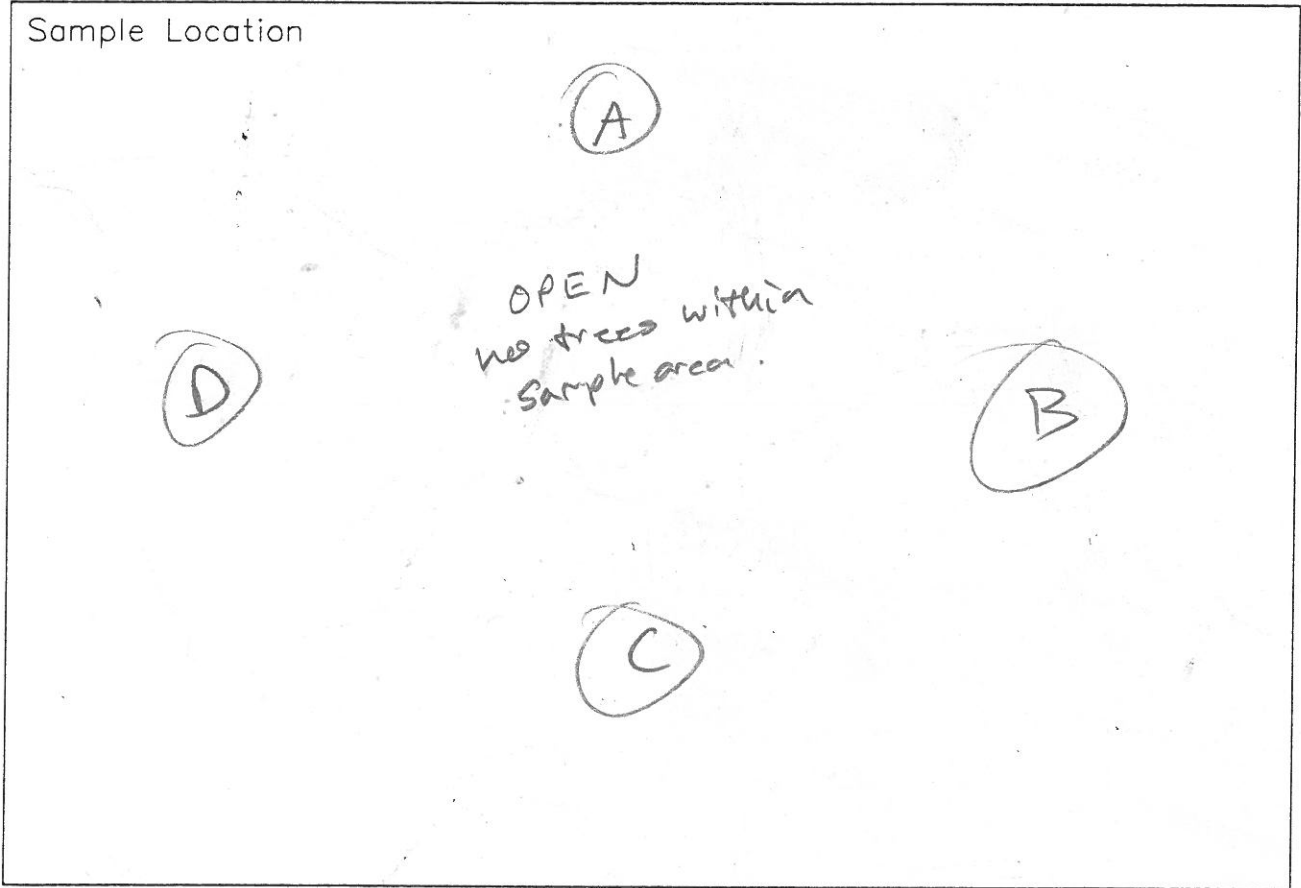
Composite Sample Yes No

ELEV 2,580.42'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/2" duff, mostly grass/leaves, moist, dk brown, slightly gravelly silty SAND, (B) Same as A with abundant roots in top 1" and large cobble beside sampler. (C) Same as A but no duff just grass at surface. (D) Moist, dk brown, silty sandy GRAVEL, Moss and grass at surface

Remarks ASPECT 141°, SLOPE 18° Very heavy brush throughout area. Sample locate is relatively open. Evidence of burrowing rodents.



Looking toward

- A 1096
- B 1097
- C 1098
- P 1099

Sample holes

- A 1102
- B 1101
- C 1102
- D 1103

Site toward A 1104

Surface Soil Sample Collection Form

@ 0910
X

Sample No. SA4-6C

Collected by PRC / SMF

Job VCR

Date 11/2/12

Job No. 17800-36

E 23,94939.43

Sampling Method Composite

N 739155.16

Composite Sample Yes No

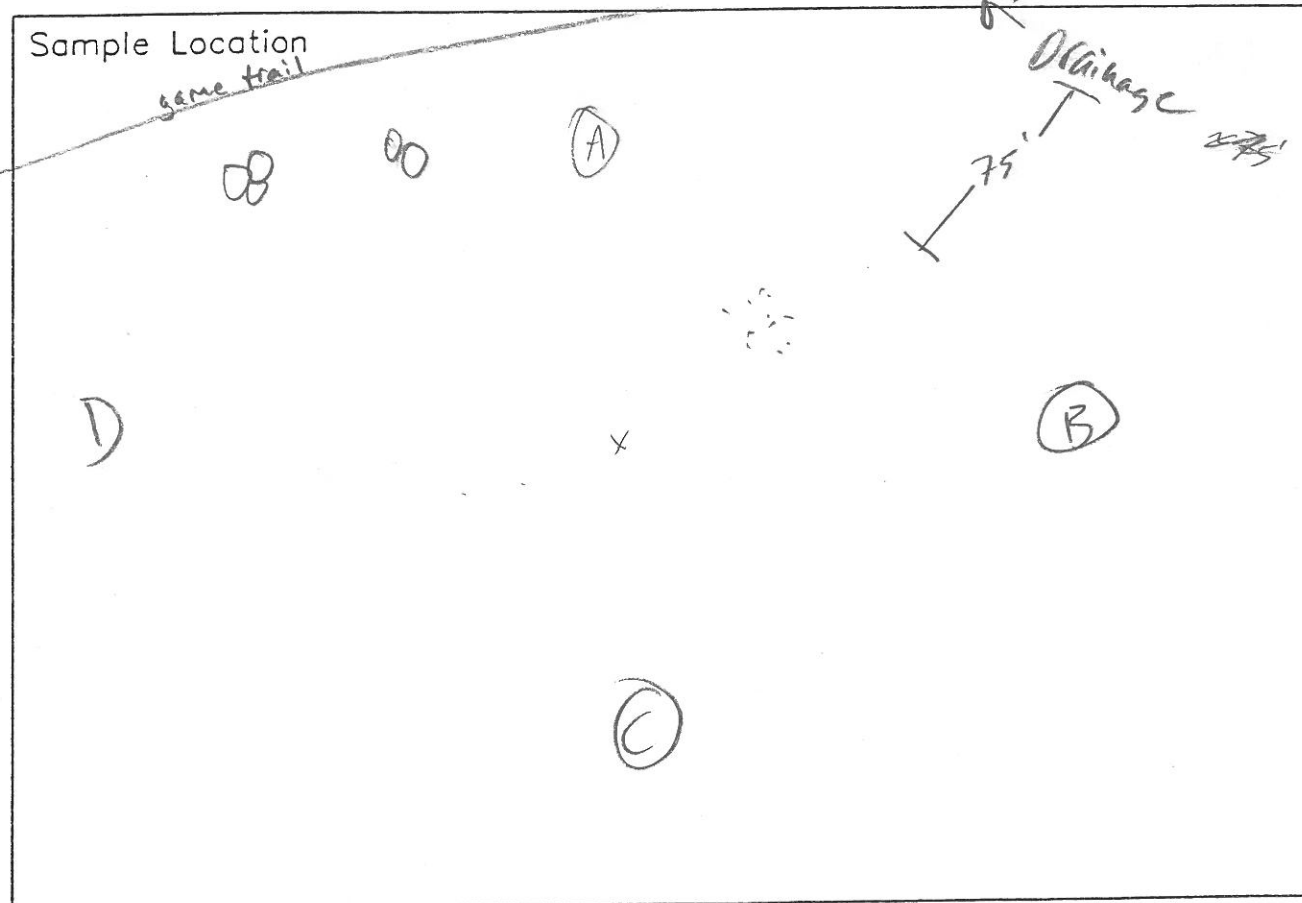
ELEV. 1,965.65'

→ **DUPLICATE SAMPLE COLLECTED**

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) 2" duff, thick leaves w/decaying wood. Damp, dk. brown, silty sand to sandy SILT, trace gravel.
- (B) 1" duff, thick leaves at surface. Damp, dk. brown, silty sand grading to brown silty sandy GRAVEL.
- (C) 2" duff. Same as B, but gravel is grey-brown. (D) 1/2" duff. Same as B, but gravel is brown.*

Remarks Deciduous canopy cover. Thick layer of leaves throughout. Cloudy with thick fog at site. * dug to 7" and soil was still brown silty sandy GRAVEL. Abundant roots at all sample locations.



Looking toward

- A 1114
- B 1115
- C 1116
- D 1117

Sample Sites

- A 1118
- B 1119
- C 1120
- D 1121

original site toward A 1122



Surface Soil Sample Collection Form



Sample No. SA4-7C

Collected by PRC/SMF

Job UCR

Date 11/1/2012

Job No. 17800-36

E 2392741.02

Sampling Method 4-PT COMPOSITE

N 740954.78

Composite Sample Yes No

ELEV 2,786.99'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1" duff - lots of needles and leaves. Damp to moist, dk. brown grading to brown, silty sand to sandy SILT, trace gravel w/ abundant roots. (B) 1" duff - lots of needles/leaves. Damp to moist, brown, silty sandy GRAVEL. (C) 2" duff - leaves/needles, Damp to moist, dk. brown,

Remarks ASPECT 174°. SLOPE 16°. Thick layer of leaves at site. Site is below large area of deciduous trees.

gravelly
silty
sand +
sandy
SILT.
Abundant
roots in
top 1"

Sample Location



(D) →

Looking toward
A 1105
B 1106
C 1107
D 1108

Sample notes
A 1109
B 1110
C 1111
D 1112

Site 1113
looking toward A



Surface Soil Sample Collection Form

Sample No. SAL-82

Collected by KJH/WDM

Job Upper Columbia

Date 11/12 1533

Job No. 17800-36

N 742661.36

Sampling Method 4-site comp.

E 2394616.58

Composite Sample Yes No

elev 2816.28

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1" DUFF / DAMP BROWN GRAVELLY SILTY SAND / SCATT ORGANICS

(B) 1/2" DUFF / MOIST, BLACK / BROWN, SL. SANDY SILT, SCATT ORG.

(C) MOIST, BLACK, SANDY SILT w/ ABUN. ORGANICS

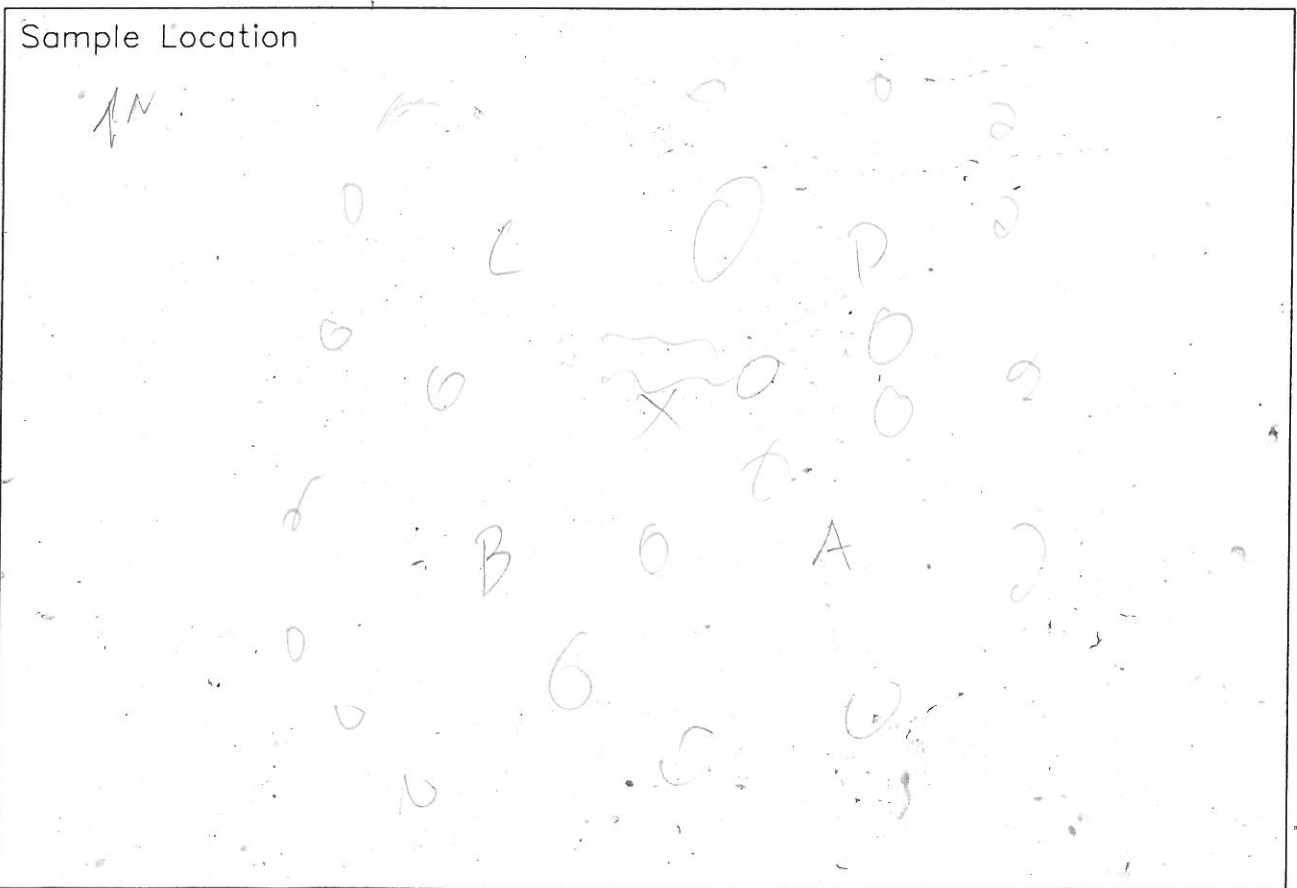
(D) NO DUFF / MOIST, BROWN, SL. GRAV. SANDY SILT, F. SAND LAYER IN VICINITY.

Remarks No human use, frequent game trails in the area canopy ~ 75%

light rain, heavy leaf litter, lots of tree trunks

slope = 10

aspect = 150



DEEP PROFUGE

SAME MATERIAL OVER

SCATT. GRAVEL ~ 5" BGS

(MATERIAL CONT. 7")

Surface Soil Sample Collection Form

@ 0930
X

Sample No. SA4 - 6C - DUPLICATE

Collected by PRC/SMP

Job VER

Date 11/2/12

Job No. 17800 - 36

Sampling Method COMPOSITE

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) 2" duff, leaves, damp to moist, dk brown grading to brown, silty sandy GRAVEL with abundant roots
- (B) Same as A with large cobbles throughout
- (C) 1" Duff, dk. brown, moist, silty sand, grading to brown silty sandy GRAVEL.
- (D) Moist, dk. brown, sandy silt, trace gravel, grading to gray-brown silty sandy GRAVEL

Remarks This is a DUPLICATE

Sample Location See SA4-6C

Sample notes
A 1123
B 1124
C 1125
D 1126

Toward
A 1127
B 1128
C 1129
D 1130



X

Surface Soil Sample Collection Form

Sample No. SA5-1C
 Job VCR
 Job No. 17800-36
 Sampling Method 4 pt comp w/ SS spoon
 Composite Sample Yes No

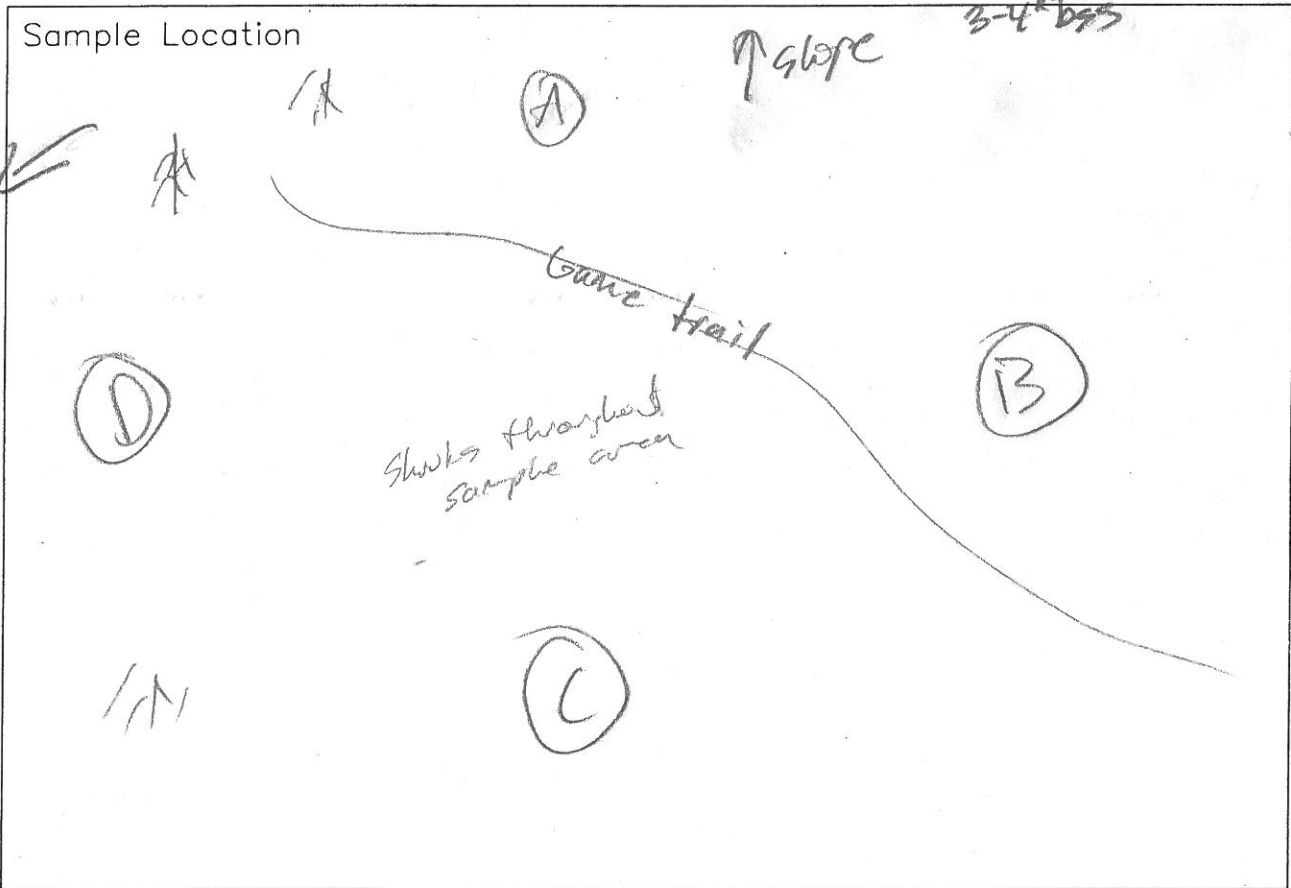
Collected by PRC/NWG
 Date 11/9/12 @ 0946
744625.28' N
2396644.06' E
2,833,36' (MSL)

snowing and cold

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1" moss/duff, 1/2" dark brown, damp, organic SILT w/ abundant organics over
moist-wet, dark brown, sandy SILT trace gravel w/ organics (B) 1/4" moss over, moist
dark brown, sandy, gravelly SILT w/ abundant organics / roots (D) 1/4" moss/duff over
1/4" dark b. organic SILT over moist, brown, silty sandy to shaly, silty GRAVEL w/ scattered root
 Remarks Forest land w/ mature fir trees and abundant small shrubs
Trees surround area but none in sample location. Scattered cobbles
@ surface. No evidence of recent human disturbance

Slope - 0° Aspect - 90° Profile - Becomes very gravelly at 3-4' bss



sample area ←
 new channel
 002 A
 ↓
 005 D

Surface Soil Sample Collection Form

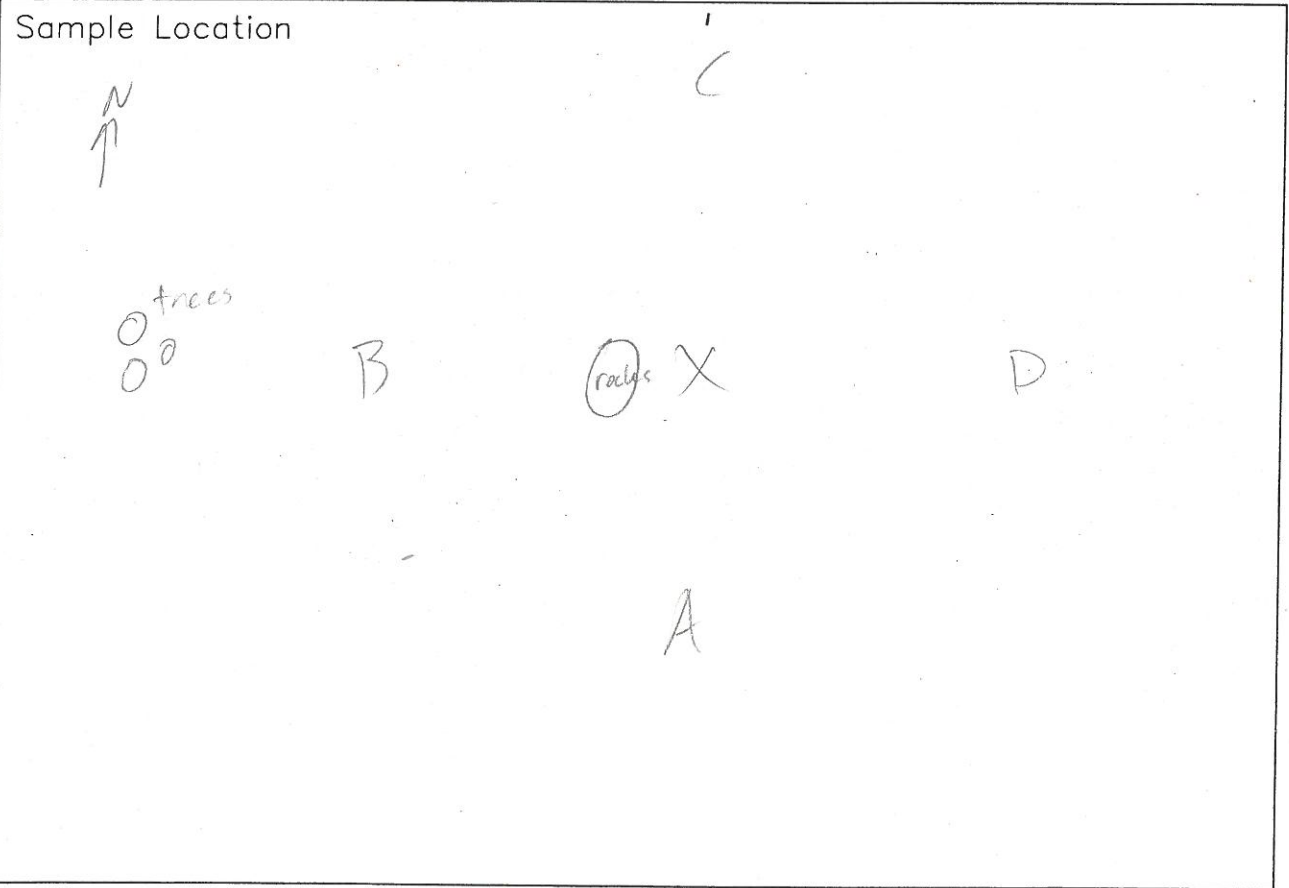


Sample No. SA5-2C
 Job UCR
 Job No. 17860-36
 Sampling Method Composite U site
 Composite Sample Yes No

Collected by KJK/ASK
 Date 11/9/12 @ 0921
N 741902.31
E 239517.99
elev 2514.61

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1/4-1/2" snow, leaves/moss/grass, 1/8" duff, damp-moist brown ^{trace gravel} sandy-silt, w/ scattered organics
 B same surface, 1/2" duff, moist, dark brown, scattered gravel sandy silt w/ scattered organics
 C same surface, no duff, moist, brown, sandy silty gravel
 D leaves/needles, no duff, same comp, as C down to 7"
 Remarks open rocky hillside, very steep + thick w/ willow + alder in
slope = 26° area, no logging evidence
aspect = 161°
canopy = 15%



pics profiles
44-44 + 45-48
A-D

Surface Soil Sample Collection Form



Sample No. SAS-36

Collected by KOH/WDH

Job Upper Columbia

Date 11/3/12 8:10

Job No. 17600-36

2396886.79 E

Sampling Method Composite 4-site

740458.23 N

Composite Sample Yes No

2053.97 msl

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A MOIST, BROWN, SL. SANDY SILT w/ ABUNDANT ORG.

B MOIST, DAK BROWN, GRAVELLY SANDY SILT w/ ABUND. ORGANICS

C MOIST, BROWN, SANDY SILTY GRAVEL, WITH ABUNDANT ORG.

D MOIST, GRAY BROWN, SANDY SILT w. ABUND. ORG.

Remarks Near clear-cut, original point in drainage, moved upslope ~ 100ft
aspect = 90° Birch & larch forest, bogged in past > 10 yrs ago
slope = 7°



2 1/4-4" BGS
 SANDY GRAVELLY SILT
 ↓
 6"

@ 21457
X

Surface Soil Sample Collection Form

Sample No. SAS-4C

Collected by PRC/SMF

Job UCR

Date 11/2/2012

Job No. 17800-36

E 2399720.03

Sampling Method 4-pt composite

N 741138.52

Composite Sample Yes No

ELEV 2,045.87

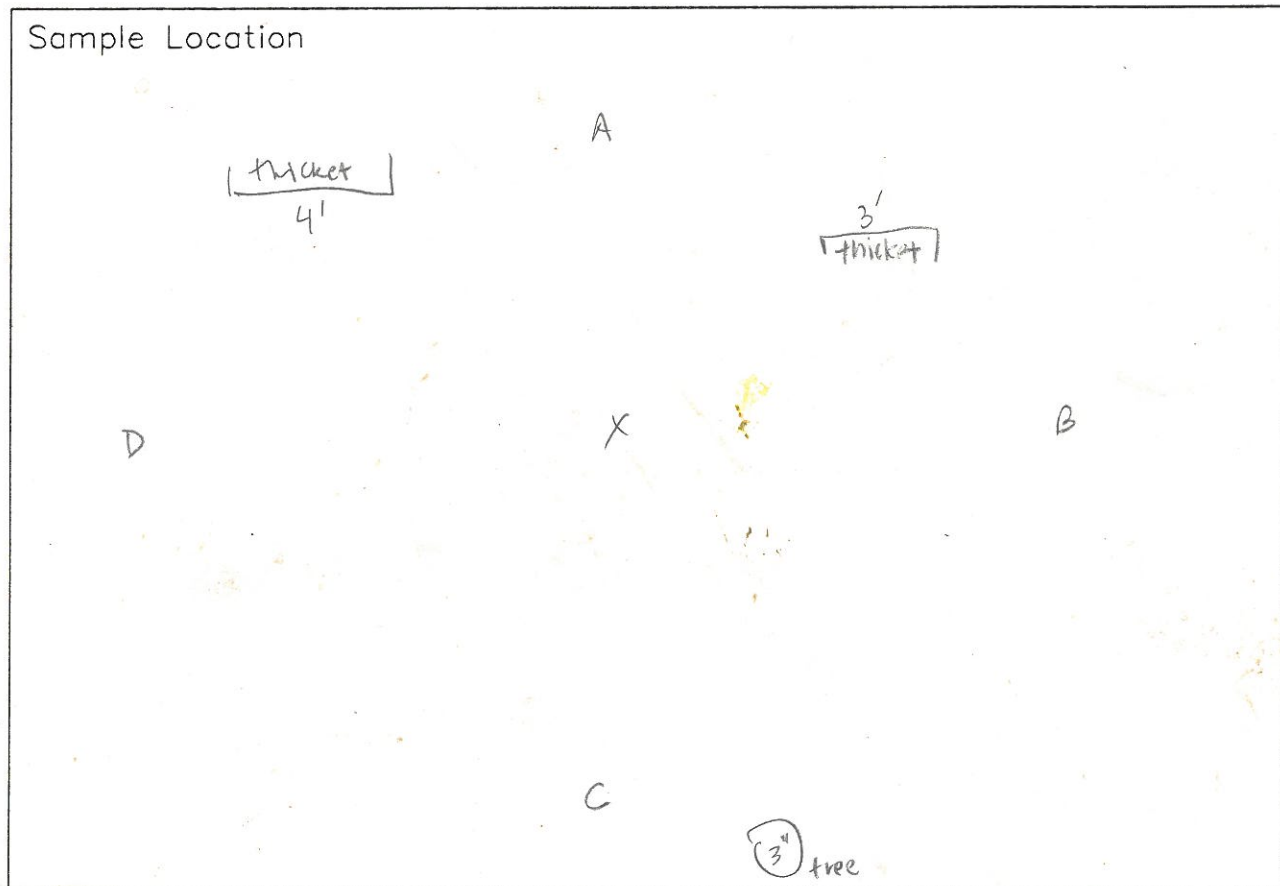
Abundant roots at all locations,

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Lots of grass at surface. 1" duff. Moist, brown sandy SILT with areas of dk, brown to black sandy SILT. Becomes slightly gravelly sandy silt at 9" depth. (B) Same as A. (C) Same as A but with trace gravel, grading to red-brown at bottom. (D) 1" duff/grass/org. Damp to moist, dk, brown sandy silt to silty SAND

Remarks Lots of grass. Aspect 190°. Slope 7°. Scrub shrub and sapling. Very tight soils, root-bound - difficult to dig.

Sample Location



Photos Looking toward
A 1150
B 1151
C 1152
D 1153

Holes A 1154
B 1155
C
D

SITE toward A



CAMERA MALFUNCTION

Surface Soil Sample Collection Form

@1517
X

Sample No. SAS-4C-DUP

Collected by VAC/SMF

Job ~~17800-36~~ VCR

Date 11/2/12

Job No. 17800-36

Sampling Method SS. Spoon

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Moist-damp, dark brown, gravelly sandy SILT w/ abundant organics (roots)

(B) " " " sandy SILT w/ abundant organics (roots)

(C) " " " " "

(D) some as above, slightly gravelly

Remarks File SAS-4C remarks

Duplicate sample for SAS-4C

Sample Location



→ Camera malfunction

Surface Soil Sample Collection Form

X

Sample No. SAS-5C

Collected by PRC/NWG

Job UCR

Date 11/9/12 @ 1103

Job No. 17800-3

Sampling Method 4pt comp w/ SS spoon

N - 742854.97
E - 2399803.44
2,503.80'

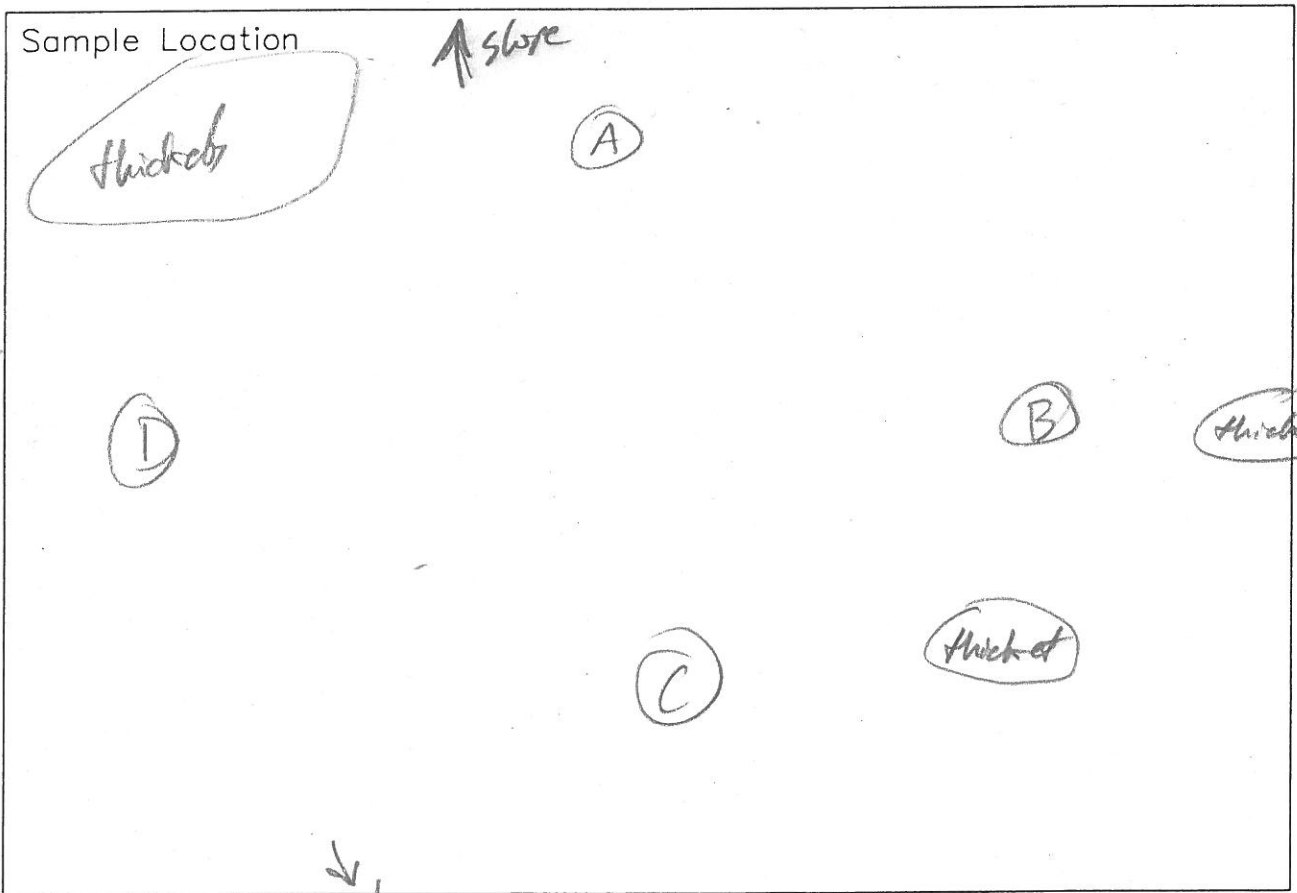
Composite Sample Yes No

cloudy w/ thistles

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) 1/4" of dead grass/leaves, damp-moist, dark brown, sandy, silty GRAVEL w/ scattered roots
- (B) " " , damp, brown, sandy gravelly SILT w/ scattered organics. (C) same as B
- (D) Grass @ surface, 2" of sandy organic SILT w/ scattered organics with damp, brown, sandy gravelly silt below.

Remarks Aspect 200° slope 19° Brushed grass cover sample area. Rock outcrop to NE w/ scattered large cobbles, No evidence of recent human disturbances. No logging, appears to be in vicinity.



Surface Soil Sample Collection Form

Sample No. SAS-SP

Collected by PRC/NWG

Job VCR

Date 11/2/12

Job No. 17800-36

Sampling Method Hand Auger

Composite Sample Yes No

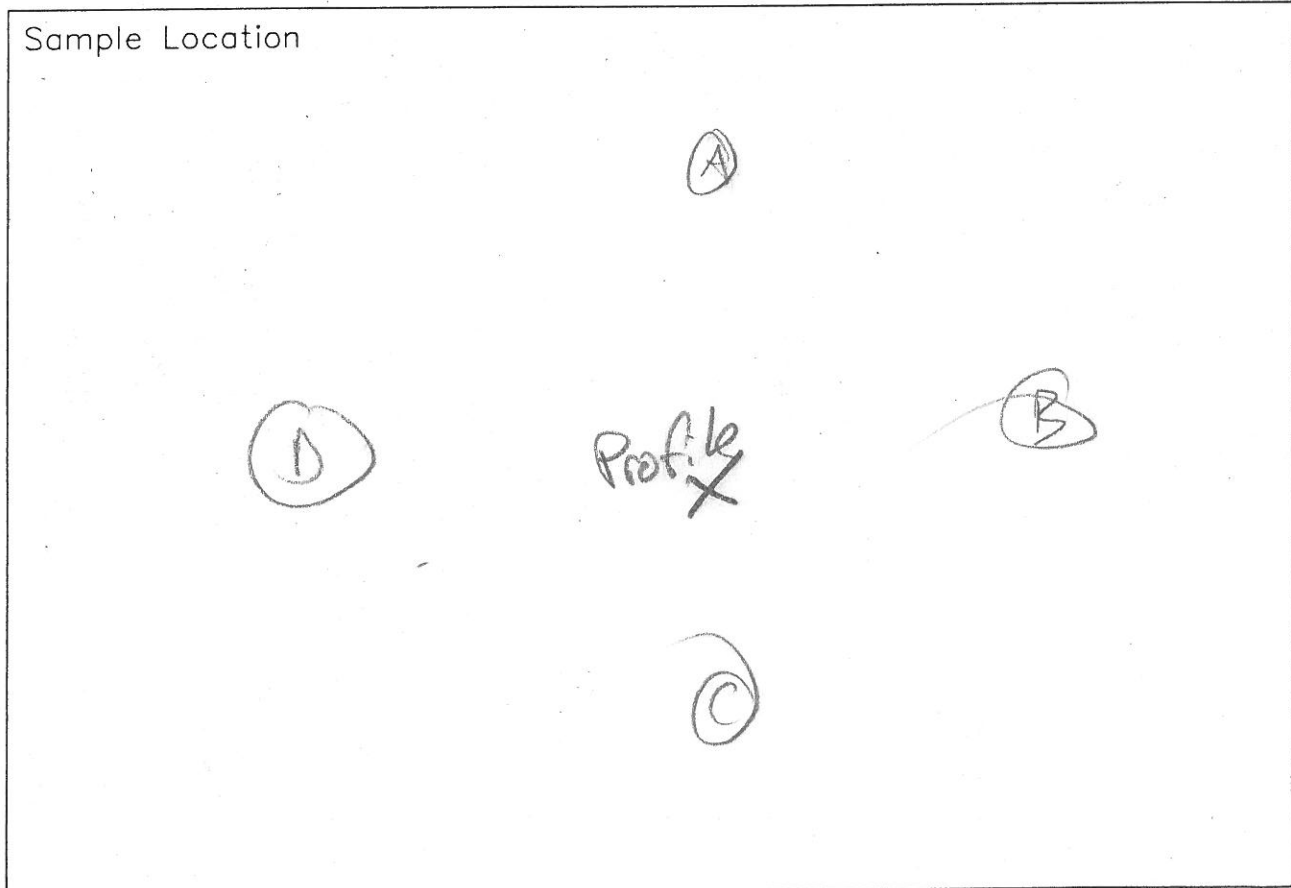
- ① -1120 0 to 3"
- ② -1125 3 to 6"
- ③ -1130 6 to 12"
- ④ -1135 12-18"

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- ① damp, dark brown, sandy SILT trace gravel w/ scattered roots/organics
- ② same as above w/ less organics/roots
- ③ damp, ^{dark} brown, slightly gravelly sandy SILT w/ scattered organics
- ④ damp, dark brown to brown, sandy SILT trace gravel

Remarks See SAS-SC for location info

could not advance hand auger beyond 18" due to rocks,
tried in 4 locations, rocks started.



Surface Soil Sample Collection Form



Sample No. SAS-7C

Collected by PRC/SMF

Job VCR

Date 11/2/2012

Job No. 17800-36

E 2402584.87

Sampling Method 4-PT COMPOSITE

N 742087.1

Composite Sample Yes No

Elev 2,024.02'

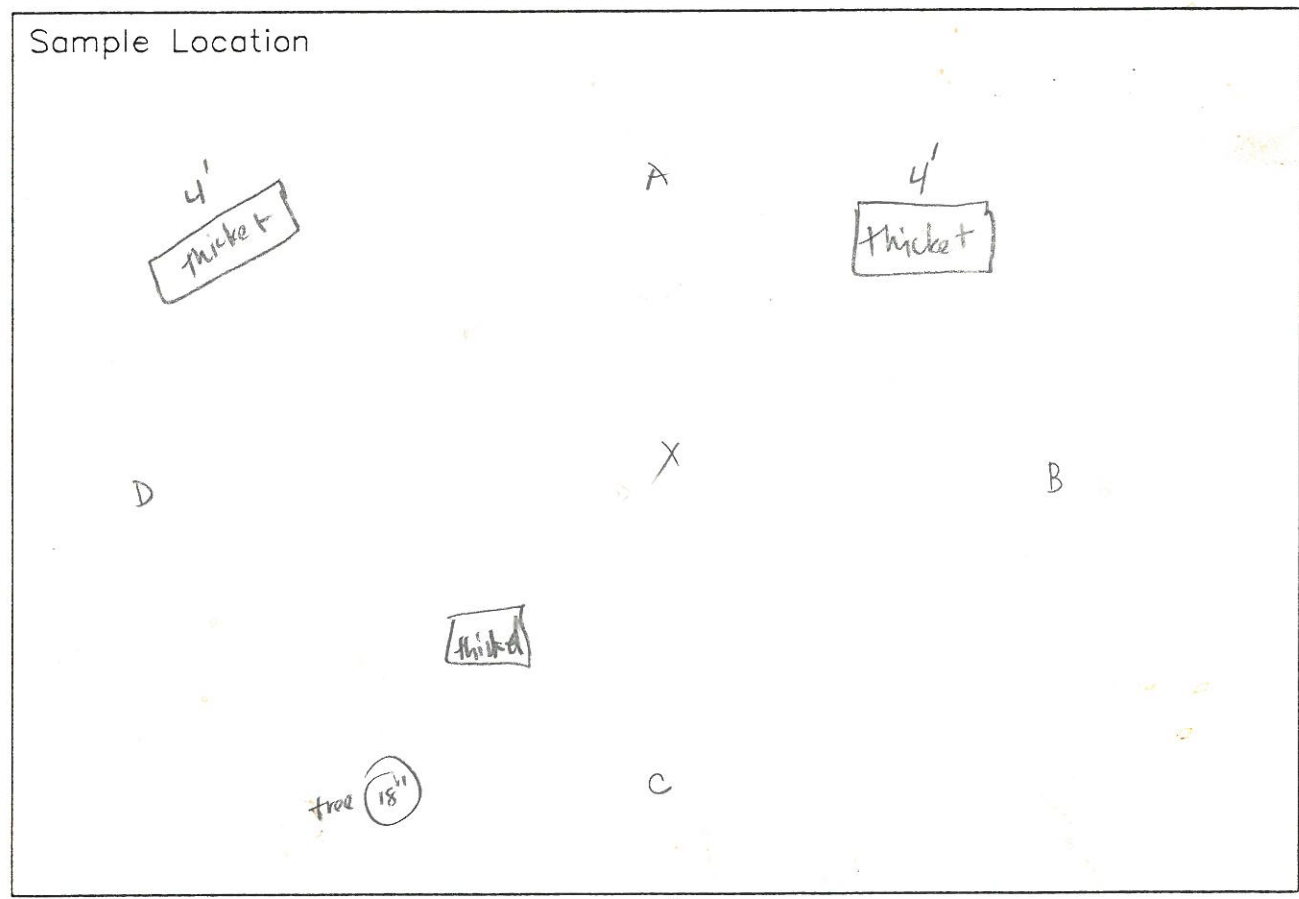
abundant roots

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES) slightly

- (A) 3/4" duff, mostly leaves, Damp, dk. brown, organic rich silty sand (top 1") grading to gravelly silty sand
- (B) 1" duff with grass at surface, Damp to moist, dk. brown sandy silt, trace gravel.
- (D) 1/4" duff with grass, Damp moist, dk. brown grading to brown, sandy SILT, trace gravel. (C) →

Remarks ASPECT 172°, SLOPE 17°. Heavily vegetated with saplings and grass. Moved down ~80' due to possible bear sighting. Abundant bear scat throughout area. Thick leaf cover on ground.

Sample Location



Photos looking toward

- A 1141
- B 1142
- C 1143
- D 1144

sample notes

- A 1145
- B 1146
- C 1147
- D 1148

site photo 1149



Surface Soil Sample Collection Form

Sample No. S45-8C

Collected by PRC/

Job UCR

Date 11/9/12 @ 1456

Job No. 17800-36

Sampling Method 4pt composite w/ SS Spoon

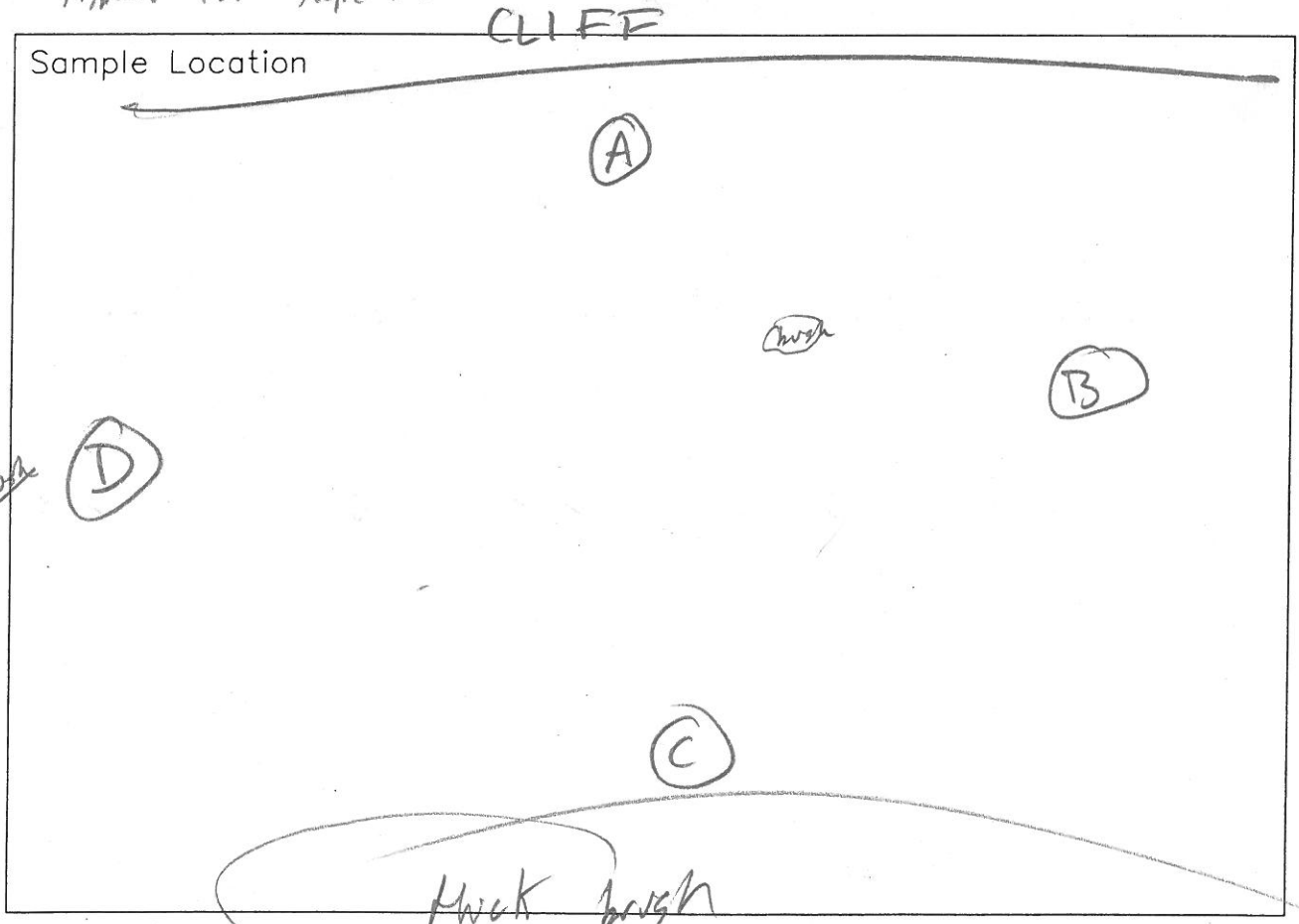
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, ^{to SILTY SAND} NON-SOIL SUBSTANCES)

- (A) moss @ surface, moist, brown thin ~~straw~~ sandy silty AGRAVEL, w/ occasional organics
- (B) moss/grass, thin layer of woody organics over ~~moss~~ same stuff w/ abundant organics
- (C) ~~moss/grass~~ ^{moss} 1/4" moist, dark brown, organic and SILT then same soil as A/B w/ more rock
- (D) same as (C)

Remarks: AT top of cliff w/ scree at bottom. On slope above cliff, ~~large~~ pebbles and bedrock are abundant at sample location. Moss and grass cover soil. Soil is generally 2-4" thick w/ roots below. Small shrubs dot area.

Aspect 121° slope -24°



002A A
↓ B
0032 D
0033
↓
0036
sample photo
0037 - site photo

Surface Soil Sample Collection Form



Sample No. SAG-1C

Collected by KDH/LW DH

Job Upper Columbia

Date 11/2/12 @ 1308

Job No. 17900-36

N ~~75~~⁴⁴ 735216.24

E 2386160.27

elev 1879.97

Sampling Method composite 4 sites

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1" ^{BLACK MOIST} SL. SANDY SILT / MOIST, BROWN SL. SILTY SAND WITH ABUNDANT ORG.

(B) 1" ^{BLACK MOIST} SL. SANDY SILT / MOIST, BROWN, SILTY SANDY GRAVEL

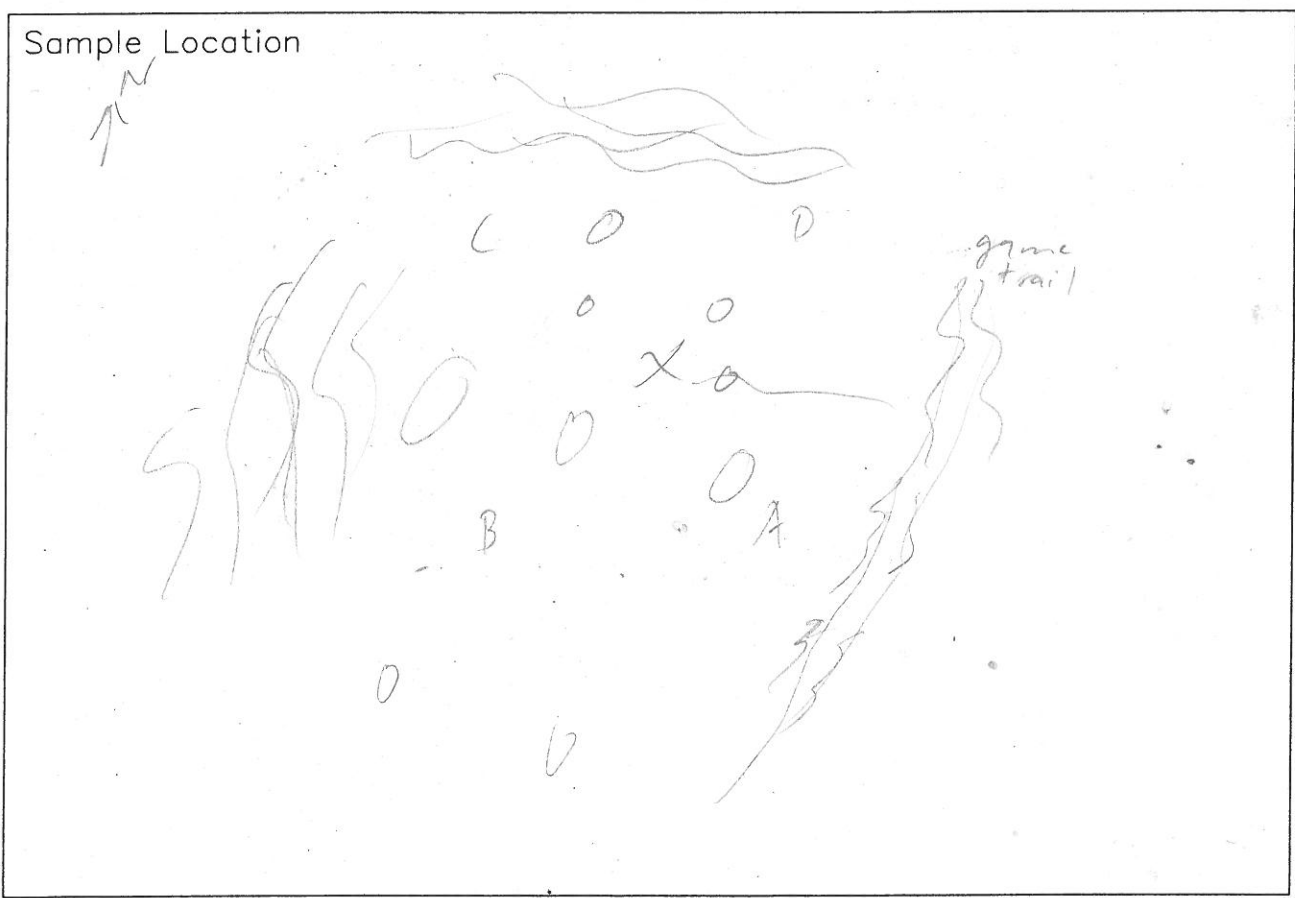
(C) >1" ^{BLACK SAND} / " SAME AS ABOVE"

(D) ^{SAME AS ABOVE} / " "

Remarks canopy = ~90%, but currently without leaves no evidence of human

slope = 0-5% game trail to east ~ 50ft

aspect = 130



w = down wood
o = tree

Surface Soil Sample Collection Form

Sample No. 546-2C

Collected by KJM/WDM

Job Deer Columbia

Date 11/2/12 1410

Job No. 17100-36

N 735328.15

E 2788598.38

Sampling Method Composite - 4 sites

elev 1745.5

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist black sandy SILT scattered organics, transition @ 3.5" red-brown slightly silty gravelly SAND to 6" depth

B Moist black ^(1") over yellow-brown ^(2") sandy SILT scattered organics

C Moist grey brown slightly sandy SILT scattered organics

D Moist, brown, sandy silty GRAVEL, scattered organics

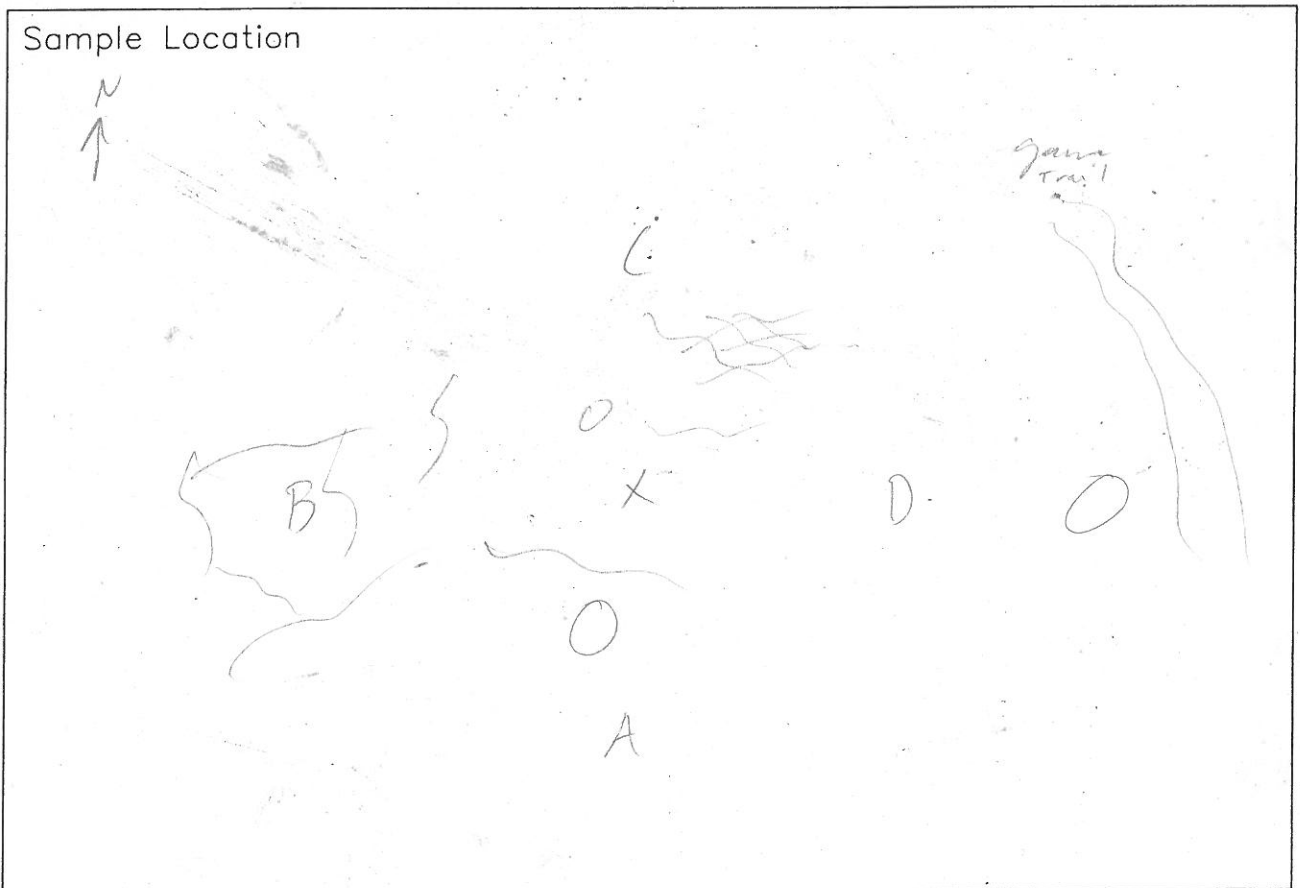
Remarks dense oak + willow, game trail, to east canopy = 50%

logged ~ 3-5 yrs ago, transitions @ 3.5" to

slope = 15D

aspect = E

Sample Location



~ = down wood

O = tree

(1456)



Surface Soil Sample Collection Form

Sample No. SAB-FD

Collected by KJH/LDM

Job Upper Columbia

Date 10/2/12 1456

Job No. 17800-36

Sampling Method composite 4 sites

Composite Sample Yes No

→ collected at SAB-2C

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist black to red brown silty SAND, abundant organics

B Moist black slightly sandy SILT abundant organics 3.5" Δ to red brown silty GRAVEL to 6"

C Moist yellow brown silty sandy GRAVEL, abundant organics

D Moist black to grey brown slightly sandy SILT, " " " "

Remarks see SAB-26

Sample Location

see SAB-2C
(rotated 45° clockwise)

Surface Soil Sample Collection Form

Sample No. SA6-3C

Collected by KJH/WDM

Job Upper Columbia

Date 11/2/12 1558

Job No. 17800-36

N 736045.29
E 2392073.49
elev 1644.35

Sampling Method Composite - 4 site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist black sandy SILT abundant organics transition to moist brown very gravelly sandy SILT @ 2"

B 2" diff Moist black sandy SILT " " same as above @ 4" below ground

C same as above (B) 3"-6" same moist brown very gravelly sandy SILT

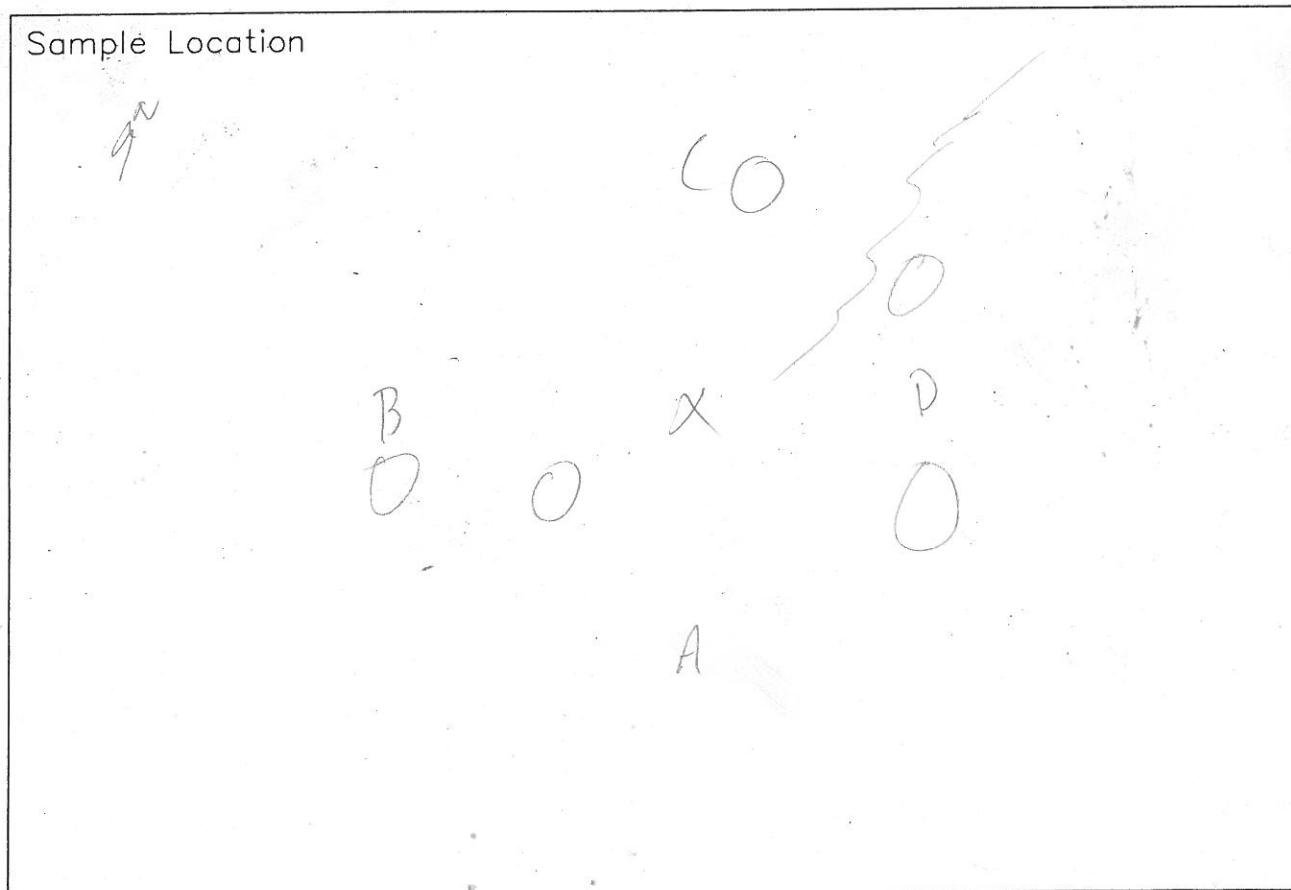
D same as above (A)

Remarks canopy = 15% oak, willow birch + pine in area, no evidence of recent logging

slope = 4°

aspect = 170°

Sample Location



Surface Soil Sample Collection Form



Sample No. SAB-4C

Collected by PRC / SMF

Job UCR

Date 11/3/2012

Job No. 17800-36

N 736301.06

Sampling Method 4 pt composite

E 2395671.32

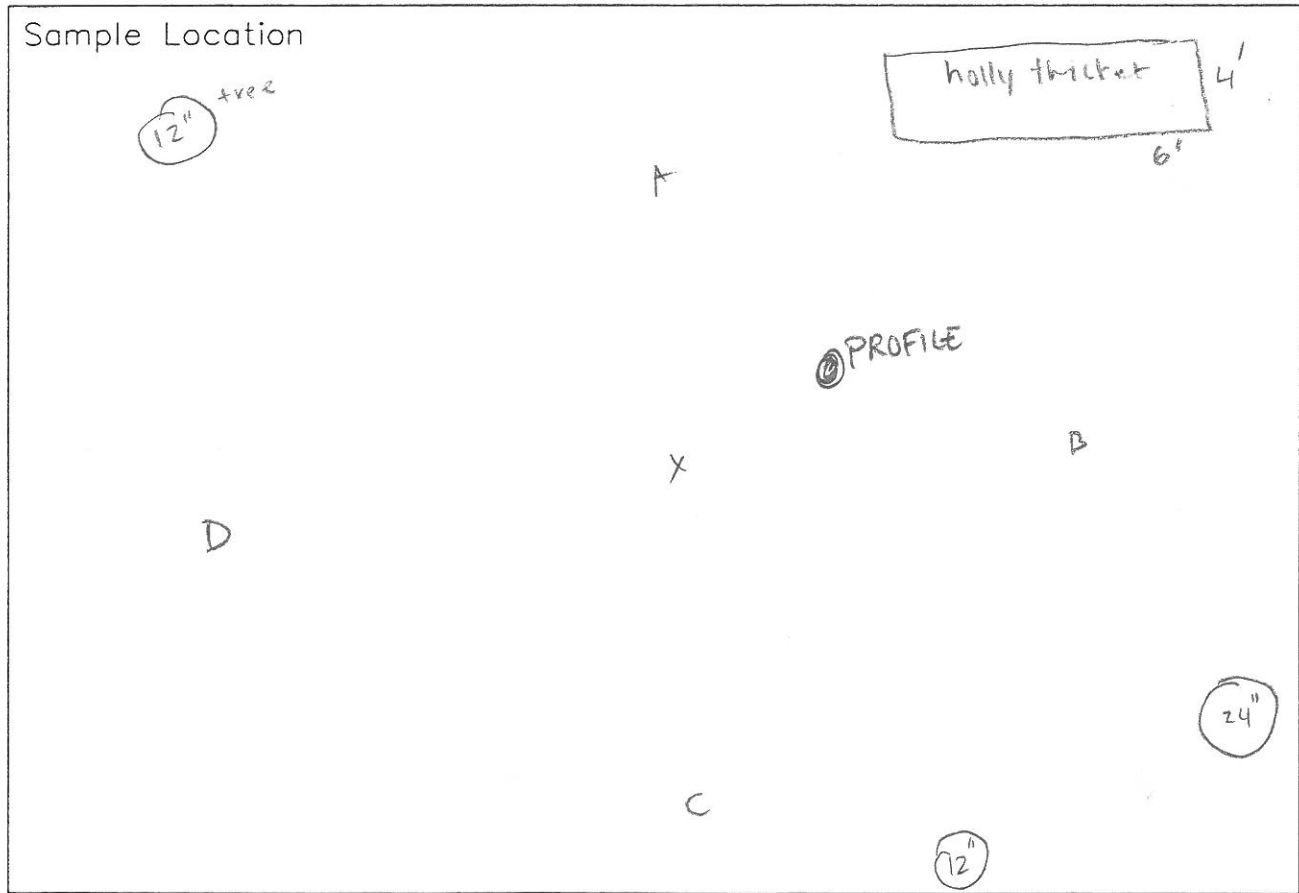
Composite Sample Yes No

ELEV. 1,763.69'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- Ⓐ Pine needles/moss on surface. Damp to moist, gray with scattered brown zones, SAND.
- Ⓑ 1/2" duff (needles/leaves). Soil same as A.
- Ⓒ 1/4" duff (needles/leaves). Soil same as A w/ scattered roots.
- Ⓓ Needles/leaves at surface. Dry, lt. gray SAND w/ abundant roots.

Remarks ASPECT: 233° SLOPE: 4° ← at center; steeper downhill.
 Sample location is just off the ridge to p.
 Thick needle cover throughout site. Pine saplings and low holly brush scattered throughout area. Some pine cones on ground.



Sample site toward
 A 1156
 B 1157
 C 1158
 D 1159

Sample notes
 A 1160
 B 1161
 C 1162
 D 1163

Site toward
 A
 1164



Surface Soil Sample Collection Form

P1 @ 0855
P2 @ 0900
P3 @ 0905
P4 @ 0910

Sample No. SAB-4P (1, 2, 3 and 4)

Collected by PRC/SMF

Job UCK

Date 11/3/2012

Job No. 17800-36

Sampling Method PROFILE (0 to 24")

⇒ See SAB-4C for coordinates.

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(1) Moss surface, Damp brown SAND w/ scattered roots. (2) Same as 1, 3 and 4 Dry to damp tan SAND.

Remarks See SAB-4C for aspect and slope. Light rain beginning to fall. Moss and grass at surface. Heard coyotes yelping as finishing up.

Sample Location See SAB-4C.

● Profile

X



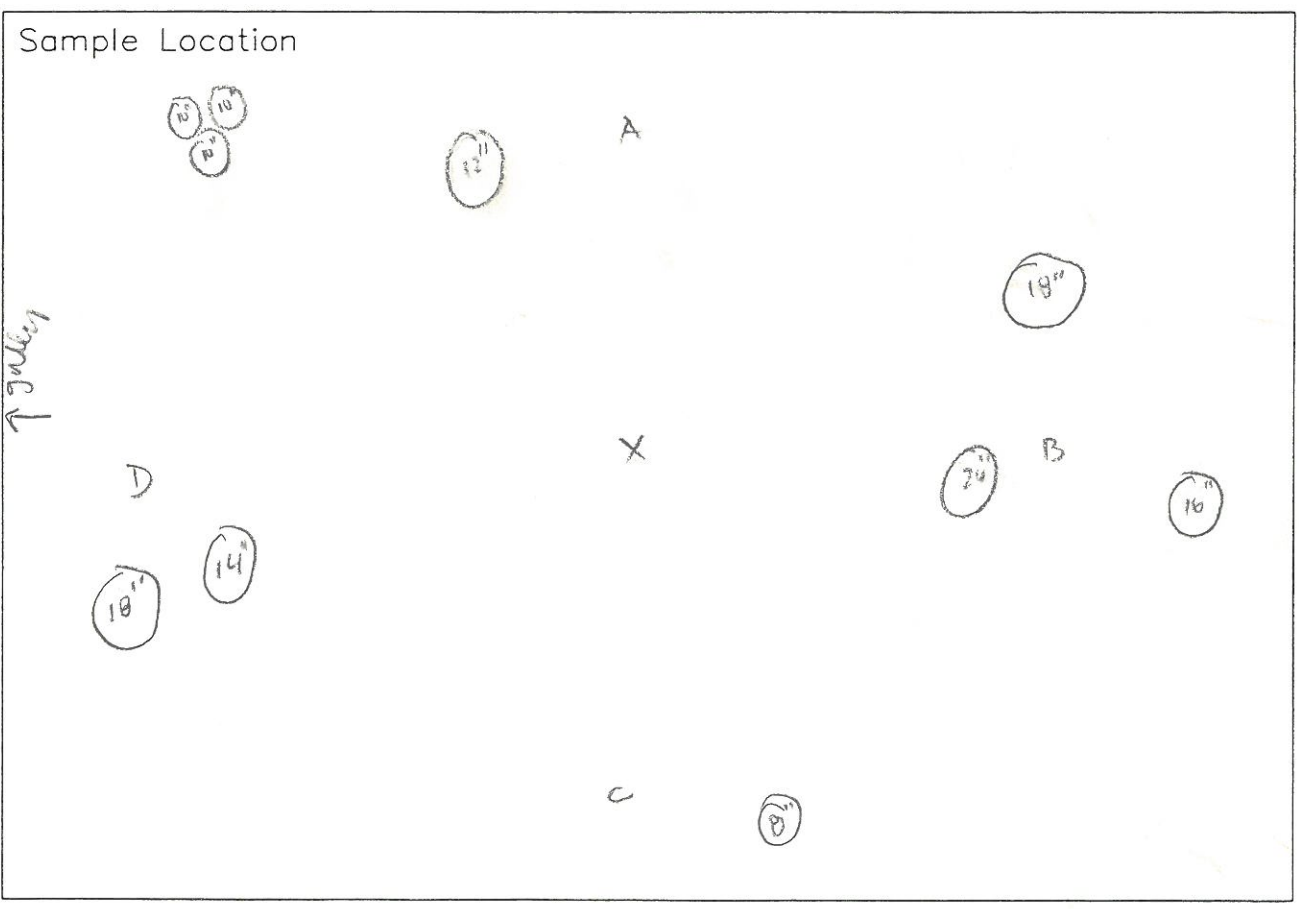
Surface Soil Sample Collection Form

Sample No. SAG-5C
 Job UCK
 Job No. 17800-36
 Sampling Method 4-PT COMPOSITE
 Composite Sample Yes No

Collected by PRC / SMF
 Date 11/3/2012
 N 735844.19
 E 2397365.53
 ELEV. 1,514.44'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)
 (A) 2" pine needle/duff. Damp, tan to brown SAND (B) 1/2" duff. Damp to dry, tan grading to light gray SAND w/ scattered roots. (C) Moss / succulents on surface, covered with pine needles.
 (D) Damp, tan to red brown SAND with scattered roots. (E) 3" duff/pine needles. Damp, lt. gray SAND.

Remarks ASPECT 169°. SLOPE 36°. Wooded area with mature pine trees. Thick layer of needles on ground. Steep slope. Fern understory scattered throughout ~500' upslope from dirt road. Scattered fringed moss/succulants make up ground cover. Gully ~15' east of sample locate D.



Looking
TOWARD

A	1174
B	1175
C	1176
D	1177

Sample	A	1178
Notes	B	1179
	C	1180
	D	1181

Site
TOWARD
A





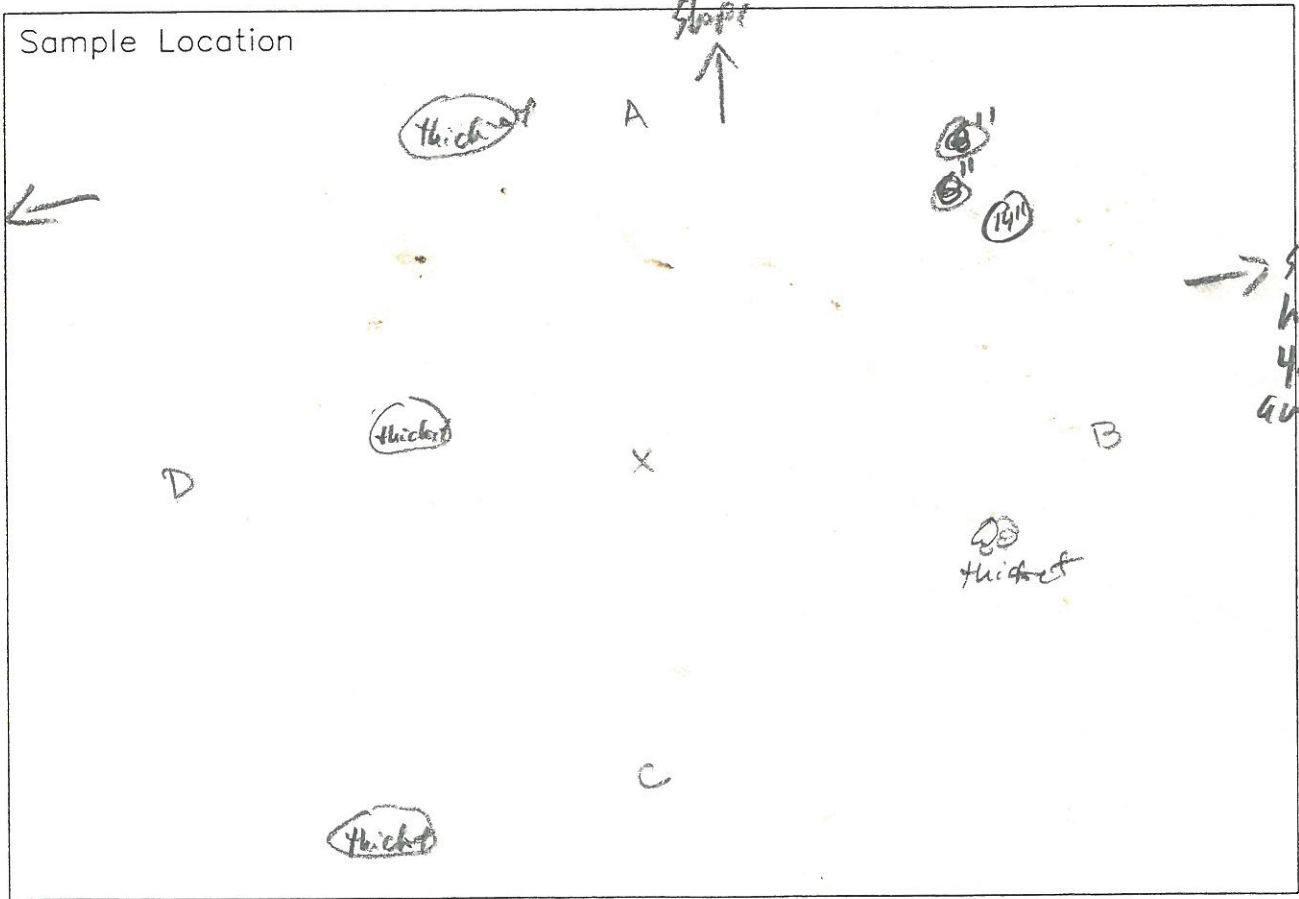
Surface Soil Sample Collection Form

Sample No. SAB-6C
 Job JCR
 Job No. 17800-36
 Sampling Method 4-pt composite
 Composite Sample Yes No

Collected by PRC/SMF
 Date 11/3/2012
 E 2395720.46
 N 735303.14
 ELEV. 1,610.23'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)
 (A) 1" duff (needles/leaves). Thin dk brown org. layer at surface. Damp, gray-brown and dk. brown slightly silty SAND. Abundant roots. (B) Same as A. (C) 1" duff (needles/leaves) Damp, dk. brown at surface with gray and gray-brown below, slightly silty SAND. (D) Same as C.

Remarks ASPECT 100° . SLOPE 8° . Thick brush and deciduous shrubs throughout.
Ground thick with needles and leaves. Larch and pine trees surround site. No evidence of logging or recent human disturbances.
In ^{south} valley w/ steep walls on N, W, S sides. No evidence of creek



- A 1165
- B 1166
- C 1167
- D 1168

Surface Soil Sample Collection Form

Sample No. SAG-7C

Collected by PRC/SMF

Job VCR

Date 11/2/2012

Job No. 17800-36

E 2995840.24 2395266.67

Sampling Method 4 PT COMPOSITE

N 730580.07 730581.56

Composite Sample Yes No

ELEV 1,835.86

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1-2" duff and grass. Moist to damp, dk. brown grading to brown, silty sandy GRAVEL w/abundant roots.

(B) 1" duff. Damp to moist, dk. brown silty sandy GRAVEL w/abundant roots.

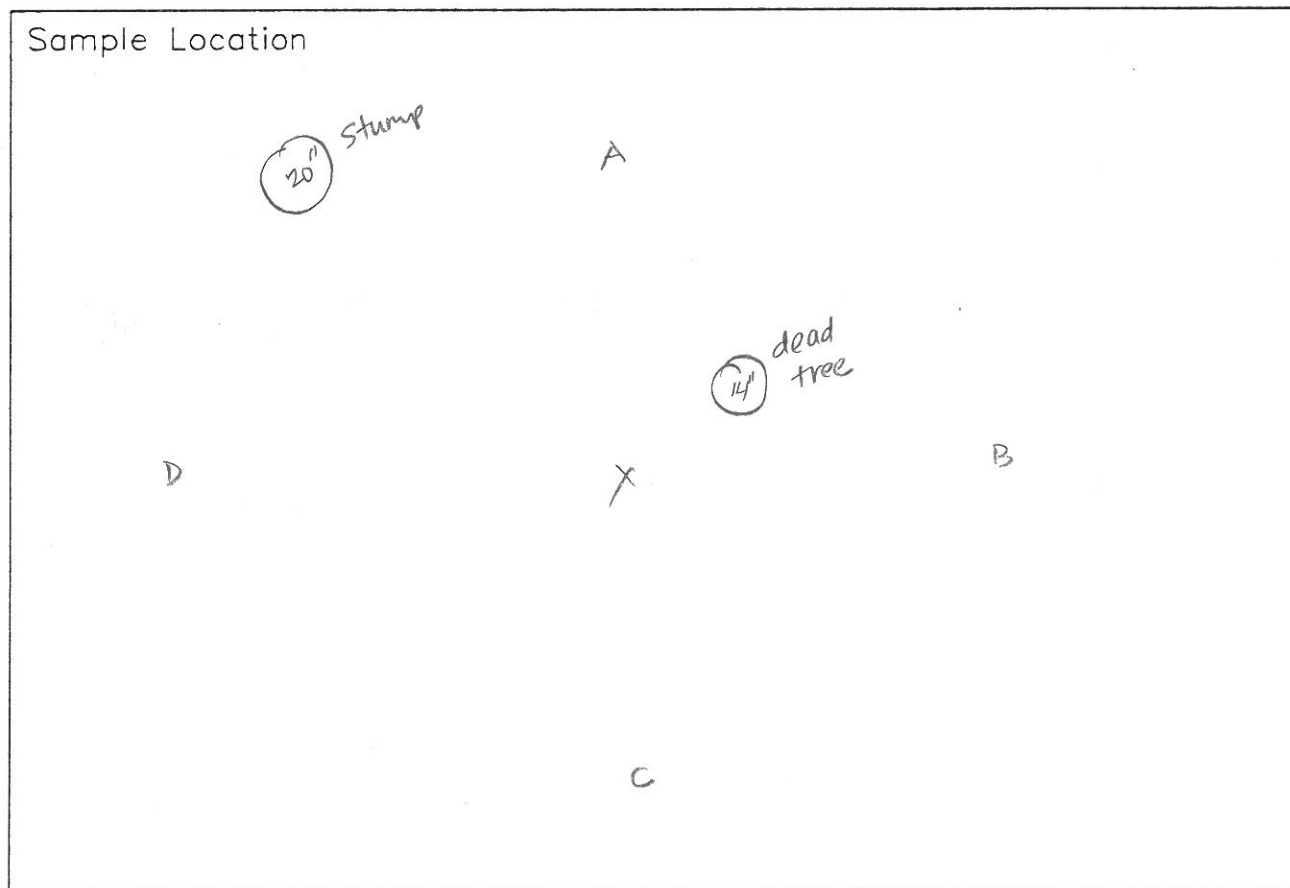
(C) Mass and grass at surface. Moist, dk. brown, silty sand to sandy silt, grading to brown silty sandy GRAVEL

Remarks ASPECT 160° SLOPE 4°. Evidence of recent logging. Thick brush covers site. Low scrub, thorny bushes, holly bushes throughout site. Many

w/ abundant roots in upper

(D)

Sample Location



Looking toward

- 1131 A
- 1132 B
- 1133 C
- 1134 D

- Sample locates
- A 1135
 - B 1136
 - C 1137
 - D 1138

Site looking 1139 toward A



Surface Soil Sample Collection Form

Sample No. SAB-8C

Collected by KJM / WDM

Job Upper Columbia

Date 11/3/12 0958

Job No. 17800-26

N 734586.92

Sampling Method composite 4 site

E 2397741.24

Composite Sample Yes No

elev 1912.51

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 4" duff, moist, brown-grey, silty fine SAND, trace charcoal, scattered organics

B 1" " " light grey-brown, " " trace organics

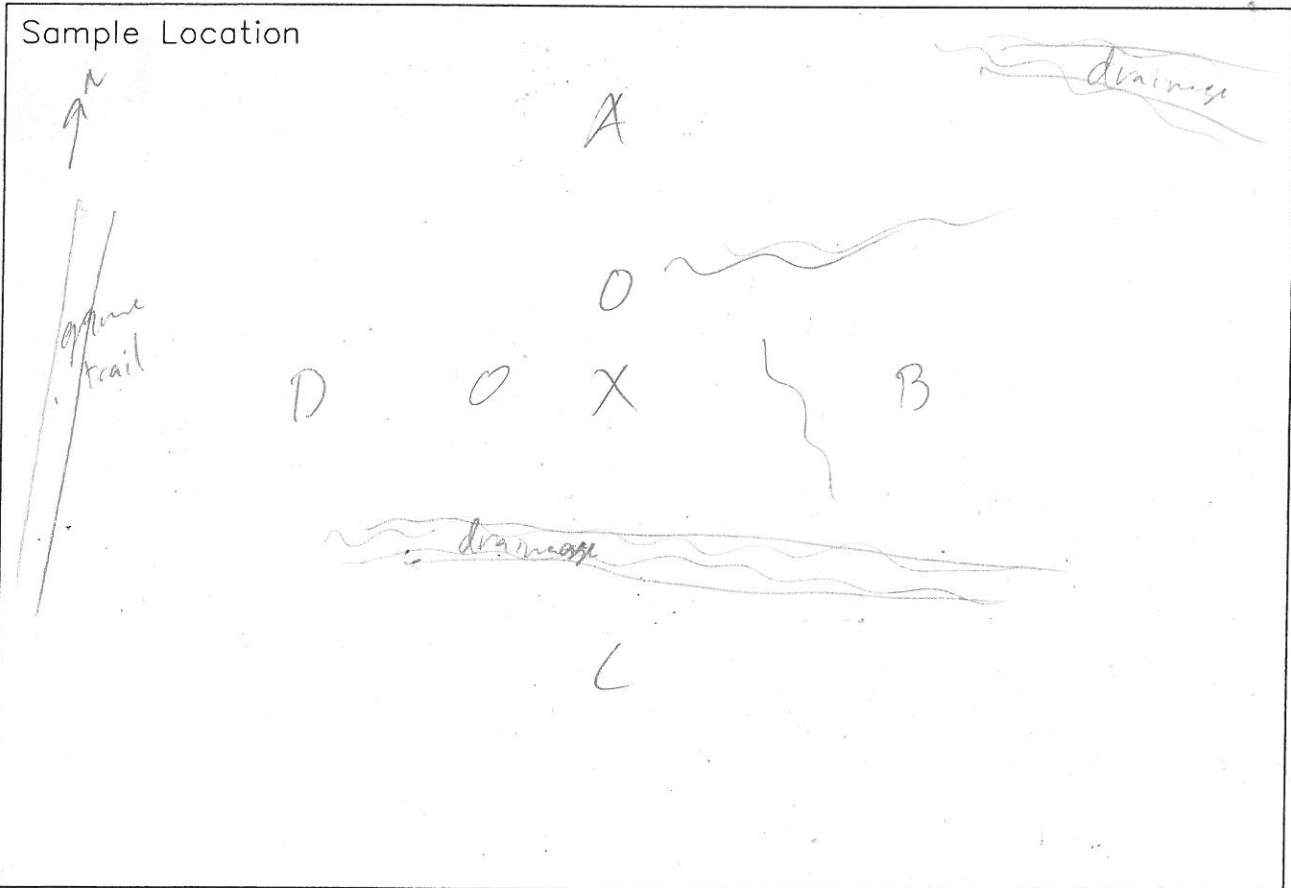
C 1" duff, same as B w/ trace charcoal + scattered "

D 25" " same as A @ 3' D to black silty SAND w/ charcoal fragments grades to l. brown silty SAND @ 5" base

Remarks canopy ~ 70% pine + alder forest, near clear cut, but > 500ft

aspect = 0 from edge. Lots of game trails in the area. Heavy needle litter.

close = 0 Logged in past (large burn) no evidence of recent activity.



Surface Soil Sample Collection Form



Sample No. SA7-1C

Collected by PRC/SMF

Job VCR

Date 11/3/2012

Job No. 17800-36

N 739253.32

Sampling Method SS. Spoon + Bowl

E 2399490.23

Composite Sample Yes No

ELEV. 1,553.74'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

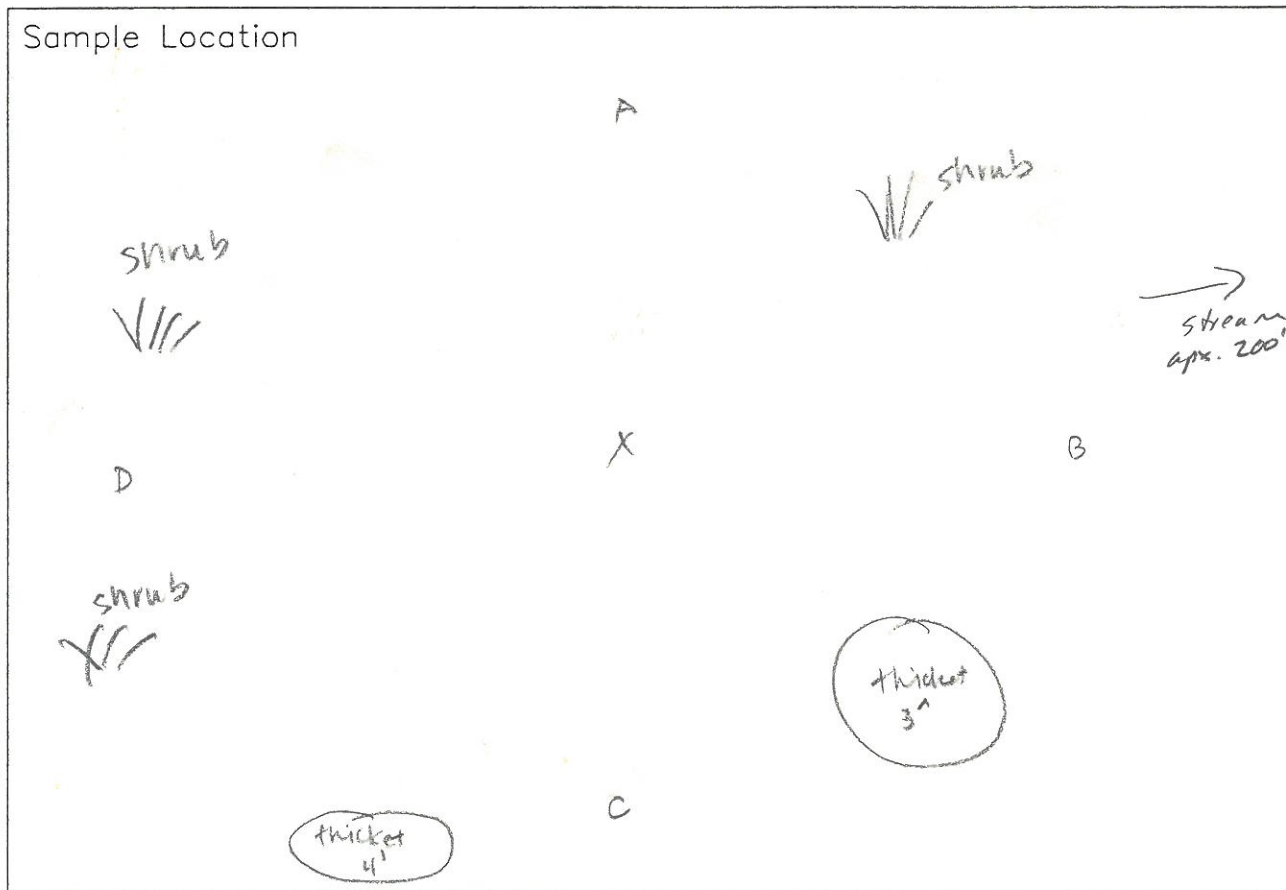
(A) Grass and moss at surface. Damp to moist, dk. brown silty sandy to sandy silty GRAVEL w/ abundant roots and scattered organics (B) Moss/grass at surface. Same as A. (C) Moss and grass at surface. Damp to moist, dk. brown, gravelly silty SAND to sandy SILT. (D) Moss and grass and pine needles at surface

Remarks ASPECT 151°, SLOPE 10°. Sample location is in a clearing. Evidence of burrowing small mammals. Abundant grass and emergents throughout site. No signs of recent human disturbances.

~~As to B, same material~~

Damp to moist, brown, slightly gravelly, silty SAND to sandy SILT, w/ abundant roots.

Sample Location



Photos taken toward

A 1185
B 1186
C 1187
D 1188

Sample holes A 1189
B 1190
C 1191
D 1192

SITE OVERVIEW TOWARD A 1193



Surface Soil Sample Collection Form

P1 @ 1402
P2 @ 1407
P3 @ 1412
P4 @ 1417

X

Sample No. SA7-1P

Collected by KJH/WDH

Job Upper Columbia

Date 11/3/12 1402

Job No. 17400-36

Sampling Method hand auger

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-2" Dark dibrown to brown slightly sandy SILT abundant organics

3-6" " brown slightly sandy SILT w/ trace gravels & scattered organics

6-12" same as (3-6")

12-24" same light brown granuley SILT

Remarks see SA7-6C

Sample Location

see SA7-6C



HARTCROWSER

Surface Soil Sample Collection Form

Sample No. SA 7-20

Collected by KJH

Job Upper Columbia

Date 11/3/12 @ 1143

Job No. 17900-36

N 737825.84

Sampling Method Composite 21 site

E 2398610.31

Composite Sample Yes No

elev 10663.61 (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1" DUFF, DAMP TO MOIST, GRAY BROWN, ^{TO LT, GRAY BROWN} SILT, TRICE SAND + SCAT. ORG.

B 3" DUFF " SAME AS ABOVE "

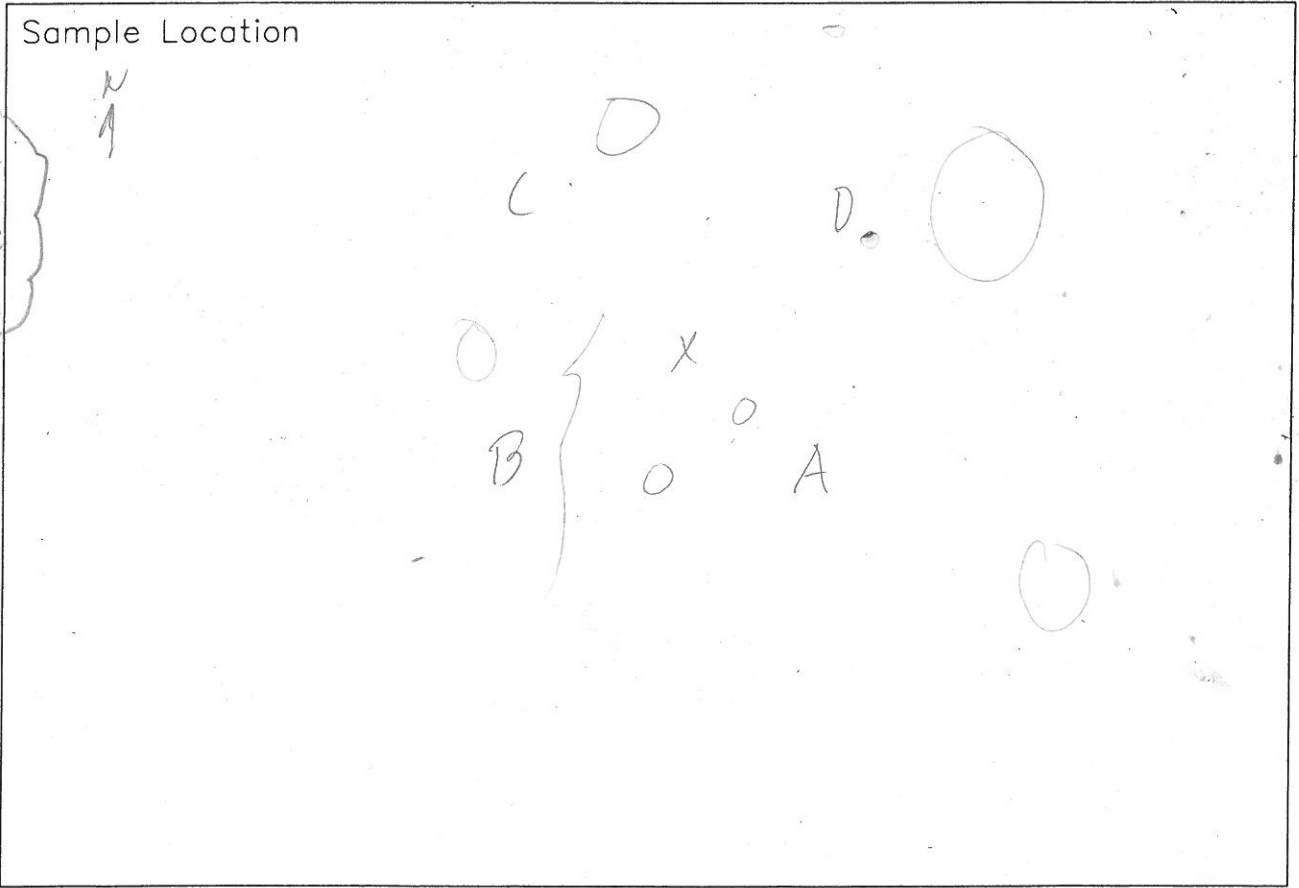
C 2" DUFF, " "

D 1/2" DUFF, MOIST, DARK SANDY SILT (1" THICK) / GRAY BROWN SILT

Remarks dense ferns + willow + birch, no evidence of logging, old low

aspect=140 heat fire evidence.

slope=45!





Surface Soil Sample Collection Form

Sample No. SA7-3C

Collected by PRC/SMF

Job 17800-36

Date 11/3/2012

Job No. VCR

N 735887.97

Sampling Method 4-PT COMPOSITE

E 2400388.82

Composite Sample Yes No

ELEV 1,402.85'

w/abundant roots

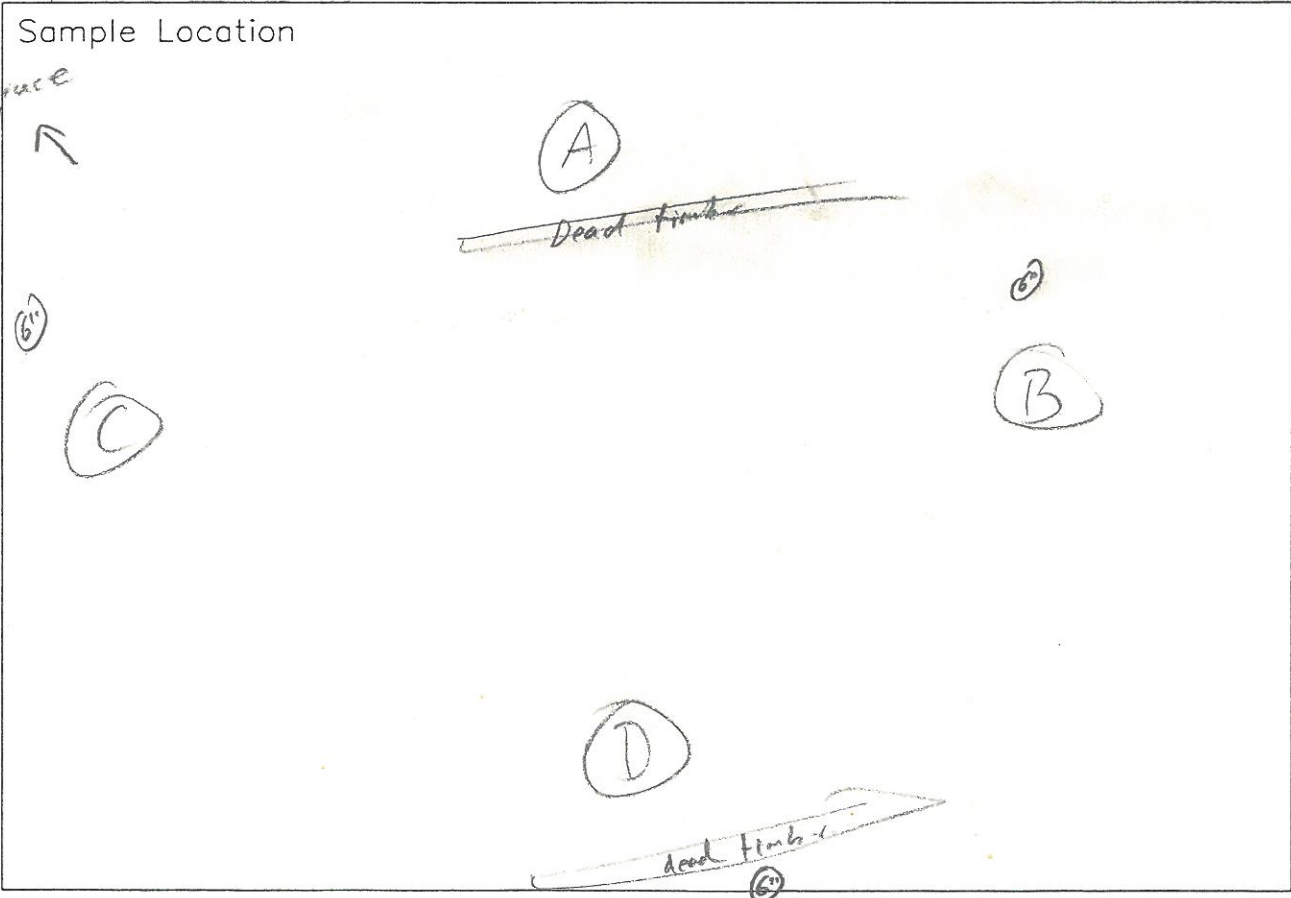
Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Moss & pine needles at surface. Damp to moist, dk. brown sandy silt to silty SANDS. (B) 1/2" pine needles w/ grass and decaying wood. Damp, dk. brown and brown, silty sand to sandy SILT. (C) Adjacent to downed timber. Soil is same as C. (D) Same as C.

Remarks ASPECT: 177° SLOPE: 0°

Grass and pine needles cover the site. No evidence of recent logging. Area is within pine forest, but sampling location is open. No evidence of recent human impacts.

Dug to ~7-8" and observed no change in soil conditions.



- Looking toward A 1211
- B 1212
- C 1213
- D 1214

X

Surface Soil Sample Collection Form

Sample No. SA7-46

Collected by KJH / WDM

Job Upper Columbia

Date 11/3/12 (1505)

Job No. 17800-36

N 738795.36

Sampling Method Composite of site

E 2402019.413

Composite Sample Yes No

elev 1762.70

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Moist, brown grey, slightly silty to silty fine SAND, scattered org.

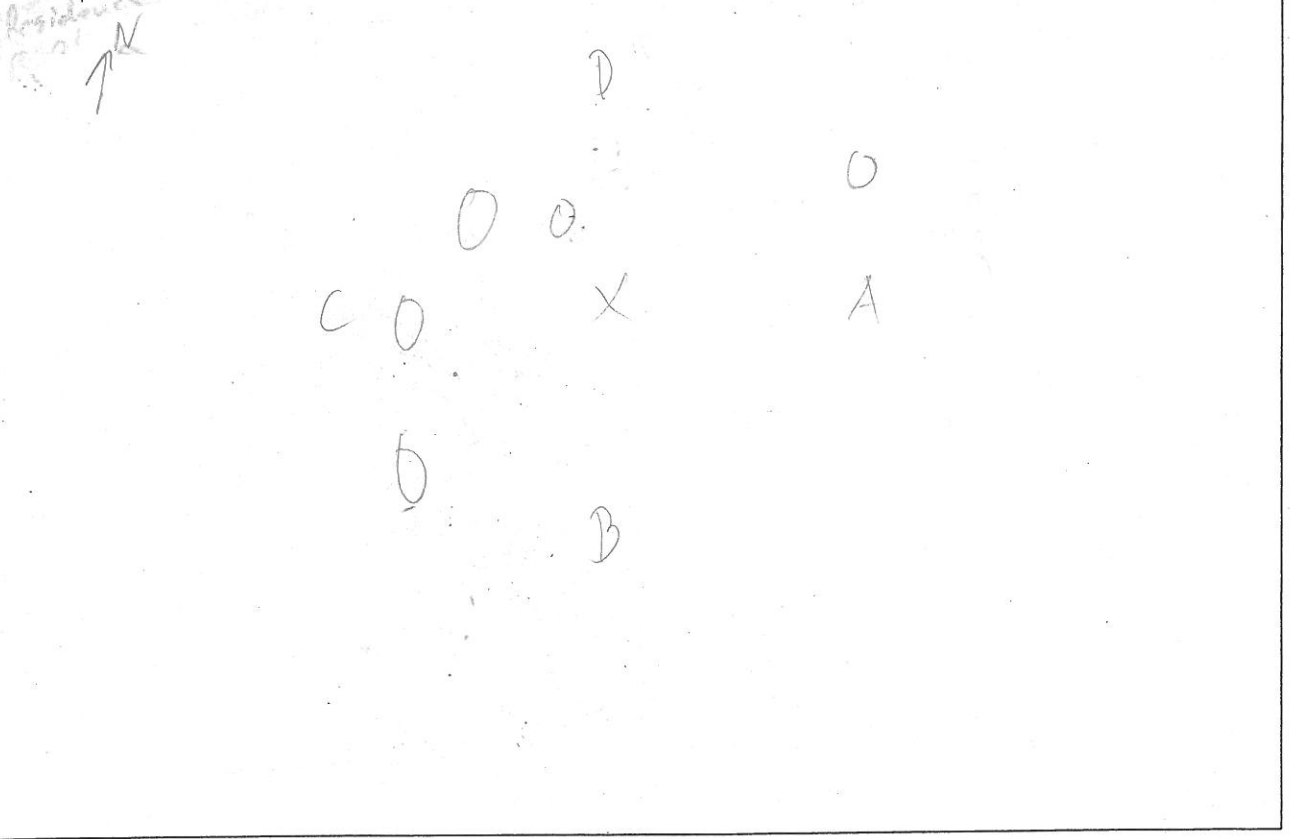
B Same as above (A)

C Moist, grey brown slightly silty to silty fine SAND abundant org.

D Moist, grey, same as above (C)

Remarks canopy ~10% open area, lots of small willow & pines no logging, some
aspect = 90 human tracks/trails seen on the hike in
slope = 15°

Sample Location



Δ FROM
GRAY TO
BROWN
6" BGS
+ TRACE
ORG.

Surface Soil Sample Collection Form

Sample No. SA7-5C

Collected by PRC/SMF

Job UCL

Date 11/3/2012

Job No. 17800-36

N 739066.05

Sampling Method 4-PT COMPOSITE

E 2405511.14

Composite Sample Yes No

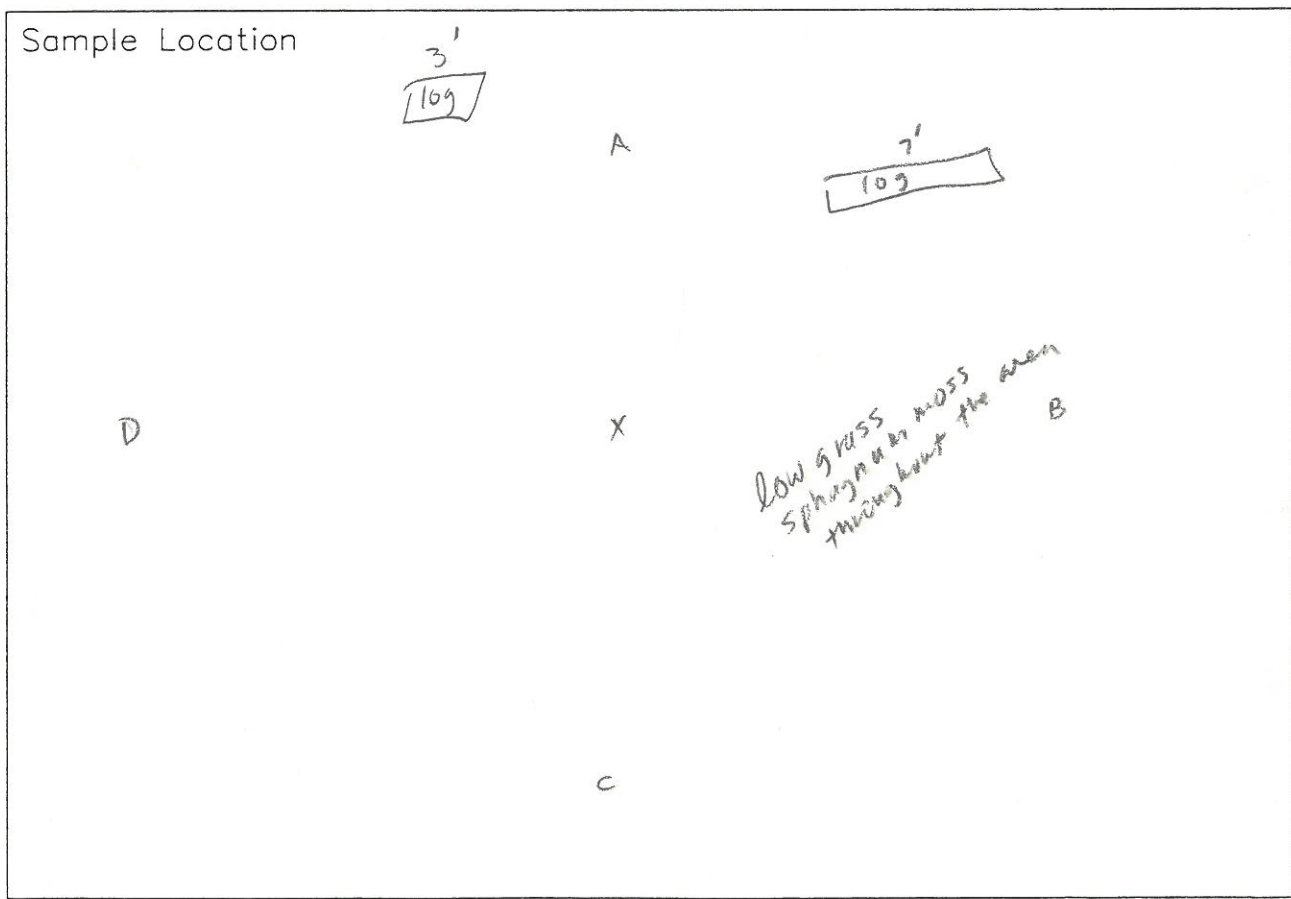
ELEV. 1,417.57'

⇒ collected duplicate at this location.

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) Moss and grass at surface. Damp to moist, dk. brown, Sandy SILT, trace gravel, w/ abundant roots.
- (B) 1" duff and grass at surface. Same as A w/ abundant organics, roots, and some decaying wood.
- (C) Grass and moss at surface. Damp to moist, brown to dk. brown, sl. gravelly sandy SILT, (D) →

Remarks ASPECT 120°. SLOPE 1°. Lots of cobbles in area. Appears to have been logged relatively recently. No signs of fresh disturbances. Grassy with small shrubs. Sample location was in a small clearing.



Site	A 1194
looking	B 1195
toward	C 1196
	D 1197

Sample	A 1198
holes	B 1199
	C 1200
	D 1201

Site overview toward A



Surface Soil Sample Collection Form

@1337 X

Sample No. SA7 - DUPLICATE (at SC)

Collected by PEC/SMF

Job JCR

Date 11/3/2012

Job No. 17800-36

Sampling Method 4-PT COMPOSITE

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) grass & moss at surface, damp-moist, dark brown, sandy, silty, G-RAVEL w/ abundant organics (roots & twigs)
(B) same as above (C) grass & moss @ surface, damp-moist, dark brown
sandy, gravelly SILT w/ abundant organics (roots, twigs) (D)

Remarks _____

Sample Location

X

Surface Soil Sample Collection Form

Sample No. SA7-6C

Collected by KJH/WDM

Job Upper Columbia

Date 11/3/12 .1352

Job No. 17800-36

at N 2404152.11 E.

Sampling Method Composite 4 sites

at E 739902.14

Composite Sample Yes No

elev 1706.57

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

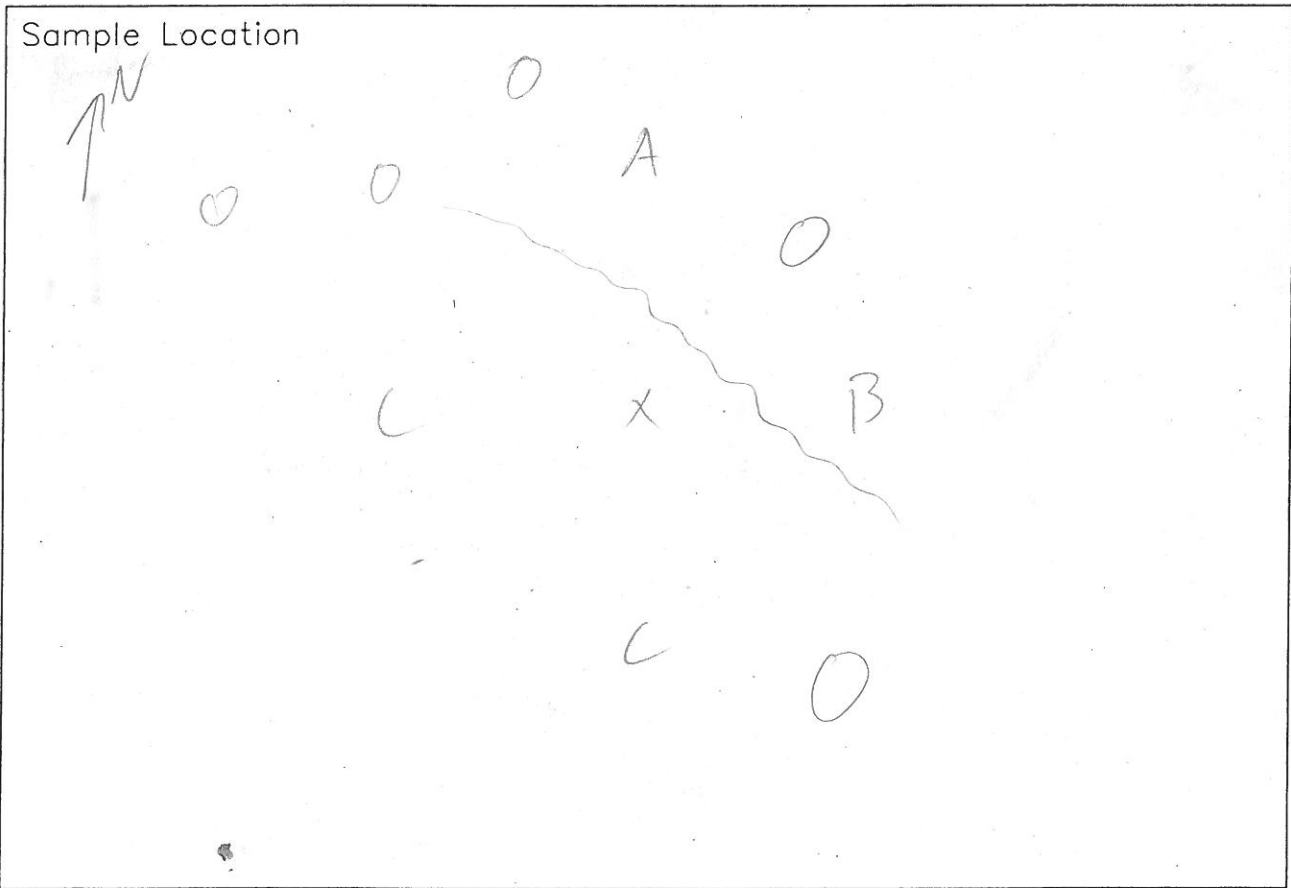
A 1" Duff, Damp, DRK BROWN, SL. SANDY SILT (2") / Damp BROWN SL. SANDY SILT

B Damp, DRK BROWN, SL. SANDY SILT (2") / Damp BROWN SL. SANDY SILT

C Damp, LT. BROWN, SL. GRAVELLY SANDY SILT

D DAMP, BROWN TO DRK BROWN, SANDY SILT, SCAT ORG.

Remarks on Phillips ranch. Birch, larch, pine forest edge, some willow, ATV
slope ~ 1° track ~ 500 ft away no other evidence of activity
aspect = 0°



Surface Soil Sample Collection Form

Sample No. SA7-7C

Collected by PRC/NWG

Job UCL

Date 11/9/12 @ 1358

Job No. 17800-36

Sampling Method 4pt composite w/ SS Spoon

743779.78' N
2405236.65' E
2,040.13' elev (MSL)

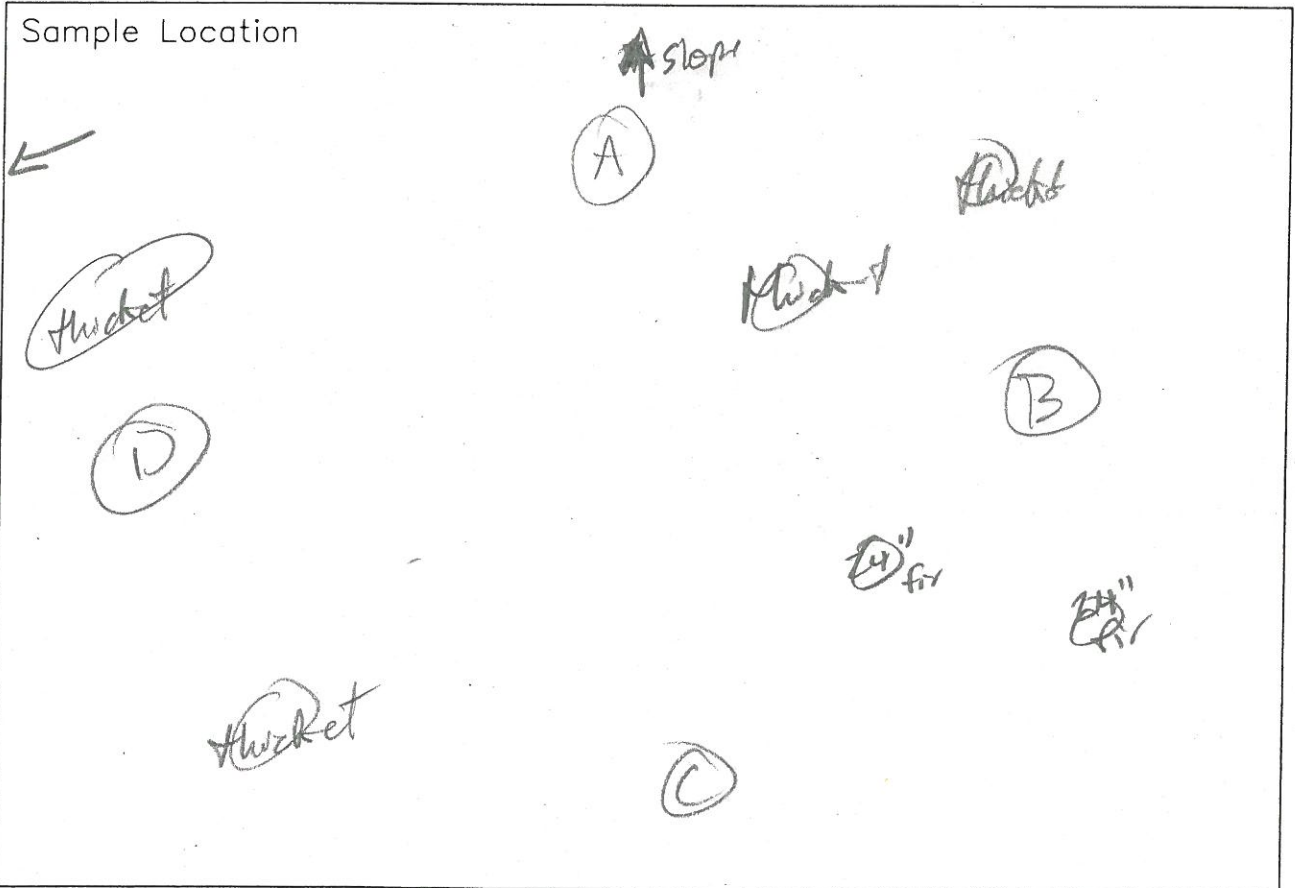
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/2" pine needles/leaves, 1" damp, dark brown, organic SILT over damp, brown-d. brown, sandy, SILT trace gravel
(B) 2" decaying wood, leaves, duff damp-moist, brown-d. brown, slightly sandy SILT.
(C) 1" pine needles/leaves, 1" damp, dark brown, sandy, organic SILT over damp, brown, sandy SILT w/ abundant organic w/ organics

Remarks Aspect - 82° slope - 16° In area w/ thick vegetation including small deciduous trees (willows?) Fir trees also dot area. Small shrubs and grasses also cover the ground. No evidence of human disturbance

1/2" grass, pine needles, leaves, over same as C both layers



0020 (A) 0024
↓ (B) ↓
0023 (C) 0027
↓ (D)

0018-site photo



X

Surface Soil Sample Collection Form

Sample No. SA8-1C

Collected by KJH/WDM

Job Upper Columbia

Date 11/4/12 - 1155

Job No. 17900-36

N 745702.92

Sampling Method composite 4 site

E 2417025.17

ele 1659.66

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A .5" duff, moist, brown sandy SILT abundant organics

B no duff, moist, brown to d. brown sand SIL, scattered "

C .5" duff, moist brown trace gravelly very silty SAND abundant organics

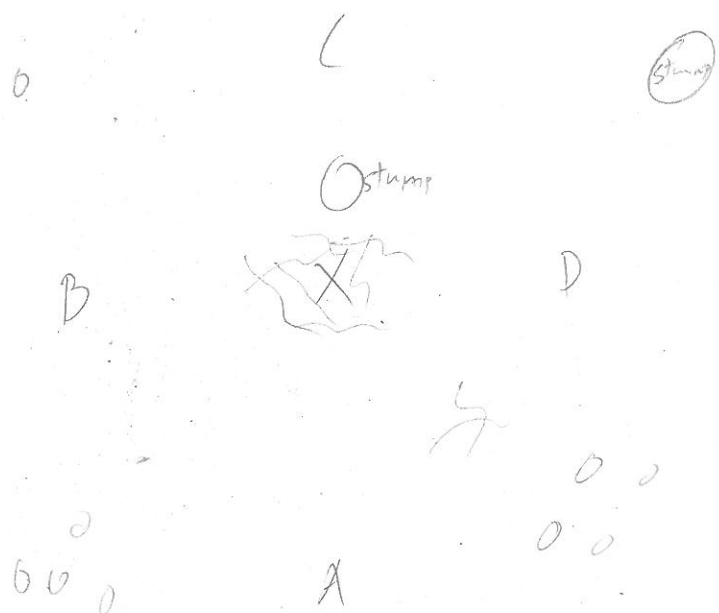
D 7.5" " , same as above (C) w/ D from brown to black @ 2" bgs

Remarks canopy = ~60% pine & fir - in area

aspect: 110

slope: 3

Sample Location



Soil DOES NOT CHANGE DOWN TO 6" BGS

X

Surface Soil Sample Collection Form

Sample No. SAB-2C

Collected by KJH/WDM

Job Upper Columbia

Date 11/4/12 0927

Job No. 17800-36

N 738489.25

Sampling Method Composite 4-site

E 2408584.50

Composite Sample Yes No

elv 1409.76

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1/2" DEEP, DAMP, DKK BROWN, SL. SILTY SAND, SEAS. GRAVELS + ORG

B " SAME AS ABOVE → LT. BROWN "

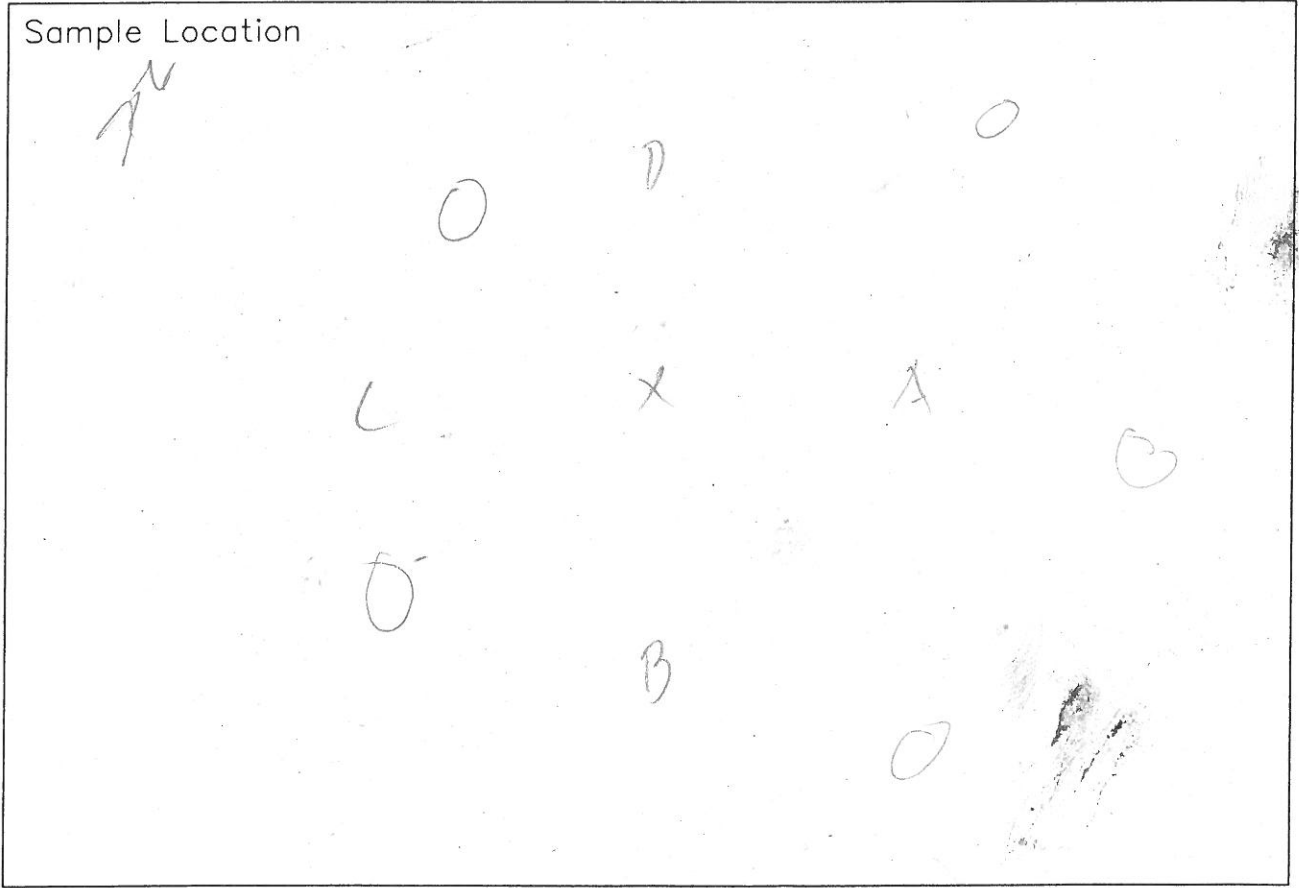
C " SAME AS ABOVE "

D " SAME AS ABOVE "

Remarks open grazing land, no evidence of recent grazing canopy = 20

aspect = 90

slope = 0-1°



Surface Soil Sample Collection Form

P1 @ 1001
P2 @ 1006
P3 @ 1011
P4 @ 1016

X

Sample No. ~~SA8-C~~^{KJH} SA8-2P

Collected by KJH/WDM

Job Upper Columbia

Date 11/4/12 1001

Job No. 17400-76

Sampling Method hand auger

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-3 Pans, brown silty SAND scattered organics

3-6 same as above

6-12 Pans, light brown slightly gravelly silty SAND, trace organics

12-24 same as above.

Remarks see SA8-2C

Sample Location

see SA8-2C



HARTCROWSER

Surface Soil Sample Collection Form

Sample No. SA 8-3c

Collected by KJM / WDM

Job Upper Columbia

Date 11/3/12 @ 1657

Job No. 17800-36

N 740 105.40
E 240 9695.75
elev 1575.79

Sampling Method Composite 4 site

Composite Sample Yes No

⇒ DUPLICATE COLLECTED

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A DAMP, BROWN, SILTY FINE SAND, SCAT. ORGANICS

B 1/2" DUKE "SAME AS ABOVE"

C LT. BROWN, "

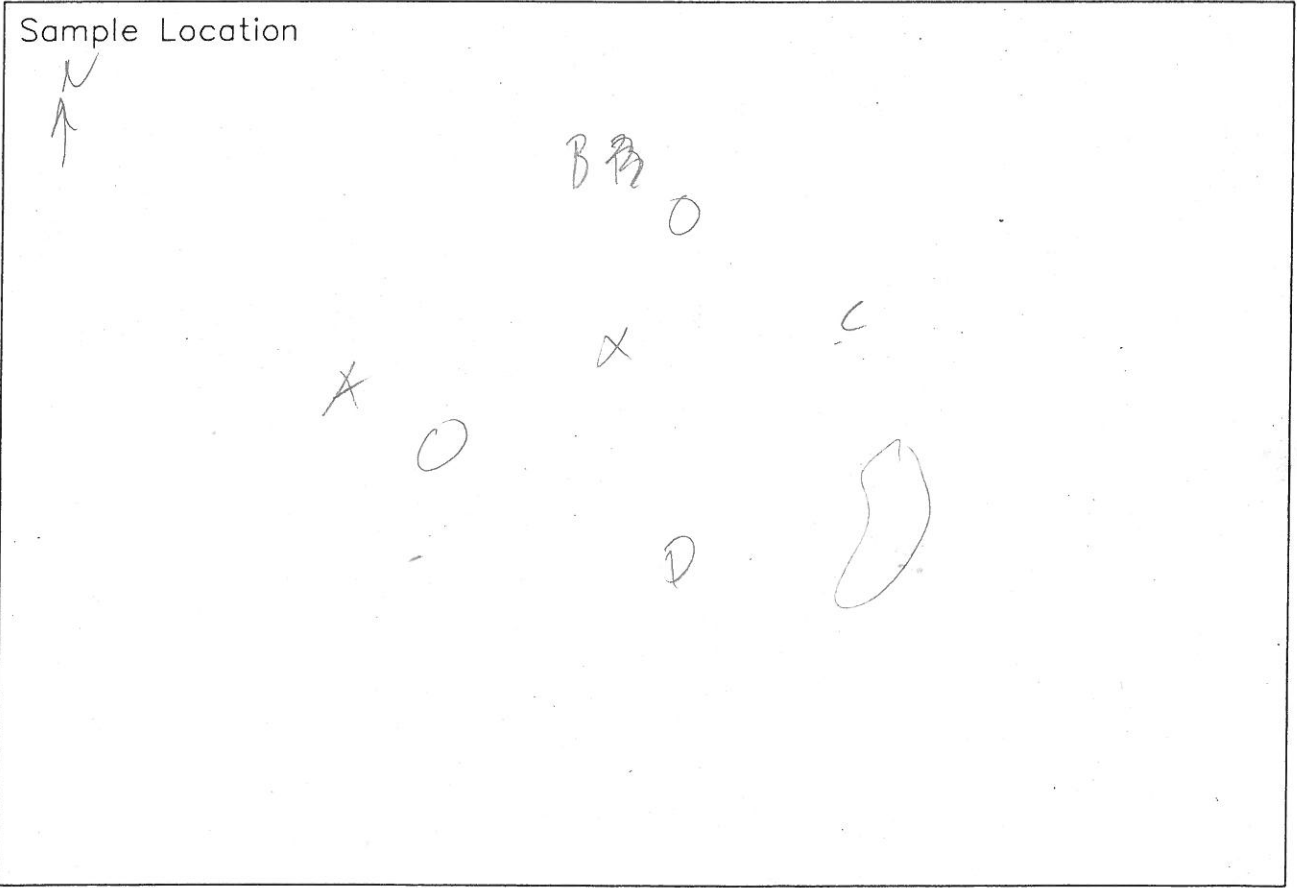
D 1/2" DUKE, DAMP, BROWN SILTY F. SAND, SCAT ORG

Remarks open steep hillside, little evidence of animal activity

slope = 70 original point is drainage, moved up hillside.

aspect = 250

SAME MATERIAL TO 9"



O = willow clumps

→ DUPLICATE SAMPLE

Surface Soil Sample Collection Form

X

Sample No. SA8-FD

Collected by KSH/WDM

Job Upper Columbia

Date 11/3/12 @ 1713

Job No. 17800-36

Sampling Method Composite 4 site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1/2" DUFF, DAMP, BROWN Silty F. SAND Scat. ORG

B " " " W TRACE GRAVEL

C no duff, damp grey brown, " no gravel scattered organics

D 1" " damp brown, silty fine SAND, scattered organics

Remarks see SA8-3C

Sample Location

see SA8-3C

3"
same as top
3" layer
9"

@ 1335

X

Surface Soil Sample Collection Form

Sample No. SAB-4C

Collected by PRE/SMF

Job UCR

Date 11/4/2012

Job No. 17900-36

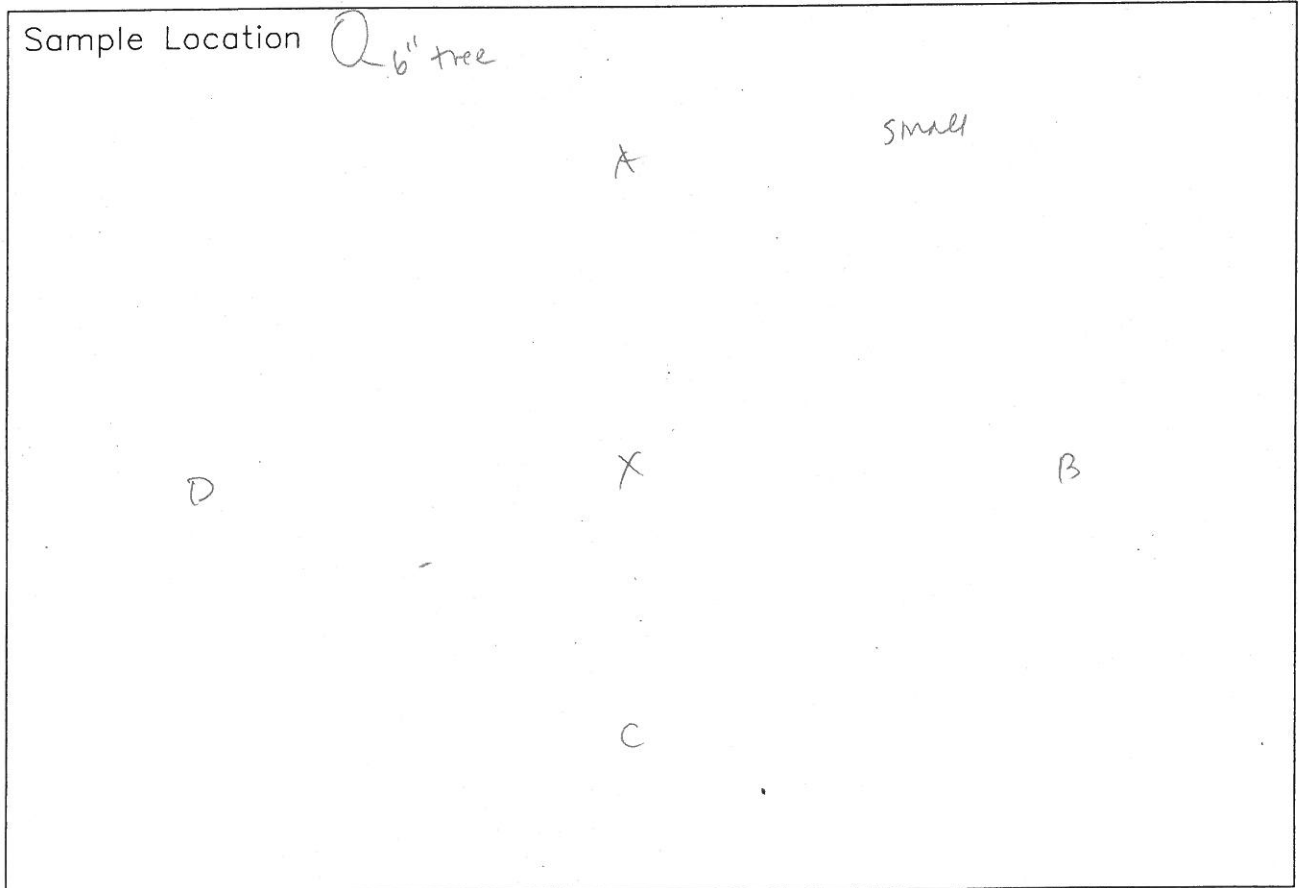
Sampling Method 4-PT COMPOSITE

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) Grass and pine needles at surface, DK. brown grading to lt. brown, damp to moist, silty SAND.
- (B) 1/2" duff and moss at surface. Same soil as A. (C) 1/4" duff, lots of pine needles and shrubs.
- (D) Moss and shrubs at surface, (D) Same as C with moss and grass

Remarks ASPECT: 225°, SLOPE: 5°. Small clearing in pine forest. LOTS



→ Pictures are on Ward's Camera.

Surface Soil Sample Collection Form

Sample No. SA8-5C

Collected by PRC/SMF

Job UCR

Date 11/4/2012

Job No. 17800-36

N 742324.89

Sampling Method 4-PT COMPOSITE

E 2410845.39

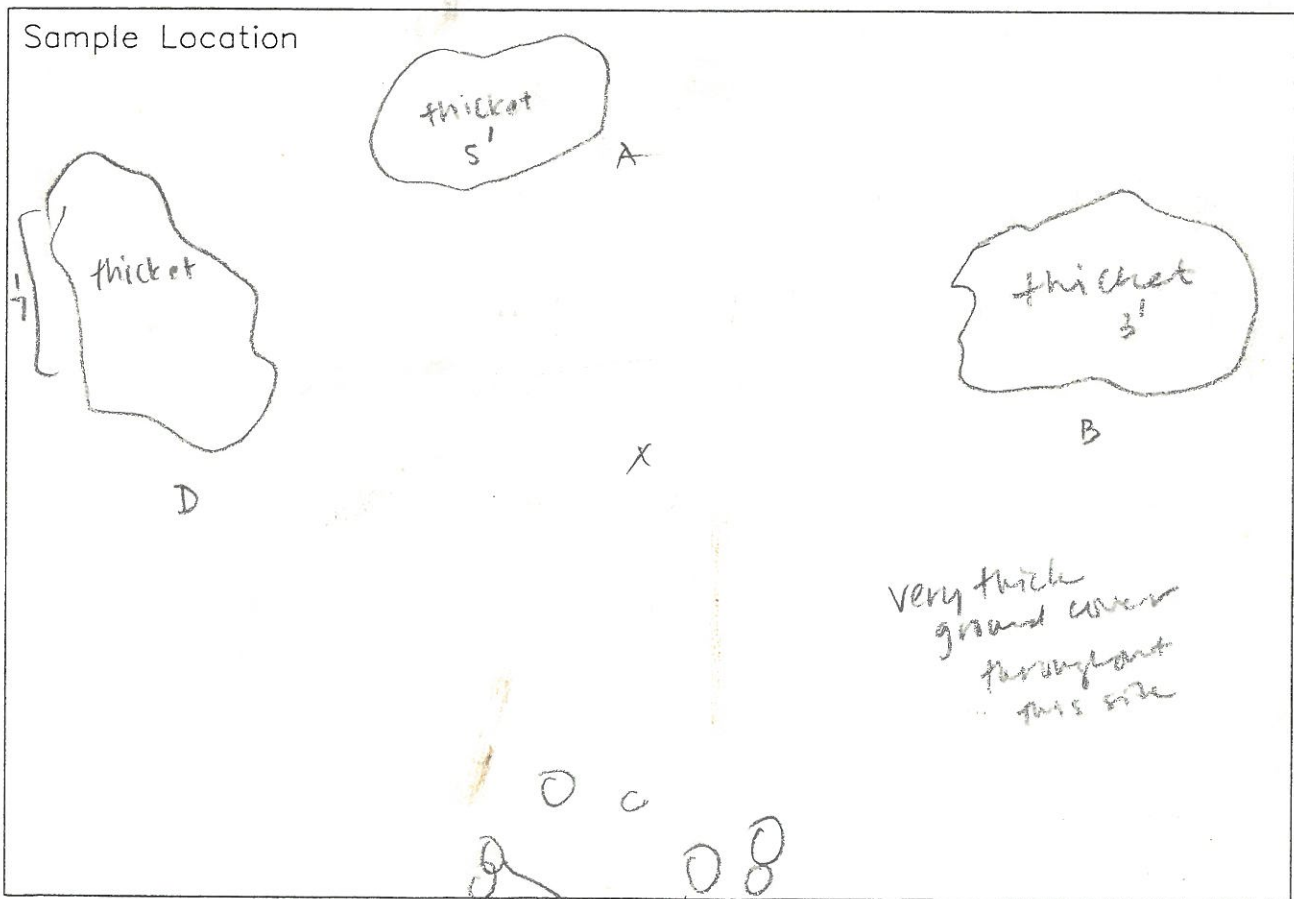
Composite Sample Yes No

ELEV. 1,762.77

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) grass & shrub at surface. Dk. brown, damp to moist silty SAND, trace gravel w/ abundant roots.
 (B) 1" duff (needles and leaves). Same as A. (C) 2" duff and extensive leaf cover. Same soil as A. (D) 3" duff-leaf cover and mushrooms. Same as A, with areas of red-brown and some decaying wood.

Remarks ASPECT 290°. SLOPE 10°. Abundant roots and organics throughout site. Light rain and fog. Deer scat around site. Site is heavily vegetated with deciduous shrubs and holly scrub. Ground is very tight with roots and there is a thick layer of moss in many spots.



- A 1231
 - B 1232
 - C 1233
 - D 1234
- Sample holes
- A 1235
 - B 1236
 - C 1237
 - D 1238

Photos toward

site overview toward A 1239

@ 1149
X

Surface Soil Sample Collection Form

Sample No. SAB-7C

Collected by PRC/SMF

Job VCR

Date 11/4/2012

Job No. 17800-36

E 2411715.32

Sampling Method 4-PT COMPOSITE

N 743926.99

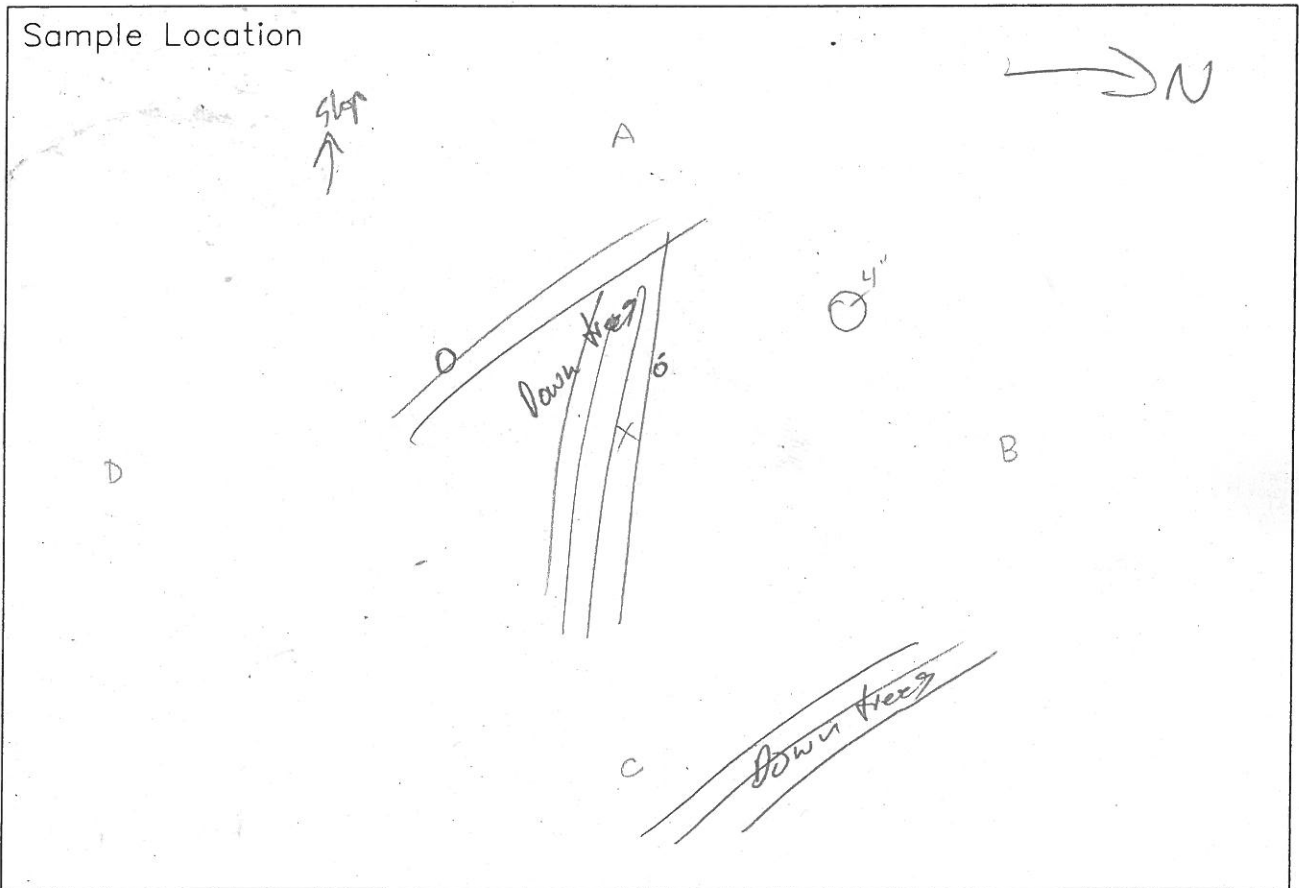
Composite Sample Yes No

ELEV. 1,769.78'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Thick layer of moss over 1/2" duff. Damp to moist, dk. brown, sandy silt grading to red-brown sandy SILT. (B) 1/2" duff, lots of leaves and pine needles. Abundant roots. Damp to moist, dk. brown sandy SILT. (C) 1/2" duff. Damp, dk. brown grading to brown, slightly gravelly sandy SILT. (D) →

Remarks ASPECT 245°. SLOPE 12.5°. Evidence of past logging. Many damaged trees. Extremely thick vegetation, pine saplings, deciduous shrubs and holly scrub. Moss and grass cover throughout the area. Thick roots throughout the area and in all samples. Very difficult to dig here. Young pine trees cover the area



Site looking toward

A	1249
B	1250
C	1251
D	1252

Sample holes

A	1253
B	1254
C	1255
D	1256

Site photo 1257



Surface Soil Sample Collection Form

Sample No. SA9-1c

Collected by KJH/ASK

Job Upper Columbia

Date 11/8/12 @ 1014

Job No. 17600-36

N 743 354.05

Sampling Method composite 4 site

E 241 4437.99

Composite Sample Yes No

elev 2927.16

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves/needles/grass, 1/4" duff, moist brown sandy silty gravel w/scattered organics

B leaves/needles, 1/2" duff, 1" moist black silty gravel followed by moist brown sandy silty gravel

C leaves/needles/twigs, 1/2" duff, moist brown black w/mottling; possibly charcoal

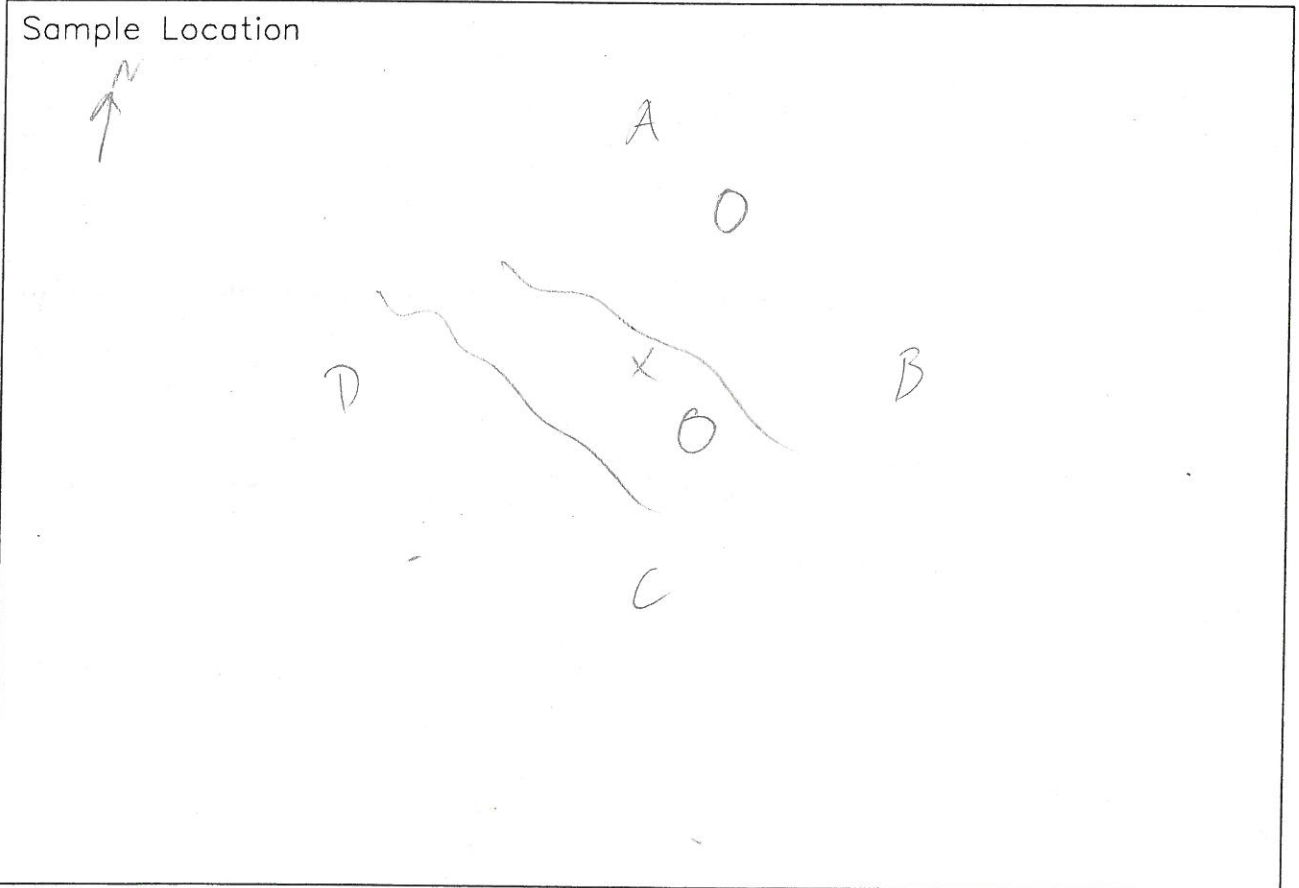
D moss/needles/twigs, 1/2" duff, 1/2" black silty gravel, followed by moist brown sandy silty gravel down to 6" at least

Remarks steep rocky slope, heavily forested pine, oak + willow

aspect = 331 logging in vicinity

slope = 39

very top of surface is frosted (leaves/needles/duff layer) canopy = 75



pics A-D
1-8 + 5-8

Surface Soil Sample Collection Form

Sample No. SAG-2C

Collected by KJH/ASK

Job UCR

Date 11/9/12 1337

Job No. 17600-36

N 743309.7

Sampling Method composite 4 site

E 2412872.78

Composite Sample Yes No

elev 2199.81

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Grass/grass/moss, no duff, moist brown sandy silty gravel w/trace organics, @ 3" bgs - scattered organics, Same comp. to B

B Grass/moss, no duff, same comp. as A

C same surface, same as A

D same surface, no duff, moist-wet, brown sandy silty gravel w/trace organics

Remarks grassy steep hillside above human habitations, no evidence of
aspect = 255 human activity, some game trails in area

slope = 21

canopy = 0

Sample Location



○ willow

A

B 55

X

willow ○

D

C

[pics: site / profile
A-D A-D
57-60 61-64]

Surface Soil Sample Collection Form

Sample No. SAR-3C

Collected by KJH/ASU

Job Upper Columbia

Date 11/8/12 1100

Job No. 17800-36

N 742293.21

Sampling Method composite 4-site

E 2414479.57

Composite Sample Yes No

elev 3075.71

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A grass/moss, little ground cover, damp, silty to coarse sandy gravel w/trace organics

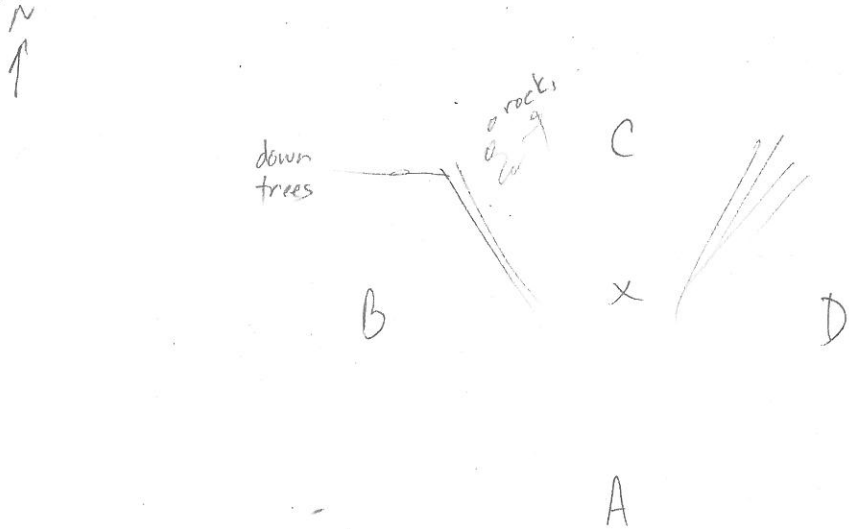
B moss/needles, little ground cover, no duff, damp brown, silty to coarse sandy gravel w/trace organics

C needles/grasses, more surface cover, no duff, brown, moist sandy silty gravel w/trace organics

D grass/moss/needles, duff w/cobbles layer, moist black, silty sandy gravelly cobble - down to 6"

Remarks rounded point due to rock outcrop, slope still rocky, but likely slope = 25° to get enough soil. Point near ridge, slightly down slope aspect = 230° logging in vicinity canopy cover ≈ 10-15%

Sample Location



pics
 [9-12 + 13-16]
 [A-D] [B, C, D, A]

Surface Soil Sample Collection Form

Sample No. SA9-4C
 Job UCR
 Job No. 17800-36
 Sampling Method 4pt composite
 Composite Sample Yes No

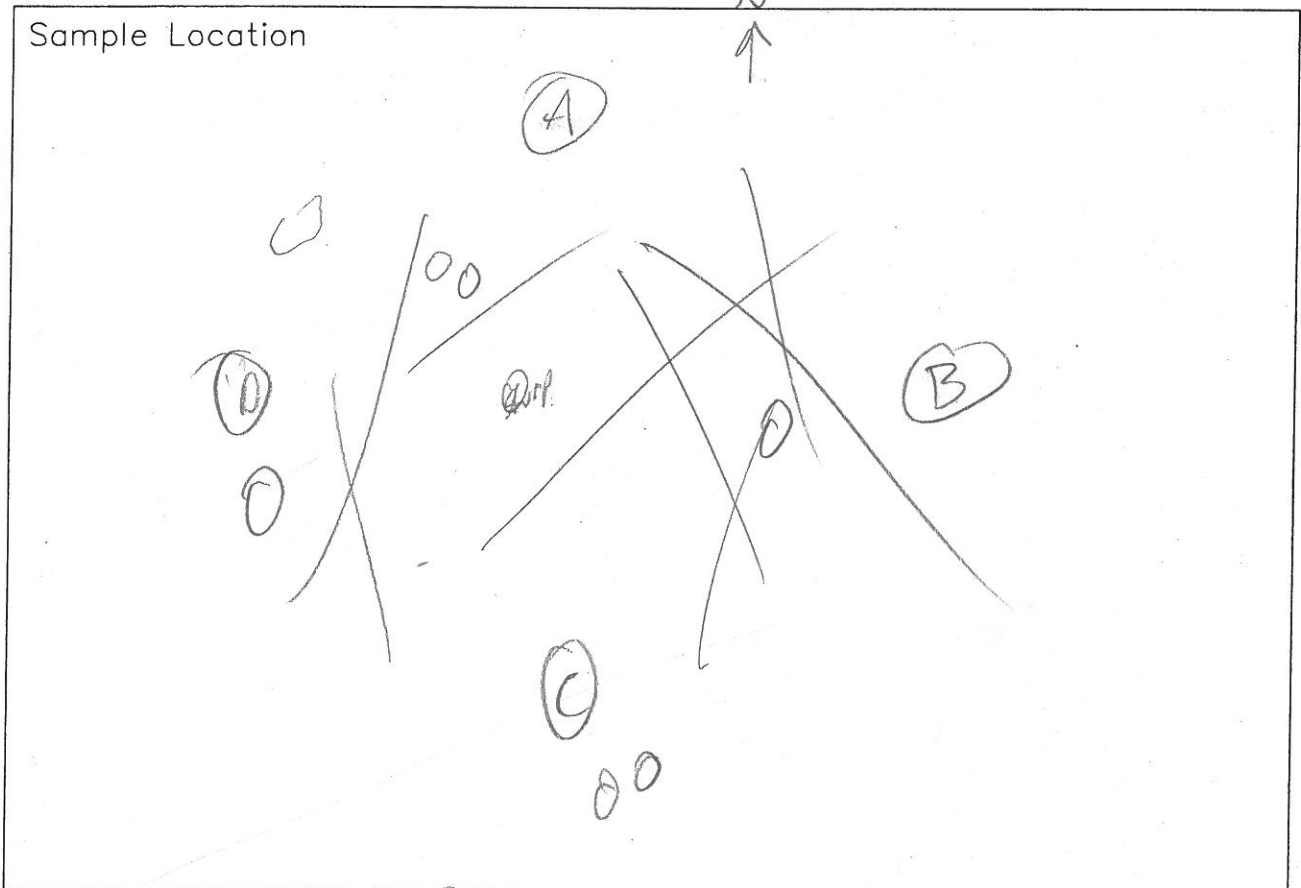
Collected by PRC / NWG
 Date 11/8/12 10:13
 N 740506.22
 E 2413351.16
 Elev 2,610.29'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

top 2"-very organic
 (A) leaves, pine needles, 1/4" diff, damp, dark brown, changing to brown @ 2", sandy silt trace gravel
 (B) abundant roots, decaying wood, organics. (C) pine needles/leaves over 1/2" diff, same as (A)
 (D) before (C) 1/2" of dark brown, organic silt w/ organics, under leaves/pine wood less
 then damp, light brown, slightly sandy silt w/ roots and organics (D) 2" leaf litter/duff over
 Remarks logged in post. scaffold pile and deciduous trees. same soil
Thick leaf litter and numerous down trees and scattered stumps.
Area is flat between steep slope and slight rise to the west

SILT down to 7-8"

Sample Location



- 1377 (A) 1381
- 1378 (B) 1382
- 1379 (C) 1383
- 1380 (D) 1384

1385 - site photo

Surface Soil Sample Collection Form

Sample No. SA9-5C

Collected by PRC/NG
Date 11/7/12 @ 1443

Job UCR

Job No. 17800-36

Sampling Method 4pt composite

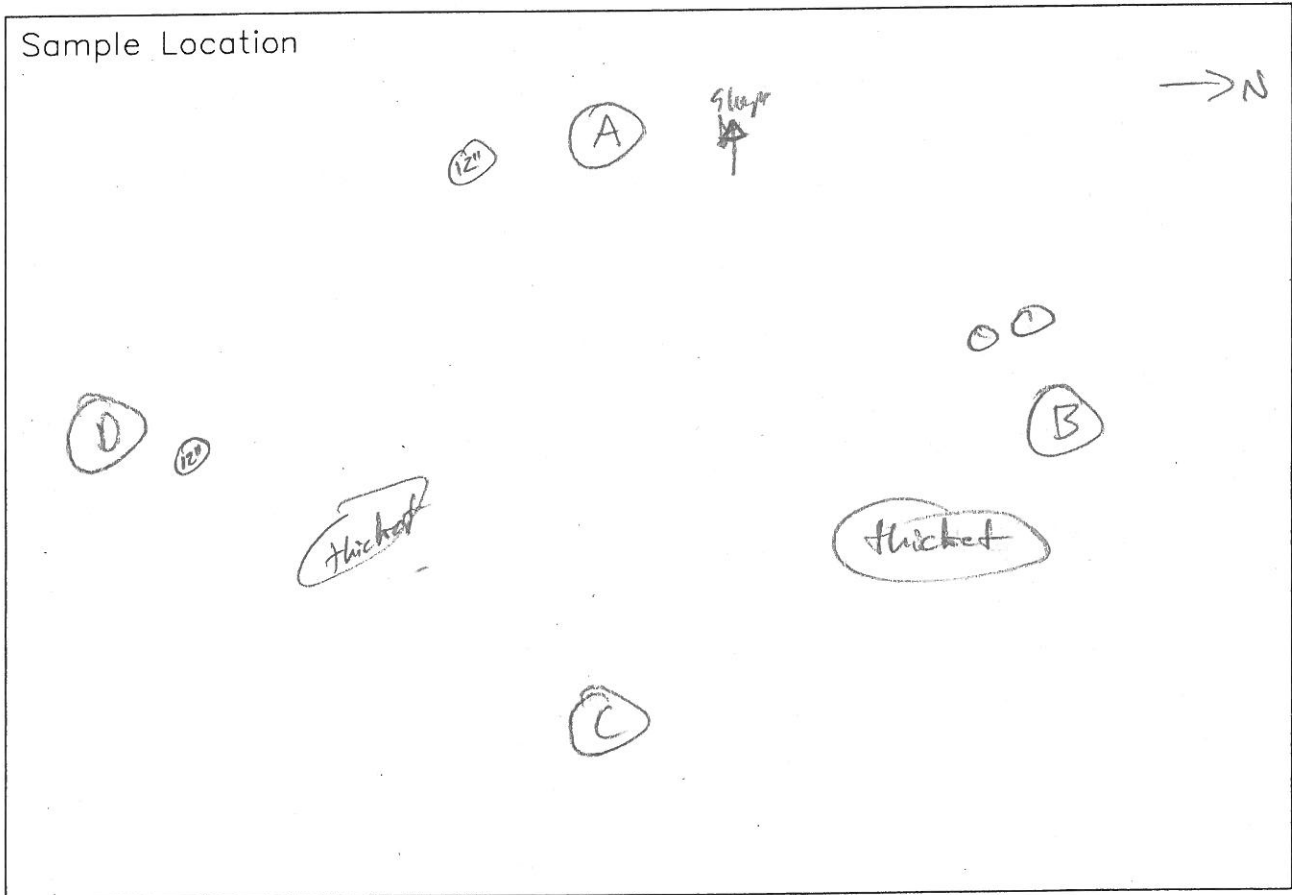
Composite Sample Yes No

N -
E -
elev -

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) leaves at surface over damp, dark brown, sandy organic SILT, trace gravel grading to sandy SILT at 1" bgs. Abundant organics (roots) (B)

Remarks Deciduous tree cover and thick layer of leaf litter. the sample location is uphill of numerous abandoned buildings, located at base of slope, approx. 300' away. Sample location is at base of relatively steep slope. Small shrubs also scatter the area.



photos on PRC phone and saved on HC computer

Surface Soil Sample Collection Form

Sample No. SA9-6L

Collected by PRC/NG

Job 17800-36 UCP

Date 11/7/12 @ 1550

Job No. →

Sampling Method 4pt Composite

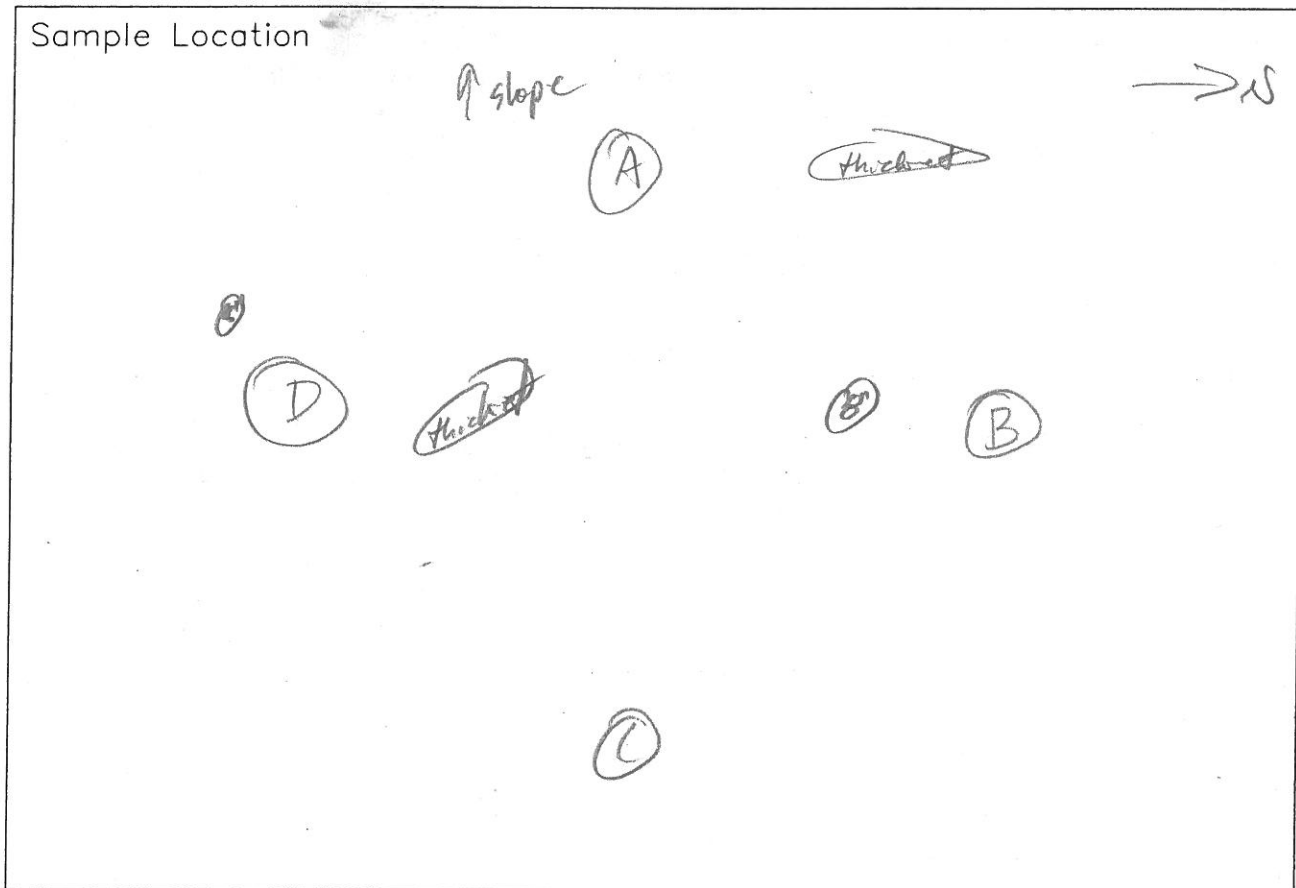
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- Ⓐ leaves, twigs, pine needles @ surface, damp, dark brown, slightly gravelly sandy SILT
- Ⓑ Moss, Pine Needles @ Surface, Damp, brown grading to dark brown, gravelly sandy SILT w/ abundant organics (roots)
- Ⓒ 1/2" pine needles and moss, damp-moist, dark brown, slightly gravelly sandy SILT w/ abundant organics (roots)
- Ⓓ Moss, leaves, decaying wood, same as above.

Remarks Forest land, areas of thick brush, leaf litter, No evidence of recent human disturbance. No recent logging.
Slope - 21° Aspect - 271°

Sample Location



photos on PRC phone and sorted on HCL computer

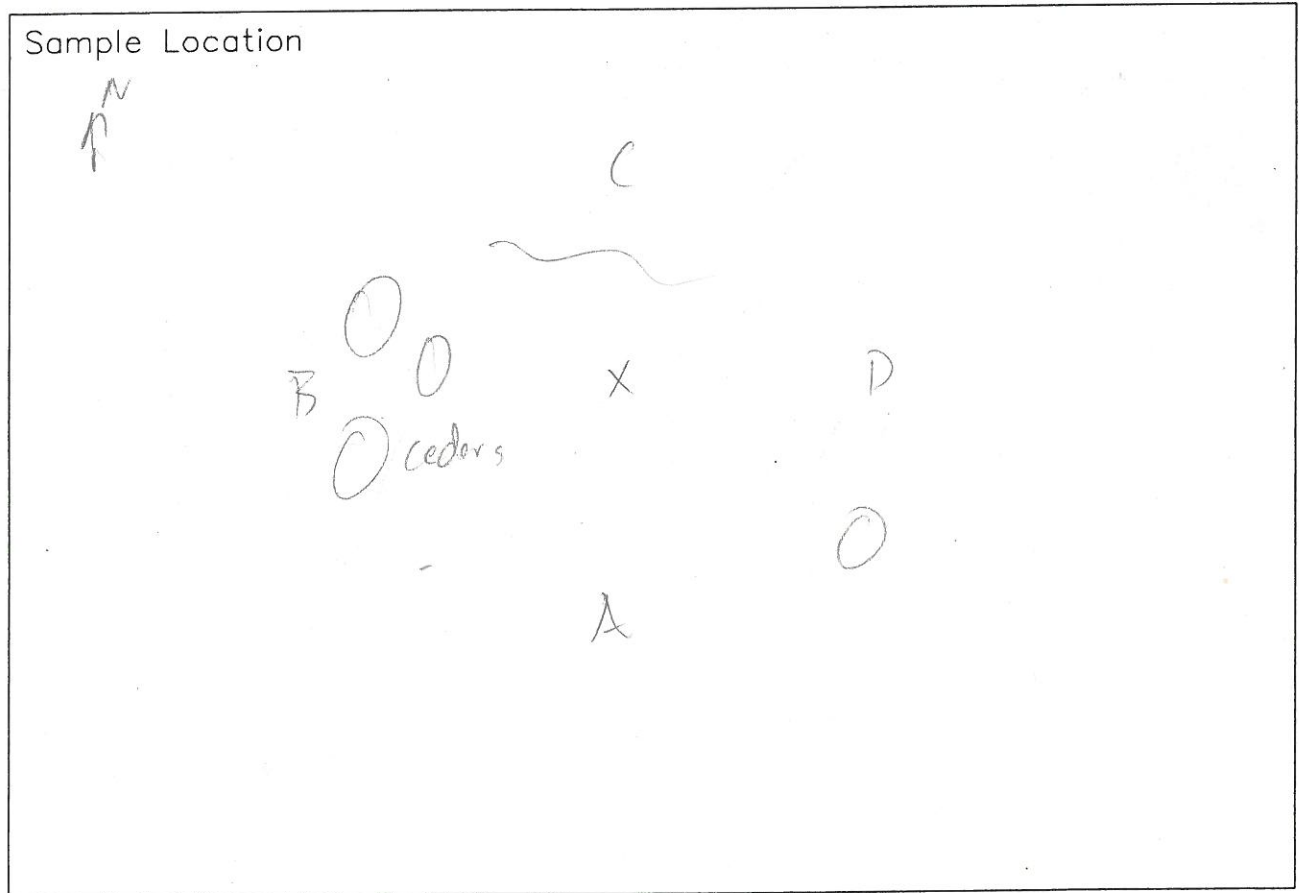
Surface Soil Sample Collection Form

Sample No. SA9-76
 Job Upper Columbia
 Job No. 17800-36
 Sampling Method composite 4 site
 Composite Sample Yes No

Collected by KJH / ASK
 Date 11/7/12 ~~1554~~ 1604
 N 735656.73
 E 2408473.81
 elev 1951.32

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaf & needle surface, 1" duff, black moist organic SILT over moist brown silty GRAVEL
 B same as (A)
 C " " "
 D " " "
 Remarks logging in area, leaf & pine litter cedar forest
slope = 10 moved point due to logging cut tracks
aspect = 335



[A-D pic 1369 1372] profiles A-D 1373 - 1376



Surface Soil Sample Collection Form

Sample No. SA9-7P
 Job Upper Columbia
 Job No. 12800-26
 Sampling Method hand auger
 Composite Sample Yes No

Collected by RJH/ASK
 Date 11/7/12 ~~11/08/12~~ ¹⁶¹³ ~~1608~~
1-1603
2-1608
3-1613
 11/8/12 - 1602 - returned
 to collect 12-24" sample

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)
0-3 moist dr. brown, gravelly sandy SILT scattered org.
3-6 moist red-brown gravelly sandy SILT trace organics
6-12 moist, brown, gravelly sandy SILT trace organics
12-24 refusal @ 13", tried several other locations.
 Remarks see SA9-7C
Had to leave site before collecting 12-24" due to light conditions

Sample Location
See SA9-7C

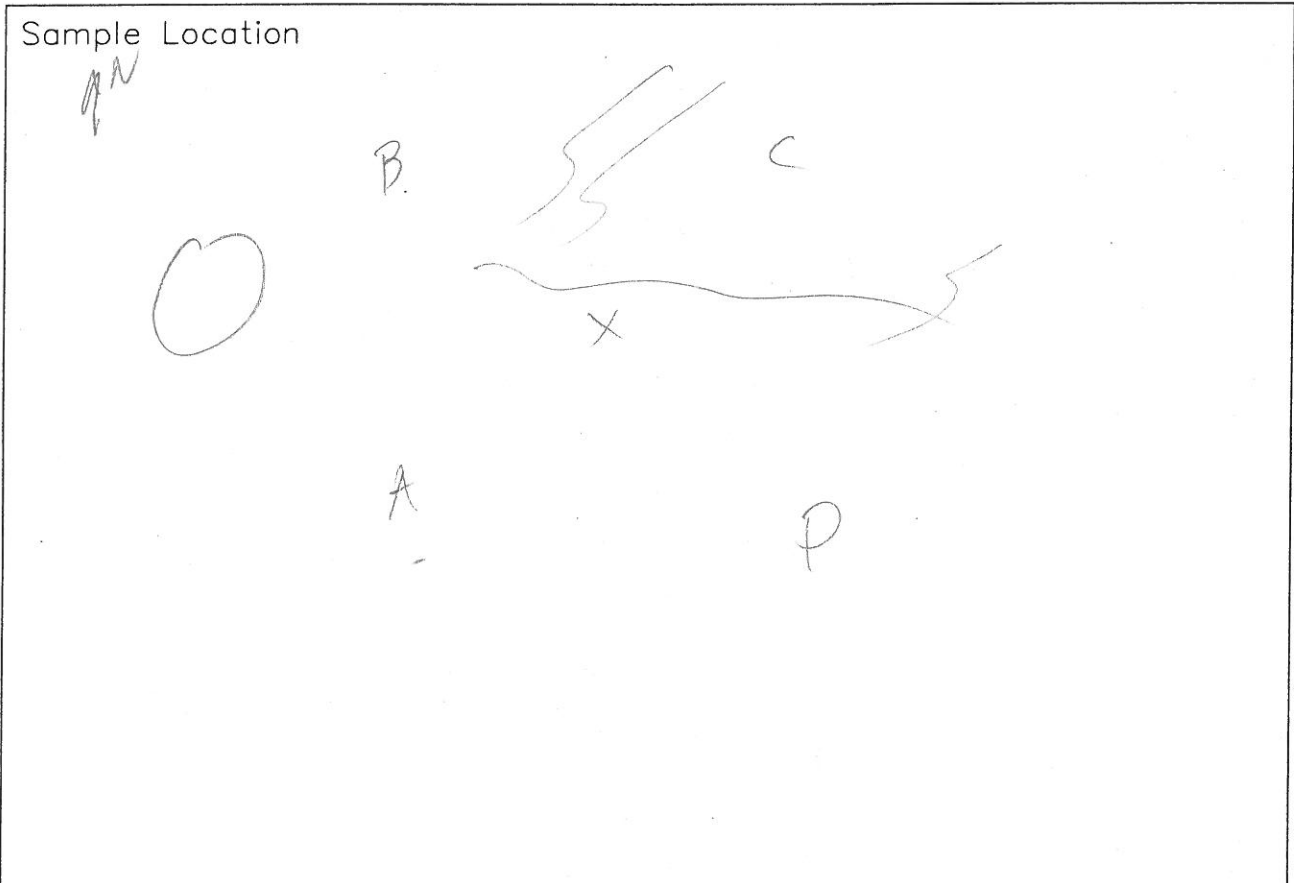
Surface Soil Sample Collection Form

Sample No. SA9-8C
 Job Upper Columbia
 Job No. 17000-36
 Sampling Method Composite U site
 Composite Sample Yes No

Collected by KJH/ASK
 Date 11/8/12 1554
 N 733870.25
 E 2410240.30
 elev 2878.67

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Down timber twig, rocks, 2" duff, moist to damp, black, sandy silty cobbles (1") followed by damp to moist brown sandy silty gravel
 B moss+needles, duff, moist-damp black, silty cobbles, w/ abundant organics
 C needles+leaves, 1/2" duff, same comp as B
 D needles+twig, 1/2" duff, damp to moist brown sandy silty gravel, @ 3" bgs, 1ft, brown sandy silty gravel (moist to damp red-b silty gravel)
 Remarks logging area, steep lots of down timber
slope = 36
aspect = 307
canopy = 90%



[pics A-P profile
 33-36 37-40]

Surface Soil Sample Collection Form



Sample No. SAR-9C

Collected by KJH / ASK

Job Upper Columbia

Date 11/7/12 1506

Job No. 17800-36

N 734221.95

E 2108321.67

elev 2195.51

Sampling Method composite 4-site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1" leaves + needles, 1-2" duff, moist, grey, silty cobble, damp to moist sandy silty gravel w/ scattered organic

B leaves + needles, 1" duff, moist, black, organic silt (1/2" thick) over brown sandy silty gravels

C leaves + needles, 1" duff, moist, black, 1/2" of organic-silt over brown sandy silty gravels

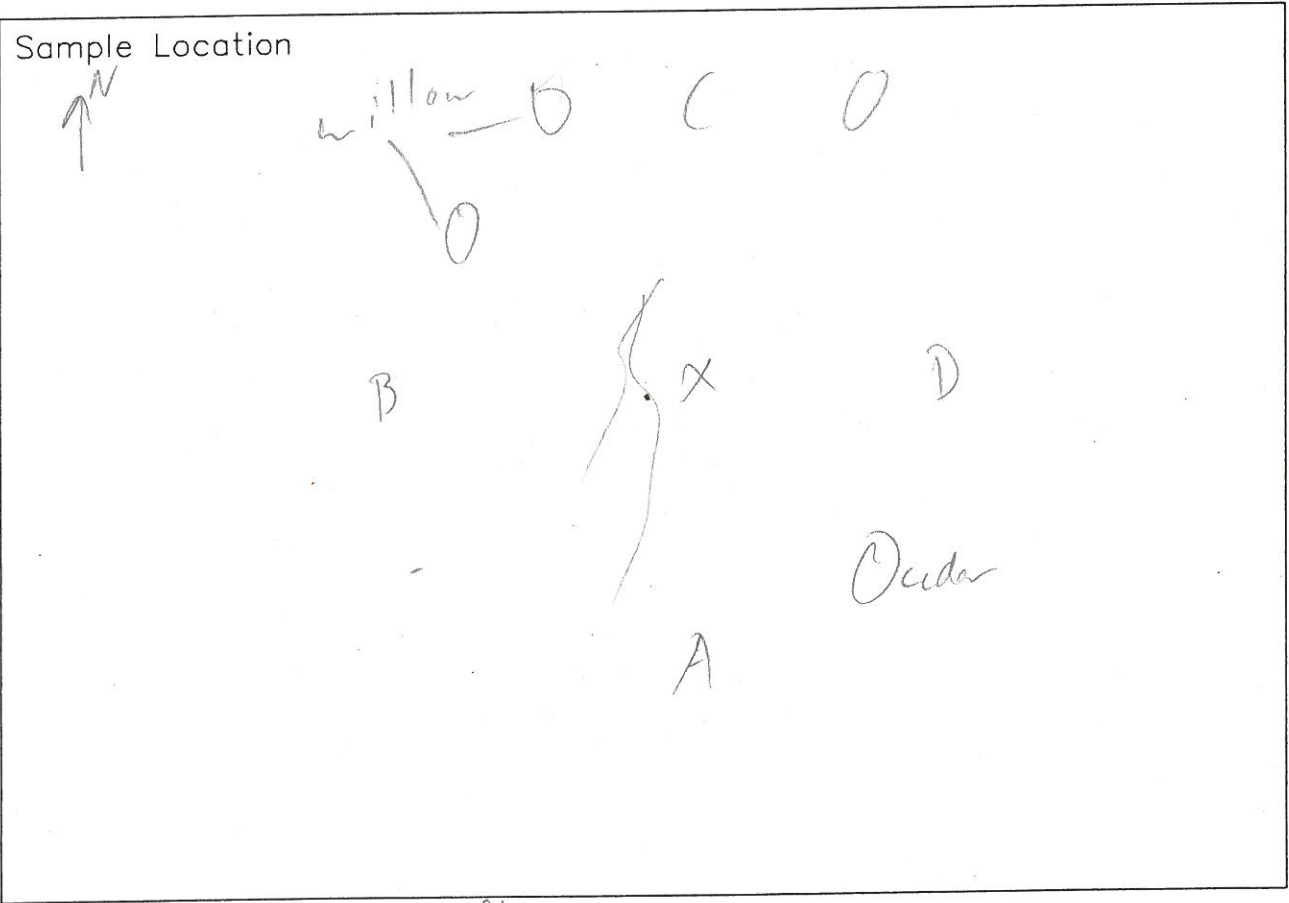
D leaves + needles, 1" duff moist black organic silt over brown sandy silty gravels

Remarks ~~A~~

slope = 25

aspect = 306

canopy cover ≈ 75%, lots of leaf litter and some downed wood



site PICS A-D profiles A-D
 [1361] [1365]
 [1364] [1368]

Surface Soil Sample Collection Form

Sample No. SAG-10c

Collected by KJH/ASK

Job UCR

Date 11/9/12 1507r

Job No. 17500-36

N 735 256.97

Sampling Method composite

E 2410477.93

Composite Sample Yes No

elev 2294.09

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A needles/moss/leaves, no duff, moist black, organic silt w/decaying wood, followed by moist brown sandy silt

B leaves/moss, 1/2" duff, damp to moist brown, silty gravel w/scattered organics

C same surface, 1" duff, damp-moist brown silty gravel, w/ abundant organics

D same surface, 1/8-1/4" duff, damp-moist dark brown, silt w/ abundant organics (1" deep) followed by brown-red brown silty gravel w/ abundant organics

Remarks Heavy leaf litter & down wood lots of willow & alder

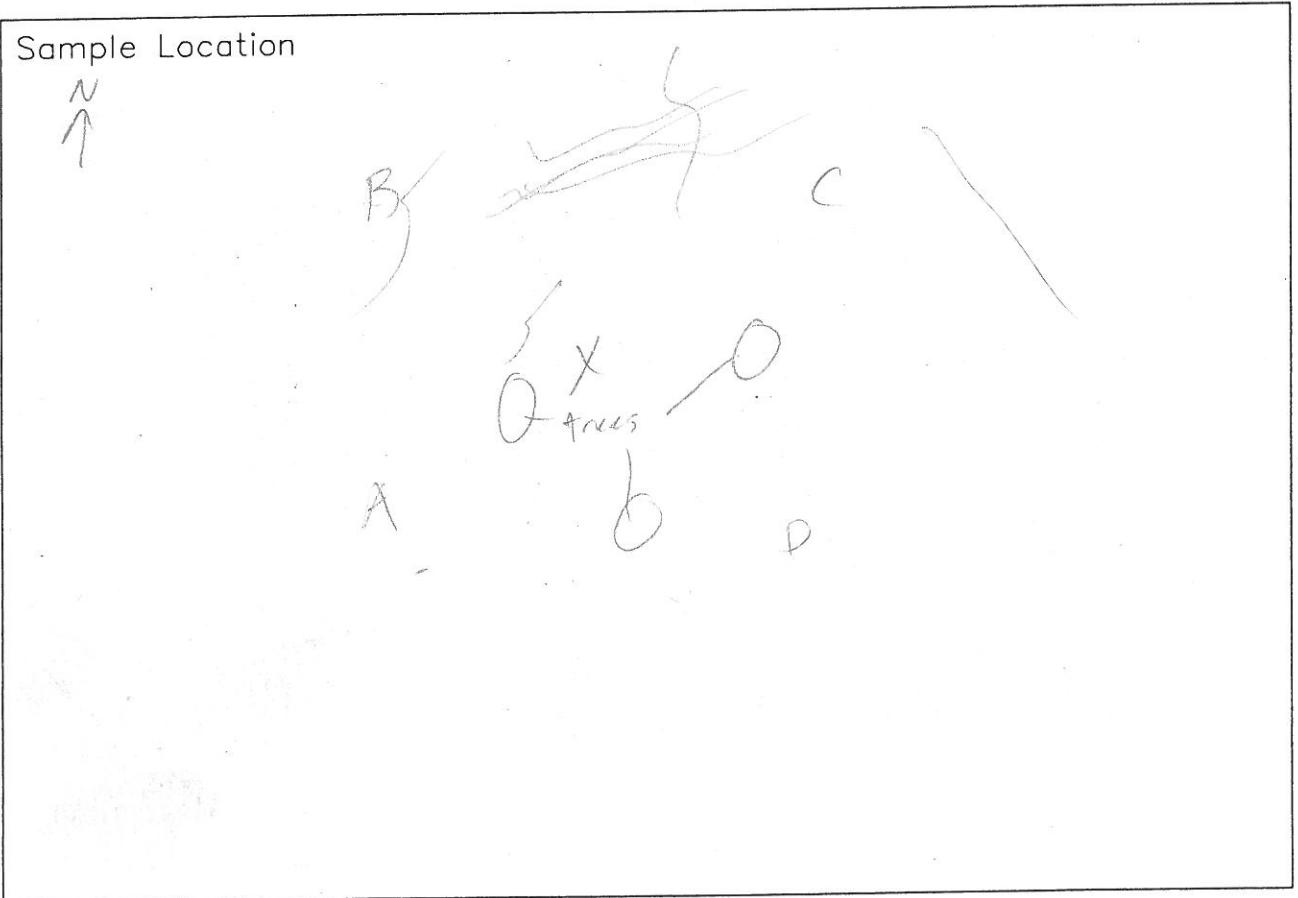
slope = 21 no logging

aspect = 126

canopy = 90%

no change to 6"

Sample Location



pics profiles
A-D

65-68 & 69-72

Surface Soil Sample Collection Form

Sample No. SA9-FD

Collected by KJH/ASL

Job UCR

Date 11/9/12 1532

Job No. 17800-36

Sampling Method composite 4-site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A heavy leaf needle & moss @ surface, 1" duff, 1" moist brown SILT abund org, 2" damp brown silty ^{GRAVEL} abund org

B same surface as A 2" duff, same composition as A

C same as B

D same surf as A, 1" duff, moist brown slightly sandy SILT abund org.

Remarks See SA9-10C

transition to
brown, damp
silty GRAVEL
w/ abund org
@ 4" to 6"

Sample Location

see SA9-10C
rotated 45° clockwise

[pics A-0 pro files A-P]
73-76 77-80

Surface Soil Sample Collection Form

X

Sample No. SA10-1C

Collected by KJH/ASK

Job Upper Columbia

Date 11/8/12 @ 1142

Job No. 17800

N 740508.01

Sampling Method composite 4 site

E 2414829.20

Composite Sample Yes No

elev 3026.52

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaf litter, 1" duff layer, moist, brown to black, sandy silt w/ scattered organics

B leaf/needles/sticks, little to no duff, 1/4" down there is a 1/8" charcoal lense, followed by moist, brown, sandy silt w/ scattered organics

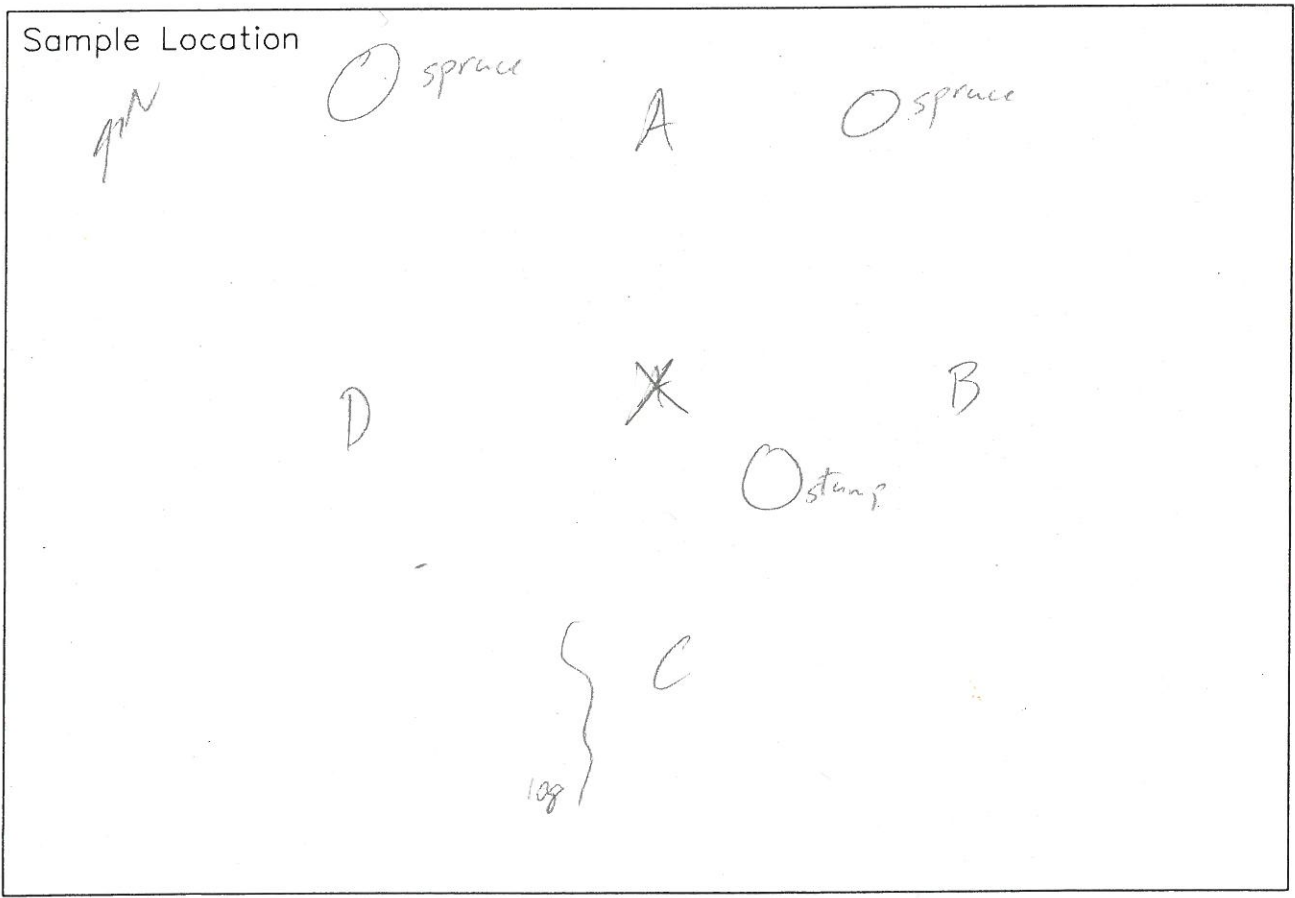
C leaves/needles/sticks, 1/2" duff, moist, brown to black, sandy silt, w/ scattered organics

D scattered leaves/needles, no duff, moist, brown, sandy silty gravel, w/ trace organics - same comp down to 6"

Remarks logging in area, heavy willow + spruce, relatively flat area

~~aspect~~ slope = 167

aspect slope = 9°



pics A-D
17-20 + 21-24

Surface Soil Sample Collection Form

X

Sample No. SA10 2C

Collected by PRC / NW6

Job VCR

Date 10/8/12 @ 7:38-1139

Job No. 17800-36

Sampling Method 4 pit composite

739253.08' N
2414562.28' E
3,159.77' (MSL)

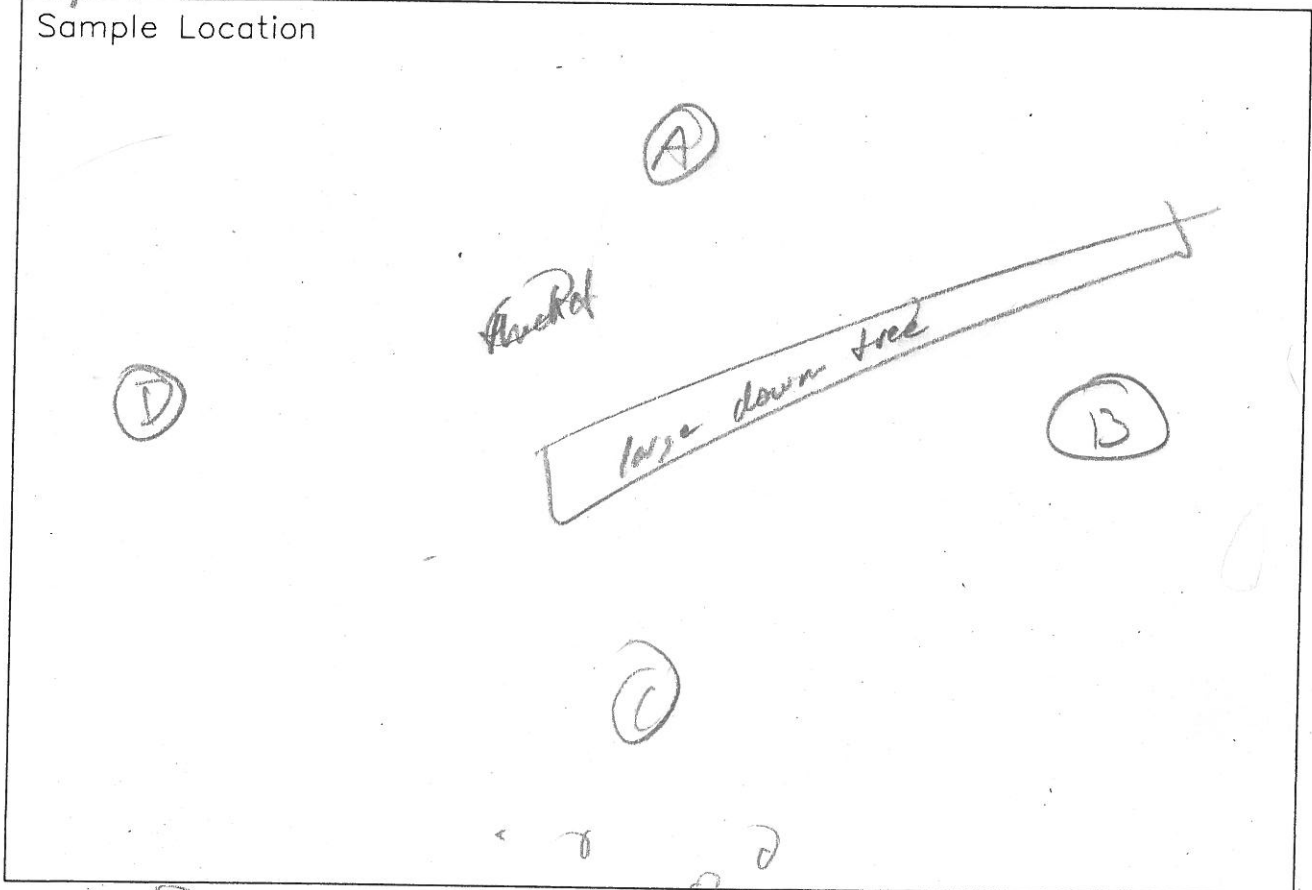
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) leaves and grass on surface, w/ decaying wood over, ^{moist} dark brown silty silt, GRAVEL w/ large cobbles (B) cobbles, leaves, mushrooms, needles, over ^{moist, dark brown} silty GRAVEL w/ scattered organics (C) same as above (D) gravel @ surface w/ scattered leaves, same as above
Remarks small shrubs, moss, grasses in sample area. Area has been logged 3-10 yrs ago. Shale core throughout area. SILT matrix w/ gravel from fine to cobbles.

Slope - 31°
Aspect - 84°

Sample Location



sub sample locations

1386 (A)
1387 (B)
1388 (C)
1389 (D)
1340
1341
1342
1347

sample photos

site photo - 1344

Surface Soil Sample Collection Form

Sample No. SA10-2P

Collected by PRC/NWG

Job UCR

Date 11/8/12 @

Job No. 17800-36

Sampling Method Hand Auger

Composite Sample Yes No

- ① - 1140
- ② - 1145
- ③ - 1150

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

① ~~same~~ leaves, pine needles @ surface, moist-damp, dark brown silty GRAVEL w/ abundant organics (cobble) ② damp moist, dark brown, silty GRAVEL w/ scattered organics ③ same as above All samples are mostly gravel.

Remarks See SA10-2C

could not advance past 12". Tried in 3 places. gravel or bedrock obstruction.

Sample Location

See SA10-2C

sample

Surface Soil Sample Collection Form

X

Sample No. SA 10-3C

Collected by KJH / WDM

Job Upper Columbia

Date ~~10/24~~ 11/5/12 1335

Job No. 17800-36

N 737851.85

Sampling Method composite 4 site

E 21114132.49

Composite Sample Yes No

elev 3308.20

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1" Duff, damp, DRK BROWN SL. SANDY SILT, ABUND ORG.

B "SAME AS ABOVE" DRK BROWN - RED BROWN 1" BGS, TRACE GRAVEL

C damp, DRK BROWN, SL. SANDY SILT, ABUND, ORG.

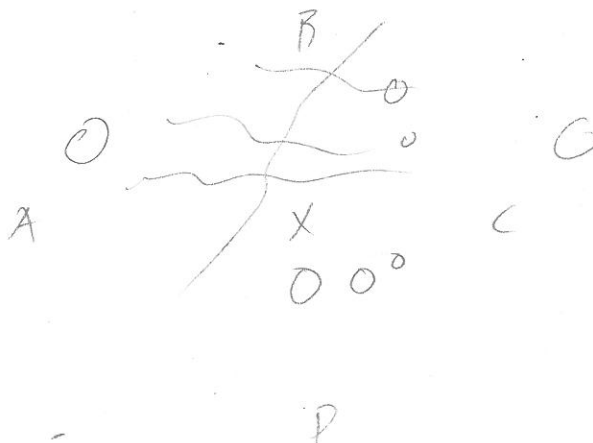
D damp, BROWN SILTY SAND w/ ABUND. ORG.

Remarks Near hilltop & very old forest road. Lots of downed timber & no evidence of recent activity

slope = 7

aspect = 270

Sample Location



HARTCROWSER

X

Surface Soil Sample Collection Form

Sample No. SA10-FD

Collected by KJH/LDM

Job Upper Columbia

Date 11/5/12 1406

Job No. 17800-36

Sampling Method Composite 4 site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A brown to red brown silty GRAVEL, abundant organics

B same as A

C same as A

D 1" black, slightly silty SAND over damp brown silty GRAVEL both w/ abundant organics

Remarks see SA10-3C

Sample Location

see SA10-3C
rotated 45° clockwise

X

Surface Soil Sample Collection Form

Sample No. SA10-46
 Job Upper Columbia
 Job No. 17800-36
 Sampling Method Composite
 Composite Sample Yes No

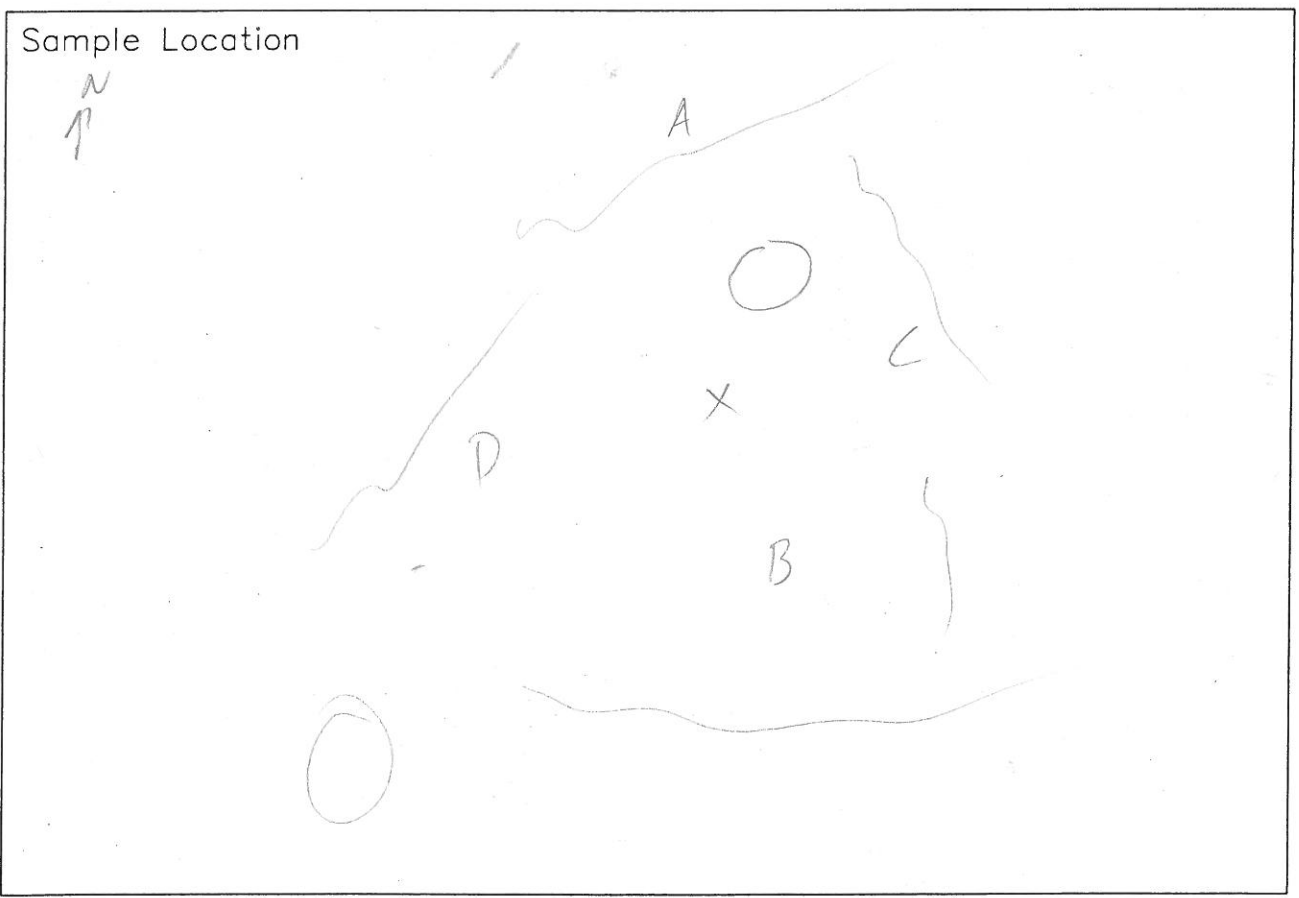
Collected by KJH/LDM
 Date 11/5/12 1249
N 736143.58
E 2413 694.32
dev 3149.14

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1/2" DUPE MOIST, BLACK, SILT w/ ABUND. ORG.
 B. " SAME AS ABOVE "
 C " SAME AS ABOVE (3") / MOIST, GRAY BROWN, SLT SL. SANDY SILT
 D MOIST, BLACK TO GRAY BROWN SILT w/ ABUND. ORG.

MOIST
SILT
GRAY

Remarks found depression, moved location to one more representative of the
area: ~~250~~ Evidence of past logging nearby > 5 yrs ago
slope = 5
aspect 350



Surface Soil Sample Collection Form



Sample No. SA10-5C

Collected by PRC/S MF

Job UCR

Date 11/5/12

Job No. 17800-36

Sampling Method 4-PT COMPOSITE

N - 735293.49'
E - 2412061.60'
Elev. 3,131.13' (MSL)

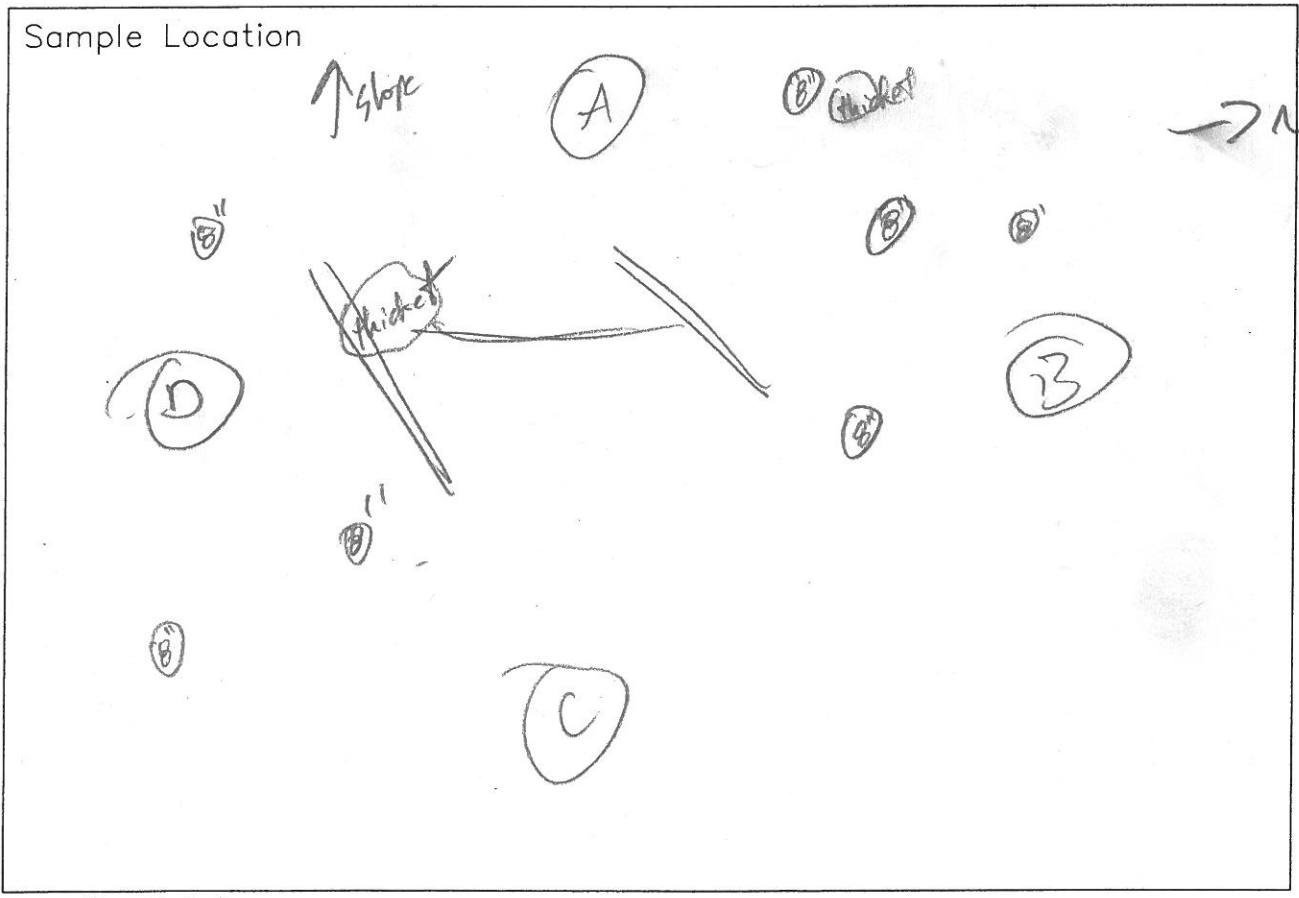
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1.5" duff w/decaying leaves and needles. Damp to moist, dk. brown, grading to brown, sandy silt w/trace gravel. Abundant roots. (B) Same as A, but gravelly and grades to red brown. (C) Same as B. (D) Same as C. -> AT 5" - change to sandy silty GRAVEL.

Remarks ASPECT 270°. SLOPE 17°.

Deciduous trees (Birch) and scattered pine trees makeup canopy at sample location. Thick ~~groundcover~~ layer of leaves/duff cover area. Small shrubs also present.



Photos toward

A	1258
B	1259
C	1260
D	1261

Sample notes

A	1262
B	1263
C	1264
D	1265

1266 - site photo



Surface Soil Sample Collection Form

Sample No. SA10-6C

Collected by PRC/SMP

Job UCR

Date 11/5/2012

Job No. 17800-36

Sampling Method 4-PT COMPOSITE

Composite Sample Yes No

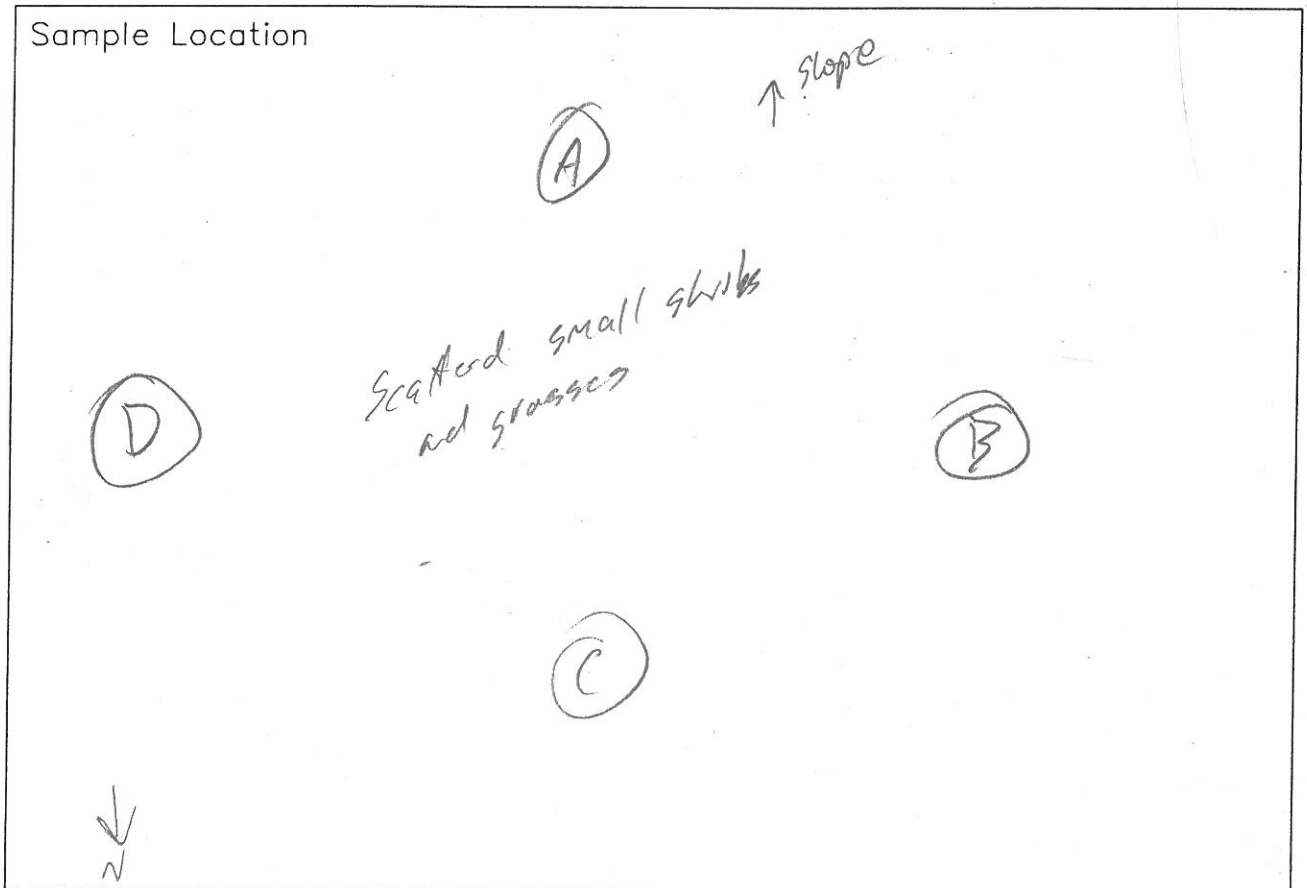
N- 734805.92' N
E- 2413438.09' E
Elev. 3,324.29' (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Grass at surface/lots of pine needles. Moist to damp, dk. brown, gravelly sandy SILT w/ abundant organic S. Could only dig 2.5" before we encountered rock. (B) Duff at surface is decaying wood and twigs. Damp to moist, dk. brown and red brown, gravelly, silty SAND. Rock at 3" depth. (C) Grass and small shrubs at surface

Remarks ASPECT 155° SLOPE 12°. Extensive logging disturbance throughout area; appears relatively recent. Many down timbers from logging activities. Lots of deer scat. Bedrock seen in areas off site. Soil coverage is only 0-5" w/ bedrock at surface in scattered areas.

Sample Location



Photos
 Looking toward
 A 1267
 B 1268
 C 1269
 D 1270

Sample holes
 A 1271
 B 1272
 C 1273
 D 1274

Site overview
 toward A
 1274



Surface Soil Sample Collection Form

X

Sample No. SA10-7C

Collected by KSL / WDM

Job Upper Columbia

Date 11/5/12 1515

Job No. 17800-36

N 734164.07

Sampling Method Composite U site

E 2412490.07

Composite Sample Yes No

elev 3415.95

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1" duff, 2" black damp SILT, scattered organics

B black, damp, silty GRAVEL, trace organics

C same as B

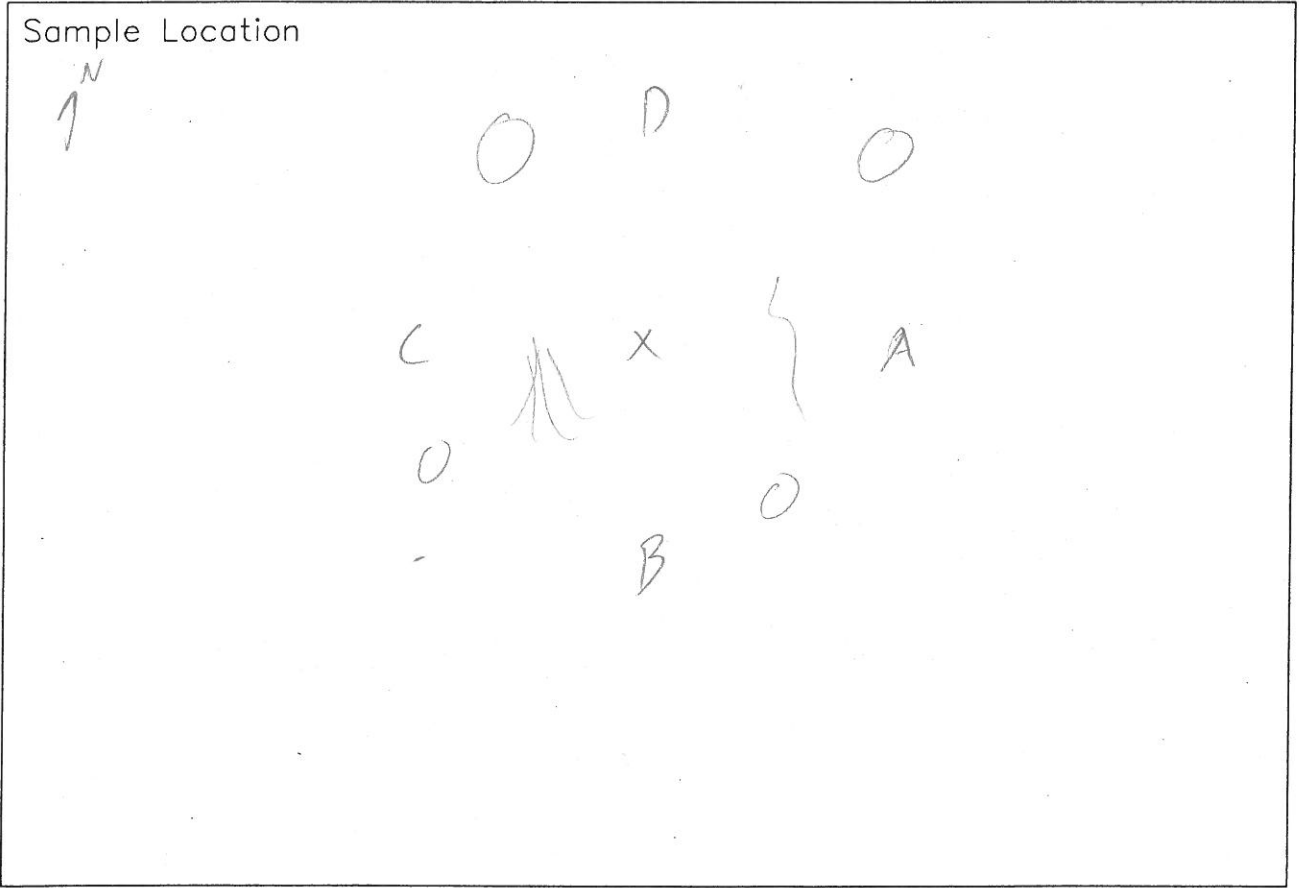
D 2" duff, 1" black damp SILT, 2" brown, damp silty GRAVEL, abundant organics

Remarks Pine forest, nearby logging roads & evidence, but none in
aspect = 90 the immediate area

slope = 20

no further
change
to
8"

Sample Location



Surface Soil Sample Collection Form

Sample No. SA10-8C

Collected by PRC/MNL

Job VCR

Date 11/8/12 @ 1546

Job No. 17800-36

733407.34' N
2411057.59' E
31320' Elev

Sampling Method 4pt composite

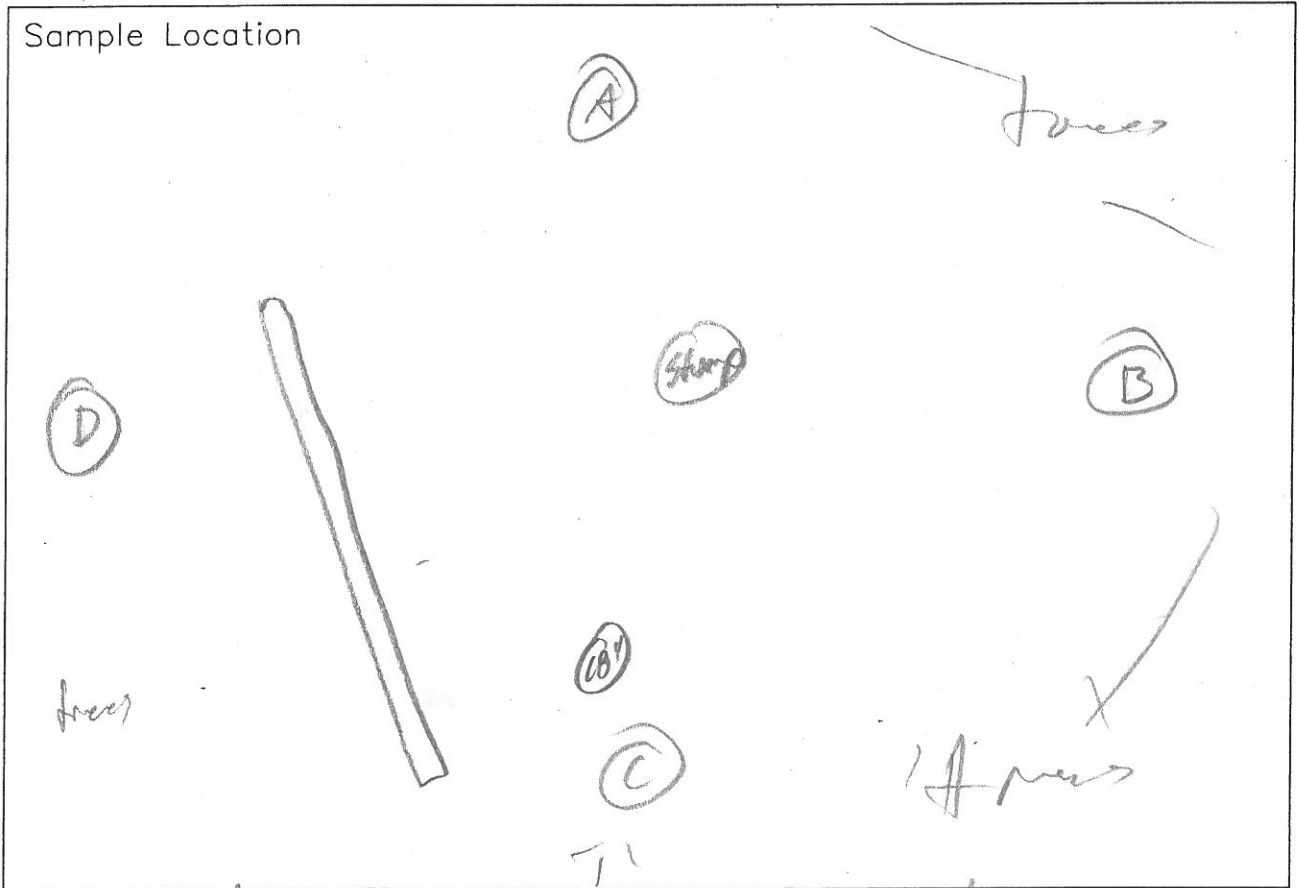
Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) 3/4" duff over moist, brown, ^{slightly sandy} gravelly SILT w/ abundant roots/organics
- (B) 3/4" duff over damp same as above.
- (C) thin layer of duff, ~~with~~ 1/4" of moist dark brown organic SILT over same as above
- (D) 1" of duff over same as above (A+B)

Remarks Area has been logged 30+ yrs ago. Layer of duff throughout site. Many mature ^{fir} pines surround site. No evidence of recent human impacts.

Aspect - 290° 18° slope



- Photo 1413 A
- 1414 B
- 1415 C
- 1416 D

Battery in camera dead. only able to get one photo

Surface Soil Sample Collection Form



Sample No. SA111C

Collected by KJU ASK

Job Upper Columbia

Date 4/8/12 1423

Job No. 17800-36

N 734403.96

Sampling Method Composite 4 site

E 2414182.35

Composite Sample Yes No

elev 3091.21

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A lots of grass/moss + needles, no duff, moist brown sl. silty sandy gravel, w/ abundant organics (2" deep), followed by brown organics sit w/ trace gravels

B same surface, no duff, moist brown, sl. silty sandy gravel, @ 5" bgs gravel increases in size - large gravels, same comp.

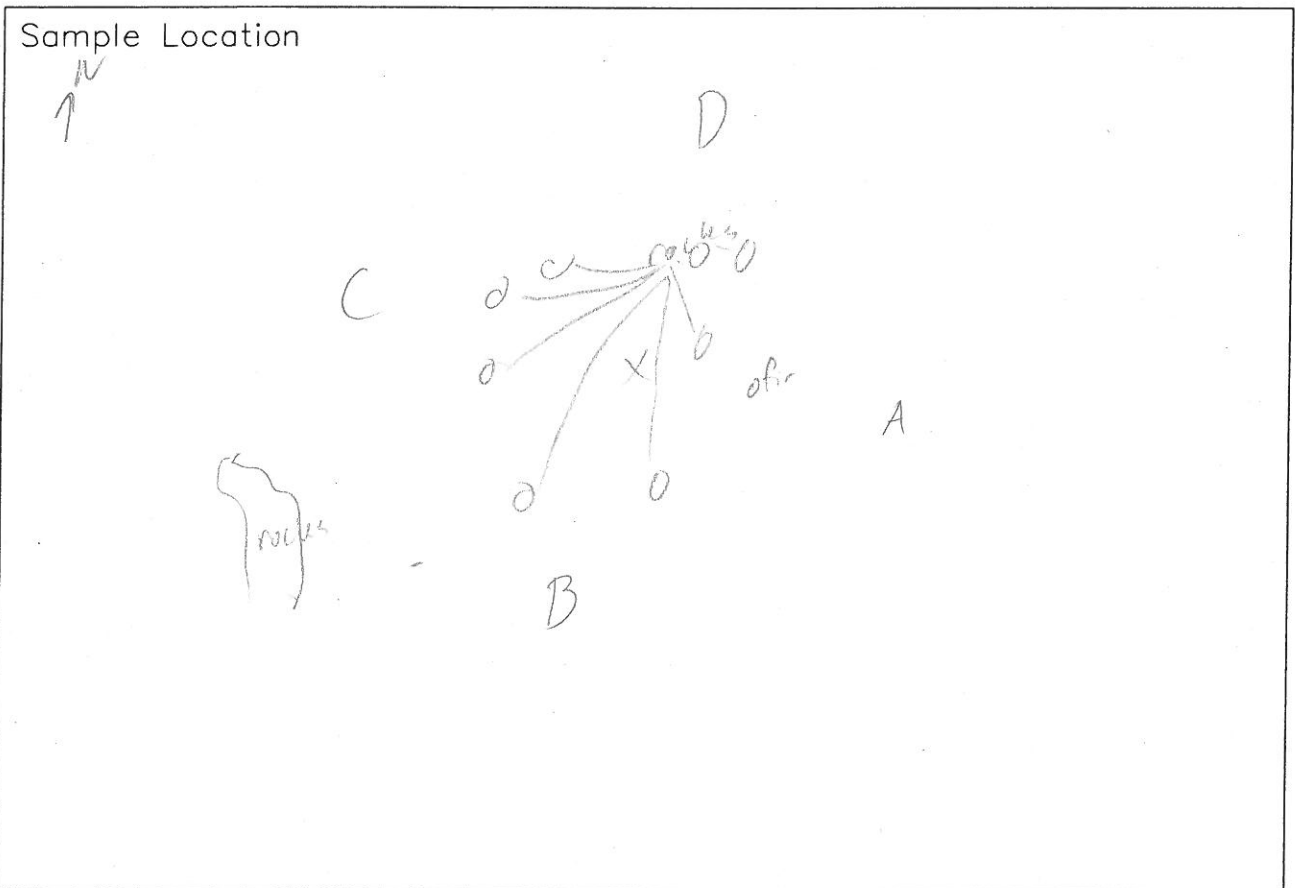
C moss/grass/needles on surface, no duff, moist brown sl. sandy silty gravel w/ scattered organics

D same surface, no duff, moist brown, sl. sandy silty gravel w/ scattered organics

Remarks steep + rocky, @ hillslope towards to p of ridge. Lots of willow + phacelia grass
aspect = 12.7 in area

slope = 20

some rocks and grasses at surface for all sub-samples



[pics profiles]
 A-D A-D
 25-28 29-32

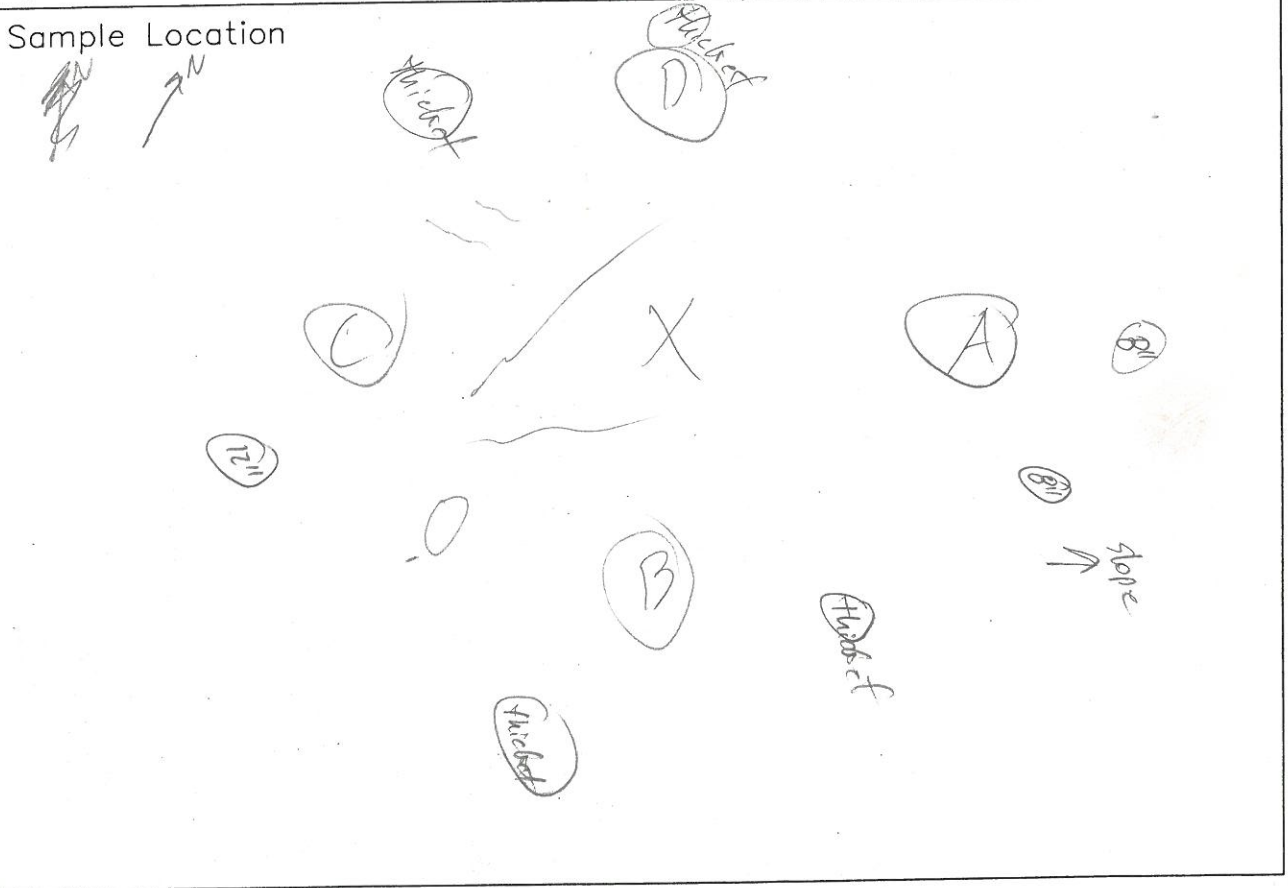
Surface Soil Sample Collection Form

Sample No. SA 11-2C
 Job Upper Columbia
 Job No. 17800-36
 Sampling Method Composite 4 site
 Composite Sample Yes No

Collected by PRC / KJH
 Date 11/6/12 916
 N - 742289.88
 E - 2418458.35 7SPN NAD83
 elev. 2,261.41 (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)
A 1/2-1/4" duff, black grading to brown, moist, slightly gravelly sand SILT scattered organic (roots)
B 2" duff (leaves, needles) same description
C 2" duff (leaves, pine needles) black grading to brown, slightly gravelly silty SAND scattered organic
D 2" duff (leaves, pine needles) black grading to brown, slightly gravelly silty SAND to sand silt root
 Remarks logging area, no recent activity, lots of birch & poplar in area
slope = 25° lots of leaf litter & downed wood
aspect = S0°

Soil profile the same down to 7". Some gray pockets of silty SAND, but seem discontinuous



Directional Plot	A	1276	1280
	B	1277	1281
	C	1278	1282
	D	1279	1283

Surface Soil Sample Collection Form

Sample No. G411-3C

Collected by PRC/NWG

Job DCR

Date 11/10/17 @ 15:50

Job No. 17800-36

1531

Sampling Method 4pt comp w/ ss spoon

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) thick layer grass, over 2" (moist-wet) highly organic SILT trace SAND, trace gravel below

(B) 2" w/ abundant roots (C) 1" layer organics (grasses, moss, leaves) over moist, dark brown

SILT trace sand w/ abundant organics (roots) to 2" ^{bs?} trace gravel below 2"

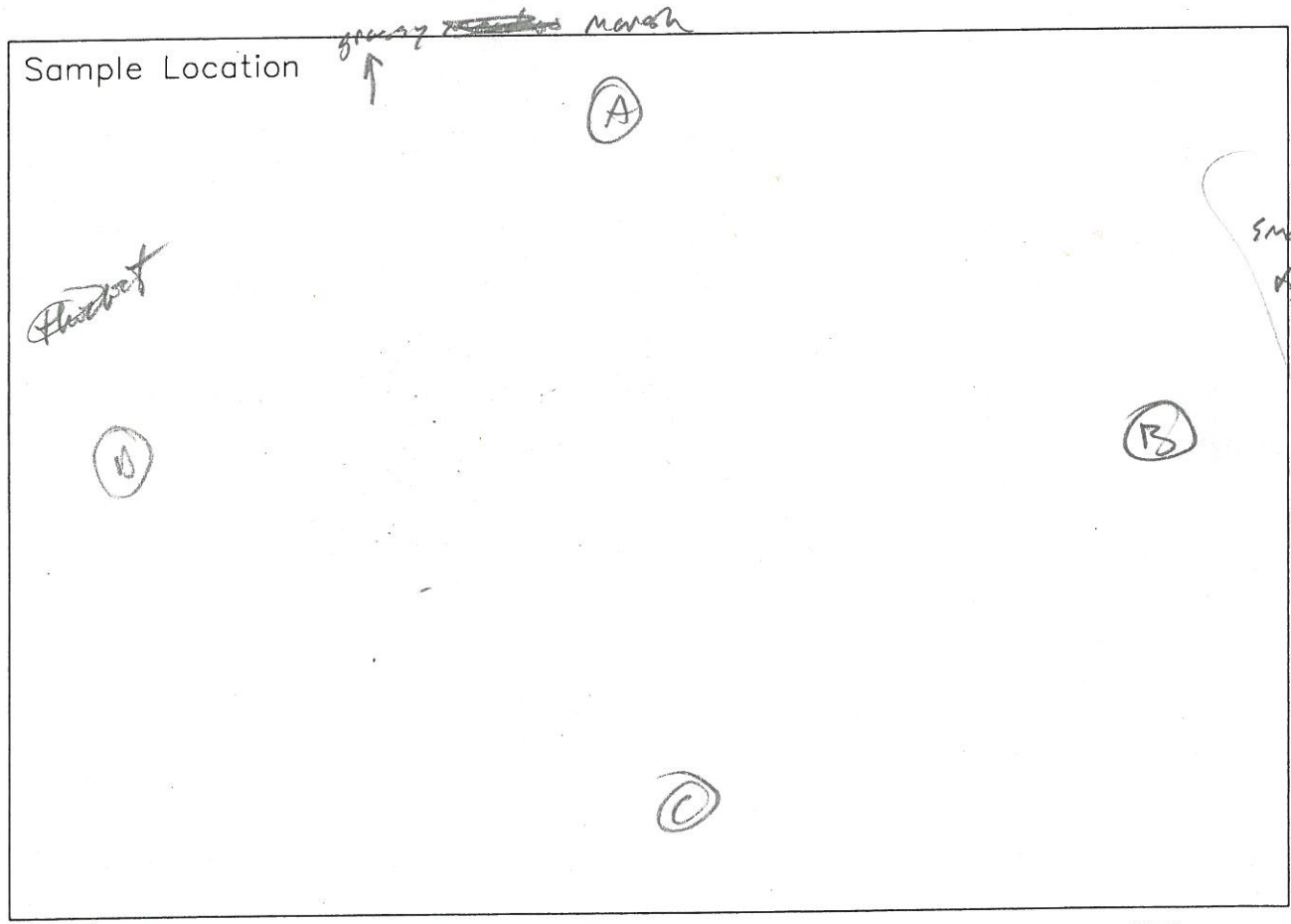
(D) grass, woody debris over 1" moist, dk brown fine SILT w/ abundant roots over moist, brown, sandy

Remarks grassy area on edge of logged area. Grassy marshland

to the east. Scattered shrubs and small willows dot area.

approx 75° slope - 170

Don bar



Surface Soil Sample Collection Form



Sample No. SAL-4C

Collected by PRC/NWG

Job UCR

Date 11/8/12 @ 1459

Job No. 17800-36

Sampling Method 4pt composite

736390.00' N
2415639.08' E
2,786.77' (MSL)

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Moss, grass, twigs, sticks, over moist, brown, ^{gravelly} sandy SILT w/ scattered organics (roots)

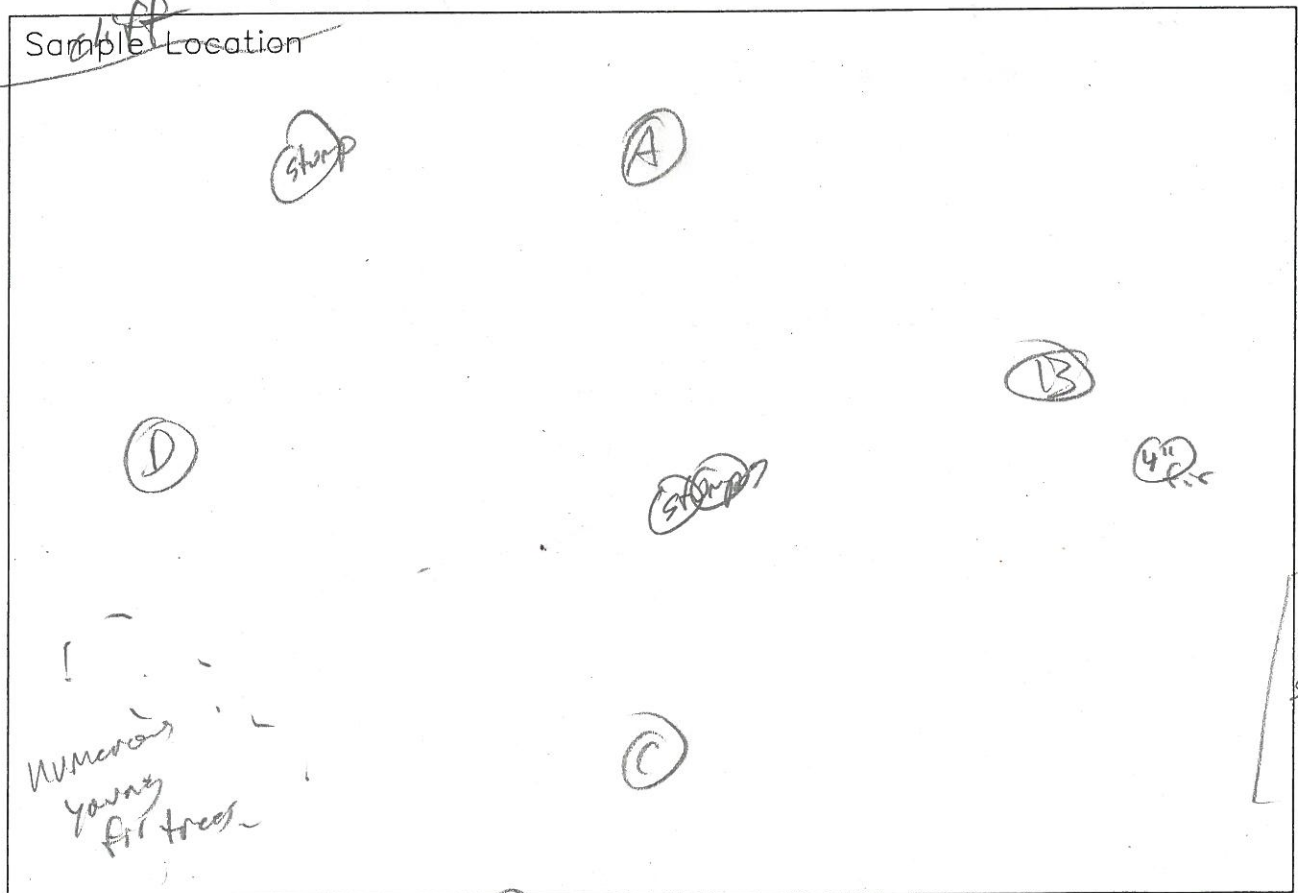
(B) ~~lobbles~~ grass, pine needles over damp, brown, silty sandy GRAVE w/ abundant roots

(C) Pine needles & grass over 1" duff, over dark brown, moist, sandy SILT w/ trace gravel w/ abundant organics

Remarks Aspect - 128° Slope - 40° (D) Moss, grass, pine needles, over, moist, brown sandy SILT w/ trace gravel w/ abundant organics

Shrubs and grass w/ small fir trees and scattered stumps. Many rocky cliffs and scree fields in area. Lobbles are frequently scattered about area. Area has been logged in last few yrs.

Sample Location



Numerous young fir trees

scree

sw sample boxes 1404 (A) 1408 sample pits 1411 - silt pits
↓ B 1410
↓ C 1412
↓ D

Surface Soil Sample Collection Form

Sample No. S111-5C
 Job Upper Columbia
 Job No. 17800-36
 Sampling Method composite 4-site
 Composite Sample Yes No

Collected by PRC/KJH
 Date 11/6/12 1222
 N 7410839.31
 E 2418477.53
 elev 2210.58

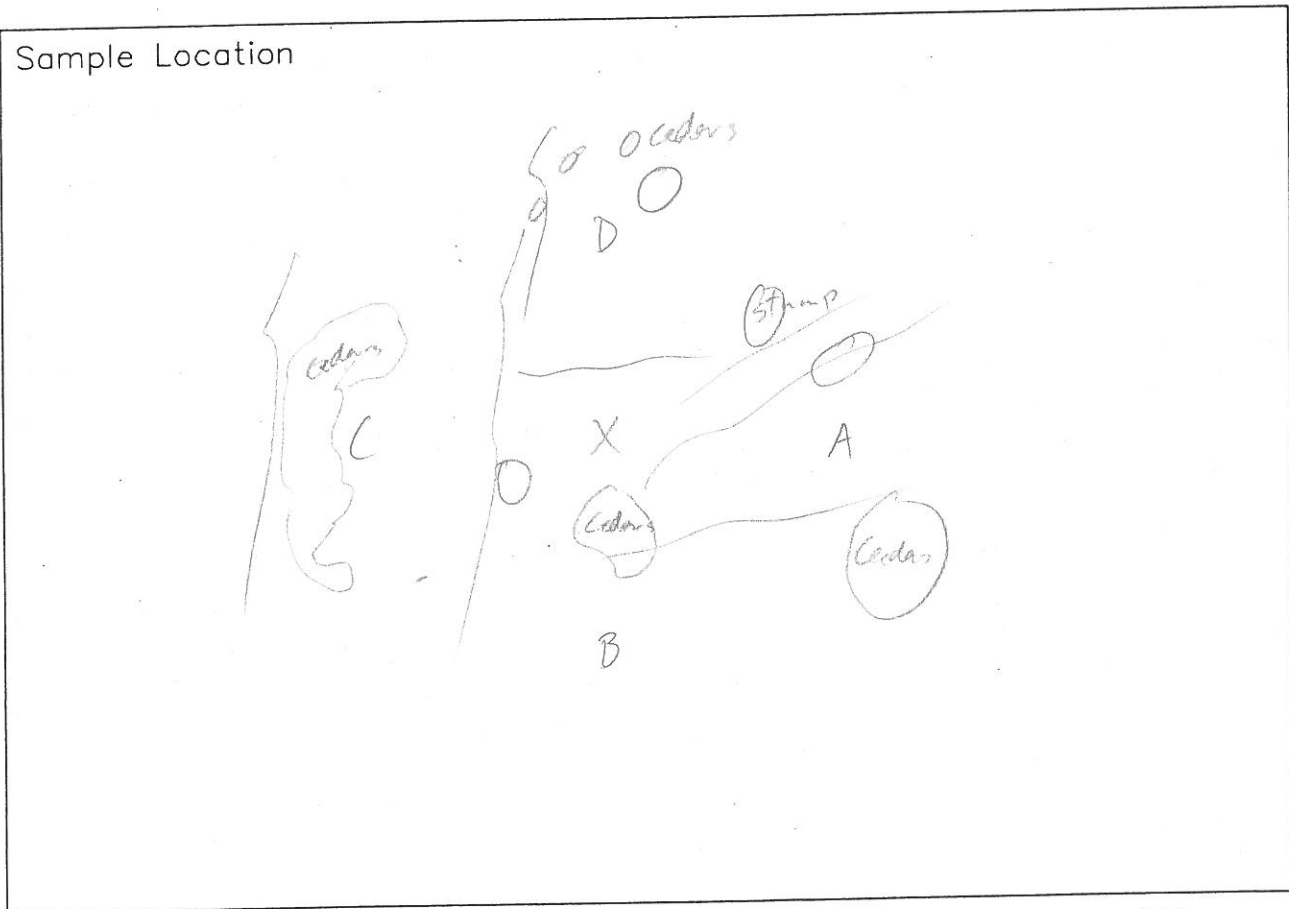
Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- A damp to moist, d brown to brown mottled, sandy SILT trace gravel w/ abundant roots
- B 2" decayed wood, damp, d brown grading to brown slightly gravelly sandy SILT, abund. roots
- C scattered p. needles, layer of d. brown to brown sandy, SILT, trace gravel, scat. roots
- D " leaves, duff same composition as C

Remarks logged area, fir + cedar forest, lots of downed timber

continues
to
4"

slope = 12
aspect = 70



pictures
 1303-
 1306
 A → D



Surface Soil Sample Collection Form

Sample No. SA 11-6C

Collected by KJH/PRC

Job Upper Columbia

Date 11/6/12 1106

Job No. 17800-36

N 742 198.41

Sampling Method Composite 4 site

E 2416 052.26

Composite Sample Yes No

elev 2943.96

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Moist/lirichen @ surface, ^{wet} moist, brown, coarse sandy silty GRAVEL (scattered roots) w/worm

(B) Grasses @ surface, moist, dark brown, sandy silty GRAVEL w/ abundant organics

(C) Grass @ surface, moist, dark brown, ^{coarse} sandy silty GRAVEL trace organics

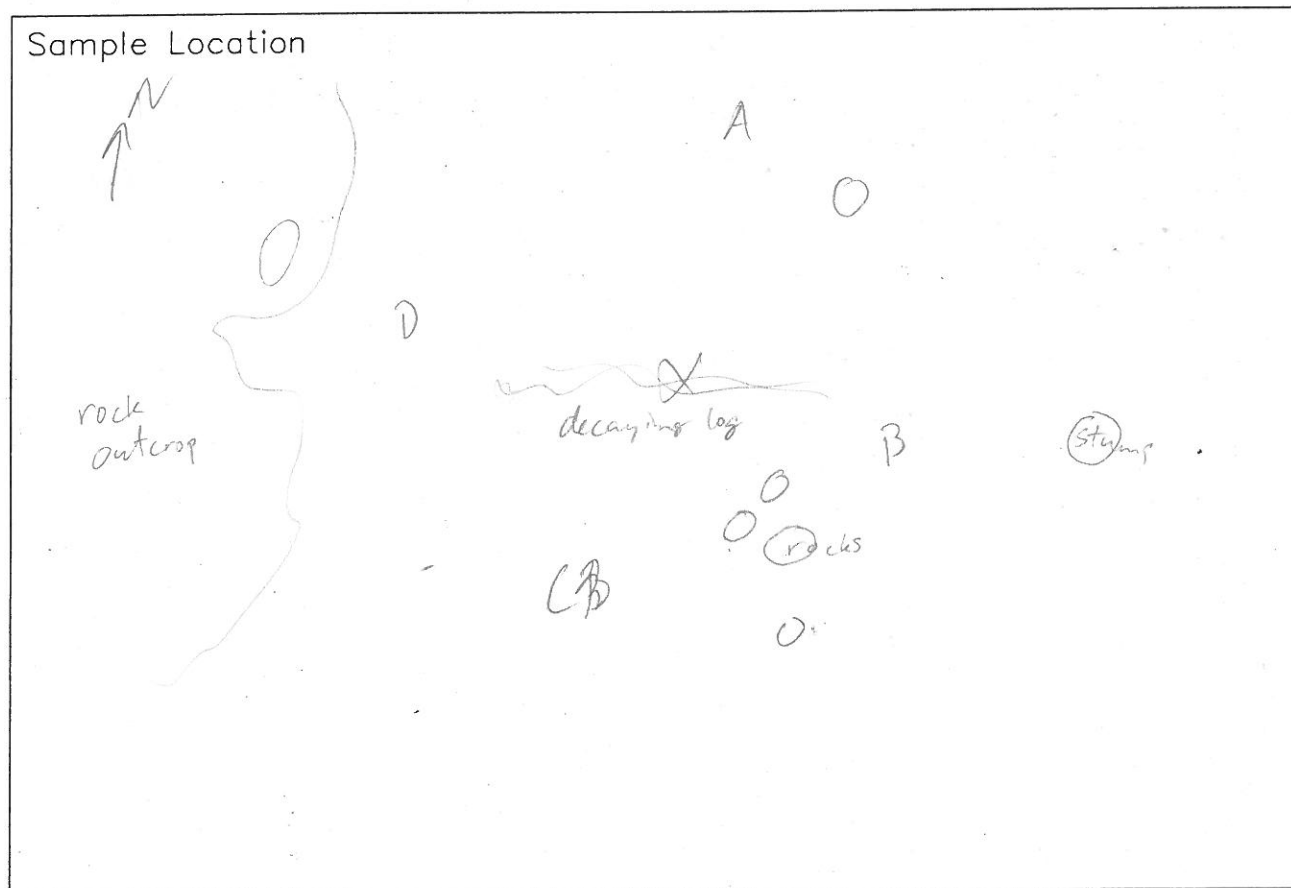
(D) Thin layer of grasses, " " " " " "

Remarks hilltop, slightly rocky, lagging in area, nothing recent. Spruce + fir

slope = 11° lots of cobbles in area. Bedrock observed

aspect = ~~210~~ 210

Sample Location



subsample dirrect	{ 1293 1294 1295 1296 }	A	1297	} subsample soil photo
		B	1298	
		F	1299	
		D	1300	

Surface Soil Sample Collection Form

Sample No. S111-7C

Collected by PRC/KSH

Job Upper Columbia

Date 11/6/12 1016

Job No. 17800-36

N 743621.041
E 2416057.39' } SPN NAD83
elev 2774.75' (MSL)

Sampling Method Composite 4 sites

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- A 2" moss/roots/organics; moist, black, SILT to 1" Over moist, brown, silty GRAVEL (cobble)
- B 1" duff/leaf litter, moist, black SILT grading to moist, black, silty GRAVEL (cobbles)
- C 1.5" moss, moist, black, SILT " "
- D 1" duff, same as above

Remarks: Very steep rocky terrain, heavy leaf litter & willow thicket
slope = 40° Logging nearby, but no evidence seen in sample vicinity
aspect = 20° cobbles throughout area, evidence of rock fall, ~50' above rock fall area

At approx 5" green, moist, brown, silty GRAVEL (cobbles) to 7-8" bss



1284
1285
1286
1287

1288
1289
1290
1291



Surface Soil Sample Collection Form

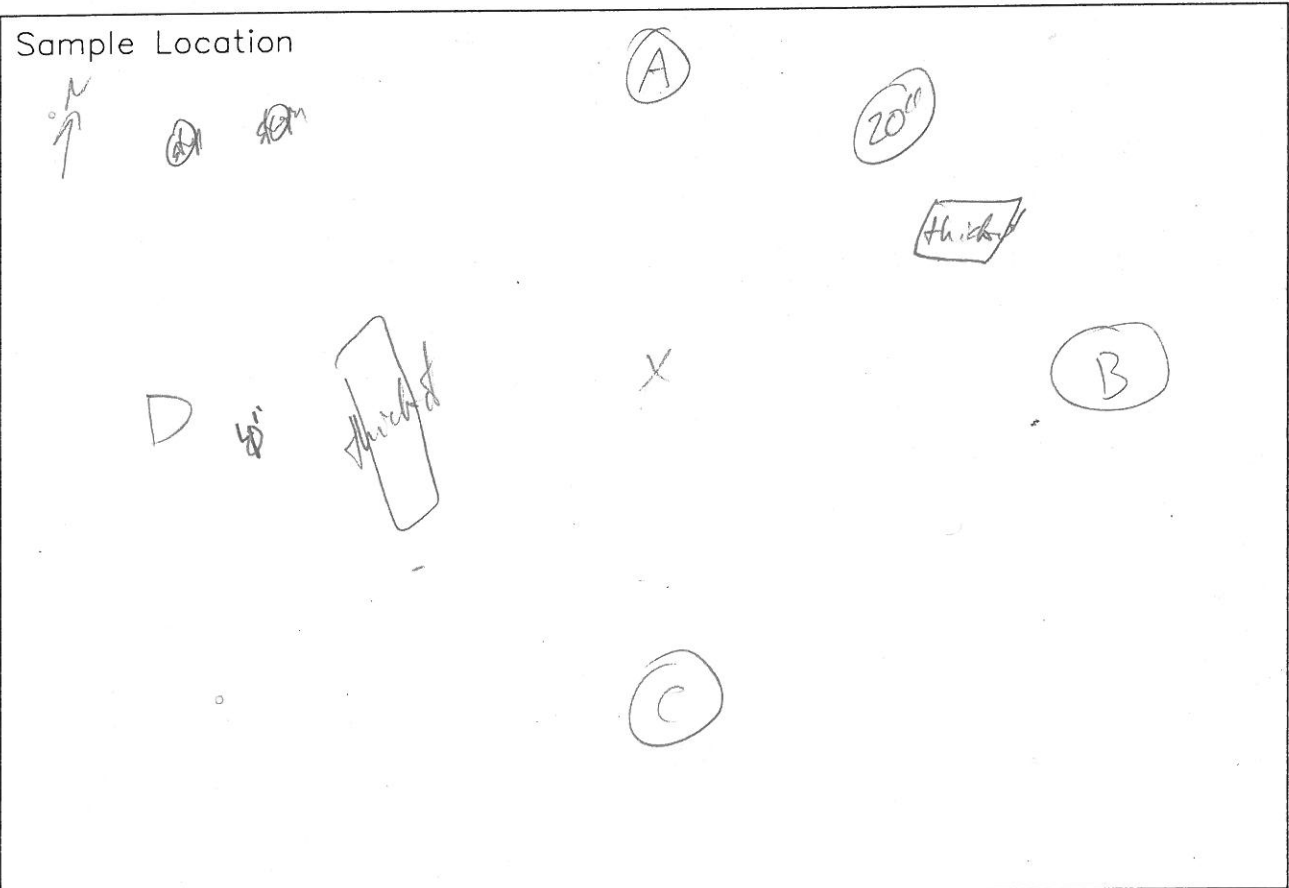
Sample No. SA11-8C
 Job Upper Columbia
 Job No. 17900-76
 Sampling Method composite 4 site
 Composite Sample Yes No

Collected by KJH/PRC
 Date 11/7/12 802
 N 744196.78'
 E 2417306.20'
 elev 2,144.13' (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves, grass, pine needles on 1/2" duff, moist, brown, gravelly sandy SILT w/ scattered roots
 B 1" black silt w/ abundant organics over " "
 C leaves on surface on 1" duff the same as above

D leaves @ surface, 1/2" decaying wood, moist, brown, silt w/ abundant organics, over, dry-damp, light brown, slightly silty sand w/ abundant organics
 Remarks Lots of little valleys in area, area logged in past, cedar & willow trees nearby, leaf & wood litter. Logging was relatively recent
sample is area that seems relatively undisturbed by logging
 slope = 16° aspect = 34° ^{up act.}



pics A-D 1327-1330
 sample profile pics 1331-1334



Surface Soil Sample Collection Form

Sample No. SA 11-8P

Collected by KJH/PRC

Job Upper Columbia

Date 11/7/12 0844 0-3

Job No. 17900-36

08 493-6

Sampling Method hand auger

08 546-12

Composite Sample Yes No

0859 12-24

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

0-3 moss + leaves @ surface, 1/2" blade moist SILT w/ abund. org. moist brown sandy SILT abund. org.

3-6 moist brown ^{gravelly} sandy SILT w/ abundant organics

6-12 same as (3-6)

12-24 moist brown slightly gravelly slightly sandy SILT, abund. org.

Remarks see SA 11-8C

Sample Location

see SA 11-8C



HARTCROWSER

Surface Soil Sample Collection Form

0

Sample No. SA 11-FD

Collected by KSH/PRC

Job Upper Columbia

Date 11/7/12 @ 0841

Job No. 17900-36

Sampling Method Composite 4 site

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A 1" duff, over 1" decaying wood, leaves, needles @ surface. Moist, brown to dibrown, slightly organic SILT
B Needles/Leaves → 1/4" duff → moist, light brown, organic SILT (1/2") → Moist, brown, sandy, gravelly SILT
C moss, 1/2" duff, moist-damp, organic SILT w/ abundant roots, 2-3" moist, brown, sandy SILT
D leaves/wood surface, 1.5" duff, over moist, black slightly sandy SILT over brown, moist, sandy SILT w/ roots (abundant)

Remarks see SA 11-8C
rotated 45° clockwise

Sample Location
see SA 11-8C

1335-A 1339
↓ B 1340
↓ C 1341
1378-D 1342



Surface Soil Sample Collection Form

Sample No. S11-9C

Collected by PRC/NWG

Job 17800-36

Date 11/8/12 @ 1227

Job No. VCR

Sampling Method 4pt composite to 3" bgs, SS spoon

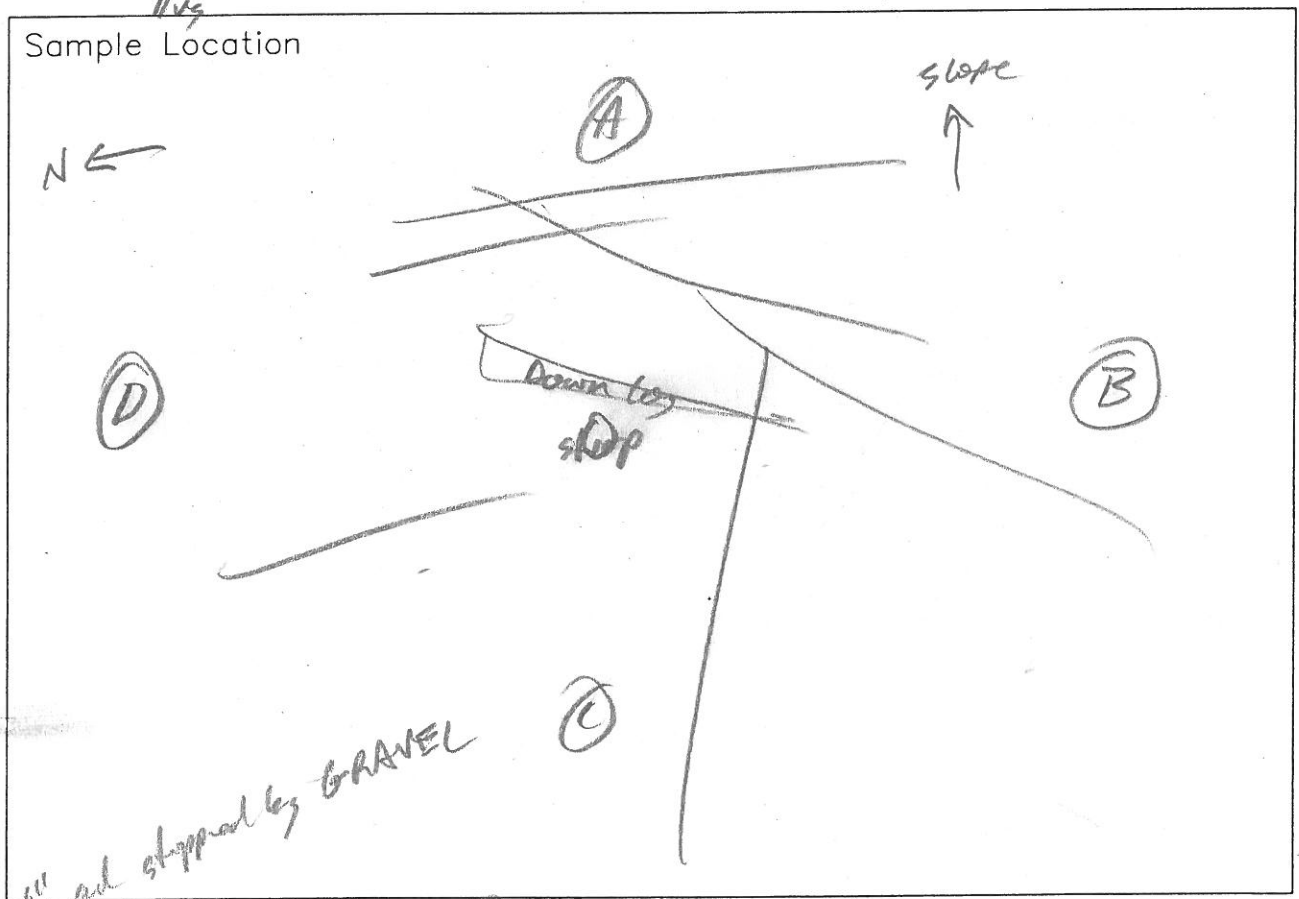
Composite Sample Yes No

N. 738642.67' ^{S.P.N}
E. 2415335.44' ^{NAD 43}
Elev 3,036.65' MSL

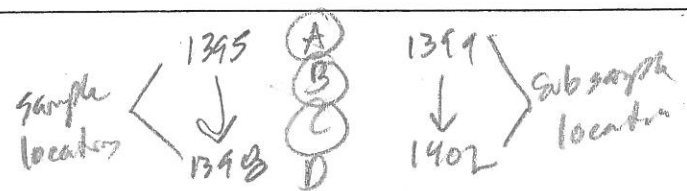
Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

- (A) ^{Moss, leaves, and} 1/2" of duff, brown to dibrown, damp, slightly sandy gravelly SILT w/ roots and organics
- (B) 1" leaves, 1" duff, over same material
- (C) Same as A ^{not very gravelly}
- (D) ~~Same as A~~ location moved because of ^{very} chert cont. -- damp, d. brown to brown, gravelly sandy SILT w/ organics

Remarks logged area w/ many down limbs, logging access roads run throughout area. No way to get 500' from road. We are upslope, approx. 100' from logging Rd that is no longer passable. Scattered fir trees in areas, w/ grass, shrubs (snow berries) throughout area.
Slope - 31° Aspect - 70°



Dug to 6" and stopped by GRAVEL





Surface Soil Sample Collection Form

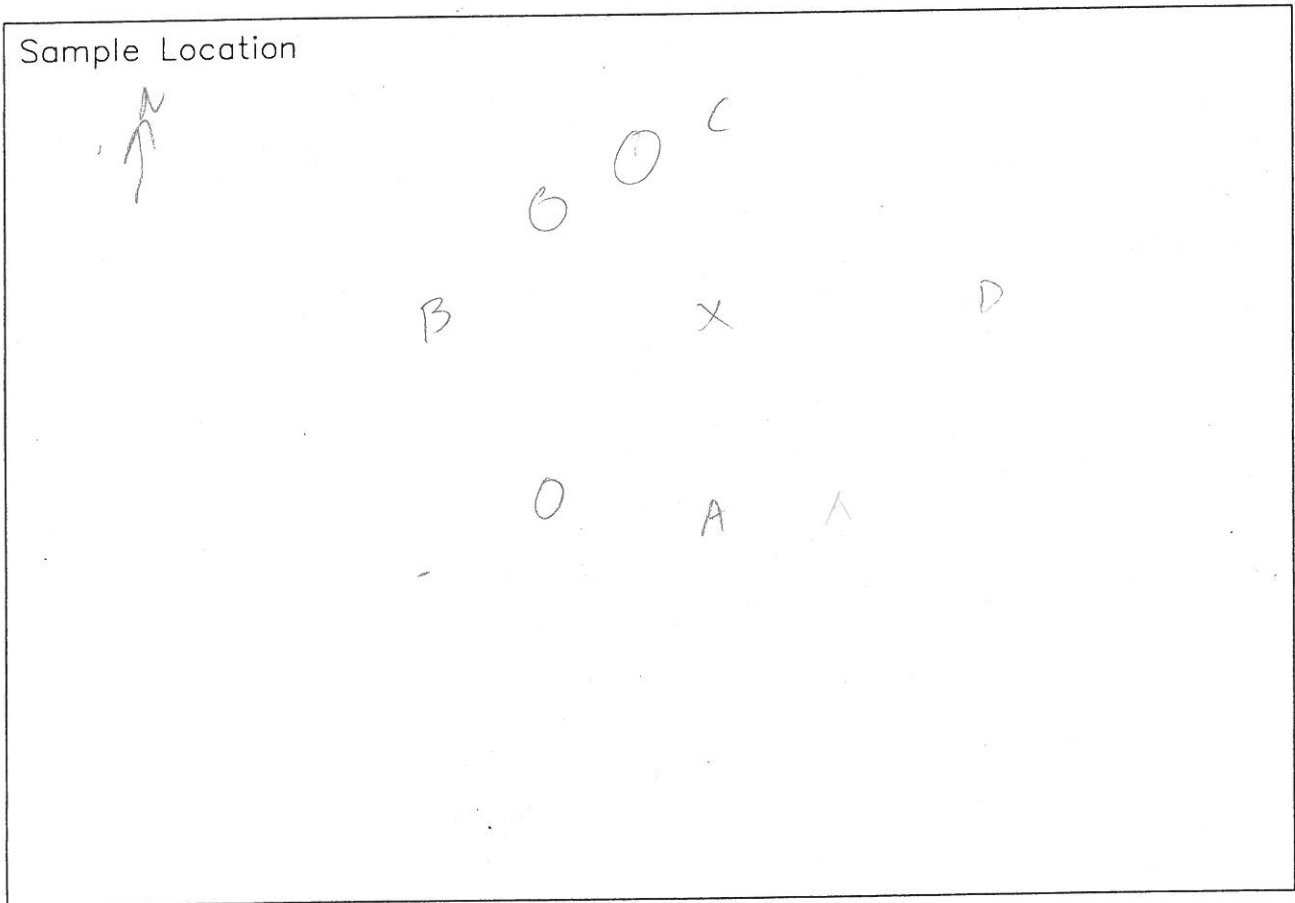
Sample No. SAL2-1C
 Job Upper Columbia
 Job No. 17800-36
 Sampling Method Composite 4 site
 Composite Sample Yes No

Collected by KSH/PRC
 Date 11/7/12 1007
 N 745974.68
 E 2421256.32
 elev 2461.63

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A pine needles / grass @ surf, moist dbrown to brown sandy silty GRAVEL
 B same as (A)
 C same as (A)
 D same as (A)
 Remarks thin spruce + fir, steep slope w/ heavy cobbles
aspect = 182
slope = 26

Sample Location



[pics A-D
 1343-1346+
 1347-1350]

Surface Soil Sample Collection Form

Sample No. SA12-2C

Collected by KJH/ASIK

Job UCR

Date 11/10/12 1124

Job No. 17800-36

N 745701.63

Sampling Method compos. Fe 4 site

E 2424014.92

Composite Sample Yes No

elev 2234.06

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A needed less, 2" duff, 1" moist brown organic silt, over brown-red brown moist sl. sandy silt w/ abundant organic

B same surface, 1-1.5" duff, moist, grey-brown, sl. gravelly silt (1.5" thick) over brown-red brown layer^{described above}

C same sur.; 2" duff, moist black organic silt w/ lots of roots over same brown-red brown layer

D same sur., 1/8-1/4" duff, same br-red br. comp. down to 2" bgs, moist, brown sl. silty sl. sandy gravel down to 6" bgs.

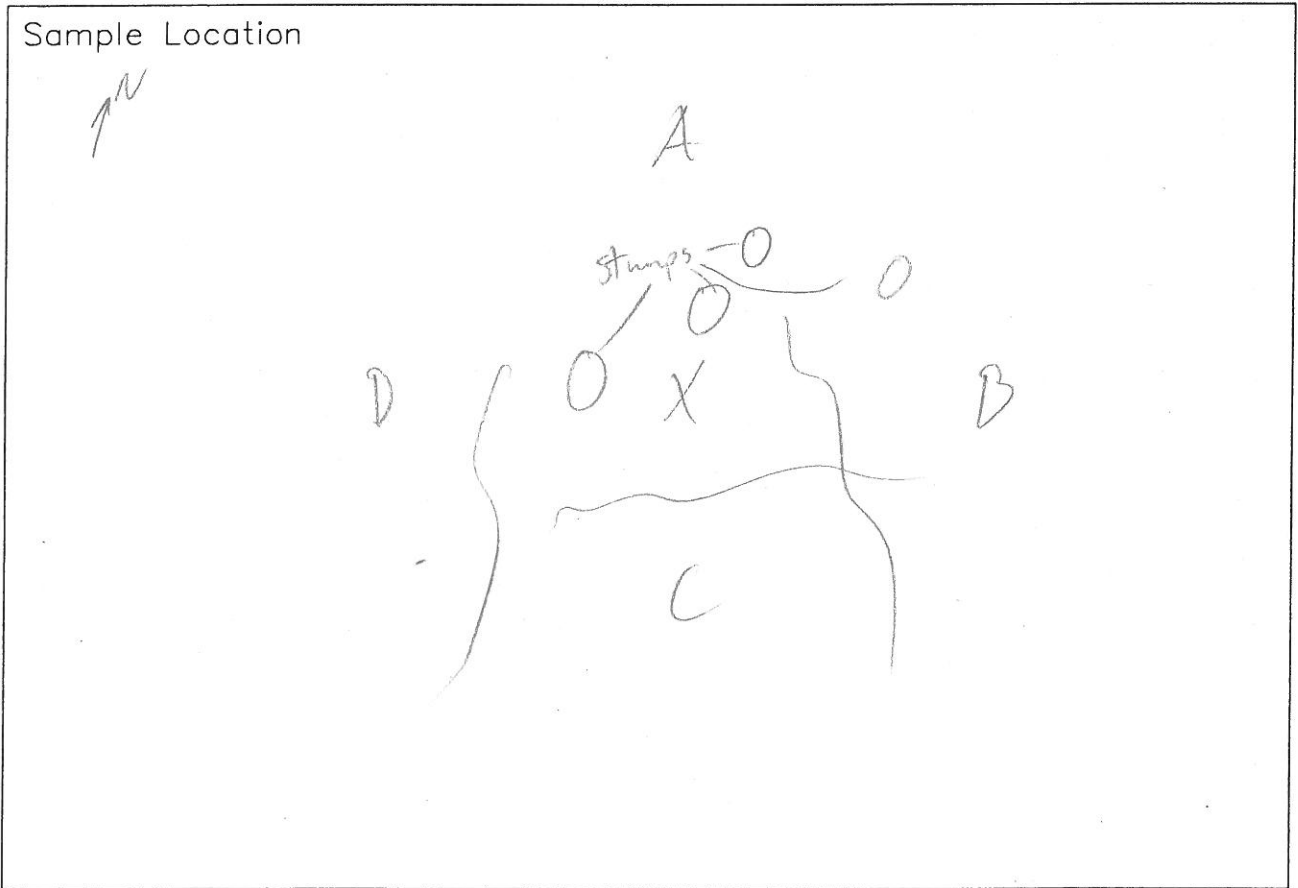
Remarks logging tracers & field @ original location, moved

slope = W to point away from recent activity. Heavy leaf litter

aspect = 30

canopy = 75%

ground sl. frozen



KJH pics
~~109~~ 111 & 113-114 & 117-120

Surface Soil Sample Collection Form

Sample No. SA12-3C / Profile
 Job UICR
 Job No. 17800-36
 Sampling Method 4pt compo?
 Composite Sample Yes No

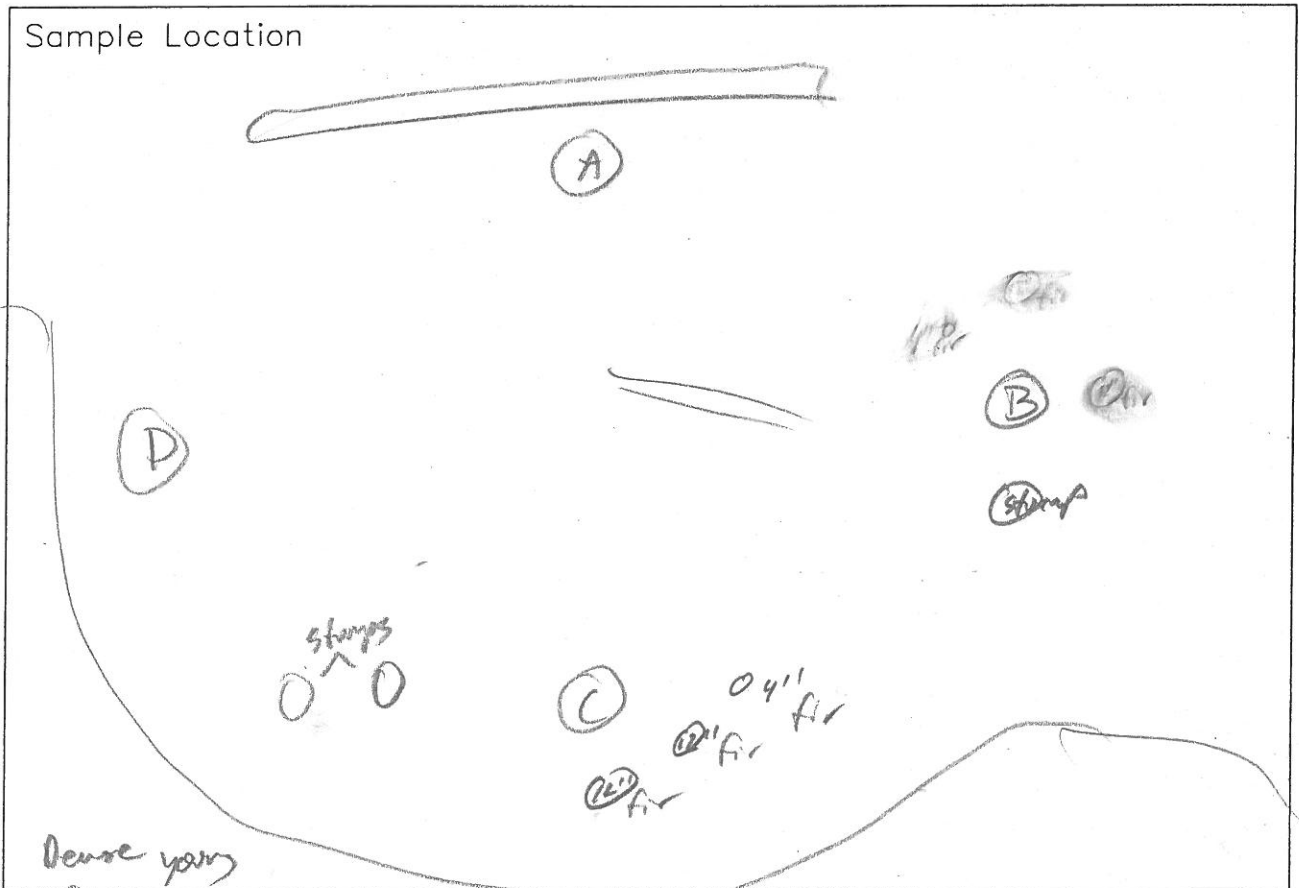
Collected by PRC/NWG
 Date 11/10/12 @ 1154

N - 745321.68' N
 E - 2425036.94' E
 2,171.15' elev (MSL)

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Dense grass cover w/ moss over 2" moist to wet, dark brown, organic SILT w/ scattered wood and
 moist-wet, dark brown, slightly gravelly SILT, trace sand w/ abundant organics (wood+roots)
 lead wood, over 1.5" moist, brown-dark brown, organic SILT trace sand w/ abundant roots, over moist,
 brown-dark brown, slightly sandy, slightly gravelly SILT w/ abundant roots. (B) 14" grassy, mossy
 Remarks Slope - 5° Aspect - 100° Grass and shrubs cover area. Trees border
 site to north and west. Large meadow to the south w/ slash pile on
 far side. Area logged in past (>10yrs) logging roads/cut tracks are
 everywhere on parcel. Marshy area 100' to NE.

Sample Location



Dense young
 forest
 w/ numerous old, overgrown cut tracks/roads

Surface Soil Sample Collection Form

Sample No. SA12-3P

Collected by PAK/NWG

Job VCR

Date 4/10/12

Job No. 17800-36

Sampling Method Hand Auger

Composite Sample Yes No

- ① 1200 0-3"
- ② 1205 3-6"
- ③ 1210 6-12"
- ④ 1215 12-24"

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

Remarks See SA12-3C for details

Sample Location

→ grass/moss @ surface

① (damp-moist), dark brown, slightly sandy organic silt w/ abundant organics (roots, wood) more roots than soil ("root mat") in top 2"

② 3-4" same as above becomes, damp-moist, light brown, slightly sandy silt w/ trace gravel and scattered roots

③ same as above, becomes moist

④ @ ~ 14-16" changes to a moist, light gray, slightly sandy, slightly gravelly clayey silt w/ scattered roots/organics to bottom

possible root encountered @ 23"

Surface Soil Sample Collection Form



Sample No. SA12-4C

Collected by PRC

Job 17000-365

Date 11/10/12 @ 0929

Job No. UCKA

Sampling Method 4pt comp w/ SS spm

744130.24' N
2427292.51' E } NAD83
2,610.90' (MSL) SPN

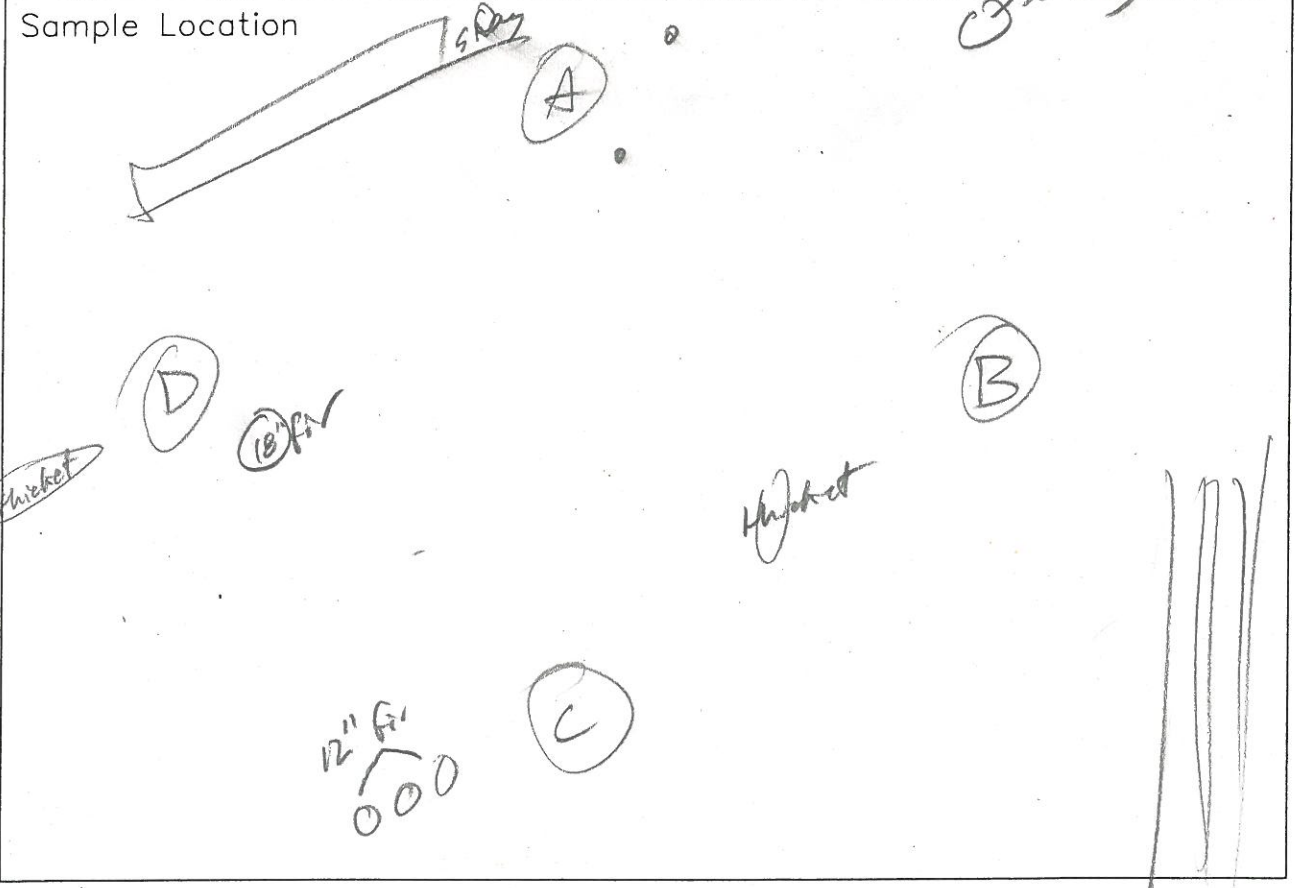
Composite Sample Yes No

All soil frozen @ surface

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/4" pine needles, leaves over damp, brown-d. brown, slightly gravelly sandy SILT w/ trace organics
 (B) same as A (C) 2" duff, p. needles, decaying wood over 1/2" dark brown sandy organic SILT over damp, dark brown, slightly gravelly sandy SILT w/ trace organics
 (D) 1.5" pine needles, wood, duff over 1" damp, d. brown organic sandy SILT over, brown, damp, sandy SILT w/ trace gravel w/ scattered organics
 Remarks Logging land, but no stumps in near vicinity, Relatively young D. fir trees dot area. Numerous small shrubs and moss cover forest floor. Extensive leaf litter and p. needles cover area.
 Aspect - 240 Slope - 21°

Profile - d. brown - brown sandy SILT trace gravel to 7-8" 76" sand



sub sample area ← 0039 A 0043 sample 0047 - site phot
 ↓ B
 0042 D 0046





Surface Soil Sample Collection Form

Sample No. SA12-6C

Collected by RJM / PRC

Job Upper Columbia

Date 11/6/12 1326

Job No. 17800-36

N 741853.00

Sampling Method composite 4 site

E 2423535.49

Composite Sample Yes No

elev. 2184.77

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A moss, needles, grass d.brown moist to damp, gravelly sandy SILT, scattered roots

B shrub grass moss surface, large cobbles @ 2.5", same as above rejection @ 2.5"

C 2.5" duff, same d. brown lower to 1.5" bgs brown sandy silty GRAVEL

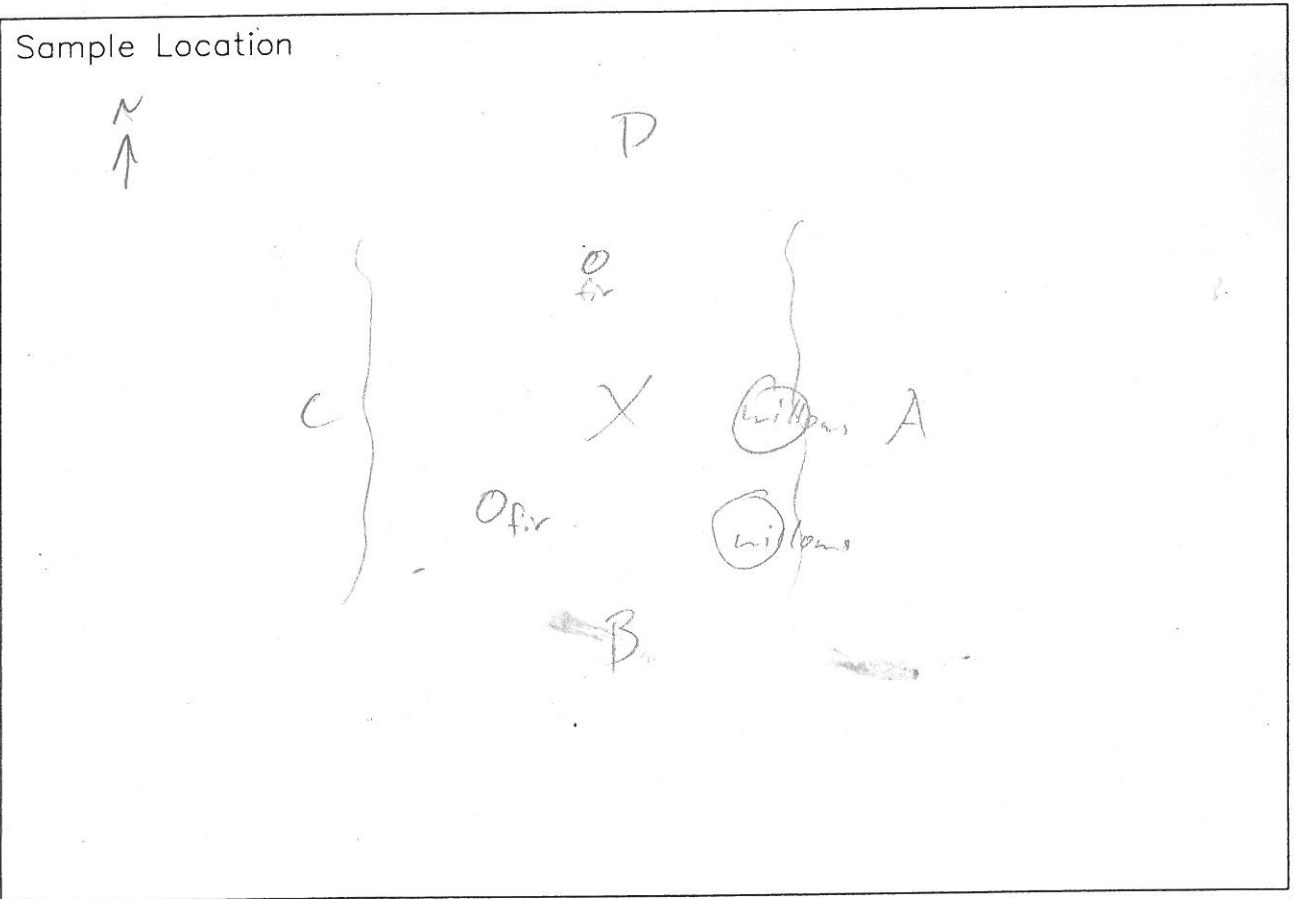
D moss, d. brown sandy silty GRAVEL w/ abnd. roots

Remarks edge of cedar forest transition to fir & willow

Slope = 17

aspect = 286

Composition is same down to 4"



pics
[1311-1314]
A-D

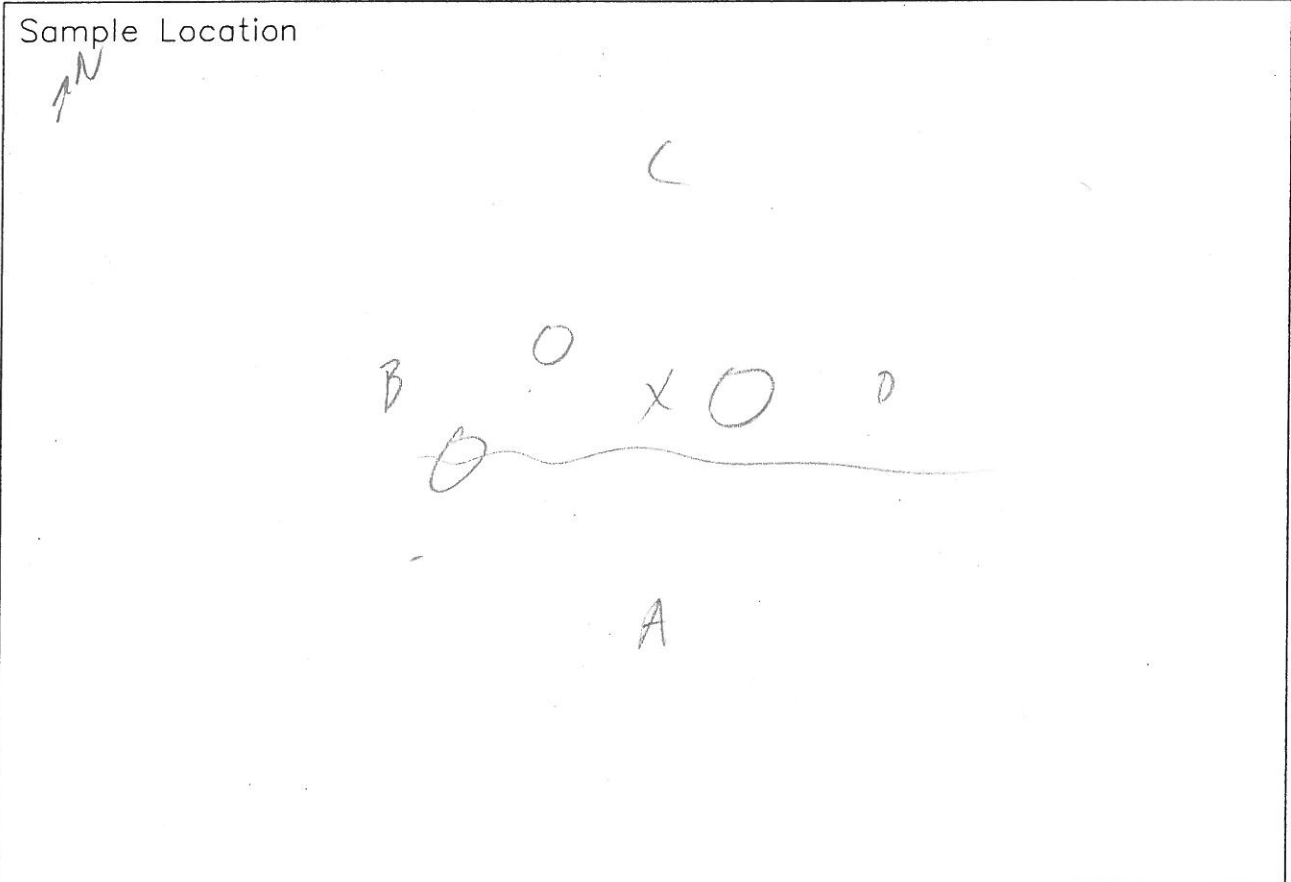
Surface Soil Sample Collection Form

Sample No. SA 12-7C *dup collected per 11/14/12* Collected by KJW / ASK
 Job UCR Date 11/10/12 1041
 Job No. 17700-36 N 744548.07
 Sampling Method Composite 4-site E 2423715.35
 Composite Sample Yes No elev 2327.52

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leafy ground, needles/leaves, 1" duff, moist sandy sl. gravely sandy silt, w/ trace charcoal and scattered organics
 B same surface, 1/4" duff, ^{thin layer of} moist grey organic silt followed by damp-moist brown sl. gravely sandy silt
 C same surface, 1/4" duff, moist brown sl. sandy - gravely sandy silt
 D same surface, 1/4" duff, same comp. as C, same deeper w/ more gravels

Remarks development very near to sample point, location moved deeper in
slope = 3 to woods. lots of down wood in area
aspect = 200
canopy = 50%



site A-D

97-100

101-104

Surface Soil Sample Collection Form

Sample No. SA12-FD

Collected by KJH/ASK

Job UCP

Date 11/10/12 1111

Job No. 17900-36

Sampling Method Composite 4 site

Composite Sample Yes No

Sample Description (moist., ^{slightly} color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves ~~under~~, 1/2" duff, moist brown ~~sl. sandy~~ silt w/ abundant organics

B same surface, moist black organic silt, over same comp. as A

C same surface, 1/2" duff, moist brown sl. sandy silt

D same surface, no duff, moist brown sl. sandy silt w/ abundant organics

Remarks see SA 12-7C

Sample Location

see SA 12-7C
rotated 45° clockwise

pics
105-108 + 109-112



Surface Soil Sample Collection Form NO DIP COLLECTED

~~DUPLICATE SAMPLE COLLECTED @ location~~

Sample No. SA12-BC

Collected by PRC/NWB

Job UCR

Date 11/10/12 @ 1048

Job No. 17800-36

746024.54' N
2426472.88' E
2,237.36' (MSL)

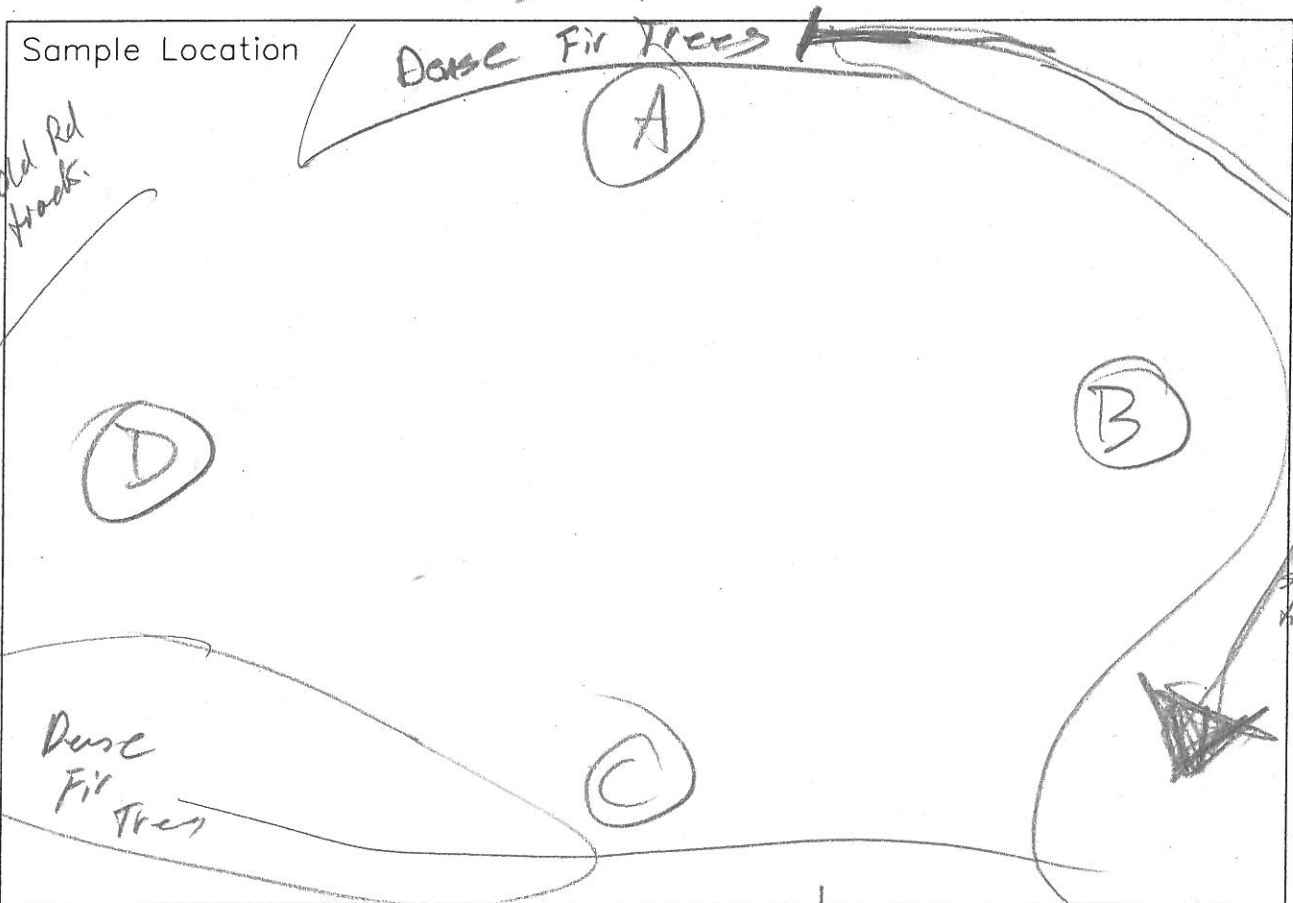
Sampling Method 4 Pt composite w/ SS Spoon

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/2" moss w/ pine needles w/ woody debris over 1/2" moist, d. brown, sandy organic SILT, over moist dark brown sandy gravelly SILT w/ trace organics
(B) 1/4" woody, pine needle debris over 1" moist, brown-d. brown, sandy organic SILT w/ abundant organics, over brown sandy gravelly SILT w/ trace organics.
(C) 1/4" pine needles/wood debris, over 1.5" damp, d. brown-brown, sandy organic SILT w/ trace organics.
 Remarks Old logging roads/cat tracks are everywhere on parcel. They seem to be spaced every 20-40'. Area was logged 15-30 yrs ago. 2-8" fir dot and surround sample area. Sample area is in clearing, likely old cat track. Forest is too dense to sample. Moss, leaf litter, and pine needles cover area. Scattered decaying stumps.

Aspect - 220°
Slope - 13°



(D) 1/4" pine needles moss/leaves 1.25" damp brown-brown sandy organic SILT over damp dark brown-brown sandy gravelly SILT w/ trace organics
 over same lower log
 2-8" fir
 2-8" fir
 2-8" fir

Sample bag
 0040 A 0052
 ↓ B 0051
 ↓ C 0055
 ↓ D 0056
 0055 site photo

↓
 n30' old logging Pulver cat track

Surface Soil Sample Collection Form

Sample No. SA12-9C

Collected by KJH/WDM

Job Upper Columbia

Date 11/6/12 1457

Job No. 17800-36

N 746179.57'

E 2429362.66'

Sampling Method Composite 4-site

elev 2,776.28 (MSL)

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Leaves, sticks, needles for 1/2", moist, red-brown, gravelly silty coarse SAND w/ scattered roots

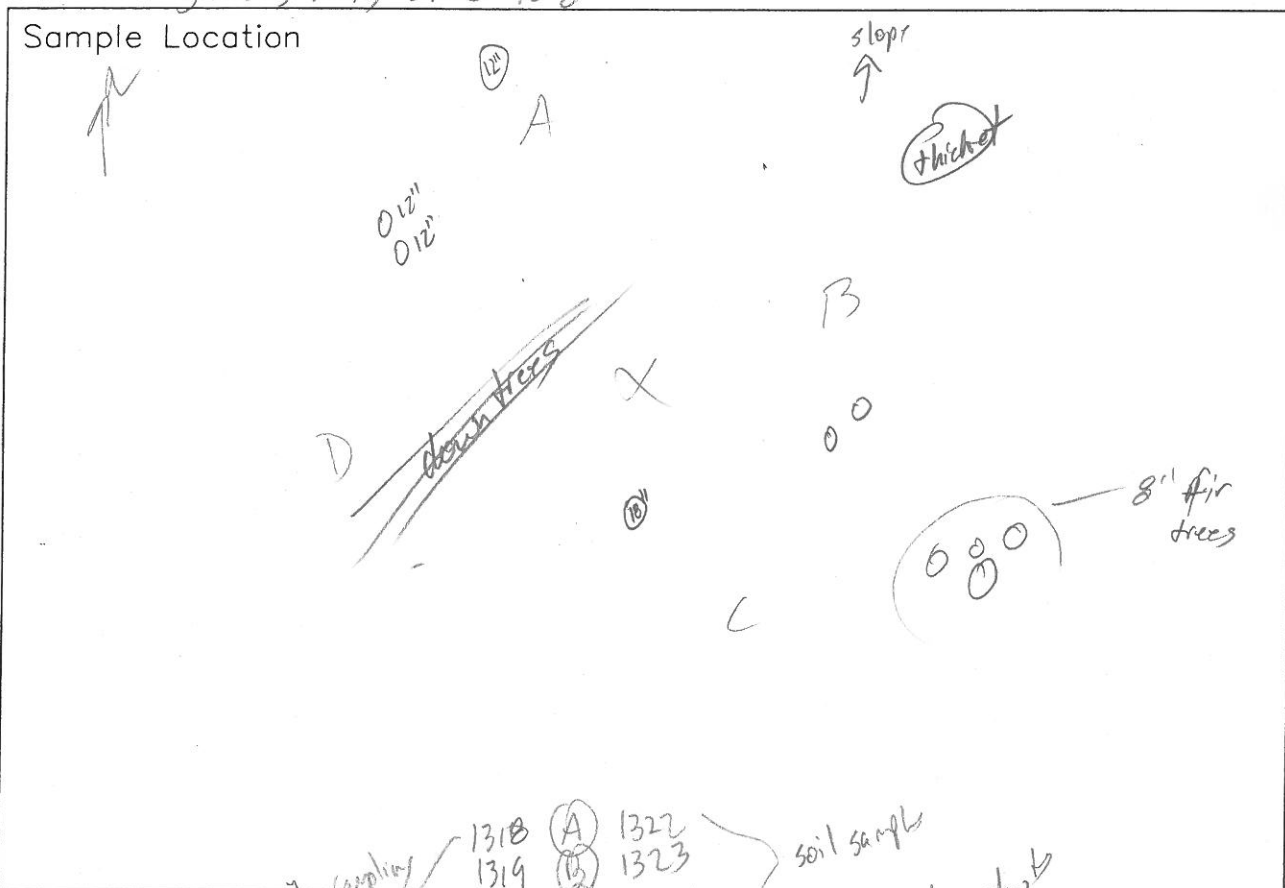
B " " for 2", 1/2" moist, black, SILT w/ organics/roots over, moist, red-brown, gravelly silty coarse SAND w/ abundant organics root

C " " " " " " moist, brown, silty coarse SAND

D " " " " " " moist, red-brown, gravelly sandy SILT, trace organics not 100%

Remarks logging, heavy leaf litter + down timber. Poplar & fir, shrubs
slope = 17 cover the area that has been disturbed by logging
aspect = 331 relatively recent. Scattered areas of gray soil, possibly
organic or ash.

red-brown, gravelly sandy SILT to 5" w/ burnt branches 5-6" & red-brown,
gravelly silty SAND to 8"



Site sampling locations { 1318 (A) 1322 } soil sample
 { 1319 (B) 1323 }
 { 1320 (C) 1324 }
 { 1321 (D) 1325 }
 1326 - site photo

Surface Soil Sample Collection Form

Sample No. 5A13-3C

Collected by PAC, NWG

Job UCR

Date 11/10/12 @ 1435

Job No. 17800-36

N - 733397.72' N

Sampling Method 4 pt composite w/ ss spoon

E - 2416769.28' E

Composite Sample Yes No

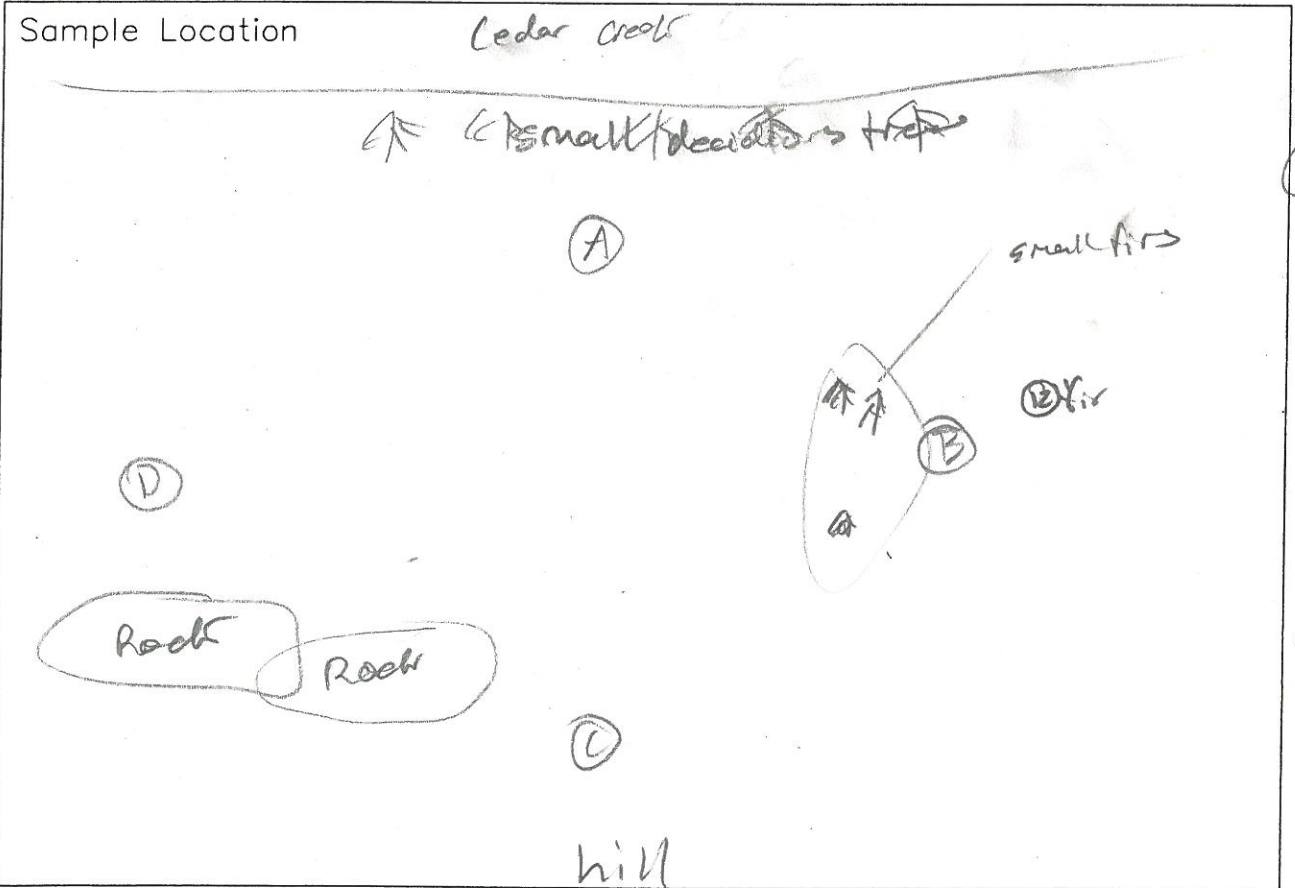
2,135.97'

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) Gross, leaves, moss over top. 1" damp root mat w/ organic SILT over damp-moist, dark brown, sandy SILT w/ trace gravel w/ scattered organics/roots
 (B) 1" gross/leaves/wood over 1/2" woody detritus over damp, brown, sandy silty GRAVEL w/ abundant roots/organics
 (C) 1/2" moss pine needles, 1.5" moist d. brown sand, SILT trace gravel w/ abundant roots (root mat)
 (D) Moss, grass over moist d. brown sand organic SILT over moist dark brown sandy silty GRAVEL w/ scattered roots

Remarks Just above (~10') cedar creek. Rock outcrop in sample area. Grass and shrubs cover area w/ scattered trees to south. Scattered cobbles

Affected - 75°
slope - 20°



moist, wet, dark brown sandy silty GRAVEL w/ scattered roots

Mutator
0070 A 0075
↓ B C
0073 D 0078
0079 - site photo

↓
Red Mtn

Surface Soil Sample Collection Form

Sample No. SA13-2C

Collected by PRC/NWG

Job DCA

Date 11/10/12 @ 1B22

Job No. 17800-36

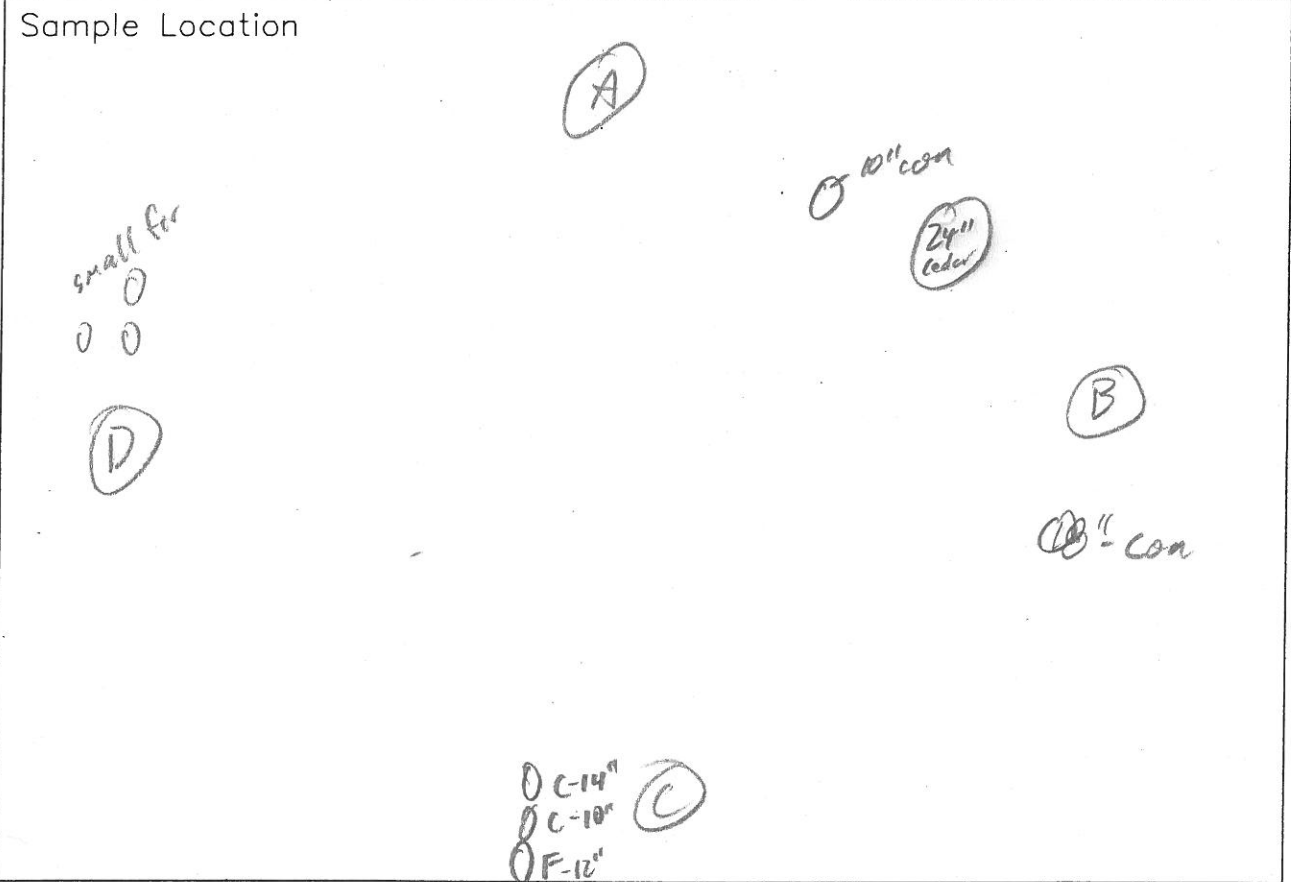
Sampling Method 4 pt composite

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

(A) 1/2" decaying leaves, wood, pine needles, brown, moist, highly organic sandy silt, below grades to sands
generally SILT (B) 1" decaying leaves and pine needles 1/2" ^{moist, dark brown} SILT trace sand trace gravel, grade
to SILT (C) 2" - leaves, pine needles 1.5" decaying wood/duff ~~(D)~~ moist, dark brown
sandy SILT trace gravel trace organics (D) 2" decaying duff needles, than the same
 Remarks Mature conifers and deciduous trees surround sample area. Marshy area
to south with creek to west. Thick leaf layer and scattered grasses.

Approved - 1550
shop - 110



0080 A 0084
 ↓ B ↓
 0083 C 0087

0088 -> it



Surface Soil Sample Collection Form

Sample No. SA 13-34

Collected by KJH / ASK

Job U CR

Date 11/10/12 @ 1523

Job No. 17800-36

N 740183.02

Sampling Method Composite 4 site

E 2422395.75

Composite Sample Yes No

elev 2128.55

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves/needles/twigs, 1/2" duff, moist brown silty sandy gravel w/ abundant organics and scattered cherec oak

B same surface, ~1/8" duff, damp to moist, brown sandy silt w/ trace organics

C same surface, 1" duff, damp to moist brown sandy silty gravel w/ scattered organics

D same surface, 2" duff, moist brown sandy silty gravel w/ abundant organics

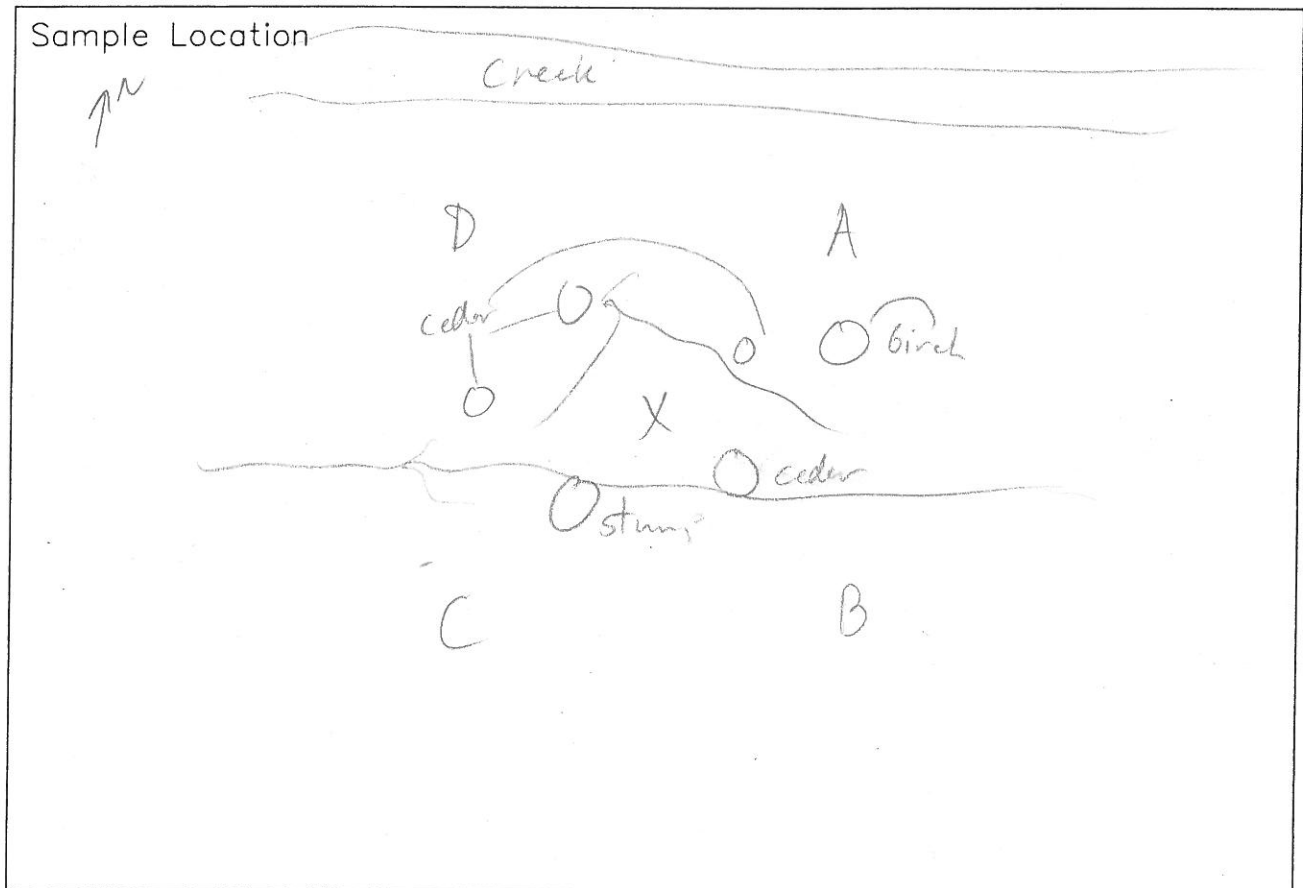
Remarks on hillside of Cedar Creek valley. No sampling points available

slope = 33 far from either a road or the creek. Lots of cedar in area

aspect = 40 Hillside is steep but short.

canopy = almost 100%.

Sample Location



Pils A-D 145-148
 profiles A-D 149-152

Surface Soil Sample Collection Form

Sample No. SA13-4C

Collected by KJH/ASK

Job UCR

Date 11/10/12 1446

Job No. 17800-36

N 740018.65

Sampling Method Composite

E 2426351.89

Composite Sample Yes No

elev 2242.35

Sample Description (moist., color ^{to brown} minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves/stems, no duff, moist black silt w/ abundant organics

B Same surface, no duff, moist to wet, black to brown silt w/ abundant organics

C Same as B

D leaves/stems/grass, moist to wet, black same as B, continues to 6" bgs

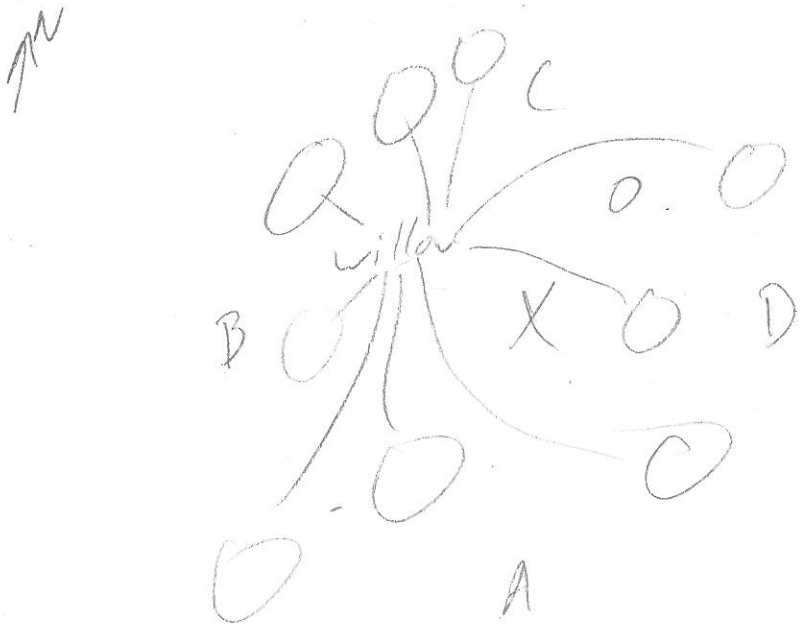
Remarks original point in home owners garden. No undeveloped sites on

slope = 2 south side of creek. Moved point to N side of creek in wetland.

aspect = 20 High grasses + willows in area

canopy = 90

Sample Location



pics A-D profiles A-D

137-140

141-144

Surface Soil Sample Collection Form

Sample No. SA13-5C

Collected by KJK/ASK

Job UCR

Date 11/10/12 853

Job No. 17800-36

N 744584.60

Sampling Method Composite 4 sites

E 2420499.4

Composite Sample Yes No

elev 2103.90

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaves/needles/oss. 1.5-2" duff, moist brown silt over moist brown silty sandy gravel w/ abundant organics

B same surface, 1/4" duff, moist dark brown silt w/ abundant organics to 2" bgs, to moist brown silty sandy gravel w/ abundant organics

C same surface, 1/4" duff, moist brown sandy silty gravel w/ abundant organics

D same surface, 1/2" duff, same comp as C

Remarks willow + alder + fir, near developments, but no evidence of disturbance

slope = 14

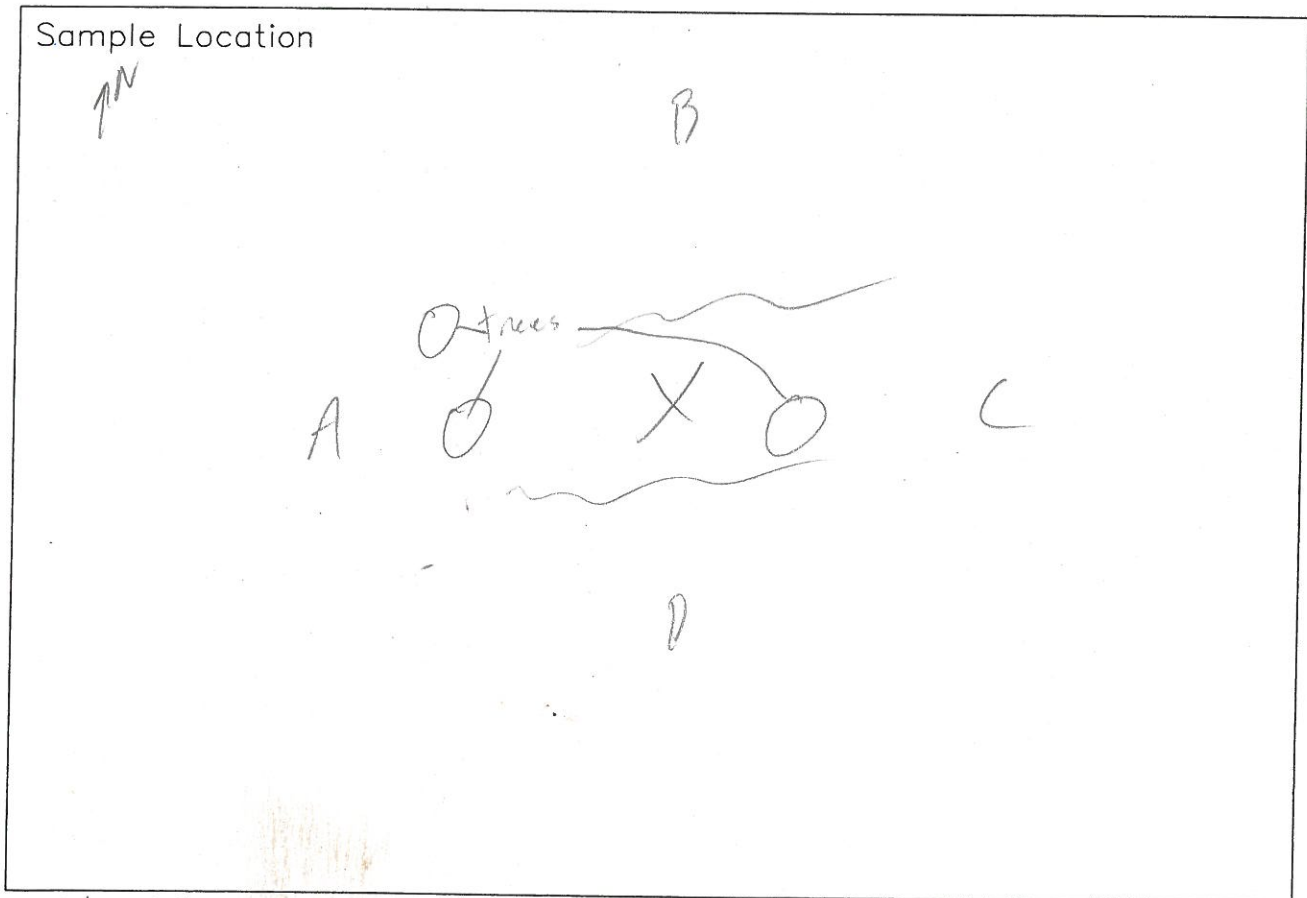
aspect = ~~135~~ 300

canopy = 60%

top ground surface is pretty frozen

Continues through 6"

Sample Location



Picture # 81-84
profiles 85-88.

Surface Soil Sample Collection Form

Sample No. SA13-FD

Collected by KJM/ASIC

Job UCR

Date 11/10/12 927

Job No. 17P00-36

Sampling Method composite 4 sites

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A leaf/needle @ surface, 2" duff, moist, d. brown SILT w/ abundant org

B same surfas A 1/2" duff, 1" black moist organic, SILT over 2" moist brown sandy silty GRAVEL ^{a hand} org.

C same as B

D duff = 1" same composition as B

Remarks see SA 13-5C

continues through 6"

Sample Location

see SA 13-5C
rotated 45° clockwise

site profiles
89-92 + 93-96

Surface Soil Sample Collection Form

Sample No. SA 13-6C/1P

Collected by RJH/ASK

Job UCR

Date 11/10/12 1238 - SA 13-6C

Job No. 17800-36

E 2420557.72 - SA 13-1P1

N 739821.24 2

Sampling Method Composite 4/site / hand auger

elev 2143.87 3

Composite Sample Yes No

sample time
 12 1300
 20 1305
 32 1310
 44 1315

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

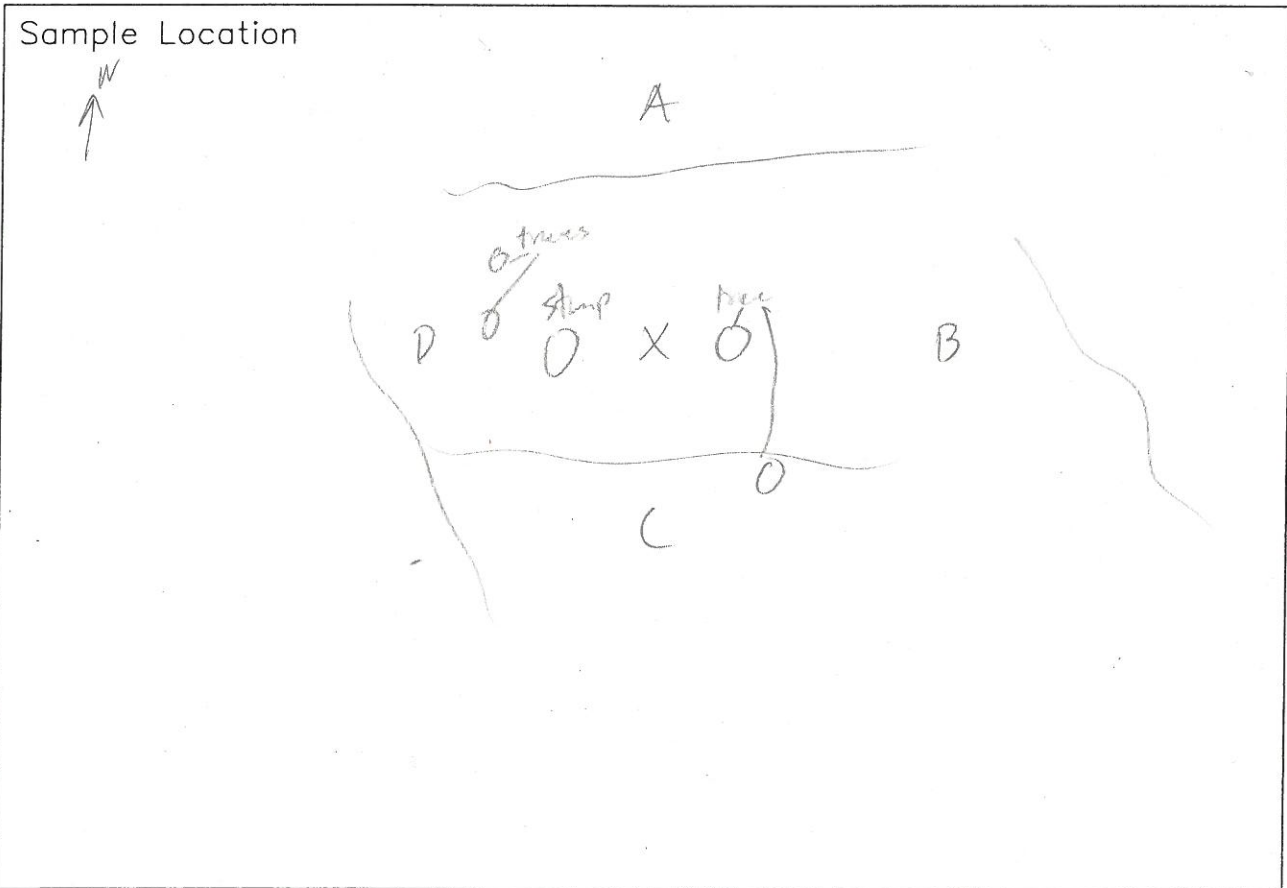
A mass needles/sticks, 1/2" duff, moist black, silt w/ abundant organics followed by moist brown sandy silty gravel

B same surface, 1/2" duff, thin layer of grey ^{sl. silty} gravel followed by moist brown w/lt. brown mottling, sl. sandy silty gravel

C same surface, 1/2" duff, moist brown w/lt. brown mottling, sl. sandy silty gravel

D same sur., 1/2" duff, moist brown sl. sandy silty gravel and cobbles w/ abundant organics

Remarks slope = 2 aspect = 20 canopy = 70 Heavy logging area. Point intended to try to maximize distance from logged areas + roads. Profile descriptions: (0-3) moist, brown, slightly sandy silty GRAVEL (3-6) moist brown sandy silty gravelly COBBLES (6-12) damp brown to red brown sandy silty COBBLES (12-24) same as (6-12), ~~refined~~ @ 16" abundant org down to 10" bgs



[pics profiles]
 [121-124 + 125-128]

Surface Soil Sample Collection Form

Sample No. SA 13-76

Collected by KHL / PRC

Job Upper Columbia

Date 11/7/12 1204

Job No. 17800-76

N 741928.55

E 2420964.76

Sampling Method Composite 4 site

elev 2017.48

Composite Sample Yes No

P. Cloudy

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A pine needles (bark/twigs 1/2" duff, moist-dark, gray grading to brown, sandy SILT trace organic

B p. needles/bark, 1/2" duff, 2" decaying wood, moist, gray, sandy SILT trace organic (roots)

C 1" duff, moist, gray, organic SILT, 1/2", then "

D needles & twigs over 1/2" duff over 1/2" organic SILT over gray sandy SILT

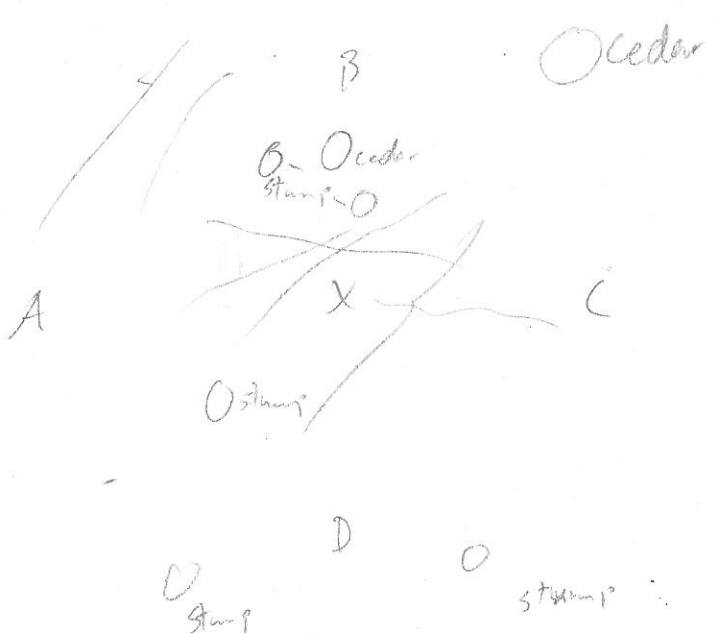
Remarks recently logged, found an area that had been logged less recently

slope = < Moved sample location to escape heavily logged area. No cat tracks at sample location

aspect = 270 but relatively fresh cut stumps are nearby.

7" bgs still moist, gray, sandy SILT

Sample Location



sub sample
tree photo

1353	(A)	1367
1354	(B)	1358
1355	(C)	1359
1356	(D)	1360

sub sample
soil photo

Surface Soil Sample Collection Form

Sample No. SA13-8C

Collected by KJM/ASK

Job ULR

Date 11/10/12 @ 1355

Job No. 17800-36

N 738031.49

Sampling Method composite 4-site

E 2429754.05

elev 2487.71

Composite Sample Yes No

Sample Description (moist., color, minor, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES)

A Needle/moss/leaves, 1" duff, lots of roots, moist brown silty sand w/ abundant organics

B same surface, 1" duff, small lense of lt. brown sand (damp), moist brown silty sand

C same surface, 1" duff, lots of roots, moist grey-brown sandy silt w/ abundant organics

D same surface, 1" duff, moist black silt w/ abundant organics, w/ scattered charcoal fragments, root refusal @ 5" bgs

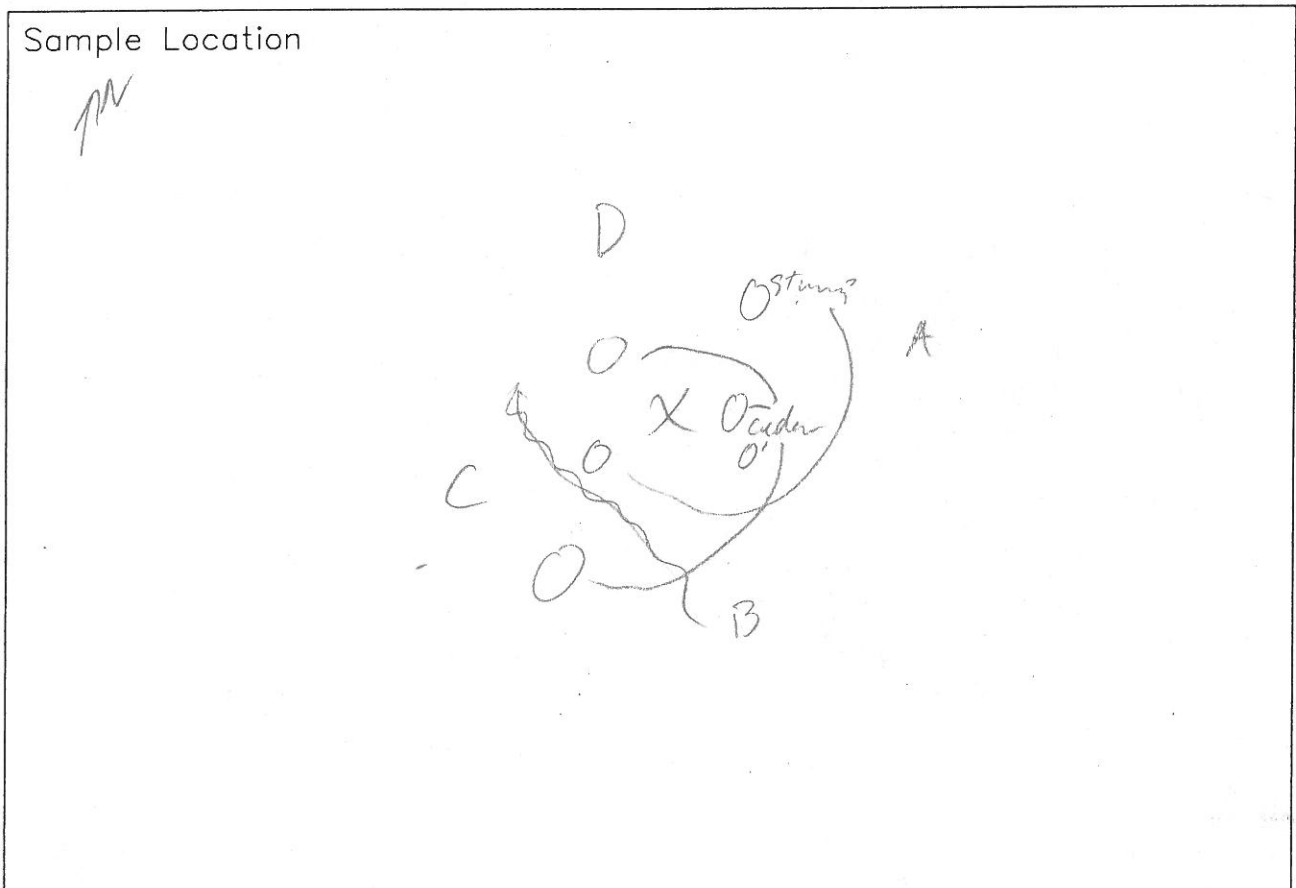
Remarks cedar forest, 1/2" snow, frosted/frozen surface, logged w/ 8" past tips.

slope = 10° creak @ bottom of slope

aspect = 72°

canopy = 80%

Sample Location



Pics 129-132
 profiles 137-138