

6-19-14

WP #002 P0029

- camera control pt on left bank of Portage Cr.
- near mouth.
- box is locked. no apparent cleavage

WP #003

labeled 2 x boats at mouth of Portage Cr.

P0050 mid channel bar at mouth of Portage Cr.

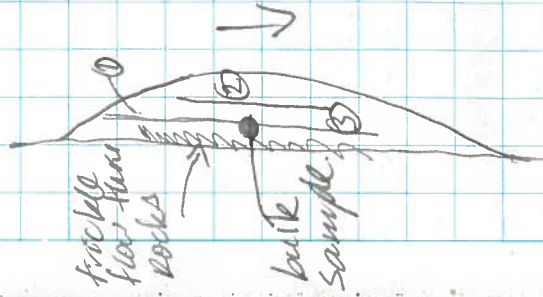
- declivity dump.
- could not cross channel to survey
- looks nearly unsorted.
- coarse @ base of 1st 2 some soil deposit, likely from this years ice
- d/s end of 1st. coded from ice.

P0031 \$ w/s along bar (undisturbed). Bar ~ 300' long x 30' wide.

- Renal & Bob at approx. sampling location

Pebble counts ~ 11 am

- laid out 3 100' tapes.
- not wide enough for 3 parallel frames
- bar ~ 8" above WSE
- unbricated
- uniform along length of bar.



WP4/P0032 - Bed at ~~base~~ sieve location

P0033  $\pm$  d/s along bar from  
up end. Rental  $\rightarrow$  Bob  
at sampling location

P0034  $\pm$  d/s at confluence  
with Suisun. Note  
mid channel bar  
• large ~~gr~~ material  
deposited on right side  
of channel.

• Portage Cr. Slowing fast.  
Vel Cr 5  $\rightarrow$  6 ft/s.  
depth  $\approx$  6'.

- does not look walkable  
in area from mouth to  
 $\sim$  500' up.

- may need duck to cross  
 $\rightarrow$  get up to safety line.  
- wyl 'check further up  
for safe place.

Sediment sample.  
Air pour layer  $\sim$  100m thick

P0035 Subsurface material

P0036 Hole filled in.  
Rm (Bear Award) in  
background.

P0037 - deleted.

⊗ Reset time on camera  
from 1:20pm  $\rightarrow$  12:20pm.

• Pebble count.

D<sub>50</sub>  $\sim$  50.1 mm.

D<sub>90</sub>  $\sim$  115 mm.

P0038  $\rightarrow$  40 photo backups

- no samples in channel  
discharge  $\sim$  1500 cfs  
too dangerous.

6-19-14

2:20 pm

Pebble mound along  
bar at mouth of Portage Cr.  
→ Sus. in



~~P0041~~  
P0042

\$ d/s along P.C. transect

P0043 Backup

P0044/WPS

\$ u/s along Portage Cr.  
~ 100' wide, 4' vel ~ 8HL's.

Potentially good loc<sup>n</sup> to  
set x-secs. Presumably  
uniform channel section  
run/cuttle

- Surface/subsurface  
locations ~~not~~ looked at  
- TRB d/s at Portage Cr  
is mostly beach and crop  
- no area for representative  
sampling.

• Bar along left side is  
underwater & not  
possible to sample

3:45 pm. moved to PPM1529

- conduct P.C.s.

P0045 \$ d/s along uncl. suber  
bar.

P046 & d/s along center  
PC transect.

6-20-14

WP46/P51 → 54 ice along  
bank & ice erosion

WP47/P55 → 63

ice erosion along bank

WP8.

P64 & n/s along T18  
@ ice. Note puffy material  
on surface

P65 Bombers raked on  
ice.

P66 - normal pile

P67 - mason at head of  
suck chnl. upper surface  
appears embled by ice

P68/69 & @ ice  
along suck channel.

P70 - boulders raked  
on top of ice.

P71 →

Document surface/subsurface  
sampling

P84. location of subsurface  
sample - undisturbed.

P85 - Clear armor layer.

P93 - take GPS Pt.

#5 raised up. - camera bracketing

P98 excavated hole

P99 P100 P101

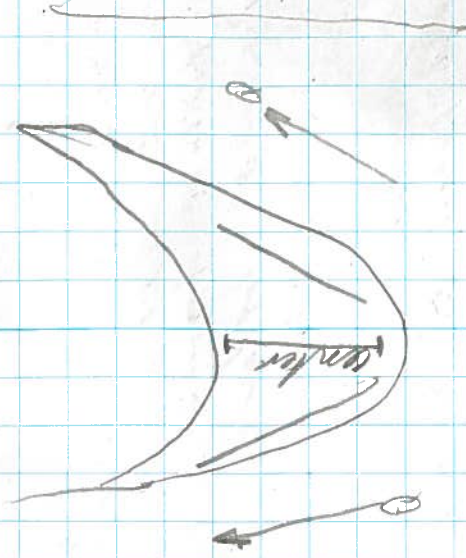
P151 Hole filled in

P152 - site before leaving

6-20-14 12:50 pm

Bunt / Sub surface @ 1507  
P157 / WP009\* u/s along centre transect  
uninterrupted etc.

- surface is unburied
- ~~part~~ material covered  
i.e. silt / sand
- upper portion
- head of island appears  
to be ice rafted
- out / sand ice rafted  
or well.
- surface ~~is~~ not clearly  
apparent fluvial transect

P158 Bilt / clay on over face  
P159 view of ice rafted  
boulders @ head of island.P160 \* towards u/s end  
of islandP161 Surface material  
at 50' mark on center  
transect

P162 - Excavated hole.

P163 - Stereo - for showing  
slope shown

P164 Hole filled in

6-20 - 14 3:15 pm.

PRM 149.3

- Prepared location of  
Surface/subsurface  
sample.

- head of creek slightly tilted  
has a lot of ice  
surface layer, which  
representative of ice  
deposited material

B Silt/clay material on  
over surface material  
- vegetation appears  
observed at ups ~~or~~ head  
of chute

- boulders appear to be  
ice rafted, not primarily  
transported.

- conducted probable count  
near ups end of chute  
into side channel

P168 Panoramic from L<sup>2</sup>R  
& d/s along side channel

P169 tested boulders  
at head of chute

P170 & d/s along PC  
transect

- note photos taken at  
this location earlier  
in day.

P171 Boulders rafted  
up in ice

P172 vegetation observed  
off near head of side channel

P173  $\pm$  across mid channel  
of ice prisms on trees  
ice in foreground.

P174  $\pm$  down side channel

moved surface/subsurface  
sample to Tran 14 B.S.  
WPT 10/P177  $\pm$  g/l's  
along undisturbed bar.

~~Bar~~ mid channel bar  
 $\approx$  300' long 150 wide 1' above  
WSE.

- P178 50' mark on  
center transect.

P179 evidence of ice called  
material near center of bar.

P180 - Hole for outcrop face  
sample

P181 - Hole hiked in

P182 -  $\pm$  up/s at site before  
leaving.

6-21-14 PRM 1347

Deerhorse Creek

Sherman Creek

P186  $\$$  ups at bridge fan  
at mouth of creek

- young vegetation establishing  
in yard. Fan likely ~~to~~  
blow out in 2012.

P187 Bobo mouth of  
Sherman Cr.

P188  $\$$  d/s along creek

P189 Nail set to survey contour?

WP 11/P190 Railroad bridge  $\leq$  ups

P191  $\$$  ups from R/R bridge

P192  $\$$  d/s "

WPT 12 TLP XS1 Sherman Cr.

P 193  $\$$  d/s from XS1

5 XS set at  $\sim$  1 x channel  
width

- good representative reach

- XS1 set across step-pool

- reach contained in both  
banks

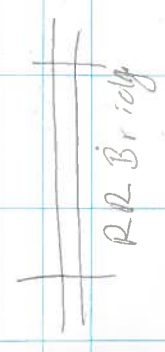
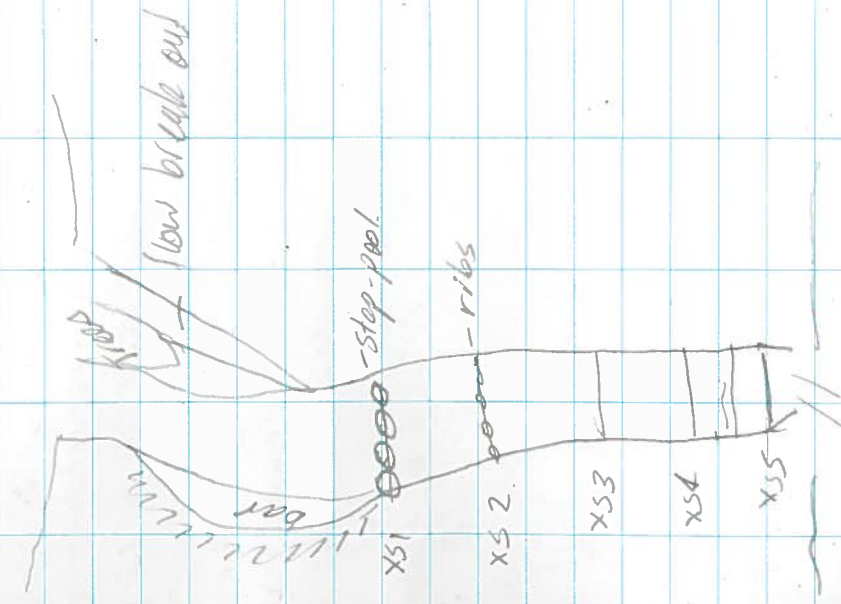
- break out flow occurs  
on fan d/s of XS1

P 194  $\$$  at break out area  
d/s of XS1 on TRB

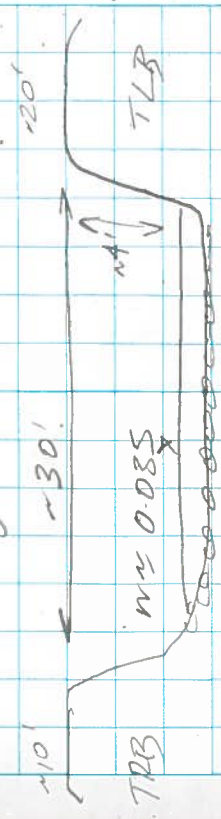
P 195  $\$$  ups thru XS1.  
tape set at XS1, XS2, XS3



- set caps + rebar at TLB, TRB XS1 & XS5.
- 5 XS'n set.



- Representative XS's
- all XS's are very similar.
- uniform reach.
- plank - bed reach.
- stop-pool at XS1
- most stop-pools located b/t confluence - XS1.
- well away from RR right of way.
- XS1 -> S located on plank bed, with ribs starting to ~~even~~ evenize.



P196 & 415 from mouth. A drop of ~18" appears to have fish passage.

P197 & 415 from XS5.

WPT 13. TRP XSS.

Stamped "6-21-14  
" 1' from TRB.

XS spacing, L, C, R. - all same.

XS Dist.

1 -  
2 38.8'  
3 31.5'  
4 29.1'  
5 28.6'

WPT 14 TRP XSS.

WPT 15 TLP XSS

TT XS-1"

P1. Conducted on boulder  
fan on d/s side of Sherman  
Creek.

P198 \$ along fan.

P199 Excavated hole for  
sub surface sample.

P200 \$ d/s of sampling  
area.

P201 \$ d/s @ sampling  
area.

WPT 16 Subsurface hole.

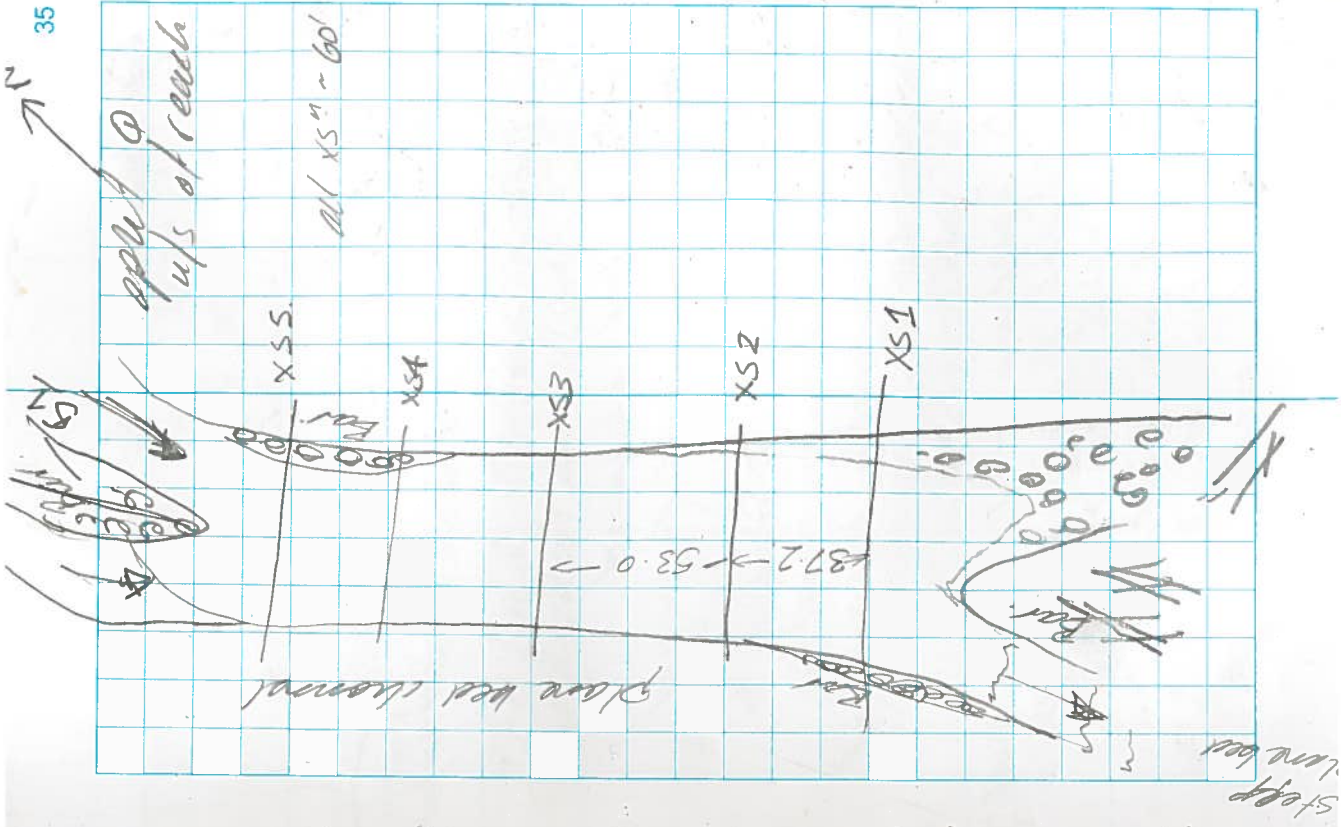
Note: Cross-section  
and profile surveyed  
from one location.  
Tied into existing  
bench mark.

6-22-14.  
4 July Cr.

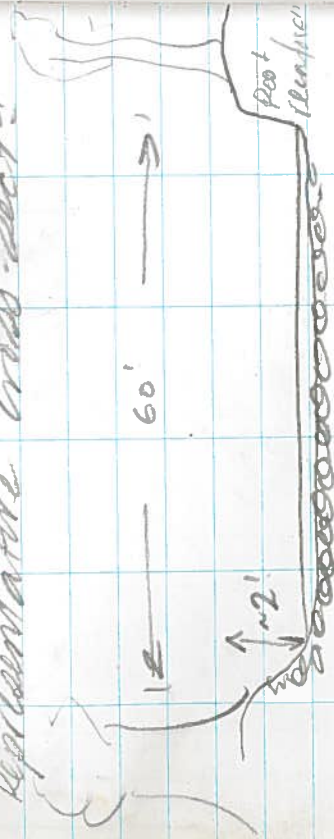
Crew: Dai Thomas  
Bob Tidney  
Renee Vandermause  
Mason Perry

WPT 17 TLP XS1  
P 215 & ups thru reach  
from XS1. - (no tapes set)

Weather - rained overnight  
- clearing ~ 55°F  
NO wind



Representative cross-section



$n \sim 0.03 \rightarrow 0.035$

- plane bed channel.
- no sand  $\rightarrow$  boulder sized material
- no step-pool in reach
- all cross-sections ~~are~~ have reasonably consistent geometry.
- XS<sup>1</sup> spacing  $\sim$  1 chan width.
- could not find longer reach
- this reach, all flow contained in banks.
- bank reasonably low  $\rightarrow$  drop off over bank ~~to~~ of bank.

P216  $\$$  L  $\rightarrow$  R across XS 6.

P217  $\$$  d/s from XSEL 1

P218  $\$$  u/s thru XS1

- tapes set @ XS1, 2, 3, 4.

P219  $\$$  d/s from XS5

P220  $\$$  u/s "

P221 / WP18 Bed material in mid-channel bar u/s of XS5

P222 / WP19.

$\$$  u/s along Pebble Count (S1)  
100' tape 4' incr

S1 - collected along entire line of mid channel bar u/s of XS5.

S2 collected along bank attached bar along T18 b/t XS 3  $\rightarrow$  5.

P223 - 8 loc<sup>s</sup> of S2

- P23 collected along right side of channel, mostly in water. bft XS 2-23 +
- B subsurface sampling conducted on mid-channel bar near confluence into Susitna.
- 1 pebble count conducted on Bar by NP, BT.
  - no armor layer on bar.
- P225 & u/s at location of SS sample.
- P226 Hope for SS sample
- P227 & d/s @ SS sample location. Susitna in background
- WPT 20 S.S. loc<sup>n</sup>
- P228 & d/s @ confluence of 4<sup>th</sup> July ~ Susitna.
- no apparent fish migration marks. i.e. no drops.

Trib profile.

- Buck signed on 1312R (2012)
- found in good condition ~ 6" of sand overtop.
  - P229 CP 1312R
  - conducted trib profile for from mouth to ~ 300' u/s.
- P230 & d/s 4<sup>th</sup> July Co @ conflu.
- P231 & u/s from same loc<sup>n</sup> as P230
- stopped profile @ fallen tree profile ~ 1370' long
- WPT 21. Start of trib profile at confluence.

6-23-14 5<sup>th</sup> July Cr.

Crew: Dr. Thomas

Renee Vandermause

Mason Perry

Bob Tierney

Weather: mostly clear

Calon

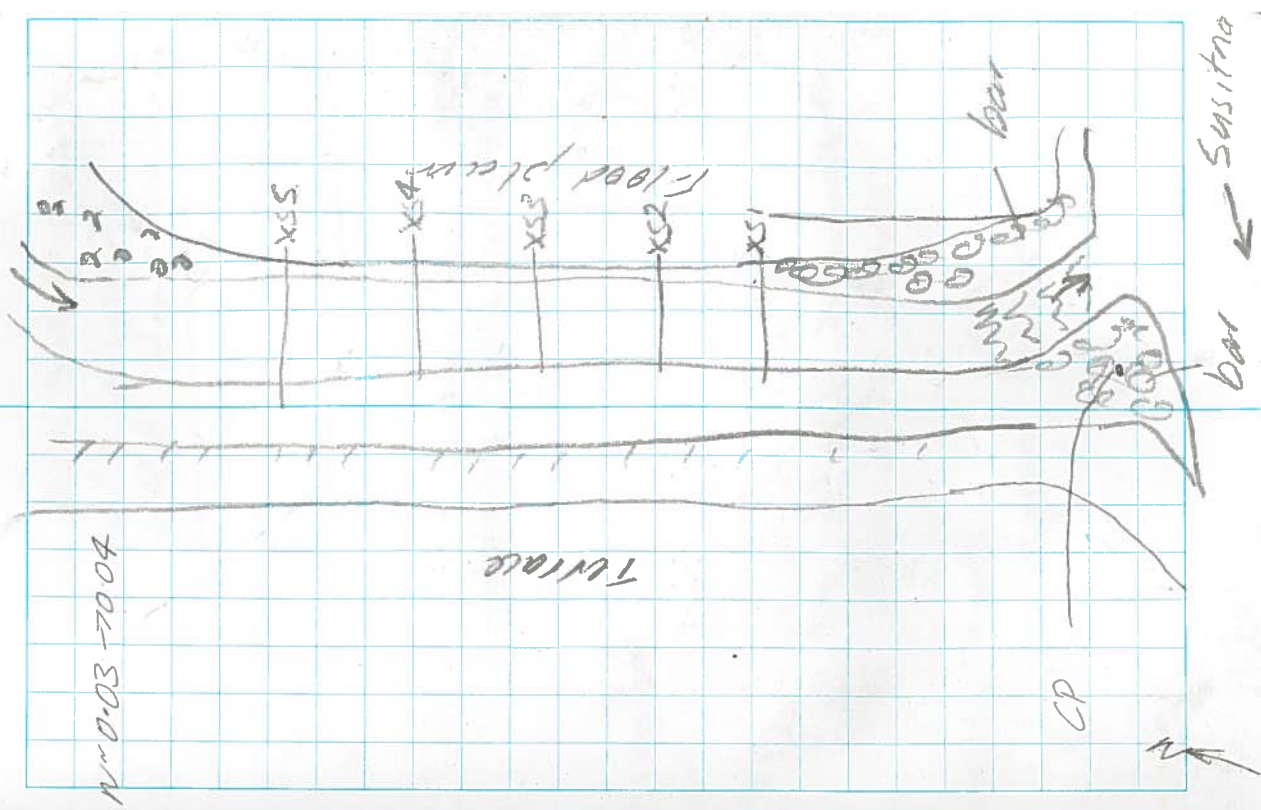
Temp ~ 55°F

Stream located along

TAB at PPM. 127.3

Lat N 62° 39' 23"

Long W 149° 57' 45"



Representative XS.



- plane bed channel.

evidence of large flood event (2012?) possibly across flow

- large flood deposits - boulders up to 4' up of reach

- study reach ~~reasonably~~ straight & reasonably uniform.

- ~~the~~ sediment in channel & bars mostly angular (flint) with few rounded rocks

- study reach should be out of backwater of Swinton.

- looked up/s for other reaches this one is uniform & best reach below!

- terrace along right side of channel eroded into at d/s end of reach

- ~~terrace~~ bars provide sediment source to reach.

- reasonably uniform slope thru reach. Stepped d/s of XS1. Survey trib profile

WPT 22. - confluence 5<sup>th</sup> July  
 - Sasitna R.  
 P 267.

P 268 - gravel bar @ mouth of  
 5<sup>th</sup> July.

Control point in center of  
 bar. "HDR CP-1" 5 July  
 - survey crew visible in  
 background

P 269 & up 5<sup>th</sup> July Creek from  
 mouth.

P 270 TRB 5 July Creek.  
 Lateral moraine? Taken from  
 HDR CP1

P 271 & ups at survey reach.  
 from WP 23.

P 272 & d/s at bar at mouth.  
 Subsurface sample collected  
 here. - from WP 23

WP 24 TRP XS 1

P 273 & ups from XS 1.  
 - Tapes at areas XS 2, 3, 4, 5.

P 274 & ups from XS 3. Bob  
 at LEW XS 5.

P 275 & d/s from XS 3.

P 276. & ups thru XS 5. Note  
 Stepped channel section ups  
 of XS 5, large boulders on  
 left > right sides of channel.  
 left side transported from  
 right side probably from  
 slope failure.

P 277 & d/s from XS 5

P 278/WP 25 Panorama & d/s  
 at v. large transported boulders

b-axs 1.1m, 0.8, 0.65, 0.6, 1.2



XS Dist.

1 -  
2 33.5  
3 40.8  
4 22.9  
5 45.6

P279 - \$ across XS 1 from TRB

Note: Tied survey into  
HDR CP-1 control

P280 - undisturbed surface  
at sampling location

Pebble count #1 conducted  
at ~~the~~ in channel towards  
right side from XS 2 → XS 5

~~at~~ PC #2. In channel along  
left side

PC #3. along bar on TRB  
XS 2 → XS 5

sample  
~~hole~~

P281 Subsurface

hole

WF → ~ 3' from HDR CP

- no pebble counts conducted  
at subsurface sample

- conducted on fan

- fan formed from 2012  
flood

- no armour layer on  
fan

- looked for HWM along  
channel, none found

P282 → 284 Dead Horse Cr.

- large fan
- .150' b/l/piped & see line
- creek - seeps 10' wide
- channel 150' across
- no reasonable area for X5 survey
- u/s side of Giny TLB
- mostly cobbles → Boulders
- affected by flood
- can get bed sample

6-24-14

Seive sample at Ppm 1478  
 P302 - check tarbed site  
 on arrival.

W: DT, MP, RV, RT.

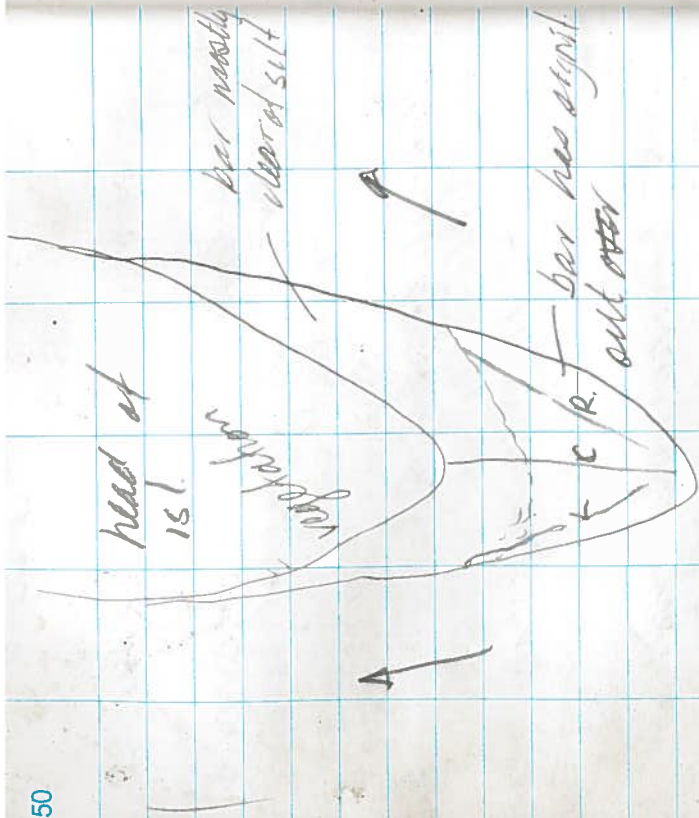
Went W: overcast ~ 50°F  
 light wind  
 rain developing

- Att sampling conducted  
 at head of tailrace
- head has all deposits on  
 it that appear similar  
 to those which form ice

- WPT 26 - landed prot.

P303 - Bed material at 50'  
 - WTL out on bar

P304 \$ d/s along center  
 transect



P305 - Example of out over  
bar surface.

P306 & ups from pit.  
- straight channel ups

P307 - Excavated hole

P308 - Photo of site before  
leaving.

P309 - hole filled in.

12:30 PM 6-24-14

Subsurface sample at  
P200 147.2

WP 27 - larked boat on  
right side of 151

P313 & ups along undisturbed  
site.

P314 Surface material at  
sp' mark on center  
transect.

WP 28 - Subsurface loc<sup>n</sup>

GPS - trimble

N 3223063.06

E 1718849.1

P315 & d/s from head of bar  
 P316 & u/s  
 - ~~bar~~ bar ~ 400' long x 150' x 1'H  
 - patterns of boulders on  
 surface indicate ice rafted  
 material at head of isl.  
 (in particular)

P317 - Excavated hole

P318 - Hole filled in site  
 before leaving.

PRM 152.9 - bank observation  
 - TRP found in good cond.

6-25-14 Unit 173.8R  
 crew Da. Thomas  
 Renee Vandermine  
 Bob Troney  
 Mason Perry

P 403.

& u/s at undisturbed

site

389

P 395

Devil's Cr.

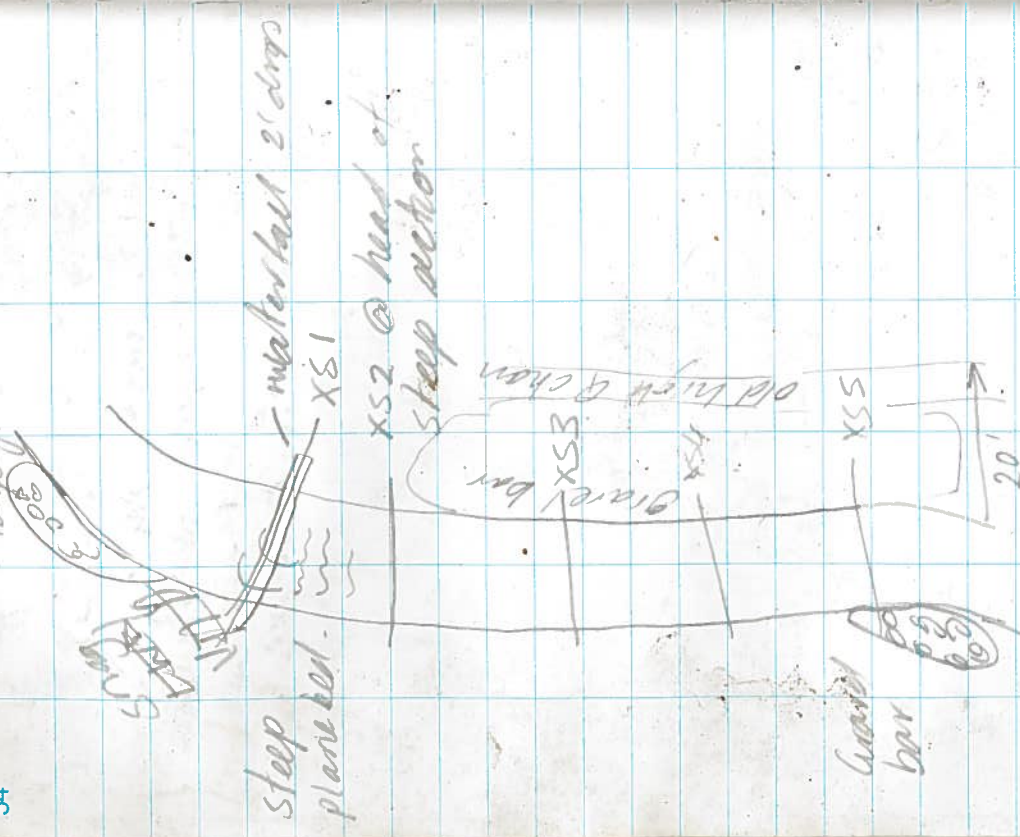
P 395

An known named Cr

P 379

Chimney Cr

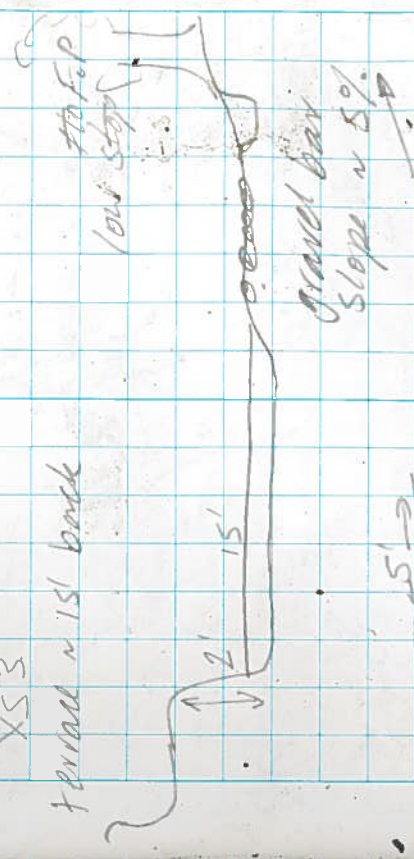
large gravel bar



XS3 "XS 4 in straight action, likely best representative actions XS5 - has small gravel bar along left side"

- wash strip
- influence of recent large flood.

XS3  
ferrad ~ 15' back



high Q channel

~~XS1~~  
 P404 & u/s from XS1  
 405 & u/s from XS2 (mason  
 @ XS4)  
 P406 & d/s from XS2  
 XS1 at water fall

XS1 at 2' drop, critical  
 depth, good hydraulic control

P407 & d/s @ XS1 Note  
 concrete beam on T&B  
 P408 & d/s from XS5

P409 & bed material @ XS5

WP29 TRP XS1  
 WP30 TLP XS1

XS distance

0  
 1 0  
 2 27.2  
 3 30.9  
 4 34.4  
 5 28.6

WP30 TRP XS5

Pebble count 1 > 2

conducted in channel  
 b/w XS3 & 5

PC1 Right center of channel

PC2 ~4' from LEW

PC1 in faster water >  
 more coarse than PC2

PC3 Random walk sample  
 in small bar u/s of XS5

P40 LOC<sup>n</sup> of PCS  
 note angular material

P411 → 414 Trib Profile  
WPT 31 - CPI @ Trib.

33  
WPT 32 17434

Very steep channel.

- FLS code
- v. large boulders 1-2'
- NO tree fern, low
- seed empty to chan.
- NO Rabbittails, v. dull

P419 → 427

Chan ~ 20' wide

Q ~ 30 cfs.

Pl. along for along section  
on d/s side of creek  
- material derived from  
creek → from bank  
erosion up = d/s of creek

