

2019
Teton Stoneflies 2019
WYNDD-Tronstad 307-766-3115

Date: 28 July 2019

Time: Arrived: 12:00 Departed: 2 Collectors: AT, SH & TP

Stream: Delta Lake Inlet Location Description: Below Teton Glacier

Coordinates: N 43.73329 W - 110.77585 Datum: NAD83

Elevation: 9108 ft Site name on GPS: Delta Lake Inlet

Water quality (Recorded with a YSI Pro Plus Multprobe) Scott's

Parameter	Value	Units
Water temperature	2.8	°C
Barometric pressure	553.1	mmHg
DO	87.9	% saturation
DO	11.88	mg/L
Specific conductivity (SPC)	8.4	µS/cm
Conductivity	4.8	µS/cm
pH	—	
ORP	—	mV
Air temp	~70	°C

Last calibrated: 7/27 DO: 7/28

Photos taken: Site ☒ Temp Probe ☒

Weather: Sunny

Substrate type: Cobble

3 Surbers collected: ☒

Biofilm rank: Little Medium Green

Microbes collected: ☒

Fungi: ☒

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	2	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	3	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	9	Ripping stream but not too much evidence of scour
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	6	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	1	

Deployed Temp logger number: 20571725 Coordinates: UTM's: N Same as coordinates above W -

Retrieved Temp logger number: 20155969 / 10972590 Notes: Placed in right plunge pool when facing upstream

Description of logger location: Found 2 loggers from last 2 years

Temp logger photo number: Ricoh = Lush

Suspended Solids: 10 times 9 times!

Filter number	Delta 1	Delta 2	Delta 3
Volume filtered (mL)	60mL x 10	60mL x 9	60 x 8

0.03315 0.03308 0.03305

Nutrient samples collected: ☒

DOC collected: ☒

Chl a collected: ☒

Diatoms Algae collected: ☒

***Skipping 2019 stream profiles!**
Stream Profile: (left edge) *looking down stream* (right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts

e = embedded

mm = millimeter

31 _{mm}	48	76	145	75	68	46	87	101e	84
48 ^c	77	46e	57	165e	110	145e	61	36	105
69	102	90e	43	136	136	44	80	60e	62
75	60e	95	52	95e	122	120e	68	77	158
57	46	46	80	96	72e	32e	119	102	91e

Let's do 50 pebbles

3 Rock tracings (chlorophyll a):

Delta 1:



Delta 2:



Delta 3:



Notes:

looks normal

Date: 29 July 19

Time: Arrived: 12:15 PM Departed: 2:30 Collectors: SH/TP/LT/OF

Stream: Wind Cave Location Description: Darby Canyon

Coordinates: N 43.66573 W - 110.95596 Datum: NAD83

Elevation: 8861 ft Site name on GPS: Wind Cave

Water quality (Recorded with a YSI Pro Plus Multiprobe) Deb's

Parameter	Value	Units
Water temperature	<u>2.8</u>	°C
Barometric pressure	<u>558.6</u>	mmHg
DO	<u>106.</u>	% saturation
DO	<u>10.5</u>	mg/L
Specific conductivity (SPC)	<u>149</u>	µS/cm
Conductivity	<u>86</u>	µS/cm
pH	<u>8.35</u>	
ORP	<u>—</u>	mV
Air temp	<u>15.5</u>	°C

Last calibrated: 7/29 DO: 7/29

Photos taken: Site ☒ Temp Probe ☒

Weather: Partly cloudy; some rain; cool

Substrate type: Cobble / bedrock

3 Surbers collected: ☒ LT

Biofilm rank: Little Medium Green

Microbes collected: ☒ TP

Ergosterol ☒ TP

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>2</u>	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>2</u>	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>16</u>	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>4</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>1</u>	

Deployed Temp logger number: 20571720 Coordinates: UTM's: N Same W - Same

Retrieved Temp logger number: 20224665 Notes: —

Description of logger location: Same as past years; ~50 m downstream of a penit

Temp logger photo number: Swth his photo on phone

Suspended Solids: Collected by DF.

Filter number	<u>15 Wind 1</u>	<u>16 Wind 2</u>	<u>17 Wind 3</u>
Volume filtered (mL)	<u>750</u>	<u>700</u>	<u>750</u>

filter mass (g) 0.03368 0.0350 0.0350
(used Deb's filter) →

Nutrient samples collected: ☒ LT

DOC collected: ☒ LT

Chl a collected: ☒ LT

Algae collected: ☒ LT

Stream Profile: (left edge)

looking down stream

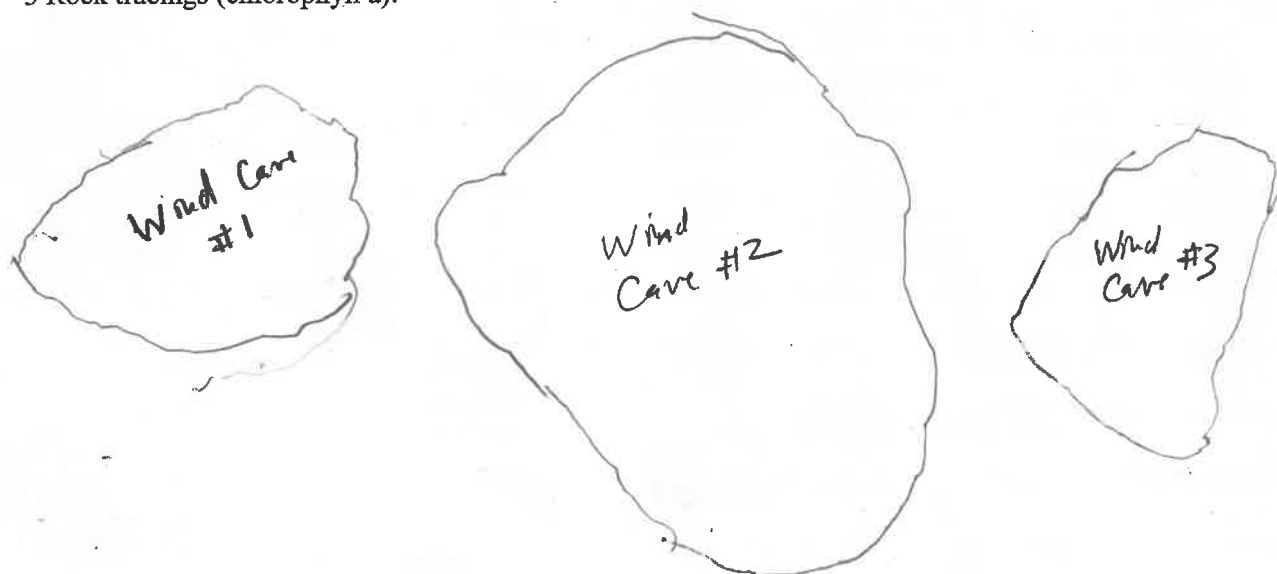
(right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts (^{in mm}) - measured by DF; B = bedrock; © = embedded

75	250	47	51	68	B	B	120	73	40
360 ©	147	120 ©	18	45	114	B	150 ©	B	62
28	160	135	85	99	230 ©	340 ©	38	20	40
90	32	25	92	270	160	B	220	50	105
B	170 ©	3	3	88	270 ©	57	122	64	B
B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	80
62	70	280 ©	146	52 ©	72	74	90	24	35
29	20	378	115	57	138	85	74	34	315
170	175 ©	230 ©	50	175	95	160	88	65	105

3 Rock tracings (chlorophyll a):



Notes:

Date: 30 July 2019

Time: Arrived: 5pm Departed: 6:20 Collectors: LT + SH

Stream: Grizzly Stream Location Description: Below Paintbrush divide

Coordinates: N 43.79763 W - 110.80713 Datum: NAD83

Elevation: 9611 ft Site name on GPS: Grizzly

Water quality (Recorded with a YSI Pro Plus Multprobe) Scott's

Parameter	Value	Units
Water temperature	<u>8.7</u>	°C
Barometric pressure	<u>536.4</u>	mmHg
DO	<u>81.0</u>	% saturation
DO	<u>9.33</u>	mg/L
Specific conductivity (SPC)	<u>12.0</u>	µS/cm
Conductivity	<u>8.3</u>	µS/cm
pH	<u>—</u>	
ORP	<u>—</u>	mV
Air temp	<u>~ 65</u>	°C

Last calibrated: 7/27 DO: 7/30

Photos taken: Site ☒ Temp Probe ☐

Weather: Sunny, breezy

Substrate type: cobble, gravel

3 Surbers collected: ☒ LT

Biofilm rank: Little Medium Green

Microbes collected: ☒ SH

Ergosterol: ☒ SH

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>2</u>	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>4</u>	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>12</u>	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>2</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>3</u>	

Deployed Temp logger number: 20571722 Coordinates: UTM's: N — W - —

Retrieved Temp logger number: 20174692 Notes: —

Description of logger location: Just upstream from where stream flows over edge

Temp logger photo number: —

Suspended Solids: Aisha's ashed filters

Filter number	<u>Grizzly 1</u>	<u>2</u>	<u>3</u>
Volume filtered (mL)	<u>600</u>	<u>600</u>	<u>600</u>

filter mass (g) average .03441 average

Nutrient samples collected: ☒ LT

DOC collected: ☒ LT

Chl a collected: ☒ LT/SH

Algae collected: ☒ LT

Date: 7/30/19

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)				gap in	2019				
Depth (cm)									

Pebble Counts

e = embedded (mm)

74	38	31	28 ^e	10	35	58	28 ^e	22 ^e	56 ^e
25	116 ^e	70	36	49	280 ^e	64	42 ^e	82 ^e	130 ^e
42	43	35	66	135	370 ^e	65 ^e	55	150 ^e	60
55	90 ^e	88	125 ^e	45	43 ^e	59	85 ^e	28	28
43	160	15	99	32	56	58	300 ^e	45	27

3 Rock tracings (chlorophyll a):



more snow in snowfield above site than in previous years. Rained a little on way to site. Cobbles usually embedded

Notes:

Placed bryans at Technica Pond (10767834) + Grizzly (10767841)
Threed @ 1:45 pm - 30 July 19 @ 12:30 pm 30 July 19

2019
Teton Stoneflies 2018
WYND-Donstad 307-766-3115

Date: 31 July 2019

Time: Arrived: 8:30 am Departed: 10:00 am Collectors: JT + SH

Stream: Paintbrush RG Location Description: South of Holly Lake, Paintbrush Canyon

Coordinates: N 43.78530 W - 110.79335 Datum: NAD83

Elevation: 9152 ft Site name on GPS: Paintbrush RG byge

Water quality (Recorded with a YSI Pro Plus Multitprobe) SH probe

Parameter	Value	Units
Water temperature	3.4	°C
Barometric pressure	549.0	mmHg
DO	74.4	% saturation
DO	9.84	mg/L
Specific conductivity (SPC)	30.4	µS/cm
Conductivity	17.9	µS/cm
pH	—	
ORP	—	mV
Air temp	~60° (?)	± °F

Last calibrated: 7/27 DO: 7/31

Photos taken: Site ☒ Temp Probe ☐

Weather: Mostly sunny

Substrate type: Cobble boulders

3 Surbers collected: ☒ SH ☒ LT

Biofilm rank: Little ☒ Medium ☐ Green

Microbes collected: ☒ SH

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	1	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	2	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	12	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	4	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	2	Moss on margins & on most cobble

Deployed Temp logger number: 20475520 Coordinates: UTM: N 43.78530 W - 110.79335

Retrieved Temp logger number: 20153864 Notes: Missing end cap

Description of logger location: In small pool

Temp logger photo number: Rich, Lusha's

Suspended Solids: Lusha asked filters

Filter number	Paintbrush 1	PB 2	PB 3
Volume filtered (mL)	600	600	600

filter mass mean →

Nutrient samples collected: ☒ LT

DOC collected: ☒ LT

Chl a collected: ☒ LT/SH

Algae collected: ☒ LT/SH

Date: 7/31/19

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)				not	in	2019			
Depth (cm)									

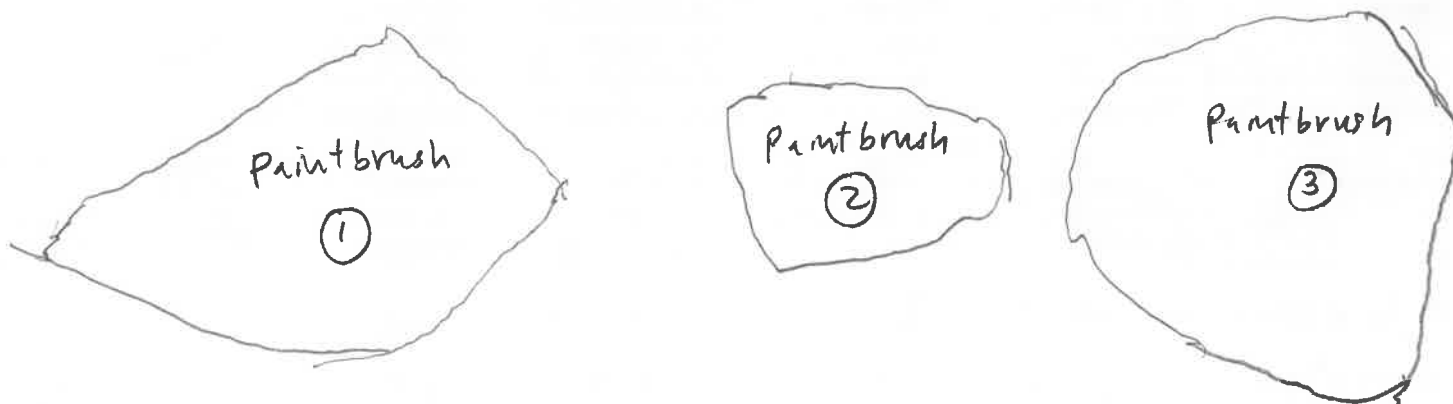
Pebble Counts

e = embedded

(mm)

65	125	45	85	95	45	26	75	150 ^e	75 ^e
80 ^e	85	52	120 ^e	40	30	35	60 ^e	50 ^e	75 ^e
15	35	1400 ^e	48 ^e	45 ^e	100 ^e	45 ^e	65 ^e	60	56 ^e
40	25	325 ^e	1040 ^e	16	8	25	50	90	125
370 ^e	30	47	33 ^e	50	210 ^e	30	42	40	520 ^e

3 Rock tracings (chlorophyll a):



Moss on most rocks scrubbed for Surbers. Didn't notice too many inverts. Little stuff accumulated on sester filter. Top rocks loose, but rocks underneath embedded

Notes:

Date: 1 Aug 2019

Time: Arrived: 11:30 Departed: 1:50 Collectors: AT + SH

Stream: Middle Teton Stream Location Description: Above Garnet Meadows

Coordinates: N 43.72129 W - 110.79476 Datum: NAD83

Elevation: 9435 ft Site name on GPS: Middle Teton

Water quality (Recorded with a YSI Pro Plus Multitprobe) 54 YSI

Parameter	Value	Units
Water temperature	4.0	°C
Barometric pressure	537.5	mmHg
DO	82.9	% saturation
DO	10.87	mg/L
Specific conductivity (SPC)	4.1	µS/cm
Conductivity	2.5	µS/cm
pH	—	
ORP	—	mV
Air temp	~65	°F

Last calibrated: 7/27 DO: 8/1
Photos taken: Site ☒ Temp Probe ☒
Weather: Sunny
Substrate type: Cobble, Boulder
3 Surbers collected: ☒ SH + LT
Biofilm rank: Little Medium Green
Microbes collected: ☒

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	2	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	4	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	21	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	6	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	B	very steep a little moss here + there

Deployed Temp logger number: 20571721 Coordinates: UTM's: N — W - —

Retrieved Temp logger number: 10972588 Notes: —

Description of logger location: Scott took new photos w/ phone - no change in location though.

Temp logger photo number: —

Suspended Solids: Asha's ashed filter

Filter number	MT 1	MT 2	MT 3
Volume filtered (mL)	600	600	600

Nutrient samples collected: ☒

DOC collected: ☒

Chl a collected: ☒

Algae collected: ☒

filter mass mean —————>

WYNDD-Tronstad 307-766-3115

Date:

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)	Not in 2019							
Depth (cm)								

Pebble Counts

Comm)

e = embedded

[illegible]

3 Rock tracings (chlorophyll a):



Notes:

Notes: 31° angle (measured w/ clinometer)

Scott estimate flow is $\sim 30\%$ more than previous years

Date: 1 Aug 2019

Time: Arrived: 2:00 pm Departed: 3:00 pm Collectors: JT + ST → Climber's Left

Stream: Claudveil Dome Creek Location Description: Above Garnet meadows

Coordinates: N 43.72560 W - 110.79600 Datum: NAD83

Elevation: ft Site name on GPS: Claudveil Dome Stream

Water quality (Recorded with a YSI Pro Plus Multiprobe) Site YSI

Parameter	Value	Units
Water temperature	<u>2.3</u>	°C
Barometric pressure	<u>542.7</u>	mmHg
DO	<u>96.7</u>	% saturation
DO	<u>13.13</u>	mg/L
Specific conductivity (SPC)	<u>6.7</u>	µS/cm
Conductivity	<u>3.9</u>	µS/cm
pH	<u>—</u>	
ORP	<u>—</u>	mV
Air temp	<u>~60</u>	°F

Last calibrated: 7/27 DO: 8/1
 Photos taken: Site ☒ Temp Probe ☒
 Weather: Partly Cloudy
 Substrate type: Boulders + Cobble
 3 Surbers collected: ☒ JT + ST
 Biofilm rank: Little Medium Green
 Microbes collected: NA

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>1</u>	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>4</u>	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>18</u>	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>6</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>3</u>	

Deployed Temp logger number: 20174692 Coordinates: UTM's: N W -

Retrieved Temp logger number: 20155967 Notes: (1 week)

Description of logger location: Next to large boulder in stream

Temp logger photo number:

Suspended Solids: Lush's ashed filters

Filter number	<u>Claudveil ①</u>	<u>Claudveil ②</u>	<u>Claudveil ③</u>
Volume filtered (mL)	<u>600</u>	<u>600</u>	<u>600</u>

mean filter weight

Nutrient samples collected:

DOC collected:

Chl a collected:

Algae collected:

looking down stream

(right edge)

[illegible]

Pebble Counts

A graph on a grid showing two intersecting lines. The grid has 10 vertical columns and 10 horizontal rows. The intersection point is at (5, 5). One line has a positive slope, passing through points such as (0, 0), (5, 5), and (10, 10). The other line has a negative slope, passing through points such as (0, 10), (5, 5), and (10, 0). Both lines appear to be straight.

3 Rock tracings (chlorophyll a):

Just a little section of the stream is out of the snow. The remainder is under snow. Thinking this is a surface glacier fed stream.

Lednia here! Observed by flipping rocks.
Found 10 in a few minutes

Notes:

Date: 30 July 2019

Time: Arrived: 4:30 pm Departed: 6:00 pm Collectors: Deb + Taylor

Stream: AK Basin icy seep (S) Location Description: "the original" - by AK Basin campsite

same @

Coordinates: N _____ W - _____ Datum: _____

Elevation: _____ ft Site name on GPS: _____

Water quality (Recorded with a YSI Pro Plus Multiprobe)

Parameter	Value	Units
Water temperature	<u>1.6</u>	°C
Barometric pressure	<u>541.7</u>	mmHg
DO	<u>99</u>	% saturation
DO	<u>9.9</u>	mg/L
Specific conductivity (SPC)	<u>192</u>	µS/cm
Conductivity	<u>106</u>	µS/cm
pH	<u>8.05</u>	
ORP	<u>n/a</u>	mV
Air temp	<u>(pleasant 60°F)</u>	°C

Last calibrated: 7/30 DO: 7/30

Photos taken: Site ☒ Temp Probe ☒

Weather: partly cloudy / scattered + stars

Substrate type: cobble / pebbles

3 Surbers collected: ☒ (Deb) *in et al right away*

Biofilm rank: Little ☒ Medium ☒ Green ☒

Microbes collected: ☒ (Taylor)

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>1</u>	<i>resampled to meet snow cover!</i>
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>3</u>	<i>~10m d/s of source</i>
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>6</u>	<i>Source</i>
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>2</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>2</u>	

Deployed Temp logger number: 20571724 Coordinates: UTM's: N _____ W - _____ *I assume this is logger 20571724 - I assume the retrieved logger was re-deployed.*

Retrieved Temp logger number: 2055863 Notes: _____

Description of logger location: 20571723 *This logger always back in same place - under a small "cave" ~4m from source*

Temp logger photo number: Deb took

Suspended Solids: *Deb's #5* 33 28 18

Filter number	<u>Alaskicy1</u>	<u>Alaskicy2</u>	<u>Alaskicy3</u>
Volume filtered (mL)	<u>750</u>	<u>750</u>	<u>750</u>

orig mass (Deb's)
39.9mg 39.6mg 39.7

DOC collected: ☒

Chl a collected: ☒

Algae collected: ☒

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts m m = mm meters e = embedded

25	35	81	64	57	109	115	40	87e	100
47	180	215e	57	87	49	50	81	145e	235
58	172e	48	27	220	42	47	37	120	120e
130	92	66	180e	45	100	40	42	75	165e
90	105	20	40	23	75	50	45	120e	70
30	180	55	51	22	36	60	84	16	83
158	400e	90	58	18	21	70	2	5	140
40	46	42	36	29	1	1	5	180e	32
7	42	120	65	60	320	200e	28	19	280e
6	40	130	45	33	43	200e	89	160e	65

3 Rock tracings (chlorophyll a)

*Note: Snow pack at the mouth of this rock glacier and is not normally what we see.
melting into stream!

Chl a tracings
are on extra
sheet!

Taylor was doing these

for her 1st time, and we also

forgot to # the sent vials. However: the rep w/
lowest volume is #3 is

Notes:

Date: 30 July 2019

*(extra sheet used for
 chl a tracings)
 (right edge)*

Stream Profile: (left edge)

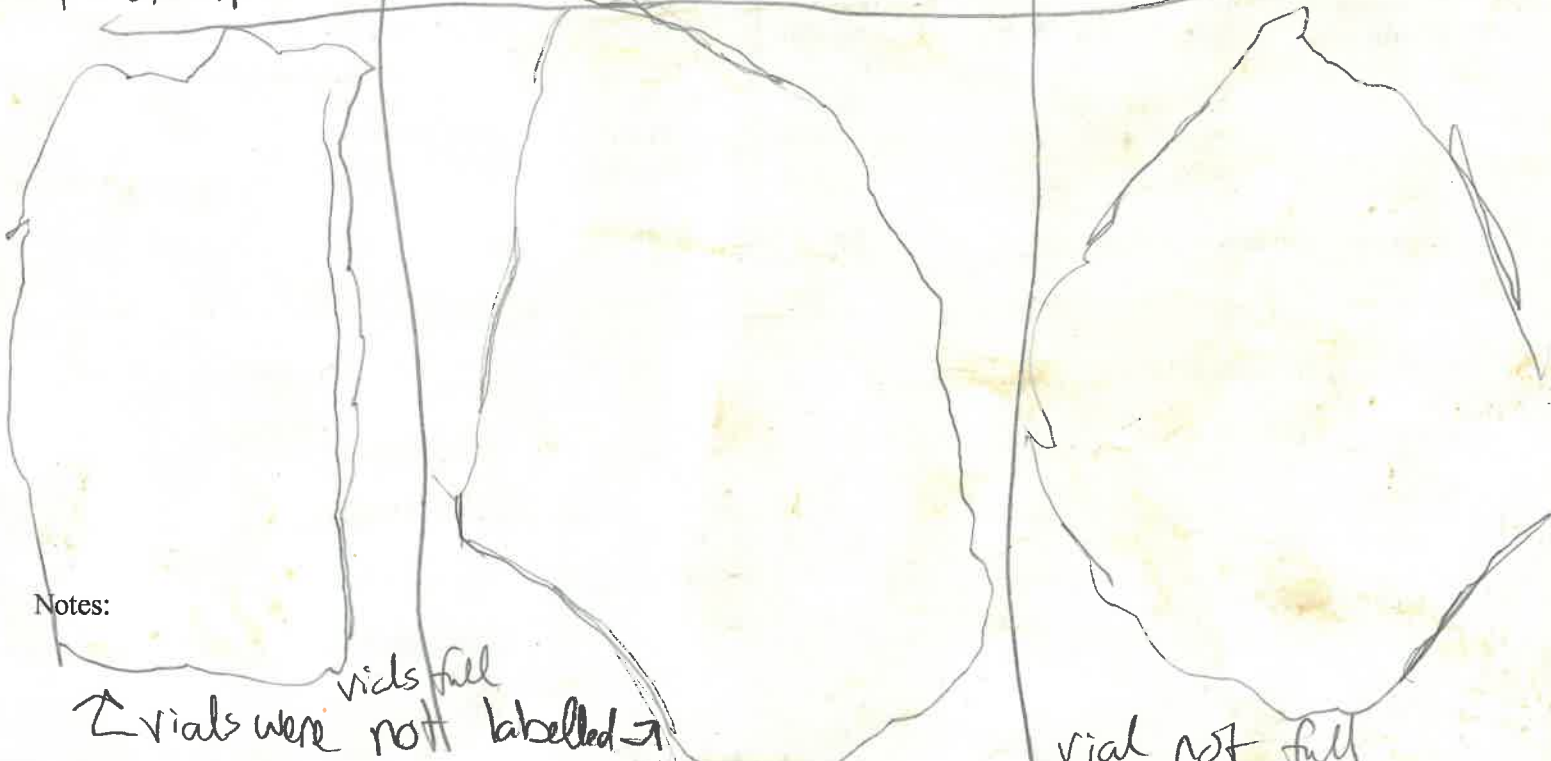
looking down stream

Distance (cm)									
Depth (cm)									

Pebble Counts

3 Rock tracings (chlorophyll a):

These are for Alaska Barn icg seep ★★
 Rock #1 Rock #2 Rock #3



Teton Stoneflies ²⁰¹⁹~~2018~~
WYNDD-Tronstad 307-766-3115

Date: _____

Time: Arrived: _____ Departed: _____ Collectors: _____

Stream: AK Basin icy seep (p. 2) Location Description: _____

Coordinates: N _____ W - _____ Datum: _____

Elevation: _____ ft Site name on GPS: _____

Water quality (Recorded with a YSI Pro Plus Multitprobe)

Parameter	Value	Units
Water temperature		°C
Barometric pressure		mmHg
DO		% saturation
DO		mg/L
Specific conductivity (SPC)		µS/cm
Conductivity		µS/cm
pH		
ORP		mV
Air temp		°C

Last calibrated: _____ DO: _____

Photos taken: Site _____ Temp Probe _____

Weather: _____

Substrate type: _____

3 Surbers collected: _____

Biofilm rank: Little Medium Green

Microbes collected: _____

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)		
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)		
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)		
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)		
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)		

Deployed Temp logger number: _____ Coordinates: UTM's: N _____ W - _____

Retrieved Temp logger number: _____ Notes: _____

Description of logger location: _____

Temp logger photo number: _____

Nutrient samples collected: _____

Suspended Solids:

Filter number			
Volume filtered (mL)			

DOC collected: _____

Chl a collected: _____

Algae collected: _____

rock
+ rocks
only! →

Date: 31 July 2019

Time: Arrived: 11:00 am Departed: 12:20 pm Collectors: Taylor + Deb

Stream: S. Cascade icy seep Location Description: This year, only exposed section is very near the source

Coordinates: N _____ W - _____ Datum: _____ ~35m stream length

Elevation: _____ ft Site name on GPS: S. Cascade

Water quality (Recorded with a YSI Pro Plus Multprobe)

Parameter	Value	Units
Water temperature	<u>0.0</u>	°C
Barometric pressure	<u>526.2</u>	mmHg
DO	<u>100</u>	% saturation
DO	<u>10.1</u>	mg/L
Specific conductivity (SPC)	<u>81.1</u>	µS/cm
Conductivity	<u>42.4</u>	µS/cm
pH	<u>8.85</u>	
ORP		mV
Air temp	<u>pleasant i</u>	°C

Last calibrated: 7/30 DO: 9/31
Photos taken: Site ☒ Temp Probe n/a
Weather: Sunny, then cloudy - we rushed out!
Substrate type: cobble / pebble
3 Surbers collected: ☒
Biofilm rank: Little Medium Green
Microbes collected: ☒ (Taylor)

NOT close enough to get that old logger tho!

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>1</u>	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>4</u>	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>12</u>	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>4</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>4</u>	

Deployed Temp logger number: ⊛ we did not place another logger, b/c there are 2 already out here Coordinates: UTMs: N _____ one is @ source and other ~100 m d/s near the

Retrieved Temp logger number: _____ Notes: 2015 sample site. Both currently buried in snow. Fingers crossed for next yr!

Description of logger location: _____

Temp logger photo number: _____

Suspended Solids: Deb's #5:

Filter number	<u>19</u>	<u>29</u>	<u>27</u>
Volume filtered (mL)	<u>750</u>	<u>750</u>	<u>750</u>

34.9mg

35.1

35.0

Nutrient samples collected: _____
DOC collected: _____
Chl a collected: _____
Algae collected: _____

extra filter for 90% filter H2O: Filter #1: 20
Vol. Filter: 75mL
Filter weight: 34.7mg

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts mm=millimeter e=emb-cled only did 50 b/c we had to rush to get back over the pass!

50	22	65	25	132	10	3	100e	105	24
40	110e	110e	165	16	76	65	70	42	120e
36	65	25	49	2	115	23	52	90	74
59	15	110e	52	110	79	130e	140e	90	230
95	35	19	75	20	157	53	52	140	40

3 Rock tracings (chlorophyll a):

Rock #1

Rock #2

Rock #3

Notes:

Debs Note: brightness overall seems more everywhere / late snowmelt peak Q?

Teton Stoneflies 2019
WYNDD-Tronstad 307-766-3115

Date: 31 July 2019

Time: Arrived: 3:30 pm Departed: 5:00

Collectors: Taylor + Deb

Stream: S. Fork Teton Creek

Location Description: (snowmelt stream) ^{IN} AK Basin

Coordinates: N (Same as past few years) W -

Datum:

Elevation: ft

Site name on GPS:

Water quality (Recorded with a YSI Pro Plus Multitprobe)

Parameter	Value	Units
Water temperature	10.7	°C
Barometric pressure	534.8	mmHg
DO	99	% saturation
DO	7.8	mg/L
Specific conductivity (SPC)	52.2	µS/cm
Conductivity	38.0	µS/cm
pH	7.71	
ORP		mV
Air temp		°C

Last calibrated: 7/30 DO: 7/31

Photos taken: Site ☒ Temp Probe ☒

Weather: Cloudy but calm

Substrate type: cobble / boulder

3 Surbers collected: ☒ Note: Surbers 1 & 2 each have 1 adult stonefly.

Biofilm rank: Little ☒ Medium ☒ Green ☒

Microbes collected: ☒ (Taylor)

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	2	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	4	See left side.
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	12	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	4	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	3	

Deployed Temp logger number: 20475519 Coordinates: UTM's: N W -

Retrieved Temp logger number: 20155865 *i → Somehow, we retrieved this then promptly lost it. Notes: We even hiked up the next morning to search for it.

Description of logger location: mid-reach, stream right, nice "hole" below water-fall coming off

Temp logger photo number:

Nutrient samples collected: ☒ a light-colored boulder

Suspended Solids: deb's #5 →

Filter number	21	31	34
Volume filtered (mL)	750	750	750

DOC collected: ☒

Chl a collected: ☒

Algae collected: ☒

35.0 mg 34.6 mg 34.8 mg

*Sorry! Boo hoo!

Date: 31 July

Stream Profile: (left edge)

looking down stream

(right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts

mm = millimeter e = embedded

370e	37	230e	43	68	112	130e	85e	290e	17
19	68	100	21	155e	63	70	87	60	113
230	220e	75e	180e	55e	360e	105	30	220e	59
40	18	2	1	350e	35	89	48	160	120
430e	Sand	69	80e	60	38	120	70	62	245e
140	55	7	42	9	130	300e	114	28	6
43	5	140e	30	23	90e	2	160	10	70
190	68	110e	132	24	96	140e	50	44	110
80	300e	18	43	33	30	24	42	67	120
70	150	95	88	56	140e	44	70	89	21

3 Rock tracings (chlorophyll a):

chl a ①

chl a ②

chl a ③

Notes:

Date: 2 Aug 2019

Time: Arrived: 10:00am Departed: 12:15 Collectors: AT, SH + TP

Stream: Skillet Glacier Stream Location Description: Along Bearpaw Bay, Jackson Lake

Coordinates: N 43.83952 W - 110.7565 Datum: NAD83

Elevation: 8914 ft

Site name on GPS: Skillet Glacier

Water quality (Recorded with a YSI Pro Plus Multprobe)

Parameter	Value	Units
Water temperature	<u>7.3</u>	°C
Barometric pressure	<u>555.5</u>	mmHg
DO	<u>79.9</u>	% saturation
DO	<u>9.63</u>	mg/L
Specific conductivity (SPC)	<u>5.2</u>	µS/cm
Conductivity	<u>3.4</u>	µS/cm
pH	<u>—</u>	
ORP	<u>—</u>	mV
Air temp	<u>~65</u>	°F

Last calibrated: 7/27 DO: 8/2

Photos taken: Site ☒ Temp Probe ☒

Weather: Sunny, foggy in am, rain at night

Substrate type: Boulders, cobbles

3 Surbers collected: ☒ AT + SH

Biofilm rank: Little Medium Green

Microbes collected: ☒

Lednia yes

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	<u>2</u>	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	<u>4</u>	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	<u>24</u>	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	<u>6</u>	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	<u>4</u>	

Deployed Temp logger number: 20475521 Coordinates: UTM's: N 43.83952 W - 110.75657

Retrieved Temp logger number: 20416499 Notes: Found!

Description of logger location: Next to boulder in stream, below a smaller one in pool

Temp logger photo number: previous ☒

Suspended Solids: Justina's ashed

Nutrient samples collected: ☒ 2x

Filter number	Skillet 1	Skillet 2	Skillet 3
Volume filtered (mL)	<u>600</u>	<u>600</u>	<u>600</u>

DOC collected: ☒ 1x

Chl a collected: ☒ 3x

Algae collected: ☒ 3x

Filter mass

mean —————>

Stream Profile: (left edge) *looking down stream* (right edge)

Distance (cm)									
Depth (cm)									

Pebble Counts (mm) e = embedded

150	29	19	305 ^e	500 ^e	95	68	31	23	20
85	9	63	1440 ^e	420 ^e	250 ^e	45	9	29	440 ^e
155	78	52	7 ^e	20	4	4	95	92	730
58	155	120 ^e	240	640	25 ^e	100	230 ^e	80 ^e	95
120	60	210 ^e	53	80 ^e	63 ^e	80	235 ^e	180	32

3 Rock tracings (chlorophyll a):



Notes: snowbank beside our site this year
Water might be higher (flow) than previous years
Perfect weather for sampling (2.5 hrs to hike here)

Teton Stoneflies 2018
WYNDD-Tronstad 307-766-3115

Date: 2 Aug 2019

Time: Arrived: 12:15 PM Departed: 2:45 PM Collectors: Deb

Stream: N. Fork Teton Creek Location Description: one of the original snow melt sites

Coordinates: N _____ W - _____ Datum: _____
Elevation: _____ ft Site name on GPS: _____

Water quality (Recorded with a YSI Pro Plus Multitprobe)

Parameter	Value	Units
Water temperature	3.0	°C
Barometric pressure	540.5	mmHg
DO	8.3	% saturation
DO	7.9	mg/L
Specific conductivity (SPC)	8.0	µS/cm
Conductivity	4.6	µS/cm
pH	6.52	
ORP	n/a	mV
Air temp	19	°C

Last calibrated: 7/31 DO: now

Photos taken: Site ☒ Temp Probe ☒

Weather: Sunny, calm, lots mosquitoes

Substrate type: mostly tightly consolidated boulders

3 Surbers collected: ☒

Biofilm rank: Little ☒ Medium

Microbes collected: ☒

Green ☒ Not Much!
Time to do a paper re: timing of snow cover...

Pfankuck Index

	Excellent	Good	Fair	Poor	Score	Notes
Angularity	Lots of edges (1)	Some edges, some round (2)	Rounded edges (3)	All round (4)	1	
Brightness (Dull = biofilm)	Most surfaces dull (1)	Mostly dull, <35% bright (2)	50/50 dull & bright (3)	Mostly bright, >65% (4)	3	
Scour	<5% evidence of scour (6)	5-30% of bed scoured (12)	30-50% of bed scoured (18)	>50% of bed scoured (24)	6	
Consolidation of substrate	Lots of sizes, tightly packed (2)	Moderately packed, some size overlap (4)	Mostly loose, not much overlap (6)	Totally loose, easily moved (8)	2	
Aquatic Veg	Abundant veg, moss in swift water (1)	Common veg or algae, lots in pools (2)	Spotty, in backwater or seasonal algae (3)	Perennial types, very scarce or absent (4)	2	

Deployed Temp logger number: 20571726 Coordinates: UTM: N _____ W - _____ (same place - little eddy dls of big boulder)

Retrieved Temp logger number: 20224649 Notes: looking solid! reused all orig gear.

Description of logger location: _____

Temp logger photo number: _____

Suspended Solids: deb's #5 ☒ Lushaj ☒

Filter number	22	23	"NFT3"
Volume filtered (mL)	750	750	750

orig mass: 34.6mg 34.9mg (unweighed bacteria)
(w/o burning!)

Nutrient samples collected: ☒

DOC collected: ☒

Chl a collected: ☒

Algae collected: ☒

Note: "Dull" can also be deposited from or CPOM!

Date: 2 Aug 2019

Stream Profile: (left edge)

looking down stream

(right edge)

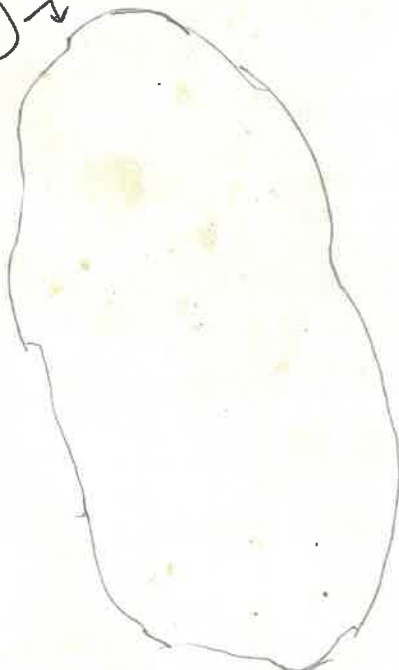
Distance (cm)									
Depth (cm)									

Pebble Counts (mm) Basis e=embedded

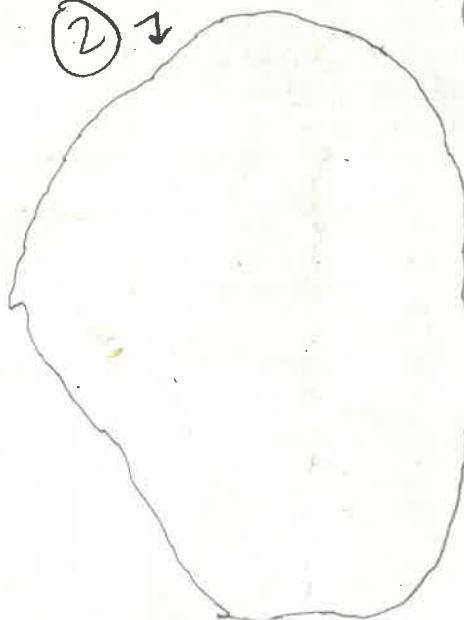
120	200	50	190e	310e	142	62	210	87	52
340e	15	188	92e	330e	76	123	88e	220	78
75	230	112	81e	110e	200e	97	140e	125e	230e
110	23	106	46	80	47	silt	49	73	190e
130	30	300e	17	18	29	250e	110	100e	270e
400e	72	90e	silt	silt	52	49	31	121	230e
56	49	silt	103	360e	140e	132e	140e	200e	silt
108	silt	95	114	78	430e	Sand	240e	270e	121

3 Rock tracings (chlorophyll a):

① →



② →



chl a

③ →



Notes: