

LOG BOOK 2



Rite in the Rain

ALL-WEATHER

FIELD

Nº 353-MX

TEAM 2

SURFACE SOIL SAMPLING

5/29/14

SUNNY, LIGHT WINDS
HIGH 70's TO HIGH 90's

0730- TEAM 2 ARRIVED ON SITE AND BEGAN LOCATING THE REPRESENTATIVE SAMPLE GRID FOR POLYGON 22.

POLYGON 22

BC-SS-00022

Soil Type: SANDY LOAM

Alluvium: OLD

Veg Cover: 10-25%

Veg Type: Greasewood, Salt Bush, light grass

Predominant Rock: Volcanic

Slope: slight

GPS Waypoint: SS22

30 aliquot sample, 0-6"

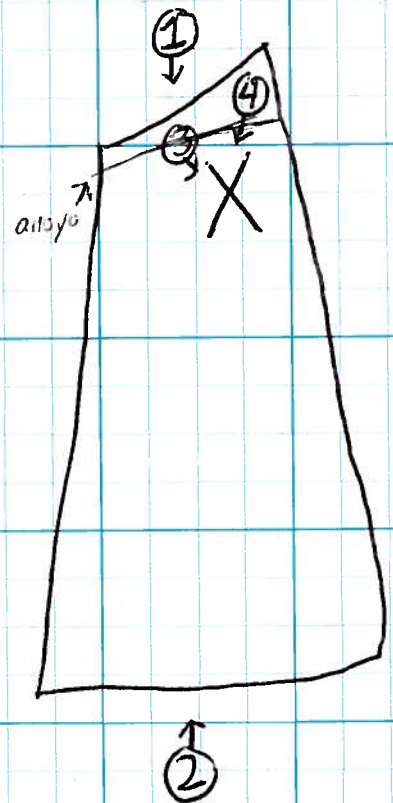


PHOTO LOG

- 01 North boundary, looking S
- 02 South boundary, looking N
- 03 view of sampling area, looking SE
- 04 view of sampling activity, looking S

Team 2 Surface Sampling

5-29-14

0910 arrive on site, locate position of sample grid SS25

BC-SS-00025

Soil Type: Sandy Loam

Alluvium: OLD on hillslope

Veg Cover: 10% - Creosote / Salt Bush / Light grass / cactus

Veg Type: (see above)

Predominant Rock: 85-90% Quartz Monzonite

Slope: moderate (west → east) wash at bottom

GPS Waypoint: SS25

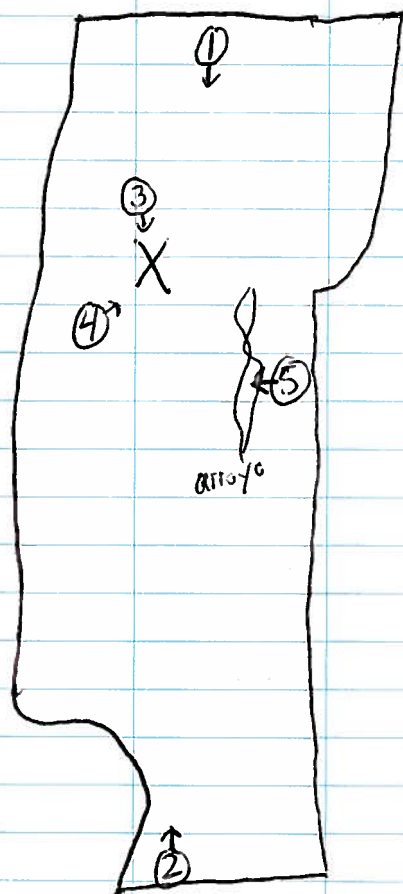


Photo Log

01 → North boundary, facing south

02 → South boundary, facing north

03 → Sampling photo

04 → view of sampling grid, facing NE

05 → view of arroyo, east & below sample grid, facing west

Team 2 - Surface Sampling
5-29-14

1000 Arrive onsite @ Polygon 18. Begin to locate sampling location

BC-SS-00018

Soil Type : sandy loam

Alluvium OLD

Veg Cover : less than 10%

Veg Type : creosote, salt brush

Underlayment Rock: Artificial fill with volcanic rock

Slope Moderate (~~west → east~~)^{SW} (east → west)

GPS Waypoint SS18

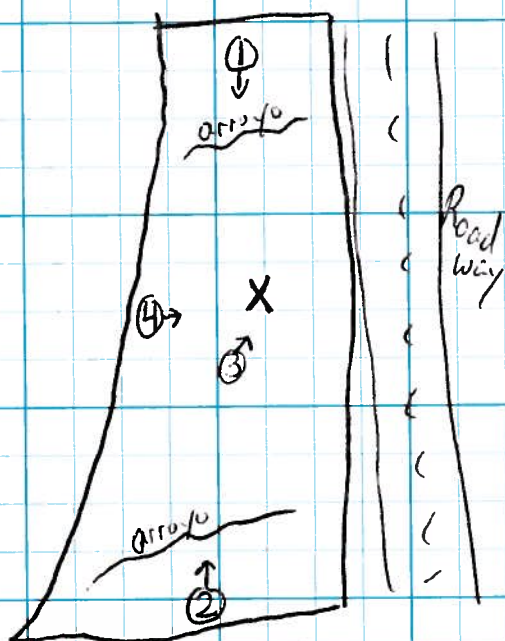


Photo Log

01 → N boundary, facing S

02 → S boundary, facing N (notice array in foreground)

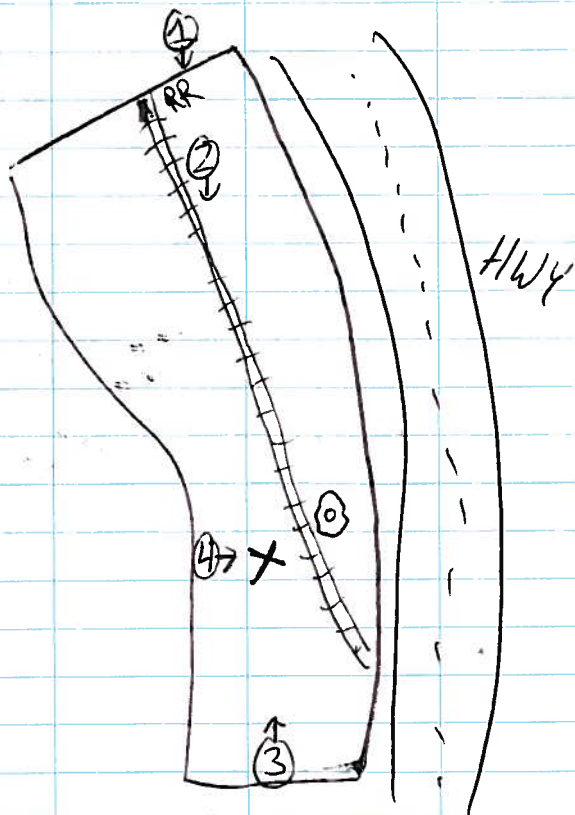
03 → view of sampling location, facing NE

04 → view of slope leading up to sample, facing W

Team 2 - Soil Sampling
5-29-14

1050 Arrive @ Polygon 14; locate location for SS14

BC-SS-00014	Soil Type	Sandy loam
	Alluvium	OLD, heavily altered due to HWY
	Veg Cover	10-15%
	Veg Type	Salt bush, creosote, WAM bush
	Predominant Rock	Artificial fill
	Slope	slight to moderate
	GPS Waypoint	SS14



② = location of Transite Pipe piece

Photo Log

- 01 N boundary, facing S
- 02 just south of N boundary, facing S
- 03 S boundary, facing N
- 04 view of sampling site, facing E

Team 2 - Soil Sampling
5-29-14

1335 Arrive at polygon 12; scope out sampling location

BC-SS-00012

Soil Type	sandy loam
Alluvium	OLO
Veg Cover	Creosote, Salt brush \rightarrow SH
Veg Type	10-15%
Predominant Rock	Artificial Fill
Slope	slight (East \rightarrow West)
GPS Waypoint	SS12

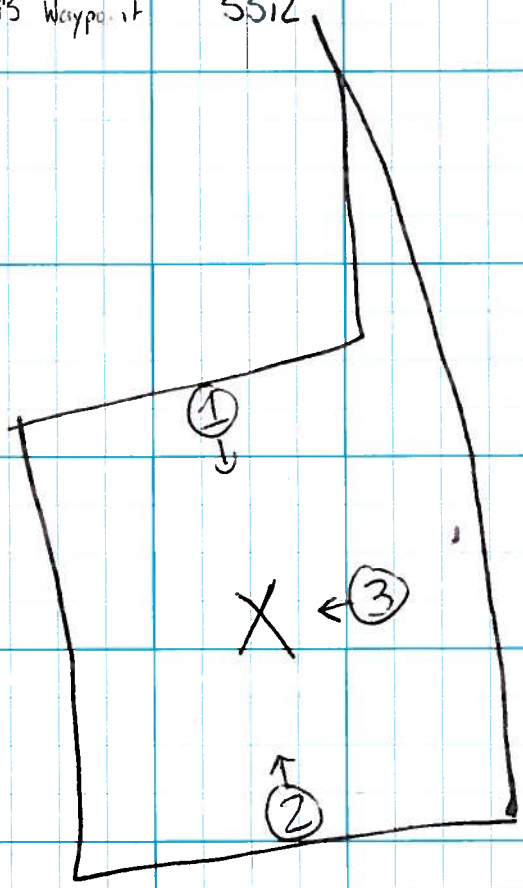


Photo Log

- 01 North boundary, looking S
- 02 South boundary, look N
- 03 view of sampling area, looking W

5-29-14

Team 2 - Soil Sampling

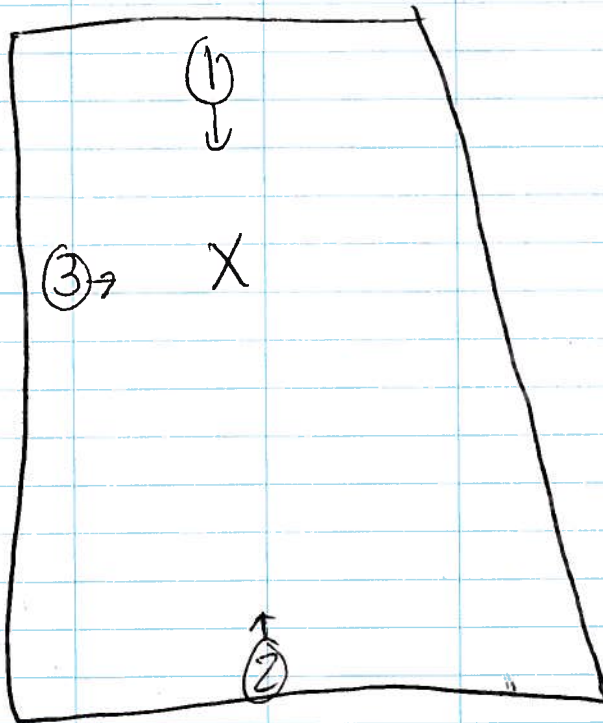
1410 Arrive @ polygon 10, scope out sampling area

BC-SS-00010

Soil Type	sandy loam
Alluvium	OLD
Veg cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	Artificial fill
Slope	slight - none
GPS Waypoint	SS10

Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling area, viewing West



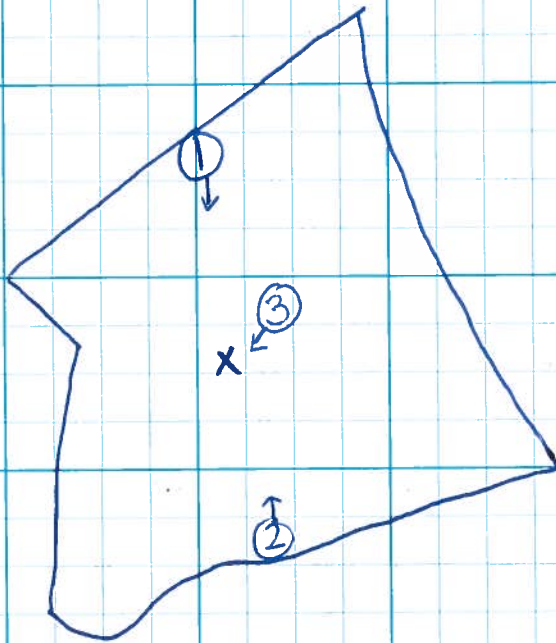
5/30/14 74°F, sunny, very low breeze

Team 2 - Soil Sampling

0640 Arrive onsite @ Polygon 09; locate area for sampling

BC-SS-00009

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	10-25%
Veg Type	salt bush, creosote
Predominant Rock	QaF, Qa
Slope	slight to none
GPS Waypoint	SS09

PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of site, facing SW

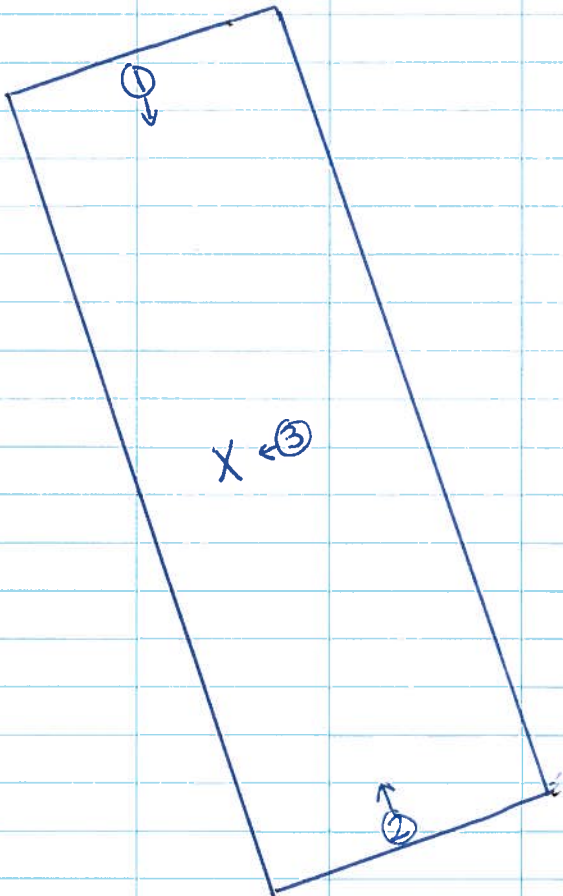
5/30/14 73°F, sunny, slight breeze

Team 2 - Soil Sampling

0715 Arrive at Polygon 05; locate area for sampling

BC-SS-00005

Soil Type	sandy loam
Alluvium	OLD
Veg. Cover	< 10%
Veg. Type	creosote, salt brush
Predominant Rock	Artificial fill
Slope	none to slight
GPS Waypoint	SS05

Photo Log

- 01 N boundary, looking SE
- 02 S boundary, looking NW
- 03 view of sample area, looking W

5-30-14 82°F, sunny, slight breeze

Team 2 - Soil Sampling

BC-SS-00002

0755

Arrive e Polygon 02; locate sampling area

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	Artificial Fill
Slope	none to slight
GPS Waypoint	SS02

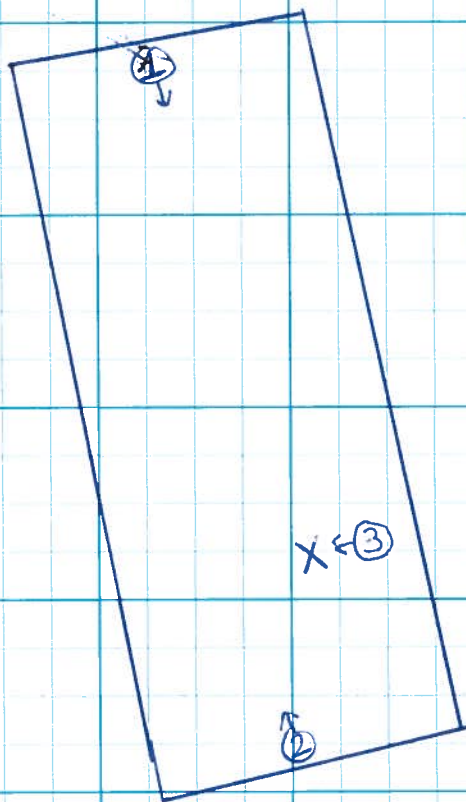


PHOTO LOG

- 01 N boundary, looking SE
- 02 S boundary, looking NW
- 03 view of sampling area, facing W

5-30-14 84°F, sunny, slight breeze

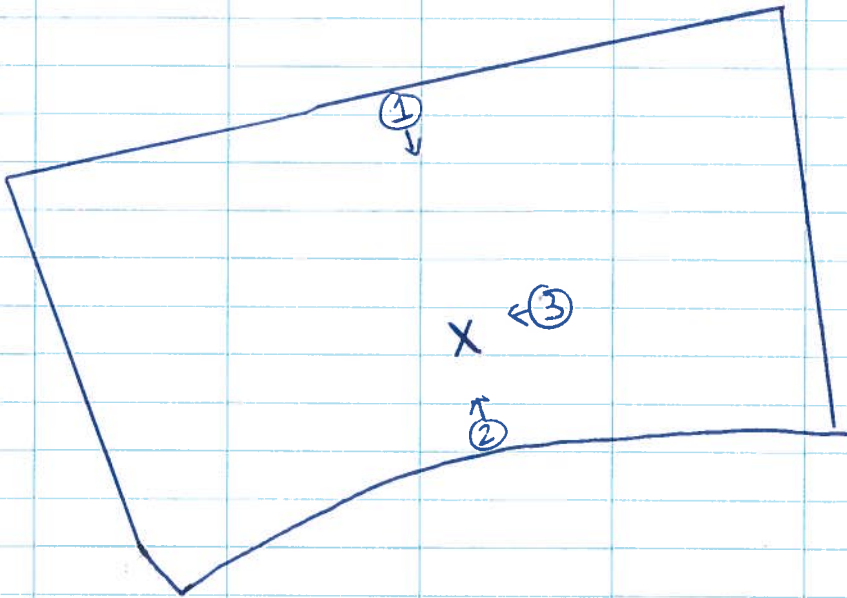
Team 2 - Soil Sampling

BC-SS-00003

0835

Arrive @ Polygon 03; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	10-25%
Veg Type	salt bush, creosote
Redominant Rock	artificial fill
Slope	none to slight
GPS Waypoint	SS03

Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling grid, looking W

5-30-14 86°F, sunny, slight breeze
 Team 2- Soil Sampling

0920 arrive onsite @ Polygon 26; locate area for sampling

BC-SS-00026

Soil Type sandy loam
 Alluvium OLD
 Veg Cover < 10%
 Veg Type salt grass, creosote, WAM bush
 Predominant Rock artificial fill
 Slope slight
 GPS Waypoint SS26

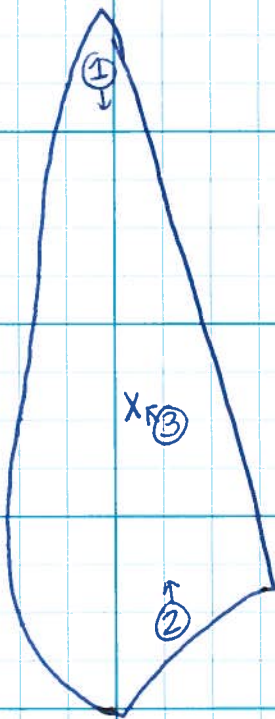


PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 View of sample grid, facing NW

5-30-14

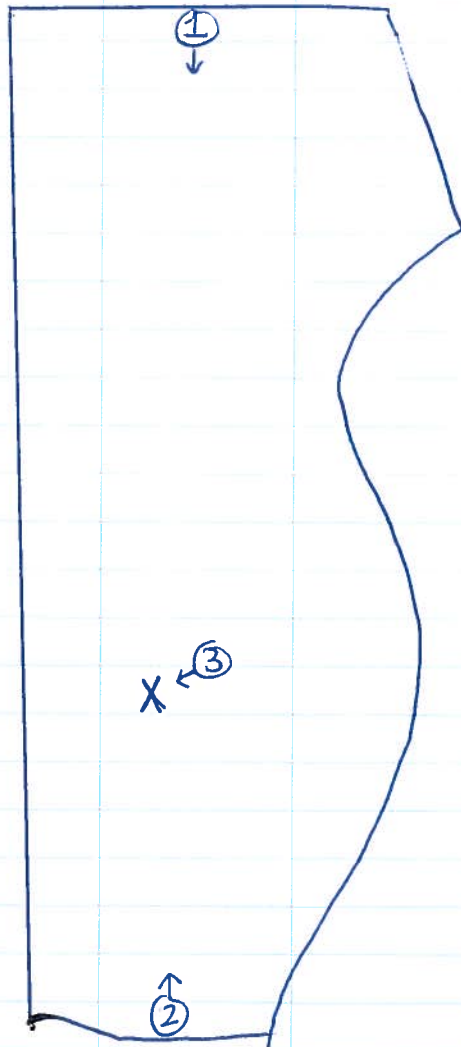
90°F, sunny, slight breeze

BC-SS-00029

0955

Arrive at polygon 29, find sampling grid location

Soil Type ~~sandy loam~~^{SH} loamy sand
 Alluvium ~~SH~~^{SH} NEW
 Veg Cover 10-25%
 Veg Type creosote, salt bush, WAM bush
 Predominant Rock ~~artificial pit~~^{SH} volcanic, some wash deposit
 Slope none to slight
 GPS Waypoint 3529



5-30-14 93°F, sunny, slight breeze

BC-SS-00028 1050 Arrive @ Polygon 28; find location for sampling grid

Soil Type sandy loam
 Alluvium OLD
 Veg Cover < 10%
 Veg Type salt bush, creosote, WAM bush
 Predominant Rock some volcanic, some artificial fill
 Slope slight to moderate
 GPS Waypoint SS28

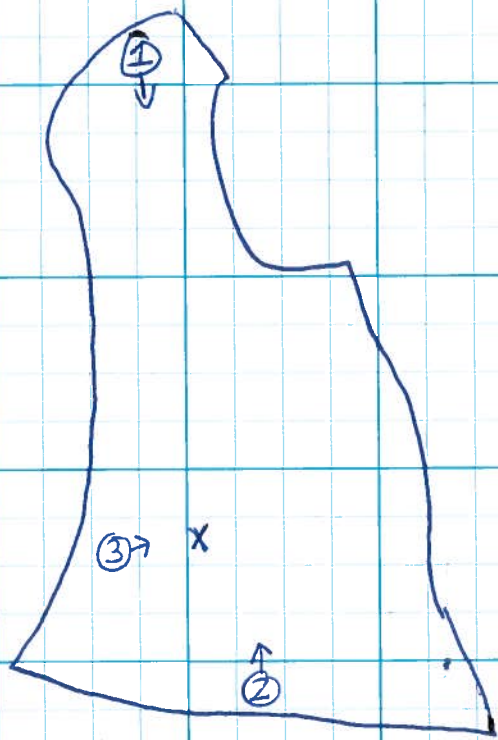


PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling grid, looking E

5-30-14 97°F, sunny, slight breeze
 Team 2 - Soil Sampling

BC-SS-00031 1305 Arrive @ Polygon 31; find sample location

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	10-25%
Veg Type	creosote, salt bush, grasses, WAM bush
Predominant Rock	Volcanic, quartz monzonite S1
Slope	moderate to steep
GPS Waypoint	SS31

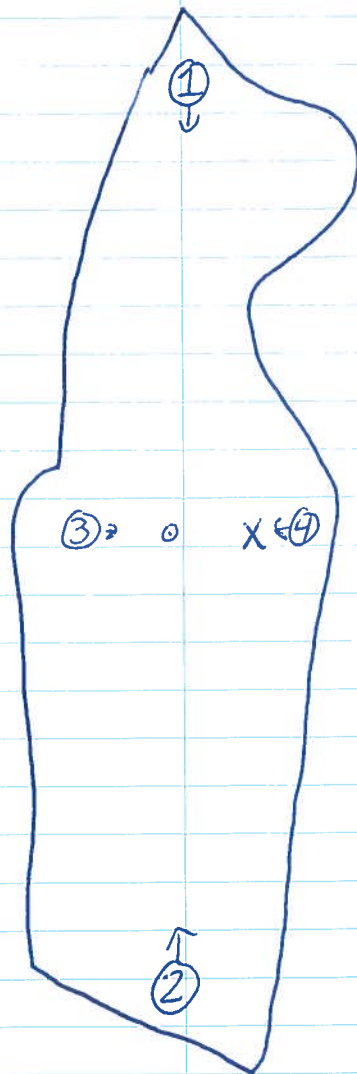


PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 top of knob, looking E
- 04 view of sampling location, looking W

5-30-14 99° F, sunny, breezy
 Team 2 - SS sampling

1350 Arrive at Polygon 30 + begin to locate area for sampling

BC-SS-00030

Soil Type	sandy loam
Alluvium	NEW
Veg cover	10-25%
Veg Type	salt brush, creosote, WAM bush, grasses
Predominant Rock	mixed volcanic + quartz monzonite
Slope	mild to moderate
GPS Waypoint	SS30

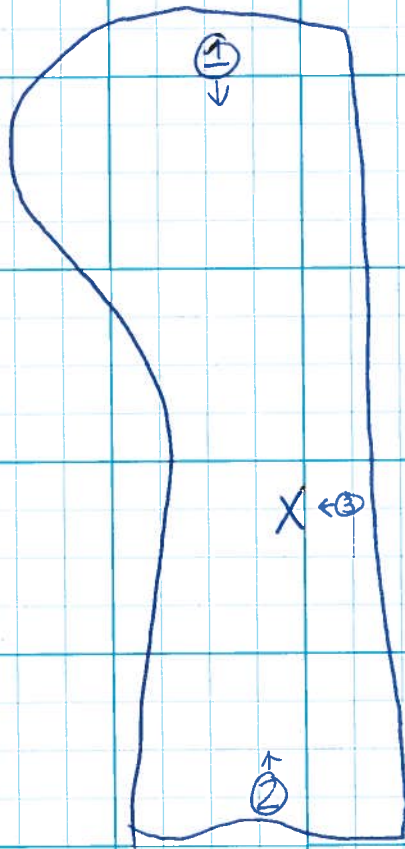


PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling location, looking W

5-31-14 70° F, sunny, calm

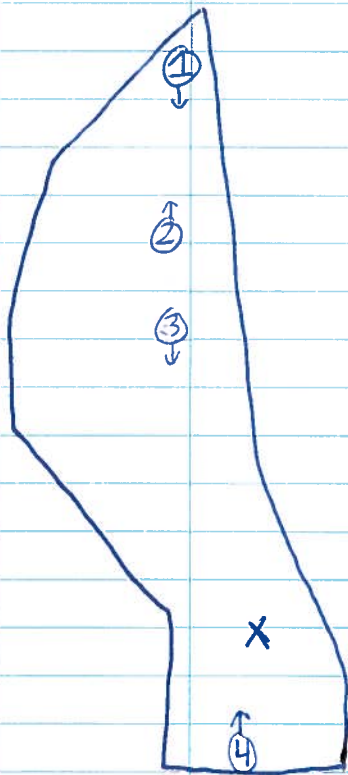
Team 2 - SS sampling

BC-SS-00032

0650

Arrive @ Polygon 32; identify sampling location

Soil Type	sandy loam
Alluvium	Old
Veg Cover	10-25%
Veg Type	salt bush, creosote, WAM bush
Predominant Rock	Volcanic
Slope	moderate to steep
GPS Waypoint	SS32

PHOTO LOG

- 01 N boundary, facing south
- 02 top of hill, facing N
- 03 top of hill, facing S
- 04 S boundary, facing N
- 05 view of sampling site, facing E

5-31-13
Team 2 - SS

79° F, sunny, calm
sampling

BC-SS-00027

0730 Arrive onsite @ Polygon 27, identify sampling grid location

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, grasses, creosote, WAM bush
Predominant Rock	
Slope	mild to moderate
GPS Waypoint	SS27

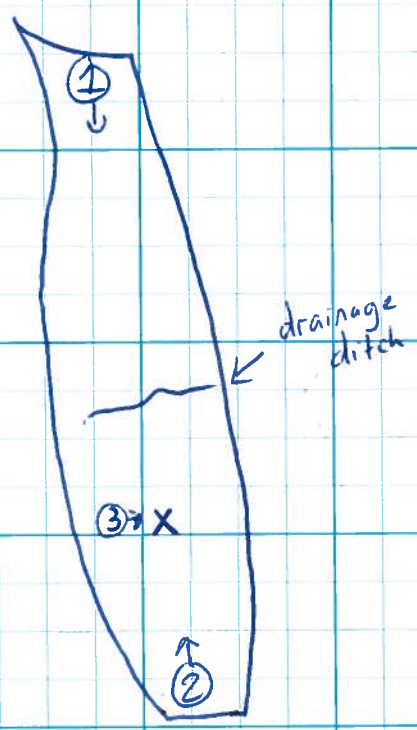


PHOTO LOG

- 01
- 02
- 03

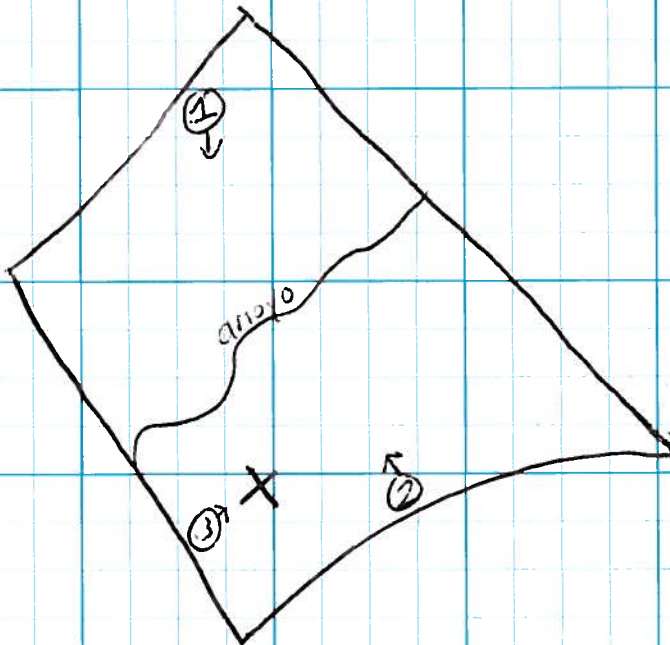
5-31-14 84° F, sunny, calm
 Team 2 - SS sampling

BC-SS-00058

0845

Arrive @ Polygon 58; locate area for sampling grid

Soil Type	Sandy loam
Veg Cover	< 10%
Veg Type	salt bush, creosote, WAM bush
Alluvium	OLD
Predominant Rock	QaF
Slope	mild
GPS Waypoint	SS58

PHOTO LOG

- 01 N boundary, facing S
- 02 S boundary, facing N
- 03 view of sample area, facing E

5-31-14 87°F, sunny, very slight breeze
 Team 2 - SS sampling

BC-SS-00057 0915 Arrive @ Polygon 57; locate area for sampling grid

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	10-25%
Veg Type	salt bush, creosote,
Predominant Rock	volcanic QaF
Slope	slight
GPS waypoint	SS57

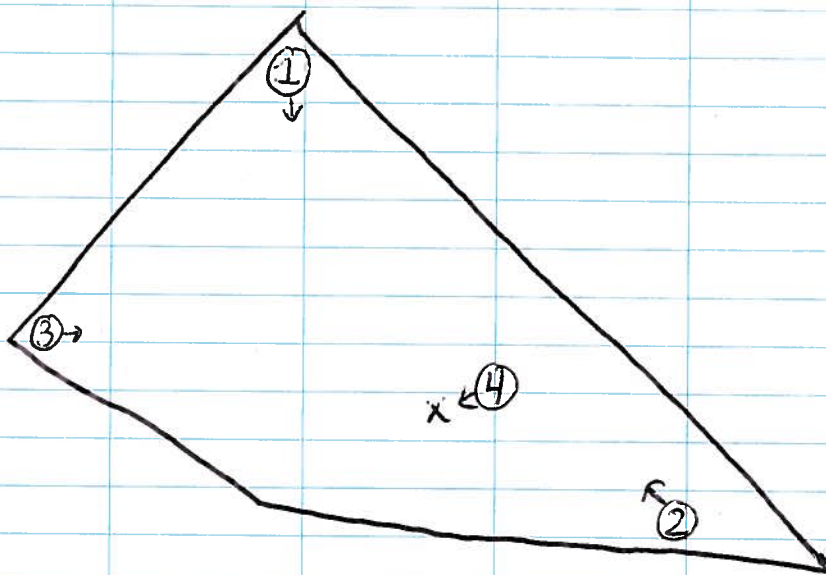


PHOTO LOG

- 01 N corner, looking S
- 02 SE corner, looking NW
- 03 W corner, looking E
- 04 view of sampling area, viewing W

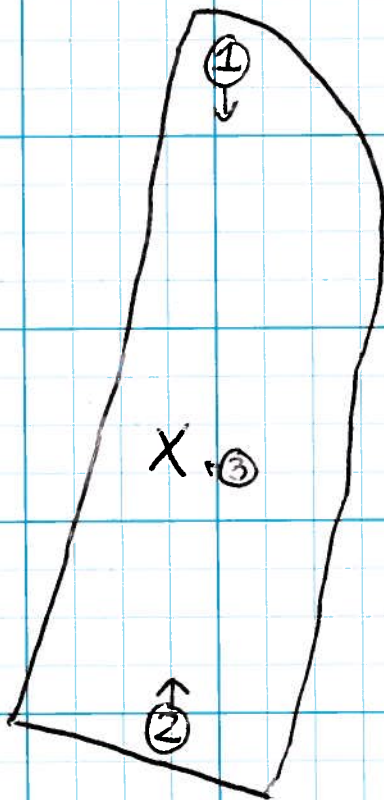
5-31-14

88° F, sunny, very slight breeze

BC-SS-00056

0950 Arrive @ Polygon 56; locate area for sampling grid

Soil Type	sandy loam
Alluvium	old 3M YOUNG
Veg Cover	10-25%
Veg Type	salt bush, creosote
Predominant Rock	wash material / QaF
Slope	none to slight
GPS Waypoint	SS56

PHOTO LOG

- 01 N boundary, facing S
- 02 S boundary, facing N
- 03 view of sampling site, facing W

6-2-14

75°F, sunny, calm

22 of 84

Team 2 - SS sampling

BC-SS-00044

0715

Arrive creek @ Polygon 44. Turn at ABS pump sample & locate area for sampling grid.

Soil Type	Gravelly/Sandy loam
Alluvium	OLD
Veg Cover	10-25%
Veg Type	salt bush, creosote, grasses, WAM bush
Predominant Rock	Qa
Slope	steep
GPS Waypoint	SS44

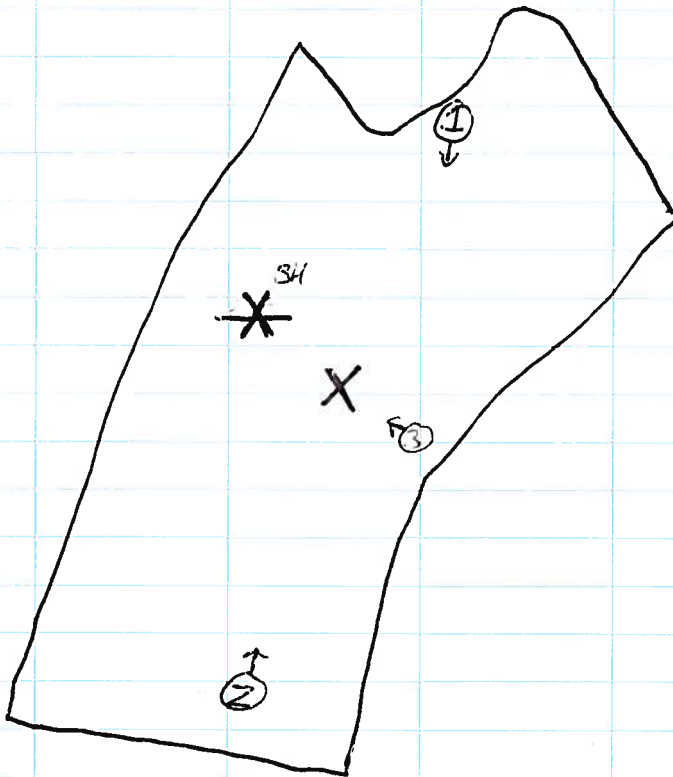


Photo Log

- 01 N boundary, facing S
- 02 S boundary, facing N
- 03 view of sampling site, facing W

6-2-14 82°F, sunny, calm

23 of 84

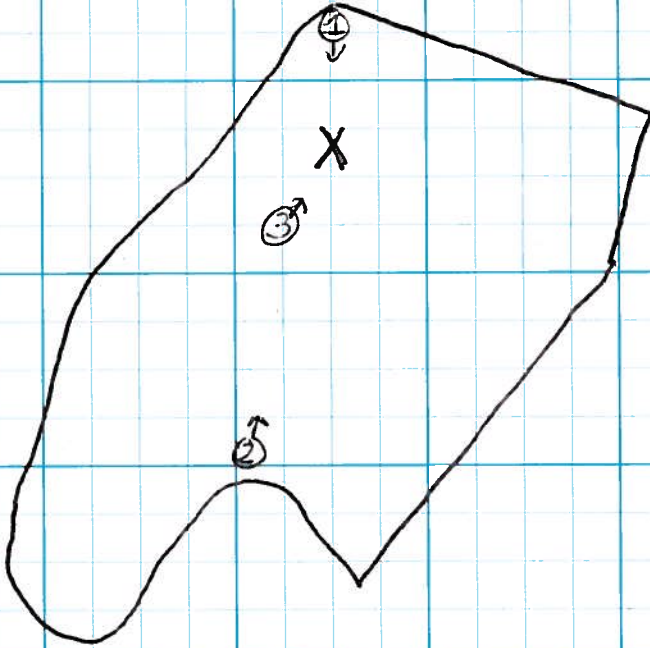
Team 2- SS sampling

BC-SS-00043

C805

Arrive @ Polygon 43. Locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote, WAM bush
Predominant Rock	Qa
Slope	mild
GPS Waypoint	SS43



6-2-14 84°F, sunny, calm
Team 2 - SS sampling

24 of 89

BC-SS-00042

0845

Arrive at Poly 42; locate area for sampling grid

Soil Type gravelly sand
Alluvium OLD
Veg Cover < 10%
Veg Type salt bush, creosote, WAM bush, grasses
Predominant Rock Qa
Slope none to mild
GPS Waypoint SS42

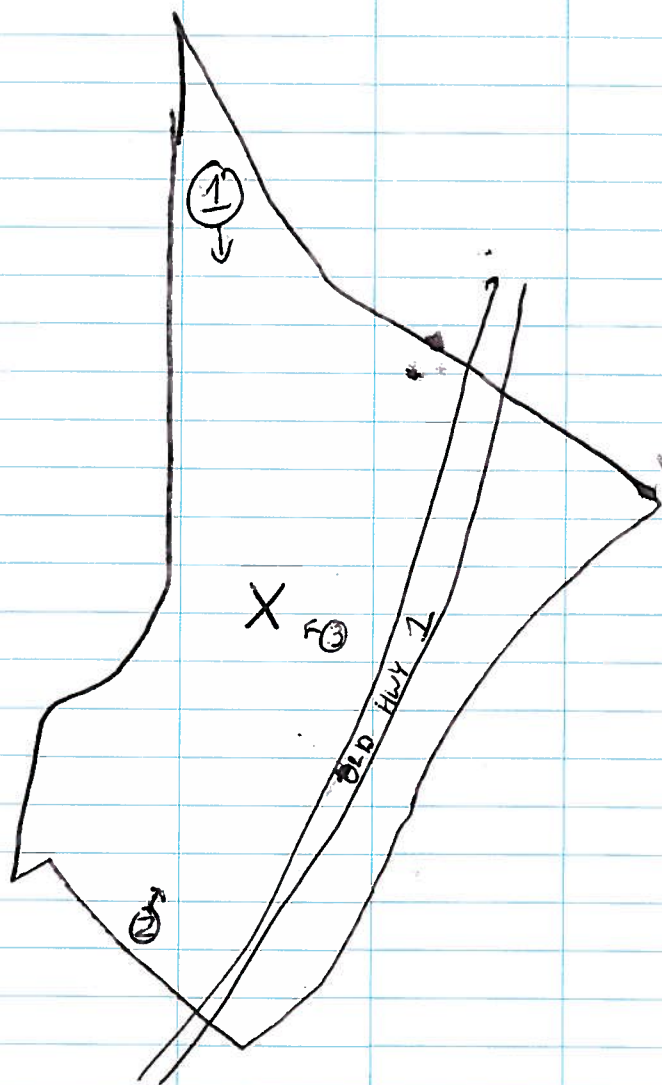


Photo Log

- 01 N corner, viewing S
- 02 S boundary, viewing N
- 03 view of sampling grid, viewing W

Team 2 - SS sampling

BC-SS-00045

0920 Arrive onsite @ Poly 45; locate area for sampling grid

Soil Type	Gravelly sand
Alluvium	New
Veg Cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	Wash material
Slope	none to slight
GPS Waypoint	SS45

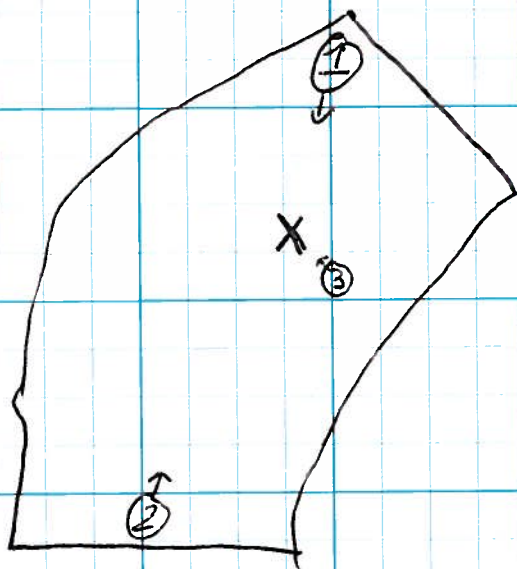


PHOTO LOG

- 01 N corner, looking S
- 02 S boundary, looking N
- 03 view of sampling area, looking NW

6-2-14 90°F, sunny, slight breeze

26 of 84

Team 2- SS sampling

BC-SS-000468

1000

Arrive @ Polygon 46; locate area for sampling grid

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush creosote WAM bush
Predominant Rock	Qa
Slope	none to mild
GPS Waypoint	SS46

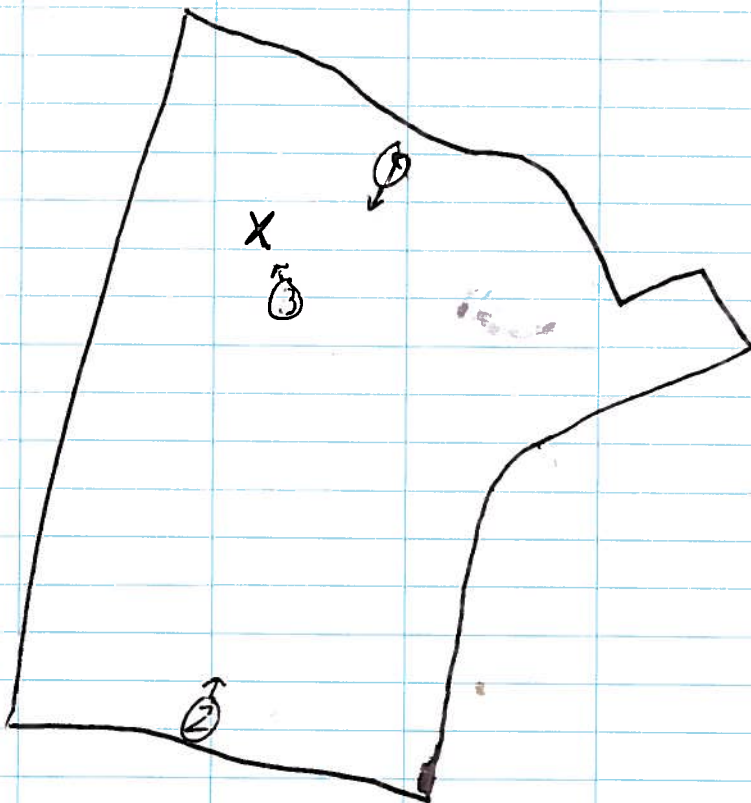


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling area, looking NW

6-2-14 91°F, sunny, light breeze

Team 2- SS sampling

BC-SS-00041 B

1040 Arrive @ Polygon 41; locate area for sampling grid

Soil Type	gravely sand
Alluvium	New
Veg Cover	10-25%
Veg Type	creosote salt bush WAM bush
Predominant Rock	wash material
Slope	none to mild
GPS Waypoint	SS41

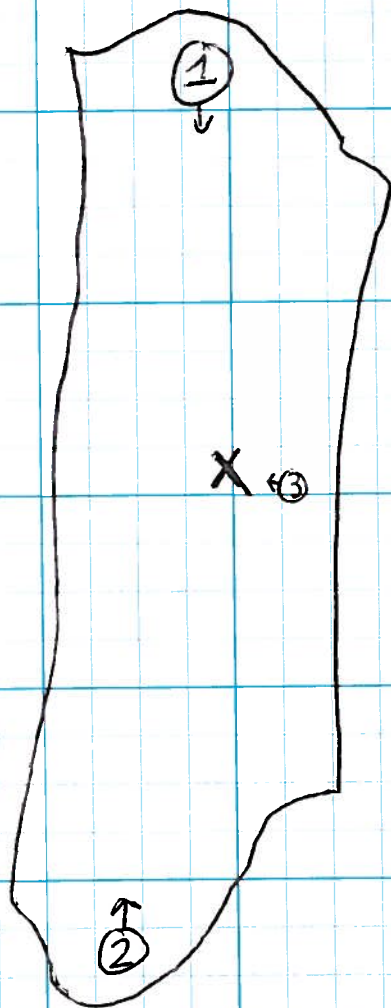


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling site, looking W

6-2-14 99°F, sunny, breezy
Team 2 - SS sampling

28 of 84

BC-SS-00034

1300

Arrive onsite @ Polygon 34, locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote, WAM bush
Predomant Rock	Qa
Slope	mild
GPS Waypoint	SS34

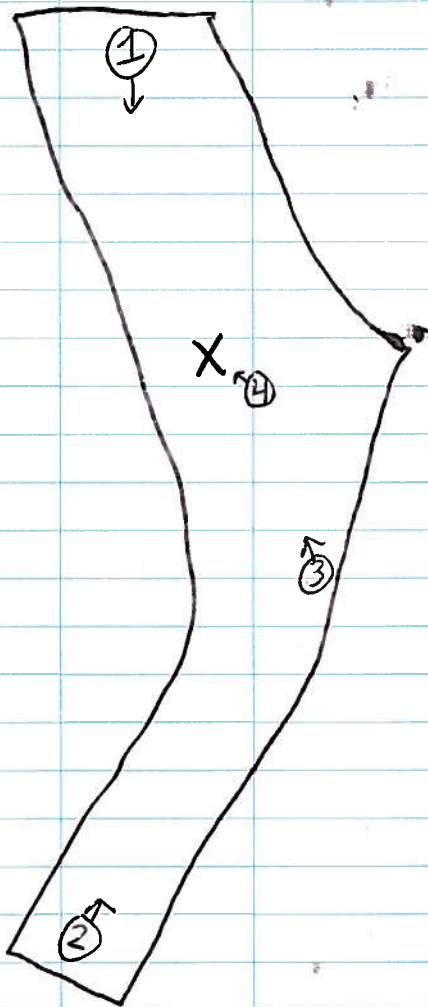


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 E boundary, looking NW
- 04 view of sampling area, looking W

6-2-14 49°F, sunny, breezy

Team 2-SS sampling

BC-SS-00035

1340

Arrive @ Polygon 35; locate area for sampling grid

Soil Type

Alluvium

Veg Cover

< 10%

Veg Type

salt bush

creosote

WAM bush

Predominant Rock

Slope

mild

GPS Waypoint

SS35

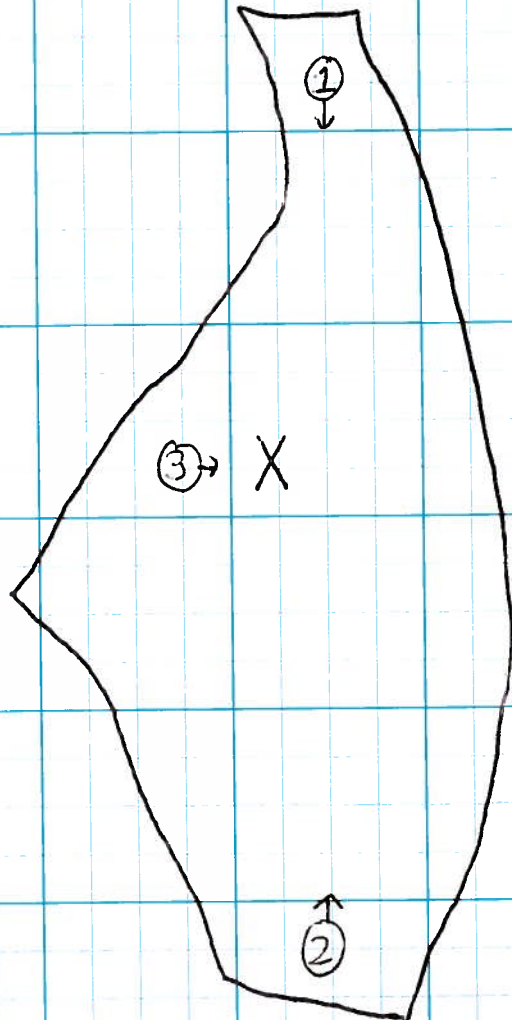


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling grid, facing E

BC-SS-00036

1415

Arrive onsite @ Polygon 36, locate area for sampling grid

Soil Type sandy loam
Alluvium New
Veg Cover < 10%
Veg Type salt bush, creosote, WAM bush
Predominant Rock
Slope none to slight
GPS Waypoint 35:36

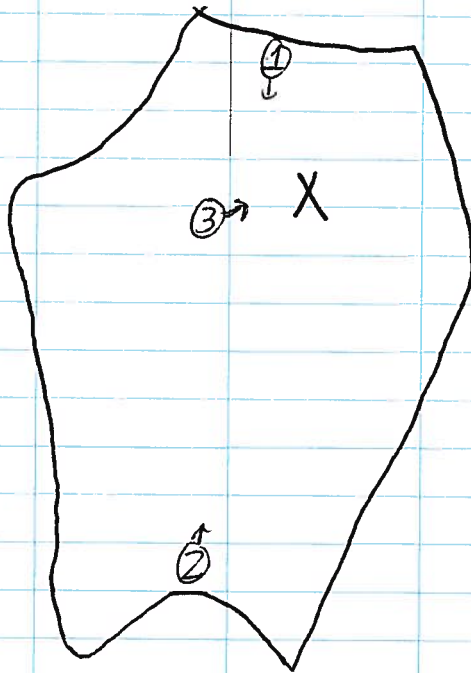


Photo Log

- 01 N boundary, facing S
- 02 S boundary, facing N
- 03 view of sampling area, facing E

Team 2 - SS sampling

BC-SS-00059

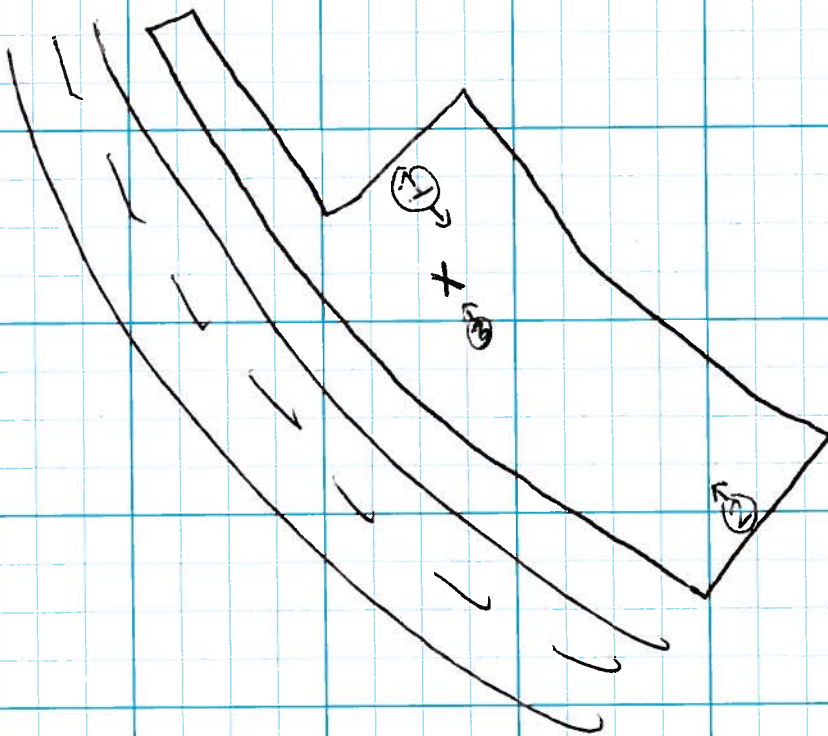
0650

Arrive @ Polygon 59; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	QaF
Slope	moderate
GPS Waypoint	SS 59

Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling area, facing N



Team 2- SS sampling

BC-SS-00060

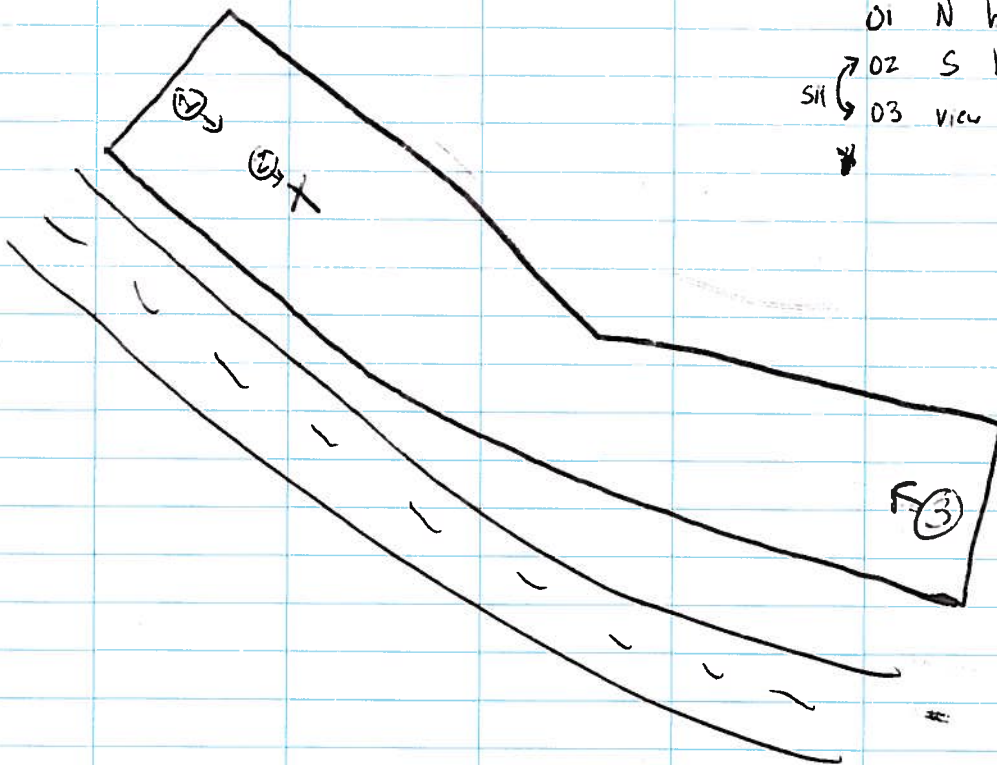
0730

Arrive @ Polygon 60; locate area of sampling grid

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rocks	QaF
Slope	moderate
GPS Waypoint	SS60

Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- ↘ 03 view of sample site, looking S



~~6-4~~^{SH} 6-3-14 79°F, sunny + clear

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Team 2 - SS sampling

BC-SS-00065

0810

Arrive onsite @ Polygon 65; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	G&F
Slope	moderate
GPS Waypoint	SS65

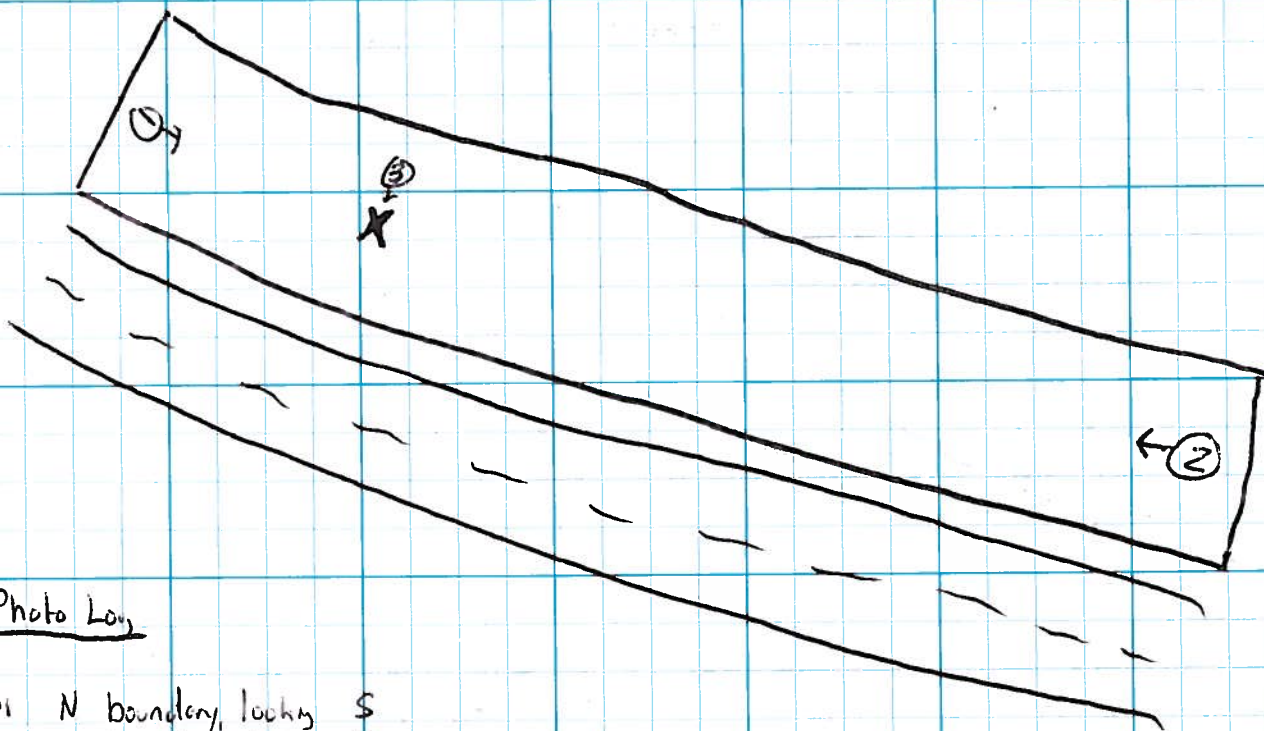


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling grid, looking W

6-3-14 81°F, sunny + calm
Team 2 - SS sampling

34 of 84

BC-SS-00061

0910

Arrive onsite e Polygon 61; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLO
Veg Cover	< 10%
Veg Type	salt bush creosote
Predominant Rock	QaF
Slope	mild to moderate
GPS Waypoint	SS61

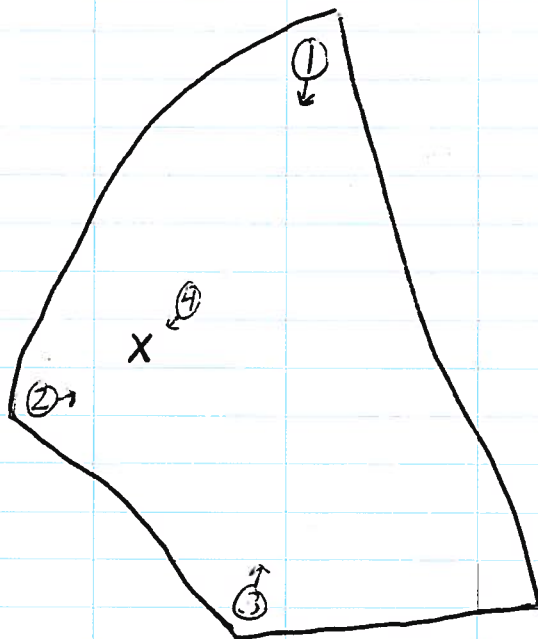


Photo Log

- 01 NE corner, viewing SW
- 02 NW corner, viewing SE
- 03 S corner, viewing N
- 04 view of sample site, viewing SW

Team 2- SS sampling

BC-SS-00062

0945

Arrive onsite @ Polygon 62; locate area for sampling grid

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	creosote salt bush
Predominant Rock	Qa
Slope	mild
GPS Waypoint	SS62

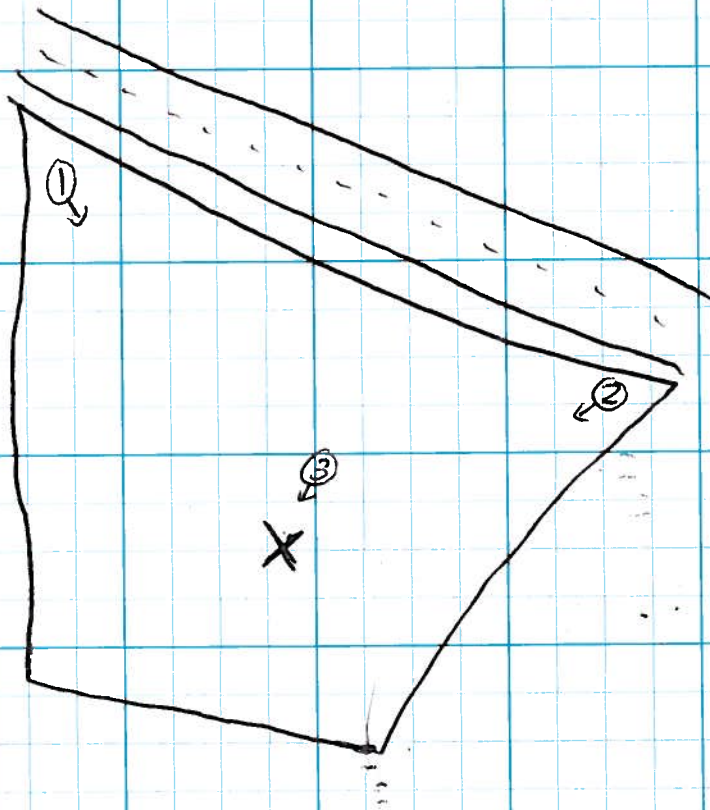


PHOTO LOG

- 01 NW boundary, facing SE
- 02 NE boundary, facing SW
- 03 view of sample grid, facing S

6-3-14 86° F, sunny + calm

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Team 2- SS sampling

BC-SS-00063

1020

Arrive onsite @ Polygon 63; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	Qaa
Slope	moderate
GPS Waypoint	SS63

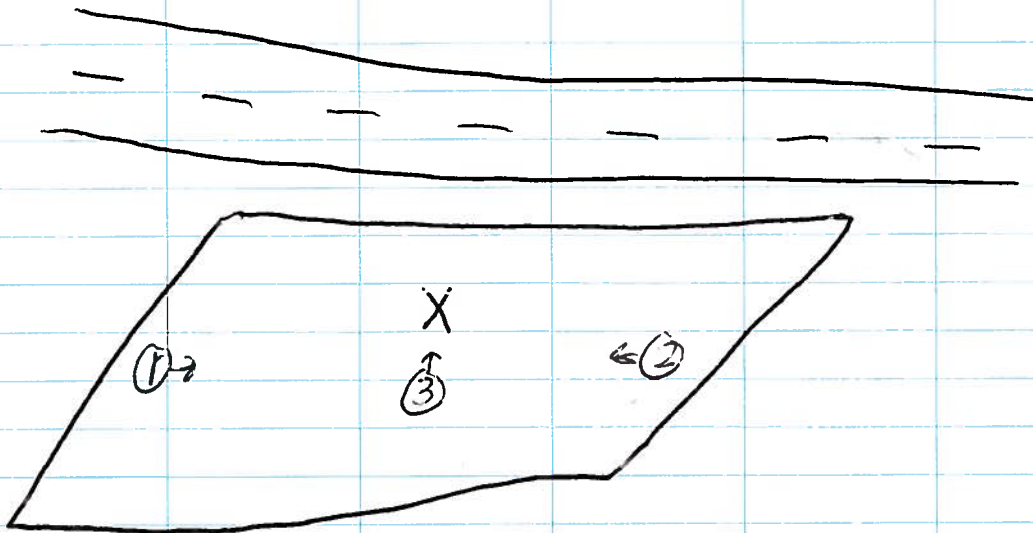


Photo Log

- 01 W boundary, looking E
- 02 E boundary, looking W
- 03 view of sampling grid, looking N

6-3-14 93°F sunny, calm

37 of 84

Team 2- SS sampling

BC-SS-00064

1225

Arrive onsite @ Polygon 64; locate area for sampling

Soil Type	sandy loam
Alluvium	old
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	Qca
Slope	moderate
GPS Waypoint	SS64

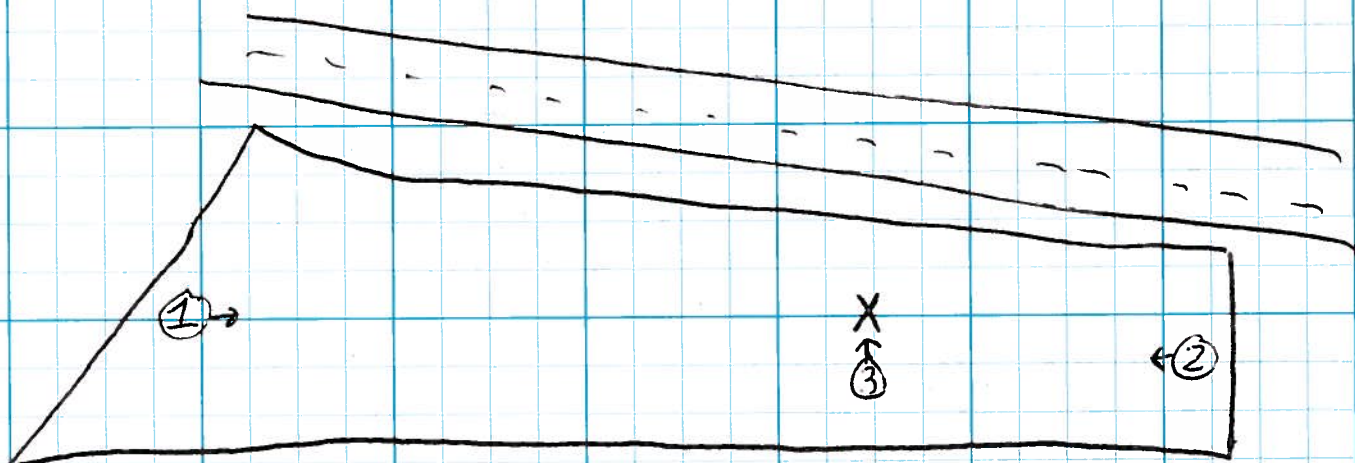


Photo Log

- 01 W boundary, looking E
- 02 E boundary, looking W
- 03 View of sampling site, looking N

6-3-14 93°F, sunny, slight breeze
Team 2 - SS sampling

38 of 84

BC-SS-00047

1310

Arrive onsite @ Polygon 47, locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	Qca
Slope	steep
GPS Waypoint	SS47

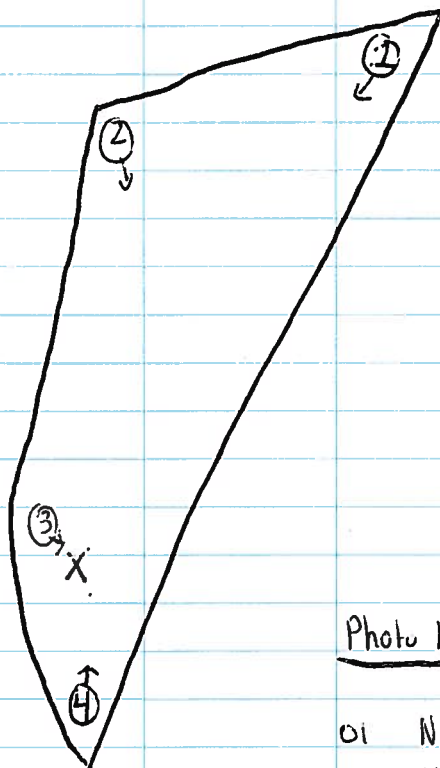


Photo Log

- 01 NE corner, looking SW
- 02 NW corner, looking S
- 03 view of sampling grid, looking E
- 04 S corner, looking N

6-4-14 72°F sunny + calm

Team 2 - SS sampling

BC-SS-00048

0700

Arrive onsite @ Polygon 48; locate area for sampling grid

Soil Type	Sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	Qca
Slope	steep
GPS Waypoint	SS48

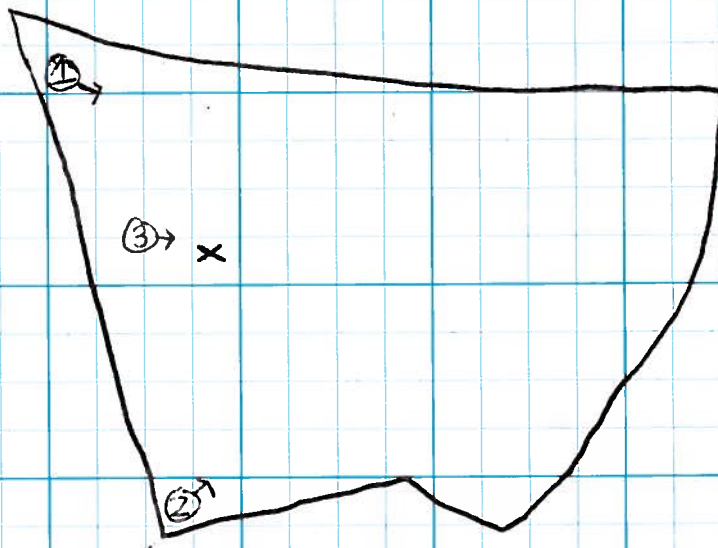


PHOTO LOG

- 01 NW corner, looking SE
- 02 SW corner, looking NE
- 03 view of sampling grid, looking E

6-4-14 77°F, sunny + calm

40 of 84

Team 2- SS sampling

BC-SS-00049

0745

Arrive onsite @ Polygon 49; locate area for sampling grid

Soil Type sandy loam
Alluvium OLD
Veg Cover < 10%
Veg Type salt bush, creosote
Predominant Rock Qua.
Slope steep
GPS Waypoint SS49

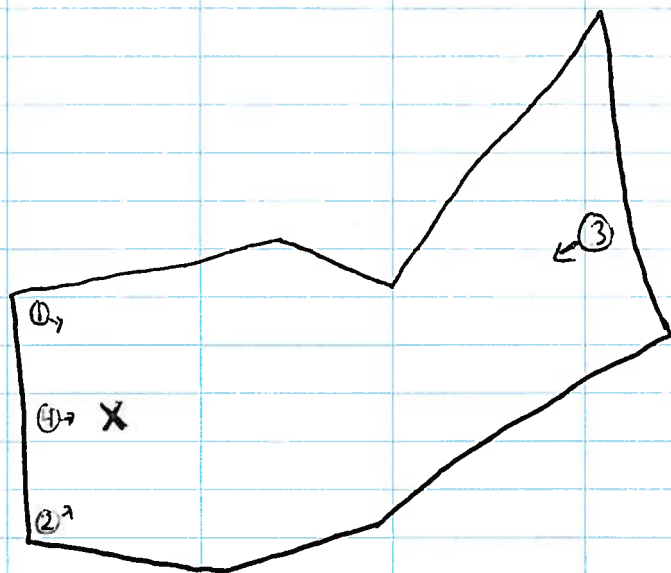


Photo Log

- 01 NW corner, viewing SE
- 02 SW corner, viewing NE
- 03 E boundary, viewing W
- 04 view of sampling site, viewing E

6-4-14 81°F, sunny + calm

Team 2 SS sampling

BC-SS-00050

0825 Arrive @ Polygon 50; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	Qua
Slope	moderate to steep
GPS Waypoint	SS 50

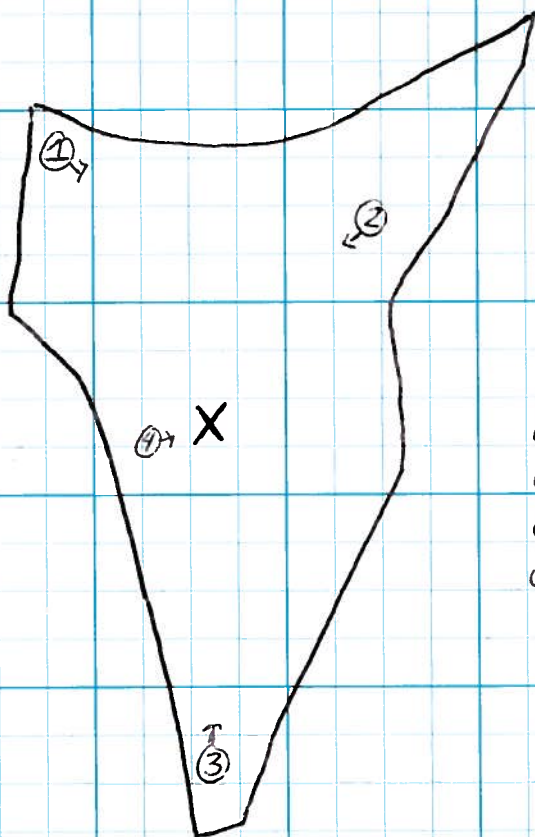


Photo Log

- 01 NW corner, viewing SE
- 02 NE corner, viewing SW
- 03 S corner, viewing N
- 04 view of sampling site, viewing E

6-4-14 82°F, sunny + calm

42 of 84

Team 2 SS sampling

BC-SS-00051

0900

Arrive onsite @ Polygon Sl; locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	creosote, salt bush
Predominant Rock	Qoa
Slope	mild to moderate
GPS Waypoint	SS51

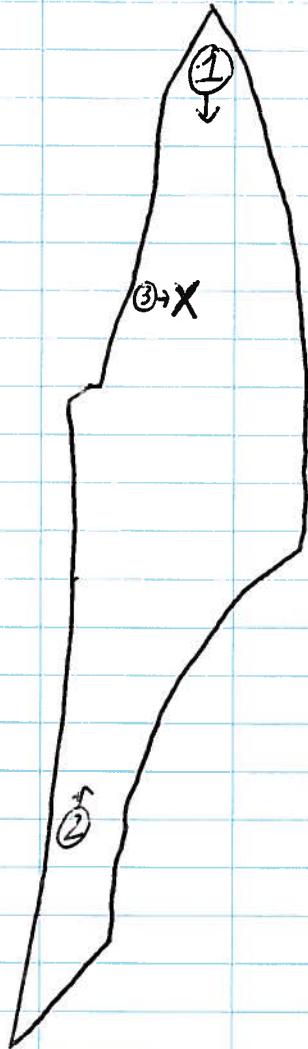


Photo Log

- 01 N corner, looking S
- 02 S corner, looking N
- 03 view of site, looking E

6-4-14

Team 2 - SS sampling

BC-SS-00052

0945 Arrive onsite @ Polygon 52; locate area for sampling grid

Soil Type	sandy loam
Alluvium	NEW
Veg Type	salt bush, creosote, grasses
Veg Cover	10-25%
Predominant Rock	wash material
Slope	mild
GPS Waypoint	SS52

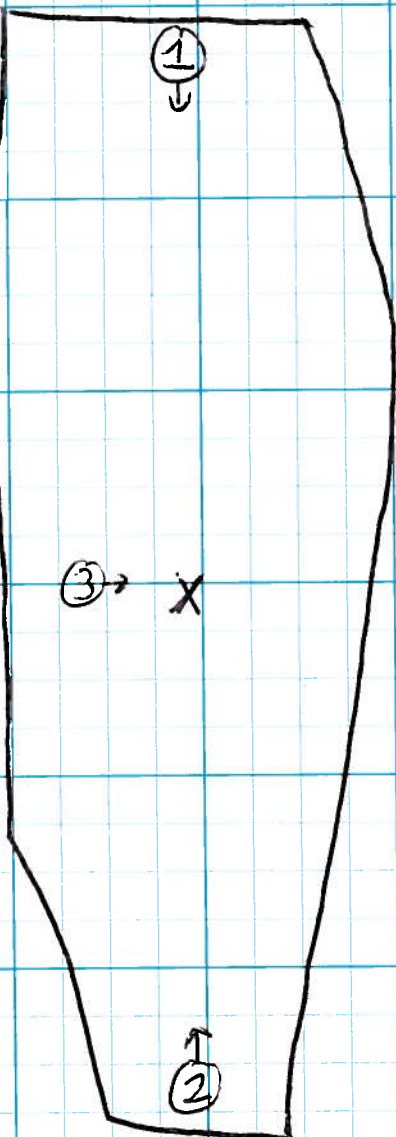


Photo Log

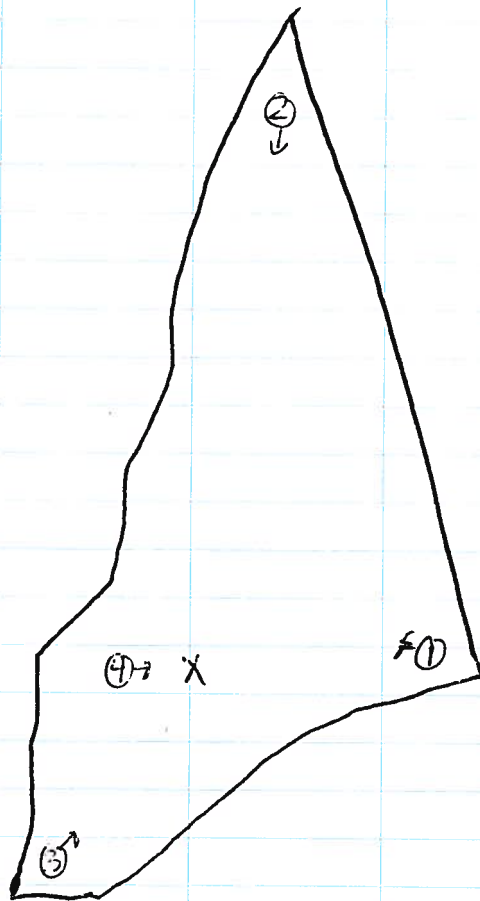
- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling site, looking E

BC-SS-00053

1025

Arrive onsite @ Polygon 53, locate area for sampling grid

Soil Type	sandy loam
Alluvium	OLD
Veg Cover	< 10%
Veg Type	salt bush, creosote
Predominant Rock	Qca
Slope	moderate to steep
GPS Waypoint	SS 53

Photo Log

- 01 E corner, looking W
- 02 N corner, looking S
- 03 SW corner, looking NE
- 04 view of site, looking E

6-4-14 95°F, sunny + calm

45 of 84

Team 2 - SS sampling

BC-SS-00054

1240

Arrive onsite @ Polygon 54; locate area for sampling grid

Soil Type	sandy loam
Alluvium	NEW
Veg Cover	< 10%
Veg Type	salt bush; creosote, WAM bush
Predominant Rock	Wash deposit material
Slope	slight
GPS Waypoint	SS54

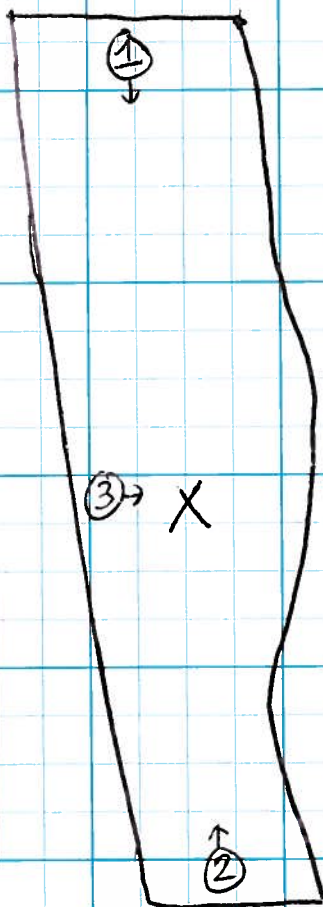


PHOTO LOG

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling area, looking E

Silverline Rd

6-4-14 95°F, sunny + clear

46 of 84

Team 2- SS sampling

BC-SS-00055

^{SH}
~~1240~~ 1310 Arrive onsite @ Polygon SS; locate area for sampling grid

Soil Type	sandy loam
Alluvium	DLD
Veg Cover	< 10%
Veg Type	salt bush creosote WAM bush
Predominant Rock	Qua
Slope	moderate to steep
GPS Waypoint	SS55

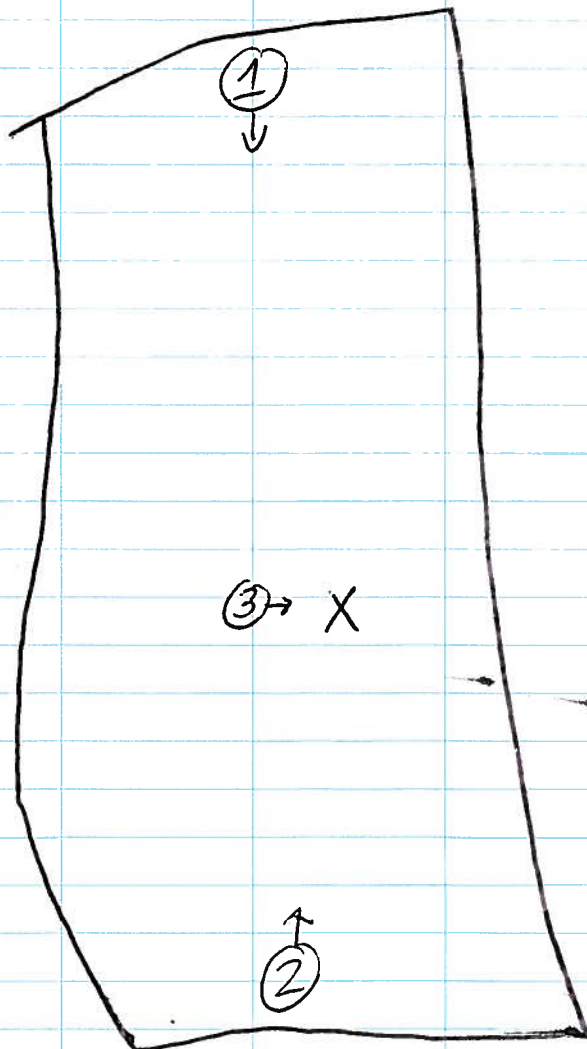


Photo Log

- 01 N boundary, looking S
- 02 S boundary, looking N
- 03 view of sampling area, looking E

6/5/14 80°F, sunny & clear

47 of 84

Team 2 - OC sampling

0700 - Arrive at Polygon 31, will complete rock outcrop
sampling at OC-1, OC-2, OC-3 locations

BC-BR-00001

-collected at OC-1

- 16 aliquots from 9'x9' grid

- GPS point = OC-1-BR

Pictures:

1- Looking down at OC-1 to the north

2- Looking SE at OC-1

3- Looking over OC-1 to the NE

6/5/14

80° Sunny & Clear

48 of 84

0740 - Arrive at OC-2 out Polygon 31

- Collect Sample BC-BR-~~0002~~

- 30' x 30' grid

- 16 aliquots

- Approximately 1.5 lbs rock total sample

GPS point = OC-2-BR

BC-BR-00002

Pictures

1 - Looking South, collecting sample at OC-2

2 - Looking West at OC-2 location

3 - Looking North across OC-2 location

6/5/14

80° Sunny, Clear

49 of 54

0755 - Arrive at OC-3 for outcrop sample collection

- Collect sample BC-BR-~~0000~~3

- 9x9' grid

- 16 aliquots

- Approximately 1.5 lbs rock total

GPS point = OC-3-BR

BC-BR-00003

Pictures

1 - Looking down (SE) at OC-3 location during sampling

2 - Looking NE at OC-3

3 - Looking N at OC-3

6/5/14

95° Sunny, Clear

50 of 84

0920 - Arrive at OC-6 for outcrop sampling

- Collect sample BC-BR-~~00006~~

- 30' x 30' grid

- 16 aliquots

- Approximately 1.5 lbs of rock collected

GPS point = OC-6-BR

BC-BR-00006

Pictures:

1 - looking NW across OC-6 sample area

2 - Looking NW across OC-6 down to Coalfellow property

3 - Looking NE across OC-6

6/5/14

85° Sunny, Clear

51 of 84

0945 - Arrive at OC-4 for outcrop sampling

- Collect Sample BC-BR-00004

- 9' x 9' grid

- 16 aliquots

- Approximately 15 lbs total collected

- GPS point OC-4-BR

BC-BR-00004

Pictures

1 - Looking NW across OC-4

2 - Looking SW across OC-4 outcrop

3 - Looking South straight at OC-4 outcrop

6/5/14

90° clear, sunny

52 of 84

1015= Arrive at OC-5 to collect outcrop sample

Collect sample BC-BR-~~0005~~

- 9' x 9' grid
- 16 aliquots
- Approximately 1.5 lbs rock collected

GPS point = OC-5-BR

BC-BR-00005

Pictures

- 1- Looking N over OC-5 outcrop
- 2- Looking S over OC-5 outcrop
- 3- Looking SW across OC-5 outcrop

6/15/14

Sunny 90°

53 of 84

1045- Arrive at OC-7 to collect sample

- 9' x 9' grid

- 16 aliquots

- 1.5 lbs rock sample

GPS point = OC-7-BR

BC-BR-00007

Pictures:

1 - Looking South at OC-7

2 - Looking W across OC-7

3 - Looking down (N) at OC-7

6/5/14

100°, Clear, Sunny

54 of 84

1245 = Arrive at OC-8 to collect outcrop sample

Collect sample BC-BR-00008

- 9' x 9' Grid

- 16 aliquots

- Approximately 1.5 lbs rock

GPS point = OC-8-BR

BC-BR-00008

Pictures

1 - Looking east across OC-8

2 - Looking north across OC-8

3 - Looking down at OC-8

6/5/14

100° Clear, Sunny

55 of 84

1315 - Arrive at OC-9 to collect outcrop sample

Collect sample BC-BR-~~00009~~

- 9' x 9' Grid
- 16 aliquots
- Approximately 15 lbs rock

GPS point = OC-9-BR

BC-BR-00009

Pictures

1 - Looking SE at OC-9

2 - Looking east over OC-9

3 - Look north across OC-9

6/5/14

100°

56 of 84

- 1330- Arrive at OC-10 to collect outcrop

Collect sample BC-BR-00010

- 9' x 9' grid
- 16 aliquots
- 1.5 lbs rock approximately

GPS point = OC-10-BR

BC-BR-00010

Pictures -

- 1 - Looking down at OC-10
- 2 - Looking north across OC-10
- 3 - Looking across west at OC-10

6/9/14

SOIL / DRILL MONITORING TEAM: MS, LP, SH, RJ

SUNNY 70° TO 90°

- 0500 - TEMA TECH AND THE MILLER SUBCONTRACTOR, EAGLE, ARRIVED AT THE JOB TRAILER AND PREPARED FOR CORE DRILLING OPERATIONS TODAY.
- 0530 - TEMA TECH AND EAGLE COMPLETED A TRAILER SAFETY MEETING. EAGLES WORKERS SIGNED OUT OF THE HASP.
- 0615 - THE BIOLOGY EXPERT, CODY, ARRIVED AND TRAINED EAGLES CREW ON TORTOISE PROTOCOL.
- 0645 - ALL TEAM MEMBERS MOBILIZED TO THE FIRST CORE DRILLING LOCATION, RC-1 LOCATED IN SAMPLE GRID #16.
- 0700 EAGLE BEGAN DRILLING THE RC-1 HOLE. TEMA TECH COLLECTED AN 8 HR TWA HEALTH + SAFETY SAMPLE AND A 30-MINUTE STEL. SAMPLE. TEMA TECH ALSO COLLECTED AN ABS SAMPLE ON THE EAGLE DRILLING OPERATION. AND ON RJ AS Sampler Receptor.

BC-BR-00011

CORE DRILLING SAMPLE AT RC-1
GRID #16. (CONTRACTOR BEGAN COURSE)

- 0830 - First recovered core sample between 5' to 9.5'. Partial recovery of core; material is fractured.
- 0905 - Second core sample collected from 9.5' to 11.0'. Loose material jammed into sampler and restricted depth. Partial recovery of core; material still fractured.
- 1025 - Third core sample collected from 11.0' to 14'. Mainly solid core minor fracturing at approx 12'. 3 feet of recovery.
- 1057 - BC-ABS-00031 & BC-ABS-00032 Retrieved after 240 mins -
- 1130 - Fourth core sample collected from 14' to 18.5'. Partial recovery of 2-inches solid material (quartz monzonite).
- 1150 Fifth core sample @ 18.5 to 24' No Recovery. Medium coarse sand in Drill Wash.

Next page ↓

- 12:15 - Sixth Core Sample @ ~~24'~~^{24'} to 24.0' to 29.5';
No Sample recovery
- 1235 - Seventh Core Sample interval 29.5 to 34.5.
No Sample recovery.
- 1250 - Drillers begin demob for day. Will start
back in hole in morning - THE DRILLER MUST
FINISH COLLECTING BC-BR-00011 TOMORROW MORNING.

PHOTO LOG

- | | |
|----|---|
| 01 | view of drilling crew prepping driller |
| 02 | view of drilling crew pulling up core |
| 03 | view of drilling rig |
| 04 | view of drilling rig, alternate view |
| 05 | view of drilling crew |
| 06 | view of third core 11' to 14' depth - |
| 07 | view of TT looking at core samples |
| 08 | view of TT looking at cores, |
| 09 | view of core recovery, 14'-18.5' depth |
| 10 | view of retrieval from 14'-18.5' depth |
| 11 | view of NO sample recovery @ 18.5 to 24' |
| 12 | view of NO SAMPLE RECOVERY @ 24' to 29.5' |
| 13 | view of NO SAMPLE RECOVERY @ 29.5' to 34.5' |

6/10/14 SOIL/DRILLING: MS, LA, KF, SP, SD

- 0520 - CREW ARRIVED BACK AT THE RC-1 DRILL SITE. DRILLING WILL CONTINUE DRILLING FROM 39.5' DOWNWARD
- 0535 - THE DRILL CREW, EAGLE CONTINUED DRILLING AT THE RC-1 DRILL SITE.
- 0545 - CORE SAMPLE FROM 34.5 TO - ; NO SAMPLE RECOVERY. Hole plugged from yesterday. Drillers working on clearing plug.
- 0620 - Hole still plugged; drillers tripping out of hole to clear drill bit and rod drill.
- 0640 - DRILLER REMOVED THE DRILL EQUIPMENT FROM THE HOLE AND DISCOVERED THAT THEIR BIT HAD BEEN DESTROYED. THEY PROCEEDED TO REPLACE THE BIT AND WILL CONTINUE TO DRILL HOLE RC-1 TO THE 50' DEPTH.
- 0705 - Driller finished repair and proceeded to restart boring.
- 0750 - Core sample Retrieved from 35'. some stuff in hole but Rock sample retrieved from bottom; Volcanic / Rhyolite (6-inches)
- 0830 - Core sample Retrieved from 35' to 35.6"; Volcanic/Rhyolite
- 0920 - THE DRILL CREW CONTINUED TO PRODUCE ROCKY SANDS. STEVE BRADLEY DETERMINED THAT THE VOLCANIC LAYER THE CREW HAS BEEN DRILLING THROUGH IS MERELY DISINTEGRATING, SO HE RECOMMENDED THAT WE STOP DRILLING AT THE RC-1 LOCATION AND RELOCATE TO RC-2
- 0930 - EAGLE'S DRILL M/G CREW BEGAN BREAKING DOWN EQUIPMENT AND DEMOBILIZING FROM RC-1.
- 1010 - EAGLE'S CREW FINISHED SEWING THE DRILL M/G AND FILLED THE DRILL HOLE.
- 1020 - EAGLE BEGAN MOVING THEIR REMOTE CONTROLLED DRILL RIG FROM LOCATION RC-1 TO RC-2.
- 1030 - EAGLE BEGAN MOVING THEIR WATER TANK AND SUPPORT TRUCK FROM RC-1 TO RC-2.
- 1045 - EAGLE'S DRILL M/G STOPPED MOVING EN ROUTE FOR AN UNKNOWN REASON, SO THEIR SUPERVISOR, TIM, SENT TRUCK TECH

6-10-14 (CONTINUED)

TO FILL A DIESEL FUEL CAN IAN HOPES THAT THE RIG
 MERELY RAN OUT OF FUEL. APPROXIMATELY 20 MINUTES BEFORE ^{RESUMED}
 1140- GABLE FINISHED MOBILIZING TO THE RC-2 DML
 SITE AND BEGAN SETTING UP THEIR DML RIG.

Photo Log

- 01 - View of core recovery 34.5' to 35'.
- 02 - View of core recovery 35-35.5'

6/10/14 MS, SB, SD, KE

1145 - EAGLE BEGAN SETTING UP THEIR DULL LOG AT THE RC-2 LOCATION.

1155 - EAGLE BEGAN DRILLING WITH AN AUGER TO FIND THE BEDROCK DEPTH.

BC-BR-00012

1245 - EAGLE'S CREW REACHED 10' OF DEPTH USING THE AUGER BIT AND THEIR SUPERVISOR CONFIRMED THAT THEY HAD HIT SOLID ROCK. EAGLE BEGAN SEALING THE AUGER HOLE SIDE WITH BENTONITE AND WILL LET THE HOLE SOLIDIFY OVERNIGHT IN PREPARATION TO BEGIN CORE DRILLING TOMORROW MORNING.

1250 - EAGLE AND TETRA TECH BEGAN DEMOBILIZING FROM DULL SITE RC-2

1310 - TETRA TECH AND EAGLE DEMOBILIZED FROM THE RC-2 SITE.

6/11/14 RC-2 (CONTINUED)

0515 - ONSITE LOCATION FOR RC-2. EAGLE ONSITE, FILL RIG W/ DIESEL & SET UP SAMPLING EQUIPMENT.

0543 - COMMENCE CORE DRILLING

0615 - EAGLE'S CORE DRILLING STOPPED AS THEIR BIT BECAME STUCK INSIDE THE AUGER STEM. THEY BEGAN ATTEMPTING SEVERAL METHODS TO FREE THE CORE DULL.

0650 - EAGLE'S SUPERVISOR, TIM, INFORMED TETRA TECH THAT THEY HAD BROKEN A THREADED COLLAR ON THE DULL. HE CALLED HIS OFFICE AND REQUESTED THAT THEY SEND THE REPLACEMENT PART. TETRA TECH DROVE ONE OF EAGLE'S WORKERS TO MEET THE DELIVERY PERSON WHILE TIM REMOVED THE DAMAGED PART.

0735 - TETRA TECH RETURNED TO THE RC-2 LOCATION WITH THE REPLACEMENT PART AND EAGLE BEGAN INSTALLING IT.

0750 - EAGLE FINISHED THE REPAIR WORK AND CONTINUED CORE DRILLING.

0935 - EAGLE RETRIEVED THEIR 1ST CORE SAMPLE AFTER DRILLING THE FIRST 4 FEET OF ROCK, ONLY A SMALL 3" DIAMETER PLUG OF ROCK WAS RECOVERED.

6-14-13

mm

RC-2 (CONTINUED)

1000 - EAGLE CONTINUED CORE DRILLING THE RC-2 SITE WITH THE CORE DRILL. EAGLE'S SUPERVISOR, TIM, SPECULATED THAT THEY ARE STILL DRILLING THROUGH THE LOOSE ROCK SEDIMENTS WHICH IS WHY WE HAVEN'T GAINED ANY RECOVERED ROCK CORE. EAGLE CONTINUED DRILLING IN HOPES OF REACHING THE BEDROCK.

1140 - TETRA TECH DIRECTED EAGLE TO DISCONTINUE DRILLING AT RC-2. THE TEAM WILL MOBILIZE TO RC-4 IN HOPES OF DRILLING DIRECTLY INTO THE BEDROCK LAYERS AND AVOID THE LOOSE MATERIALS.

1305 - EAGLE FINISHED BREAKING DOWN THEIR DRILL M6 AT THE RC-2 SITE AND BEGAN MOBILIZING TO THE RC-4 LOCATION.

1350 - EAGLE AND TETRA TECH STAGED AT THE RC-4 DRILL LOCATION AND EAGLE STAGED THEIR DRILL M6. EAGLE MEASURE THE DISTANCE FROM THE DRILL M6 TO THE NEAREST LOCATION THEY'LL BE ABLE TO PARK THEIR WATER TANK. THEY WILL BRING EXTRA WATER HOISING TOMORROW IN ORDER.

1400 - TETRA TECH AND EAGLE LEFT THE JOBSITE.

PHOTO LOG

- | | | |
|----|-----------------------|-------------------------|
| 01 | DRILL SITE RC-1 | LOOKING NORTH |
| 02 | DRILL SITE RC-2 | LOOKING SOUTH |
| 03 | RC-2 DEPTH 10' TO 14' | SMALL 3" ROCK RECOVERED |
| 04 | RC-2 DEPTH 10' TO 15' | SAND RECOVERED |

6/12/14 CORE DRILLING RC-4 LOCATION
MAS, SB, SD, KF

0510 - TETRA TECH AND EAGLE ARRIVED AT THE RC-4 LOCATION

0515 - TETRA TECH CONDUCTED THE MORNING SAFETY MEETING.

0525 - EAGLE BEGAN SMILING THEIR EQUIPMENT AT THE DRILL SITE. THEY PARKED THEIR WATER TANK APPROXIMATELY 300' BELOW THE DRILL M6 AND RAN HOSEING BETWEEN THE TWO.

0640 - EAGLE FINISHED SMILING THEIR WATER HOSE TO THE DRILL M6 AND INSTALLED A NEW DRILL BIT ON THE CORE DRILLING M6.

0705 - EAGLE BEGAN CORE DRILLING AT THE RC-4 LOCATION.

0800 - EAGLE DETERMINED THAT THEY WERE USING ALL THEIR WATER TANK AND NOT RECHARGING ANY WATER. TIM STATED THAT THE WATER MUST BE DRAINING INTO A SUB-SURFACE FRACTURE.

0810 - EAGLE CALLED THEIR SUPERINTENDENT, SIMON, AND REQUESTED A FULL SIZE WATER TRUCK BE STAGED ON SITE.

0845 - EAGLE STAGED THEIR WATER TRUCK AND BEGAN CONNECTING HOSES FROM THE TRUCK TO THE SMALLER TANK.

0900 - EAGLE BEGAN REFILLING THE TANK.

0935 - EAGLE CONTINUED TO DRILL AT SITE RC-4 COLLECTING THE FOLLOWING CORE SAMPLES:

BC-BR-00013

1030 - EAGLE REMOVED THE CORE SAMPLE GAINING ANOTHER 6 FEET. THE SAMPLE WAS ONLY AGAIN FRAGMENTED ROCKS. THEY CONTINUED TO DRILL.

1045 - EAGLE GAINED ANOTHER FOOT OF DEPTH FOR A TOTAL OF 4.5 FEET. WHILE REMOVING THE BIT TO CHECK THE CORE, TIM STATED THAT THE DRILL HOLE CAVED IN. STEVE BUNDLER WAS INFORMED ABOUT THE PROBLEM. EAGLE'S SUPERVISOR STATED THAT DUE TO THE FRAGMENTATION OF THE ROCK HE WOULD BE UNABLE TO COLLECT ANYTHING BUT SMALL ROCKS AND THE PROGRESS WOULD BE AS SLOW THROUGHOUT THE EFFORT.

1100 - STEVE BUNDLER DECIDED TO DISCONTINUE THE CORE

6/12/14 RC-4 (CONTINUED)

DURING EFFORT AND COLLECT ADDITIONAL SAMPLES FROM
ROCK OUTCROPS INSTEAD.

1110 - BARGE BEGAN DEMOBILIZING. TESTS THEN COLLECTED
ADDITIONAL ROCK OUTCROP SAMPLES.

PHOTO LOG

01	RC-4 SITE LOOKING NORTH
02	RC-4 SITE LOOKING SOUTH
03	CORE MATERIAL 2.5' TO 4' DEPTH
04	CORE MATERIAL 4.0' TO 4.5' DEPTH