
ANNEX D: ENVIRONMENTAL DATA

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

BOREHOLE / MONITORING WELL LOGS

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 200 mm ø Hollow Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 17.959 m
TOP OF CASING ELEV. 17.923 m
WATER ELEV. 17.094 m
DATE DRILLED 1/20/2015
UTMs (NAD83) N 5,509,637
 E 362,430

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | | | | | |
|-----------|-----------|----------|---|------------------------|-----------|-----------------------|--|-----|-----|-----|--|--|--|------|
| | | | | | | | 50 | 100 | 150 | 200 | | | | |
| 17.88 | | | ORGANIC TOPSOIL - Dark brown, damp, soft, low plasticity, organics. | | | | | | | | | | | |
| 17.20 | 0.5 | | SILT - Brown, damp, firm, non-plastic to low plasticity, some coarse grained sand to fine grained gravel, oxidation. - Becomes wet, soft below 0.15 m. | | | S1 | | | | | | | | |
| | 1.0 | | SILT - Brown, dry, hard, trace fine grained gravel, trace oxidation. - Becomes grey, hydrocarbon odour below 1.52 m. | | 1.68 | S2 | | | | | | | | |
| | 1.5 | | | | 1.98 | S3 | | | | | | | | 7310 |
| 15.83 | 2.0 | | SILT - Grey, damp, firm, non-plastic to low plasticity, hydrocarbon odour. - No hydrocarbon odour below 3.05 m. | | | S4 | | | | | | | | 3710 |
| | 2.5 | | | | | S5 | | | | | | | | 8.0 |
| | 3.0 | | | | | S6 | | | | | | | | 13.6 |
| | 3.5 | | | | | S7 | | | | | | | | 5.3 |
| | 4.0 | | | | | S8 | | | | | | | | 2.8 |
| | 4.5 | | | | | | | | | | | | | |
| | 5.0 | | | | 5.03 | | | | | | | | | |
| | 5.5 | | | | | | | | | | | | | |
| 11.86 | 6.0 | | END OF HOLE AT 6.10 m Notes: 1. Hollow stem auger refusal at 2.13 m, switched to solid stem auger. 2. Slough at 5.03 m to bottom, appears to be from top 1.52 m. 3. Installed flush mount monitoring well MW15-01. 4. Water elevation measured on January 22, 2015. | | | | | | | | | | | |
| | 6.5 | | | | | | | | | | | | | |
| | 7.0 | | | | | | | | | | | | | |
| | 7.5 | | | | | | | | | | | | | |
| | 8.0 | | | | | | | | | | | | | |
| | 8.5 | | | | | | | | | | | | | |
| | 9.0 | | | | | | | | | | | | | |
| | 9.5 | | | | | | | | | | | | | |

ENVIRO (VAPOUR) U:\FMS\14-1393-007\19 WING COMOX.GPJ

Prepared By: KLEM

SAMPLE TYPE Split Spoon Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 19.615 m
TOP OF CASING ELEV. 19.519 m
WATER ELEV. 18.784 m
DATE DRILLED 1/20/2015
UTMs (NAD83) N 5,509,583
 E 362,468

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|--|------------------------|-----------|-----------------------|--|-----|------|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 19.54 | 0.0 | | TOPSOIL - Brown, damp, soft, non-plastic to low plasticity, organics. SILT FILL - Brown, damp, firm, non-plastic to low plasticity, some medium grained sand to coarse grained gravel, organics, trace oxidation. | | | S1 | | | | |
| | 0.5 | | - Organic staining at 0.76 m. | | 0.76 | | | | | |
| 18.40 | 1.0 | | SILT - Grey, damp, firm, non-plastic to low plasticity, trace clay, hydrocarbon odour. | | 0.91 | S2 | | | | |
| | 1.5 | | | | | S3 | 20.3 | | 99.5 | |
| 17.79 | 2.0 | | SILTY CLAY - Tan, damp, stiff, intermediate plasticity, trace silt inclusions, trace oxidation, no odour. | | | S4 | | | | |
| | 2.5 | | | | | S5 | | | | |
| | 3.0 | | - Trace medium grained sand below 3.05 m. | | | S6 | | | | |
| 15.96 | 3.5 | | SILT - Brown, damp, firm, non-plastic to low plasticity, trace clay, trace medium grained sand. | | | S7 | | | | |
| | 4.0 | | - Becomes grey below 4.27 m. | | 3.96 | | | | | |
| 14.74 | 4.5 | | | | | | | | | |
| | 5.0 | | END OF HOLE AT 4.88 m | | | | | | | |
| | 5.5 | | Notes: 1. No recovery due to water from 4.88 m to 6.10 m. 2. Installed flush mount monitoring well MW15-02. 3. Water elevation measured on January 22, 2015. | | | | | | | |
| | 6.0 | | | | | | | | | |
| | 6.5 | | | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 17.073 m
TOP OF CASING ELEV. 17.003 m
WATER ELEV. 17.003 m
DATE DRILLED 1/20/2015
UTMs (NAD83) N 5,509,677
 E 362,384

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|--|------------------------|--------------|-----------------------|--|-----|-----|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 14.33 | 0.5 | | SILT - Brown, saturated, soft, some medium grained sand, trace cobbles, trace oxidation. - Becomes dry, stiff, non-plastic to low plasticity, trace coarse grained gravel, trace cobbles below 0.30 m. | | | S1 05 | | | | |
| | 1.0 | | | | | | | | | |
| | 1.5 | | - Becomes very stiff below 1.52 m. | | 1.37 1.52 | S2 07 | | | | |
| | 2.0 | | | | | S3 04 | | | | |
| | 2.5 | | | | | S4 01 | | | | |
| | 3.0 | | SILT - Grey, dry, stiff, non-plastic to low plasticity, trace coarse grained gravel. | | | S5 03 | | | | |
| | 3.5 | | - Becomes damp, firm, trace clay below 3.35 m. | | | S6 01 | | | | |
| | 4.0 | | | | | S7 04 | | | | |
| | 4.5 | | | | 4.57 | S8 03 | | | | |
| | 5.0 | | | | | | | | | |
| | 5.5 | | | | | | | | | |
| 10.98 | 6.0 | | END OF HOLE AT 6.10 m | | | | | | | |
| | 6.5 | | Notes: 1. Installed flush mount monitoring well MW15-03. 2. Water elevation measured on January 22, 2015. | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

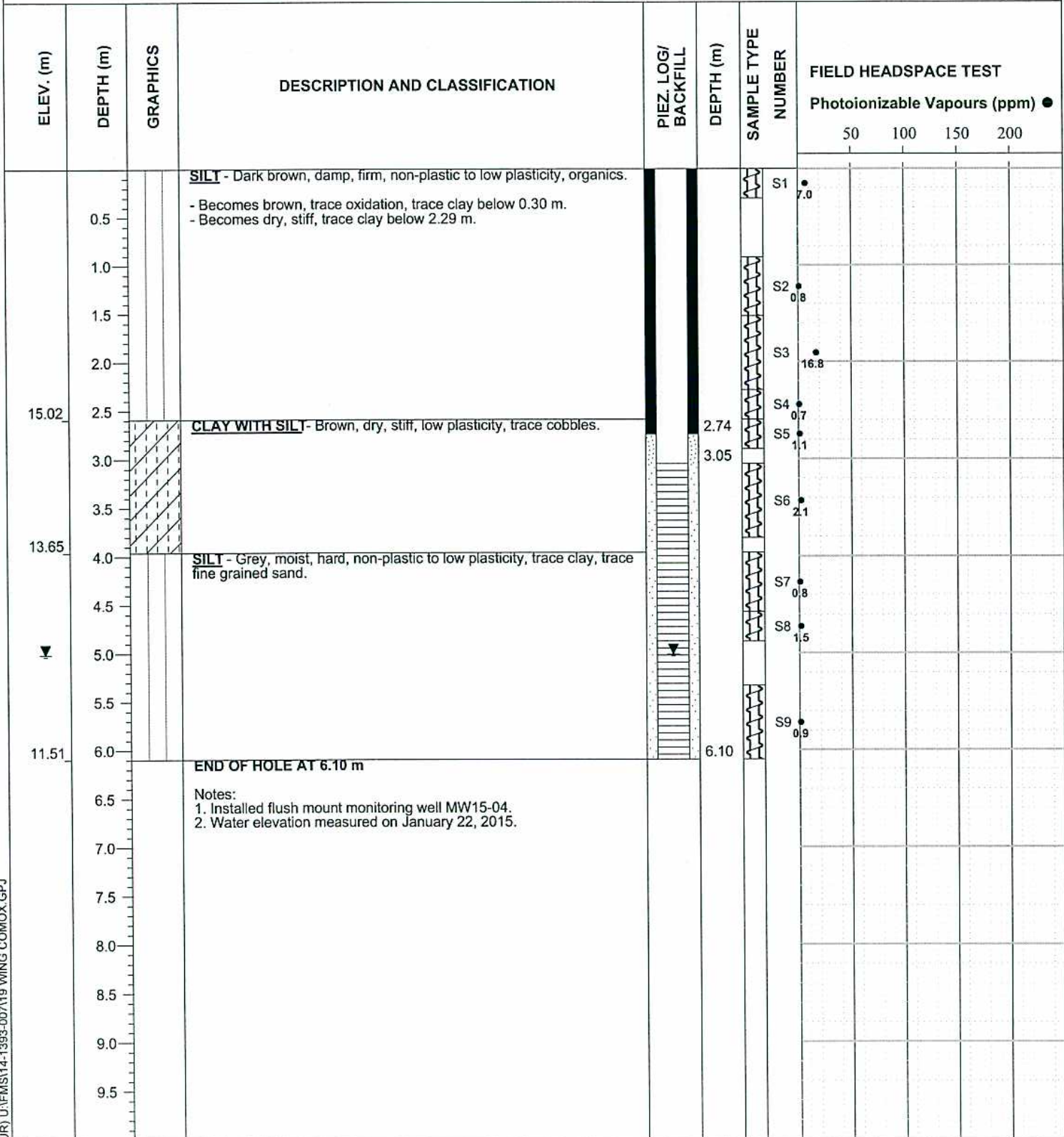
INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 200 mm ø Hollow Stem Auger

JOB NO. 14-1393-007
 GROUND ELEV. 17.610 m
 TOP OF CASING ELEV. 17.598 m
 WATER ELEV. 12.577 m
 DATE DRILLED 1/21/2015
 UTM's (NAD83) N 5,509,610
 E 362,318



SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
 GROUND ELEV. 18.302 m
 TOP OF CASING ELEV. 18.240 m
 WATER ELEV. 17.804 m
 DATE DRILLED 1/21/2015
 UTM's (NAD83) N 5,509,510
 E 362,313

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|---|------------------------|--------------|------------------------|--|-----|-----|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 17.54 | 0.5 | | <u>SILT</u> - Dark brown, damp, firm, non-plastic to low plasticity, trace fine grained gravel, trace organics. | | 0.46 0.61 | S1 0.5 | | | | |
| 16.78 | 1.0 | | <u>SILT</u> - Grey, damp, soft, non-plastic to low plasticity. - Becomes firm at 1.07 m. | | | S2 0.4 | | | | |
| 14.95 | 2.0 | | <u>SILT</u> - Brown, dry, stiff, non-plastic to low plasticity, trace cobbles, trace oxidation. | | | S3 0.6 | | | | |
| | 3.5 | | <u>SILT</u> - Grey, dry, stiff, non-plastic to low plasticity, trace cobbles. | | | S4 0.3 S5 0.8 | | | | |
| | 4.0 | | | | | S6 0.5 | | | | |
| | 5.0 | | | | 5.18 | S7 0.5 | | | | |
| 12.21 | 6.0 | | END OF HOLE AT 6.10 m | | | S8 0.4 | | | | |
| | 6.5 | | Notes: 1. Installed flush mount monitoring well MW15-05. 2. Water elevation measured on January 22, 2015. 3. Slough from 5.18 m to 6.10 m. | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 18.915 m
TOP OF CASING ELEV. 18.798 m
WATER ELEV. 18.798 m
DATE DRILLED 1/21/2015
UTMs (NAD83) N 5,509,490
 E 362,400

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|---|------------------------|-----------|-----------------------|--|-----|-----|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 18.00 | 0.5 | | SILT - Dark brown, moist, soft, non-plastic to low plasticity, organics. - Becomes brown, wet, some medium grained sand, trace organics at 0.61 m. | | 0.46 | S1 0.5 | | | | |
| | 1.0 | | SILT - Brown, damp, stiff, non-plastic to low plasticity, trace coarse grained gravel, trace cobbles. - Becomes very stiff at 1.52 m. - Becomes stiff at 1.83 m. | | 0.61 | S2 0.5 | | | | |
| | 1.5 | | | | | S3 0.6 | | | | |
| | 2.0 | | | | | S4 0.7 | | | | |
| | 2.5 | | | | | S5 0.5 | | | | |
| 15.87 | 3.0 | | SILT - Grey, damp, stiff, non-plastic to low plasticity, trace cobbles. | | | S6 0.4 | | | | |
| | 3.5 | | | | | S7 0.3 | | | | |
| | 4.0 | | | | | S8 0.3 | | | | |
| | 4.5 | | | | | S9 0.5 | | | | |
| | 5.0 | | | | 5.18 | | | | | |
| 12.82 | 6.0 | | END OF HOLE AT 6.10 m Notes: 1. Installed flush mount monitoring well MW15-06. 2. Water elevation measured on January 22, 2015. 3. Slough from 5.18 m to 6.10 m. | | | | | | | |
| | 6.5 | | | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 17.867 m
TOP OF CASING ELEV. 17.804 m
WATER ELEV. 16.736 m
DATE DRILLED 1/21/2015
UTMs (NAD83) N 5,509,605
 E 362,349

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST | | | |
|-----------|-----------|----------|---|------------------------|-----------|-----------------------|--------------------------------|-----|-----|-----|
| | | | | | | | Photoionizable Vapours (ppm) ● | | | |
| | | | | | | | 50 | 100 | 150 | 200 |
| | 0.5 | | SILT - Brown, saturated, soft, non-plastic to low plasticity, trace oxidation, trace medium grained sand, trace cobbles. - Becomes damp, firm below 0.46 m. | | | S1 02 | | | | |
| | 1.0 | | | | 1.22 | S2 03 | | | | |
| | 1.5 | | | | 1.52 | S3 03 | | | | |
| | 2.0 | | | | | S4 04 | | | | |
| 14.67 | 3.0 | | SILT - Grey, damp, firm, non-plastic to low plasticity, trace clay, trace coarse grained gravel. | | | S5 06 | | | | |
| | 3.5 | | | | | S6 02 | | | | |
| | 4.0 | | | | 4.57 | S7 03 | | | | |
| | 4.5 | | | | | S8 03 | | | | |
| 11.77 | 6.0 | | END OF HOLE AT 6.10 m Notes: 1. Installed flush mount monitoring well MW15-07. 2. Water elevation measured on January 22, 2015. 3. Slough from 4.57 m to 6.10 m. | | | | | | | |
| | 6.5 | | | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 18.701 m
TOP OF CASING ELEV. 18.710 m
WATER ELEV. 18.710 m
DATE DRILLED 1/22/2015
UTMs (NAD83) N 5,509,512
 E 362,383

| ELEV. (m) ▼ | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL ▼ | DEPTH (m) | SAMPLE TYPE | SAMPLE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|----------------|-----------|----------|--|-----------------------------|-----------|-------------|---------------|--|-----|-----|-----|
| | | | | | | | | 50 | 100 | 150 | 200 |
| 18.09 | 0.5 | | SILT - Dark brown, saturated, soft, non-plastic to low plasticity, some organics, trace medium grained sand, trace cobbles. | | 0.61 | X | S1 0.7 | | | | |
| 17.63 | 1.0 | | SAND - Brown, saturated, compact, fine to medium grained, trace silt, oxidation. | | | X | S2 0.5 | | | | |
| 17.18 | 1.5 | | SILT - Grey, damp, firm, non-plastic to low plasticity, trace fine grained sand, oxidation. | | 1.52 | X | S3 0.5 | | | | |
| | 1.5 | | END OF HOLE AT 1.52 m | | | | | | | | |
| | 2.0 | | Notes: 1. Installed flush mount monitoring well MW15-08. 2. Testhole terminated at 1.52 m due to visual indicators of potential PFOS contamination, and concern over potential spreading of impacts to underlying materials. | | | | | | | | |
| | 2.5 | | | | | | | | | | |
| | 3.0 | | | | | | | | | | |
| | 3.5 | | | | | | | | | | |
| | 4.0 | | | | | | | | | | |
| | 4.5 | | | | | | | | | | |
| | 5.0 | | | | | | | | | | |
| | 5.5 | | | | | | | | | | |
| | 6.0 | | | | | | | | | | |
| | 6.5 | | | | | | | | | | |
| | 7.0 | | | | | | | | | | |
| | 7.5 | | | | | | | | | | |
| | 8.0 | | | | | | | | | | |
| | 8.5 | | | | | | | | | | |
| | 9.0 | | | | | | | | | | |
| | 9.5 | | | | | | | | | | |

SAMPLE TYPE Split Spoon

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 18.410 m
TOP OF CASING ELEV. 18.345 m
WATER ELEV. 18.345 m
DATE DRILLED 1/22/2015
UTMs (NAD83) N 5,509,530
 E 362,350

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ. LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|---|------------------------|-----------|-----------------------|--|-----|-----|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 15.36 | 0.0 | | SILT Dark brown, wet, soft, non-plastic to low plasticity, trace medium grained sand, organics. - Becomes grey, moist, some clay below 0.46 m. - Becomes damp, firm, trace oxidation below 0.61 m. | | | S1 01 | | | | |
| | 0.5 | | | | | S2 04 | | | | |
| | 1.0 | | | | 1.22 | | | | | |
| | 1.5 | | - Becomes brown, hard, trace coarse grained gravel, trace cobbles below 1.67 m. | | 1.52 | S3 01 | | | | |
| | 2.0 | | | | | S4 03 | | | | |
| | 2.5 | | | | | S5 02 | | | | |
| | 3.0 | | SILT - Grey, damp, firm, non-plastic to low plasticity. | | | S6 02 | | | | |
| | 3.5 | | | | | | | | | |
| | 4.0 | | | | | S7 02 | | | | |
| | 4.5 | | | | | | | | | |
| | 5.0 | | | | | S8 02 | | | | |
| | 5.5 | | | | | | | | | |
| | 6.0 | | END OF HOLE AT 6.10 m. | | 6.10 | S9 03 | | | | |
| 12.31 | 6.0 | | Notes: 1. Installed flush mount monitoring well MW15-09. 2. Water elevation measured on January 22, 2015. | | | | | | | |
| | 6.5 | | | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15

CLIENT DEPARTMENT OF NATIONAL DEFENCE
PROJECT Defence Construction Canada
SITE Firefighting Training Area, 19 Wing, CFB Comox, BC
LOCATION
DRILLING METHOD B-47 Rig with 150 mm ø Solid Stem Auger

JOB NO. 14-1393-007
GROUND ELEV. 18.104 m
TOP OF CASING ELEV. 18.054 m
WATER ELEV. 18.054 m
DATE DRILLED 1/22/2015
UTMs (NAD83) N 5,509,562
 E 362,331

| ELEV. (m) | DEPTH (m) | GRAPHICS | DESCRIPTION AND CLASSIFICATION | PIEZ LOG/ BACKFILL | DEPTH (m) | SAMPLE TYPE NUMBER | FIELD HEADSPACE TEST Photoionizable Vapours (ppm) ● | | | |
|-----------|-----------|----------|--|-----------------------|-----------|-----------------------|--|-----|-----|-----|
| | | | | | | | 50 | 100 | 150 | 200 |
| 15.06 | 0.5 | | SILT - Dark brown, moist, soft, non-plastic to low plasticity, organics. - Becomes brown, damp, firm, trace oxidation below 0.20 m. - Becomes stiff below 0.61 m. | | | S1 0.6 | | | | |
| | 1.0 | | | | 1.22 | S2 0.5 | | | | |
| | 1.5 | | | | 1.52 | S3 0.3 | | | | |
| | 2.0 | | | | | | | | | |
| | 2.5 | | | | | | | | | |
| | 3.0 | | | | | S4 0.4 | | | | |
| | 3.5 | | SILT - Grey, damp, stiff, non-plastic to low plasticity, trace coarse grained gravel. | | | S5 0.4 | | | | |
| | 4.0 | | | | | S6 0.2 | | | | |
| | 4.5 | | | | 4.57 | S7 0.7 | | | | |
| | 5.0 | | | | | | | | | |
| | 5.5 | | | | | S8 0.3 | | | | |
| 12.01 | 6.0 | | END OF HOLE AT 6.10 m | | | | | | | |
| | 6.5 | | Notes: 1. Installed flush mount monitoring well MW15-10. 2. Water elevation measured on January 22, 2015. 3. Slough from 4.57 m to 6.10 m. | | | | | | | |
| | 7.0 | | | | | | | | | |
| | 7.5 | | | | | | | | | |
| | 8.0 | | | | | | | | | |
| | 8.5 | | | | | | | | | |
| | 9.0 | | | | | | | | | |
| | 9.5 | | | | | | | | | |

SAMPLE TYPE  Auger Grab

CONTRACTOR
Bluemax Drilling

INSPECTOR
A. OLEKSYN

APPROVED
RDS

DATE
3/23/15



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-11**
 SURFACE ELEVATION: **18.38 m**

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.2 | ■ | S1/DupA | | | silty SAND some gravel, loose, brown, dry | | | | | | | | | 18 |
| 0.2 - 0.5 | ■ | S2 | | | occasional cobble, fractured, dense | | | | | | | | | |
| 0.5 - 1.0 | ■ | S3 | | | | | | | | | | | | 17 |
| 1.0 - 1.5 | ■ | S4 | | | - coarse fraction increasing, heavily fractured between 2.1 and 3.0 m | | | | | | | | | 16 |
| 1.5 - 2.0 | ■ | S5 | | | | | | | | | | | | 15 |
| 2.0 - 2.5 | ■ | S6 | | | - wet at 3.7 m - increased silt between 4.0 and 4.6 m | | | | | | | | | 14 |
| 2.5 - 3.0 | ■ | | | | - increasing gravel and decreasing sand, occasional cobble, dry from 4.6 to 6.1 m | | | | | | | | | 13 |
| 3.0 - 6.1 | | | | | End of borehole at 6.1 m Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 18.278 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: **Sonic**

Notes: ■ SONIC CORE SAMPLE

DRILL DATE: **September 12, 2016** LOGGED BY: **M. Coady**
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-12**
 SURFACE ELEVATION: 20.08 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|--|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|-----------------|-------------|---------------------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.2 | ■ | S1 | | | SAND AND SILT trace gravel, compact, dark brown | | | | | | ↑ | | roadbox, jplug, cement bentonite seal | 20.08 |
| 0.2 - 0.8 | ■ | S2/DupB | | | silty GRAVEL some silt, some clay, heavy orange mottling, dark brown, moist | | | | | | ↑ | | | |
| 0.8 - 1.2 | ■ | S3 | | | SILT AND CLAY sandy, trace clay, trace gravel, very dense, mottling to 1.2 m, dark brown - larger cobble encountered at 1.2 m - dry | | | | | | ↑ | | 50 mm 010 slot PVC pipe | 19.00 |
| 1.2 - 3.0 | ■ | S4 | | | | | | | | | ↑ | | bentonite seal | 17.00 |
| 3.0 - 4.6 | | | | | End of borehole at 4.6 m | | | | | | | | | 16.00 |
| Well Completion Details: Screened interval from 0.8 m to 2.0 m below surface Elevation at top of casing (TOC) = 19.969 m | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: ■ SONIC CORE SAMPLE

DRILL DATE: September 12, 2016
 LOGGED BY: M. Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-13**
 SURFACE ELEVATION: 19.43 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.2 | S1 | | | | SAND AND GRAVEL (fill) coarse, loose | | | | | | | | roadbox, jplug, cement | 19.43 |
| 0.2 - 0.5 | S2 | | | | silty SAND some coarse sand, trace gravel, trace organics, dark brown, moist | | | | | | | | bentonite seal | 19.0 |
| 0.5 - 1.0 | S3/DupC | | | | -some clay, trace gravel | | | | | | | | 50 mm 010 slot PVC pipe | 18.5 |
| 1.0 - 1.83 | S4 | | | | - trace iron oxidization, compact from 1.83 m | | | | | | | | | 18.0 |
| 1.83 - 2.3 | S5 | | | | | | | | | | | | bentonite seal | 17.5 |
| 2.3 - 3.1 | | | | | End of borehole at 3.1 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 19.314 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 13, 2016
 LOGGED BY: M. Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-14**
 SURFACE ELEVATION: 17.72 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|--|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.5 | █ | S1 | | | SILT AND SAND roots/rootlets, soft, brown, dry - large cobble intercepted ~0.6 to 1.4 m - no sample | | | | | | | | roadbox, jplug, cement bentonite seal | 17 |
| 0.5 - 1.5 | | | | | silty SAND soft, (potentially pushed down from above), dark brown, wet | | | | | | | | 50 mm 010 slot PVC pipe | 16 |
| 1.5 - 2.0 | █ | S2 | | | sandy SILT AND CLAY trace gravel, occasional cobble, hard | | | | | | | | | |
| 2.0 - 2.5 | █ | S3 | | | | | | | | | | | bentonite seal | 15 |
| 2.5 - 3.1 | | | | | End of borehole at 3.1 m Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 17.602 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic
 DRILL DATE: September 14, 2016
 LOGGED BY: M. Coady
 DRILLED BY:

Notes: SONIC CORE SAMPLE



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-15**
 SURFACE ELEVATION: 17.50 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|------------------------|-------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 1 | | | | | <i>Not Sampled. Refer to BH16-16 log for stratigraphy.</i> | | | | | | | | roadbox, jplug, cement | 17 | |
| 2 | | | | | | | | | | | | | | 50 mm 010 slot PVC pipe | 16 |
| 3 | | | | | | | | | | | | | | bentonite seal | 15 |
| | | | | | End of borehole at 3.1 m | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 17.421 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes:

DRILL DATE: September 13, 2016

LOGGED BY: M. Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-16**
 SURFACE ELEVATION: **17.54 m**

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.5 | S1 | | | | SAND some silt, some gravel, some rootlets, soft, dark brown, moist | | | | | | | | | 17.54 |
| 0.5 - 0.75 | S2/DupD | | | | some silt, some clay, some gravel, trace wood fragments, soft, dark brown, moist | | | | | | | | | |
| 0.75 - 1.0 | S3 | | | | | | | | | | | | | |
| 1.0 - 1.5 | S4 | | | | SILT AND CLAY trace gravel, grey, moist | | | | | | | | | |
| 1.5 - 2.0 | | | | | trace gravel, some oxidation/mottling, consolidated, hard, light brown, moist | | | | | | | | | |
| 2.0 - 2.5 | | | | | - less consolidated from 1.2 to 2.1 m | | | | | | | | | |
| 2.5 - 3.0 | S5 | | | | - consolidated, trace clay seams, trace gravel, occasional cobble from 2.1 to 4.3 m | | | | | | | | | |
| 3.0 - 3.5 | | | | | | | | | | | | | | |
| 3.5 - 4.0 | S6 | | | | | | | | | | | | | |
| 4.0 - 4.6 | | | | | | | | | | | | | | |
| 4.6 - 5.0 | S7 | | | | silty SAND trace sub-rounded gravel, trace clay, occasional cobble, grey, moist | | | | | | | | | |
| 5.0 - 5.5 | | | | | | | | | | | | | | |
| 5.5 - 6.0 | S8 | | | | - some sections of SILT with some sand, dense between 6.1 and 10.7 m | | | | | | | | | |
| 6.0 - 6.7 | | | | | - intercepted boulder/cobble layer at 6.7 m | | | | | | | | | |
| 6.7 - 7.0 | | | | | | | | | | | | | | |
| 7.0 - 7.5 | S9 | | | | | | | | | | | | | |
| 7.5 - 8.0 | | | | | | | | | | | | | | |
| 8.0 - 8.5 | | | | | | | | | | | | | | |
| 8.5 - 9.0 | S10 | | | | - decreasing gravel from 10.7 to 12.2 m | | | | | | | | | |
| 9.0 - 9.5 | | | | | | | | | | | | | | |
| 9.5 - 10.0 | | | | | | | | | | | | | | |
| 10.0 - 10.5 | | | | | | | | | | | | | | |
| 10.5 - 11.0 | S11 | | | | - some clay from 11.3 to 12.2 m | | | | | | | | | |
| 11.0 - 11.5 | | | | | | | | | | | | | | |
| 11.5 - 12.0 | | | | | | | | | | | | | | |
| 12.0 - 12.2 | | | | | End of borehole at 12.2 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 4.6 m to 6.1 m below surface Elevation at top of casing (TOC) = 17.470 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: **Sonic**

DRILL DATE: **September 13, 2016** LOGGED BY: **M. Coady**
 DRILLED BY:

Notes: SONIC CORE SAMPLE



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-17**
 SURFACE ELEVATION: 15.20 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|--|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.5 | █ | S1 | | | SILT AND SAND trace gravel, trace rootlets, soft, brown | | | | | | | | roadbox, jplug, cement | 15 |
| 0.5 - 0.8 | █ | S2/DupG | | | sandy SILT AND CLAY weathered, orange mottling to 0.8 m - trace gravel, occasional cobble, heavy mottling from 0.8 to 2.1 m - thin clay lenses at 1.8 m - some clay, hard from 2.1 to 3 | | | | | | | | bentonite seal | |
| 0.8 - 1.0 | █ | S3 | | | | | | | | | | | 50 mm 010 slot PVC pipe | 14 |
| 1.0 - 1.8 | | | | | | | | | | | | | | 13 |
| 1.8 - 2.1 | | | | | | | | | | | | | bentonite seal | |
| 2.1 - 3.1 | | S4 | | | End of borehole at 3.1 m | | | | | | | | | |
| Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 15.104 m | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 14, 2016
 LOGGED BY: M. Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-18**
 SURFACE ELEVATION: 17.15 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|------------------------|---------------|-------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | |
| 1 | | | | | <i>Not Sampled. Refer to BH16-19 log for stratigraphy.</i> | | | | | | | | roadbox, jplug, cement | 17 | | |
| 2 | | | | | | | | | | | | | | | 50 mm 010 slot PVC pipe | 16 |
| 3 | | | | | | | | | | | | | | | bentonite seal | 15 |
| | | | | | End of borehole at 3.1 m | | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.8 m to 2.3 m below surface Elevation at top of casing (TOC) = 14.086 m | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: **Sonic**
 DRILL DATE: **September 14, 2016**
 LOGGED BY: **M. Coady**
 DRILLED BY:

Notes:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-19**
 SURFACE ELEVATION: **14.14 m**

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 0 | | | | | SAND silty, trace to some gravel gravel, trace clay, very soft, orange/brown, dry - till-like from 0.6 m - occasional cobble, hard, orange/grey mottling, moist from 0.6 m | | | | | | | | | roadbox, jplug, cement | 14 |
| 1 | | S1/DupE | | | | | | | | | | | | | |
| 2 | | S2 | | | | | | | | | | | | | |
| 3 | | S3 | | | | | | | | | | | | | |
| 4 | | S4 | | | | | | | | | | | | | |
| 5 | | S5/DupF | | | silty SAND trace gravel, occasional cobble, compact, moist | | | | | | | | | | |
| 6 | | S6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | S7 | | | sandy SILT, trace clay trace subrounded gravel, grey | | | | | | | | | | |
| 9 | | | | | silty SAND trace gravel, occasional cobble, compact, grey | | | | | | | | | | |
| 10 | | S8 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | S9 | | | | | | | | | | | | | |
| | | | | | End of borehole at 12.2 m | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 4.7 m to 6.3 m below surface Elevation at top of casing (TOC) = 14.054 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017 GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: **Sonic**

DRILL DATE: **September 14, 2016** LOGGED BY: **M. Coady**
 DRILLED BY:

Notes: SONIC CORE SAMPLE



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

BOREHOLE LOG

BOREHOLE NO: **BH16-20**
 SURFACE ELEVATION: 16.46 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | | |
|------------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|-------|--|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | |
| 0.0 - 0.2 | ■ | S1 | | | silty SAND soft, light brown, dry | | | | | | | | | | 16.46 | |
| 0.2 - 0.4 | ■ | S2 | | | - increasing silt and clay, decreasing sand, compact, orange mottling, compact at 0.6 m | | | | | | | | | | | |
| 0.4 - 0.6 | ■ | S3 | | | | | | | | | | | | | | |
| 0.6 - 0.8 | ■ | S4 | | | | | | | | | | | | | | |
| 0.8 - 1.0 | | | | | SILT some sand, some gravel, dense, grey | | | | | | | | | | 15 | |
| 1.0 - 1.2 | | | | | SILT AND CLAY sandy, trace to some gravel, occasional cobble, dense | | | | | | | | | | | |
| 1.2 - 1.4 | | | | | | | | | | | | | | | | |
| 1.4 - 1.6 | | | | | SILT AND CLAY sandy, trace to some gravel, occasional cobble, dense | | | | | | | | | | | |
| 1.6 - 1.8 | | | | | | | | | | | | | | | | |
| 1.8 - 2.0 | ■ | S5 | | | SAND compact, grey, moist | | | | | | | | | | | |
| 2.0 - 2.2 | ■ | S6 | | | | | | | | | | | | | | |
| 2.2 - 2.4 | | | | | SILT and CLAY sandy, trace to some gravel, occasional cobble, dense, moist | | | | | | | | | | | |
| 2.4 - 2.6 | ■ | S7 | | | | | | | | | | | | | | |
| 2.6 - 2.8 | | | | | | | | | | | | | | | | |
| 2.8 - 3.0 | | | | | | | | | | | | | | | | |
| 3.0 - 3.2 | | | | | | | | | | | | | | | | |
| 3.2 - 3.4 | | | | | | | | | | | | | | | | |
| 3.4 - 3.6 | | | | | | | | | | | | | | | | |
| 3.6 - 3.8 | | | | | | | | | | | | | | | | |
| 3.8 - 4.0 | | | | | | | | | | | | | | | | |
| 4.0 - 4.2 | | | | | | | | | | | | | | | | |
| 4.2 - 4.4 | | | | | | | | | | | | | | | | |
| 4.4 - 4.6 | | | | | | | | | | | | | | | | |
| 4.6 - 4.8 | | | | | | | | | | | | | | | | |
| 4.8 - 5.0 | | | | | | | | | | | | | | | | |
| 5.0 - 5.2 | | | | | | | | | | | | | | | | |
| 5.2 - 5.4 | | | | | | | | | | | | | | | | |
| 5.4 - 5.6 | | | | | | | | | | | | | | | | |
| 5.6 - 5.8 | | | | | | | | | | | | | | | | |
| 5.8 - 6.0 | | | | | | | | | | | | | | | | |
| 6.0 - 6.2 | | | | | | | | | | | | | | | | |
| 6.2 - 6.4 | | | | | | | | | | | | | | | | |
| 6.4 - 6.6 | | | | | | | | | | | | | | | | |
| 6.6 - 6.8 | | | | | | | | | | | | | | | | |
| 6.8 - 7.0 | | | | | | | | | | | | | | | | |
| 7.0 - 7.2 | | | | | | | | | | | | | | | | |
| 7.2 - 7.4 | | | | | | | | | | | | | | | | |
| 7.4 - 7.6 | | | | | | | | | | | | | | | | |
| 7.6 - 7.8 | | | | | | | | | | | | | | | | |
| 7.8 - 8.0 | | | | | | | | | | | | | | | | |
| 8.0 - 8.2 | | | | | | | | | | | | | | | | |
| 8.2 - 8.4 | | | | | | | | | | | | | | | | |
| 8.4 - 8.6 | | | | | | | | | | | | | | | | |
| 8.6 - 8.8 | | | | | | | | | | | | | | | | |
| 8.8 - 9.0 | | | | | | | | | | | | | | | | |
| 9.0 - 9.2 | | | | | | | | | | | | | | | | |
| 9.2 - 9.4 | | | | | | | | | | | | | | | | |
| 9.4 - 9.6 | | | | | | | | | | | | | | | | |
| 9.6 - 9.8 | | | | | | | | | | | | | | | | |
| 9.8 - 10.0 | | | | | | | | | | | | | | | | |

End of borehole at 7.6 m
 Well Completion Details:
 Screened interval from 0.8 m to 2.3 m below surface
 Elevation at top of casing (TOC) = 16.352 m

SLR CANADA V5.2 219.05329.BH LOGS DRAFT JAN 2017.GPJ SLR_CAN V5.2.GDT 3/12/17



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 1**
 SURFACE ELEVATION: 18.70 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|----------------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 0.0 - 0.5 | █ | TP1-1 | | | silty SAND AND GRAVEL some roots/rootlets, loose, brown | | | | | | | | | roadbox, jplug, cement | |
| 0.5 - 1.0 | █ | TP1-2 | | | SILT AND CLAY, sandy, trace gravel, very hard, grey/brown with orange mottling | | | | | | | | | bentonite seal | 18 |
| 1.0 - 1.5 | █ | TP1-3 | | | | | | | | | | | | silica sand probe silica sand | |
| 1.5 - 1.8 | | | | | End of testpit at 1.5 m | | | | | | | | | bentonite seal | |

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 2**
 SURFACE ELEVATION: 18.76 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|---------------|--|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 0 | ■ | TP2-1 | | | silty SAND AND GRAVEL roots/rootlets, loose, light brown, dry | | | | | | | | | | |
| 0.5 | ■ | TP2-2 | | | silty SAND some clay, some gravel, occasional cobble, loose, dark brown | | | | | | | | | | |
| 1.0 | ■ | TP2-3 | | | SILT AND CLAY sandy, trace gravel, hard, grey with orange mottling, moist | | | | | | | | | | |
| 1.5 | | | | | End of testpit at 1.5 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 3**
 SURFACE ELEVATION: 18.19 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-------------------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|---------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| | █ | TP3-1 | | | silty SAND some roots/rootlets, large cobble, dark brown - trace gravel, orange brown, dry to 0.4 m | | | | | | | | | | 18 |
| | █ | TP3-2 | | | | | | | | | | | | | |
| | █ | TP3-3 | | | silty SAND AND GRAVEL loose, light brown, dry | | | | | | | | | | |
| | █ | TP3-4 | | | SAND AND GRAVEL trace silt, occasional cobble, loose, brown, moist | | | | | | | | | | |
| 1 | █ | TP3-5 | | | SILT AND CLAY sandy, trace gravel, fractured/weathered | | | | | | | | | | 17 |
| End of testpit at 1.5 m | | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 4**
 SURFACE ELEVATION: 19.17 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|------------|-----------|-----------|--|-----------------------------|----|-----|------|-------|------------|------------------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.5 | █ | TP4-1 | | | SAND AND GRAVEL (fill) loose, light hydrocarbon odour, dry | | | | | | | roadbox, jplug, cement | 19.17 | |
| 0.5 - 1.0 | █ | TP4-2 | | | SAND some gravel, occasional cobble, loose, light hydrocarbon odour, moist | | | | | | | bentonite seal | | |
| 1.0 - 1.5 | █ | TP4-3/DupA | | | silty SAND some gravel, compact, light - moderate hydrocarbon odour | | | | | | | probe | | |
| 1.5 - 1.8 | | | | | SAND AND GRAVEL trace silt, trace clay, loose, light - moderate hydrocarbon odour, moist | | | | | | | silica sand | | |
| 1.8 - 1.9 | | | | | | | | | | | | bentonite seal | 18.00 | |
| 1.9 - 2.0 | | | | | End of testpit at 1.5 m | | | | | | | | | |

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 5**
 SURFACE ELEVATION: 18.94 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|------------|-----------|-----------|---|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| | ■ | TP5-1 | | | silty SAND some gravel, loose, light hydrocarbon odour, brown | | | | | | | | | |
| | ■ | TP5-2/DupB | | | SAND AND GRAVEL some silt, trace clay, light - moderate hydrocarbon odour, dark brown | | | | | | | | backfilled to grade | |
| 1 | ■ | TP5-3 | | | SAND some silt, loose, light hydrogen sulfide odour, grey with some mottling, wet | | | | | | | | | |
| | ■ | TP5-4 | | | SILT some clay, trace sand, firm, high plasticity, grey, wet | | | | | | | | | |
| | | | | | End of testpit at 1.5 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 6**
 SURFACE ELEVATION: 19.57 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-------------------------|-------------|------------|-----------|-----------|--|-----------------------------|----|-----|------|-------|------------|-------------|---|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | █ | TP6-1/DupE | | | silty SAND some gravel, occasional cobble, loose, light hydrocarbon odour, brown, dry | | | | | | | | roadbox, jplug, cement | |
| 0 | █ | TP6-2 | | | sandy SILT weathered, fractured, some woody debris, moderate - strong hydrocarbon odour - less weathered and fractured from 0.7 m | | | | | | | | bentonite seal silica sand probe silica sand | 19 |
| 1 | █ | TP6-3 | | | | | | | | | | | | |
| | █ | TP6-4/DupD | | | sandy SILT AND CLAY trace gravel, occasional cobble, strong hydrocarbon odour | | | | | | | | bentonite seal | |
| End of testpit at 1.5 m | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: █ SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 7**
 SURFACE ELEVATION: 18.48 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-------------------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | SAND AND GRAVEL trace vegetation, trace roots/rootlets, loose, brown | | | | | | | | | |
| 0.5 | TP7-1/DupF | | | | sandy GRAVEL, some silt, some clay some silt, some clay, dry | | | | | | | | | 18 |
| 1.0 | TP7-2 | | | | silty SAND trace gravel, very dense, dry | | | | | | | | backfilled to grade | |
| 1.5 | TP7-3 | | | | | | | | | | | | | 17 |
| End of testpit at 1.5 m | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic
 DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:

Notes: SONIC CORE SAMPLE



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 8**
 SURFACE ELEVATION: 18.75 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.2 | TP 8-1 | | | | SILT AND SAND trace gravel, trace roots/rootlets, loose, dark brown to 0.2 m, dry | | | | | | | | | |
| 0.2 - 0.4 | TP 8-2 | | | | silty SAND occasional gravel, loose, light brown with orange mottling, dry | | | | | | | | | |
| 0.4 - 1.5 | TP 8-3 | | | | SILT AND CLAY sandy, trace subrounded gravel, hard to very hard, grey, moist to dry | | | | | | | | backfilled to grade | 18 |
| 1.5 - 1.5 | | | | | End of testpit at 1.5 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



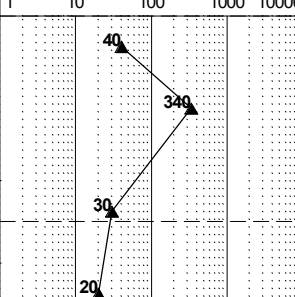
CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP 9**
 SURFACE ELEVATION: 19.59 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|----------------|------------------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.1 | █ | TP9-1 | | | SAND AND GRAVEL loose, light hydrocarbon odour, grey brown, dry | | | | | | | roadbox, jplug, cement | | |
| 0.1 - 0.2 | █ | TP9-2 | | | | | | | | | | bentonite seal | | |
| 0.2 - 0.6 | █ | TP9-3 | | | - dark brown with some mottling, moist at 0.6 m SILT AND SAND some gravel, loose, light hydrocarbon odour, light brown, moist | | | | | | | probe | | |
| 0.6 - 1.5 | █ | TP9-4 | | | SILT AND CLAY sandy, trace gravel, very hard, grey | | | | | | | silica sand | | |
| 1.5 - 1.5 | | | | | End of testpit at 1.5 m | | | | | | bentonite seal | | | |



SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic
 DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:

Notes: SONIC CORE SAMPLE



CLIENT: **Defence Construction Canada**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00000**

TESTPIT LOG

TESTPIT NO: **TP10**
 SURFACE ELEVATION: 19.68 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-------------|-----------|-----------|---|-----------------------------|----|-----|------|-------|------------|-------------|------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | ■ | TP10-1 | | ○ | SAND AND GRAVEL loose, light hydrocarbon odour, grey with brown and orange mottling | | | 70 | | | 3 | | roadbox, jplug, cement | |
| 1 | ■ | TP10-2/DupC | | ○ | SILT AND SAND some gravel, loose, moderate hydrocarbon odour, dark brown, moist | | | 15 | | | | | bentonite seal | |
| 1 | ■ | TP10-3 | | ○ | silty SAND trace clay, trace gravel, compact, moderate hydrocarbon odour, grey | | | 150 | | | | | silica sand probe | 19 |
| 1 | ■ | TP10-4 | | ○ | SILT some clay, firm, light - moderate hydrocarbon odour, grey, moist | | | 460 | | | | | bentonite seal | |
| | | | | | End of testpit at 1.5 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.TP LOGS DRAFT MAR 2017.GPJ SLR_CAN V5.2.GDT 3/12/17

DRILLING METHOD: Sonic

Notes: ■ SONIC CORE SAMPLE

DRILL DATE: September 15, 2016
 LOGGED BY: M.Coady
 DRILLED BY:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-1
 SURFACE ELEVATION: 14.13 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|------------------------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| 0 to 1.5 | | | | | SAND fine, some silt, trace gravel, loose, organics at surface, grass rootlets (0-0.08 m bgs.), grey-brown, dry | | | | | | | steel casing, stickup, jplug | | 14 |
| 1.1 to 1.5 | | | | | | | | | | | | bentonite seal | | 13 |
| 1.5 | | | | | End of borehole at 1.5 m Well Completion Details: Screened interval from 1.1 m to 1.5 m below surface Elevation at top of casing (TOC) = 15.002 m | | | | | | | 50 mm 010 slot PVC pipe | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 10, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-2
 SURFACE ELEVATION: 13.65 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|------------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | | |
| 0 to 0.6 | | | | | SAND fine, some silt, trace gravel, loose, trace organics at surface, density / compactness increasing at 0.6 mbg., light brown, dry | | | | | | | | | steel casing, stickup, jplug | 14 |
| 0.6 to 1.0 | | | | | gravelly SILT some sand, grey, moist | | | | | | | | | silica sand | 13 |
| 1.0 to 1.8 | | | | | silty SAND some gravel, occasional cobble, grey, moist | | | | | | | | | bentonite seal | 12 |
| 1.8 to 2.7 | | | | | End of borehole at 2.7 m Well Completion Details: Screened interval from 2.4 m to 2.7 m below surface Elevation at top of casing (TOC) = 14.515 m | | | | | | | | | 50 mm 010 slot PVC pipe | 11 |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 10, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-3D
 SURFACE ELEVATION: 15.79 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|--------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|------------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| 0 to 1.8 | | | | | silty SAND fine, some gravel (sub-angular), light brown, dry | | | | | | | | | |
| 1.8 to 1.5 | | | | | End of borehole at 1.8 m | | | | | | | | | |
| 1.5 to 1.8 | | | | | Well Completion Details: Screened interval from 1.5 m to 1.8 m below surface Elevation at top of casing (TOC) = 16.713 m | | | | | | | | | |
| 14 to 15 | | | | | | | | | | | | | 50 mm 010 slot PVC pipe | 14 |
| 15 to 16 | | | | | | | | | | | | | bentonite seal | 15 |
| 16 to 16.713 | | | | | | | | | | | | | steel casing, stickup, jplug | 16 |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 10, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-3S
 SURFACE ELEVATION: 15.80 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| 0 | | | | | silty SAND fine, some gravel (sub-angular), light brown, dry | | | | | | | | | |
| 1 | | | | | | | | | | | | | | |
| 1.5 | | | | | End of borehole at 1.5 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.5 m to 0.9 m below surface Elevation at top of casing (TOC) = 16.706 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 10, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-4
 SURFACE ELEVATION: 17.57 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| | | | | | Ground Surface | | | | | | | | | | 18 |
| | | | | | SILT and SAND trace gravel, trace roots/rootlets, loose, silt content increasing with depth, brown, dry | | | | | | | | | | 17 |
| | | | | | End of borehole at 0.9 m Well Completion Details: Screened interval from 0.5 m to 0.9 m below surface Elevation at top of casing (TOC) = 18.476 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 10, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-5
 SURFACE ELEVATION: 18.47 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|------------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | | |
| 0.45 | | | | | SILT and SAND fine, trace gravel, moist and darker soils at 0.45 mbg, light brown, dry | | | | | | | | | steel casing, stickup, jplug | 19 |
| 0.9 | | | | | silty SAND some gravel, trace clay, soft, abundant orange mottling, grey, wet | | | | | | | | | bentonite seal | 18 |
| 1.4 | | | | | End of borehole at 1.4 m Well Completion Details: Screened interval from 0.9 m to 1.4 m below surface Elevation at top of casing (TOC) = 19.330 m | | | | | | | | | 50 mm 010 slot PVC pipe | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-6D
 SURFACE ELEVATION: 17.03 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| | | | | | SAND and GRAVEL some silt, soft, dark brown, moist | | | | | | | | steel casing, stickup, plug | 17 |
| | | | | | SILT and SAND fine, trace gravel, trace clay, firm, orange mottling present, light grey | | | | | | | | cement | |
| | | | | | SILT some sand, soft, dark brown, moist | | | | | | | | | |
| 1 | | | | | SILT and SAND trace to some clay, occasional rounded gravel, soft, moderate plasticity, density and clay content increasing with depth, grey | | | | | | | | bentonite seal | 16 |
| | | | | | End of borehole at 2.0 m | | | | | | | | 50 mm 010 slot PVC pipe | |
| | | | | | Well Completion Details: Screened interval from 1.5 m to 2.0 m below surface Elevation at top of casing (TOC) = 17.951 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-6S
 SURFACE ELEVATION: 17.02 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | | |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|-----------------------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | | | |
| | | | | | SAND and GRAVEL some silt, soft, dark brown, moist | | | | | | | | | | steel casing, stickup, plug | 17 |
| | | | | | SILT and SAND fine, trace gravel, trace clay, firm, orange mottling present, light grey | | | | | | | | | | cement | |
| | | | | | SILT some sand, soft, dark brown, moist | | | | | | | | | | bentonite seal | |
| | | | | | SILT and SAND trace to some clay, occassional rounded gravel, soft, moderate plasticity, density and clay content increasing with depth, grey | | | | | | | | | | 50 mm 010 slot PVC pipe | 16 |
| 1.1 | | | | | End of borehole at 1.1 m | | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.6 m to 1.1 m below surface Elevation at top of casing (TOC) = 18.048 m | | | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-7D
 SURFACE ELEVATION: 16.72 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|---------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|-----------------------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| 0 to 1.7 | | | | | silty SAND fine to trace medium to coarse sand, trace to some gravel, loose, localized orange mottling, brown, moist | | | | | | | | | steel casing, stickup, plug |
| 1.7 to 1.746 | | | | | | | | | | | | | | cement |
| 1.746 to 1.77 | | | | | | | | | | | | | | bentonite seal |
| 1.77 to 2.0 | | | | | Compact, becoming dense below 1.5 m, increased orange mottling, increasing silt content and becoming greyish-brown | | | | | | | | | 50 mm 010 slot PVC pipe |
| 2.0 | | | | | End of borehole at 2.0 m Well Completion Details: Screened interval from 1.7 m to 2.0 m below surface Elevation at top of casing (TOC) = 17.746 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-7-INSTREAM
 SURFACE ELEVATION: 14.75 m @ grade of creek bed

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|--|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| -1 | | | | | Surface Water Level (for display only) | | | | | | | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | | |
| | | | | | Subsurface stratigraphy not logged | | | | | | | | | | |
| | | | | | | | | | | | | | compact sediments | | |
| 1 | | | | | | | | | | | | | screen | | |
| | | | | | End of borehole at 1.3 m | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 1.0 m to 1.3 m below surface Elevation at top of casing (TOC) = 16.613 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Drive-point, slidehammer
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-7S
 SURFACE ELEVATION: 16.77 m

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|---------------|----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | |
| -1 | | | | | | | | | | | | | | | |
| | | | | | Ground Surface | | | | | | | | | | 17 |
| 0 | | | | | silty SAND fine, trace medium to coarse sand, trace to some gravel, loose, localized orange mottling, brown, moist | | | | | | | | | | |
| | | | | | | | | | | | | | | | 16 |
| 1 | | | | | | | | | | | | | | | |
| | | | | | End of borehole at 1.1 m | | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 0.6 m to 1.1 m below surface Elevation at top of casing (TOC) = 17.865 m | | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-8D
 SURFACE ELEVATION: 13.75 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|-----------------|-------------|-------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | jplug | |
| | | | | | silty SAND trace to some gravel, trace clay, occasional rounded cobble, soft to firm, localized orange mottling, medium brown | | | | | | | | stickup | 14 |
| | | | | | | | | | | | | | cement | |
| | | | | | | | | | | | | | bentonite seal | 13 |
| | | | | | sand and gravel fraction increasing below 1.2 mbg. | | | | | | | | | |
| | | | | | | | | | | | | | 50 mm 010 slot PVC pipe | 12 |
| | | | | | End of borehole at 2.0 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 1.7 m to 2.0 m below surface Elevation at top of casing (TOC) = 14.584 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: **Department of National Defence**
 PROJECT: **FFTA**
 ADDRESS: **19 Wing Comox, Lazo, BC**
 SLR JOB NO: **219.05329.00001**

BOREHOLE LOG

BOREHOLE NO: **PIEZO17-8-INSTREAM**
 SURFACE ELEVATION: **12.68 m @ grade of creek bed**

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| -1 | | | | | Surface Water Level (for display only) | | | | | | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| | | | | | Subsurface stratigraphy not logged | | | | | | | | | |
| 1 | | | | | | | | | | | | | | |
| | | | | | End of borehole at 1.3 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 1.0 m to 1.3 m below surface Elevation at top of casing (TOC) = 13.918 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Drive-point, slidehammer
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



CLIENT: Department of National Defence
 PROJECT: FFTA
 ADDRESS: 19 Wing Comox, Lazo, BC
 SLR JOB NO: 219.05329.00001

BOREHOLE LOG

BOREHOLE NO: PIEZO17-8S
 SURFACE ELEVATION: 13.80 m

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | WELL COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | ELEVATION (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|-----------------|-------------|-------------------------|---------------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0 | | | | | Ground Surface | | | | | | | | | |
| 0 | | | | | silty SAND trace to some gravel, trace clay, occasional rounded cobble, soft to firm, localized orange mottling, brown | | | | | | | | jplug | |
| 0.5 | | | | | | | | | | | | | stickup | 14 |
| 1.0 | | | | | | | | | | | | | cement | |
| 1.1 | | | | | | | | | | | | | bentonite seal | |
| 1.2 | | | | | | | | | | | | | 50 mm 010 slot PVC pipe | 13 |
| 1.2 | | | | | End of borehole at 1.2 m | | | | | | | | | |
| | | | | | Well Completion Details: Screened interval from 1.1 m to 1.5 m below surface Elevation at top of casing (TOC) = 14.601 m | | | | | | | | | |

SLR CANADA V5.2 219.05329.PIEZO LOGS NOV 2017_171114.GPJ SLR_CAN V5.2.GDT 3/25/18

DRILLING METHOD: Solid Stem Auger Drilling
 DRILL DATE: October 11, 2017
 LOGGED BY: M. Coady, I. Mitchell
 DRILLED BY:

Notes:



Client
Public Services and Procurement Canada

Borehole No. : BH18-21

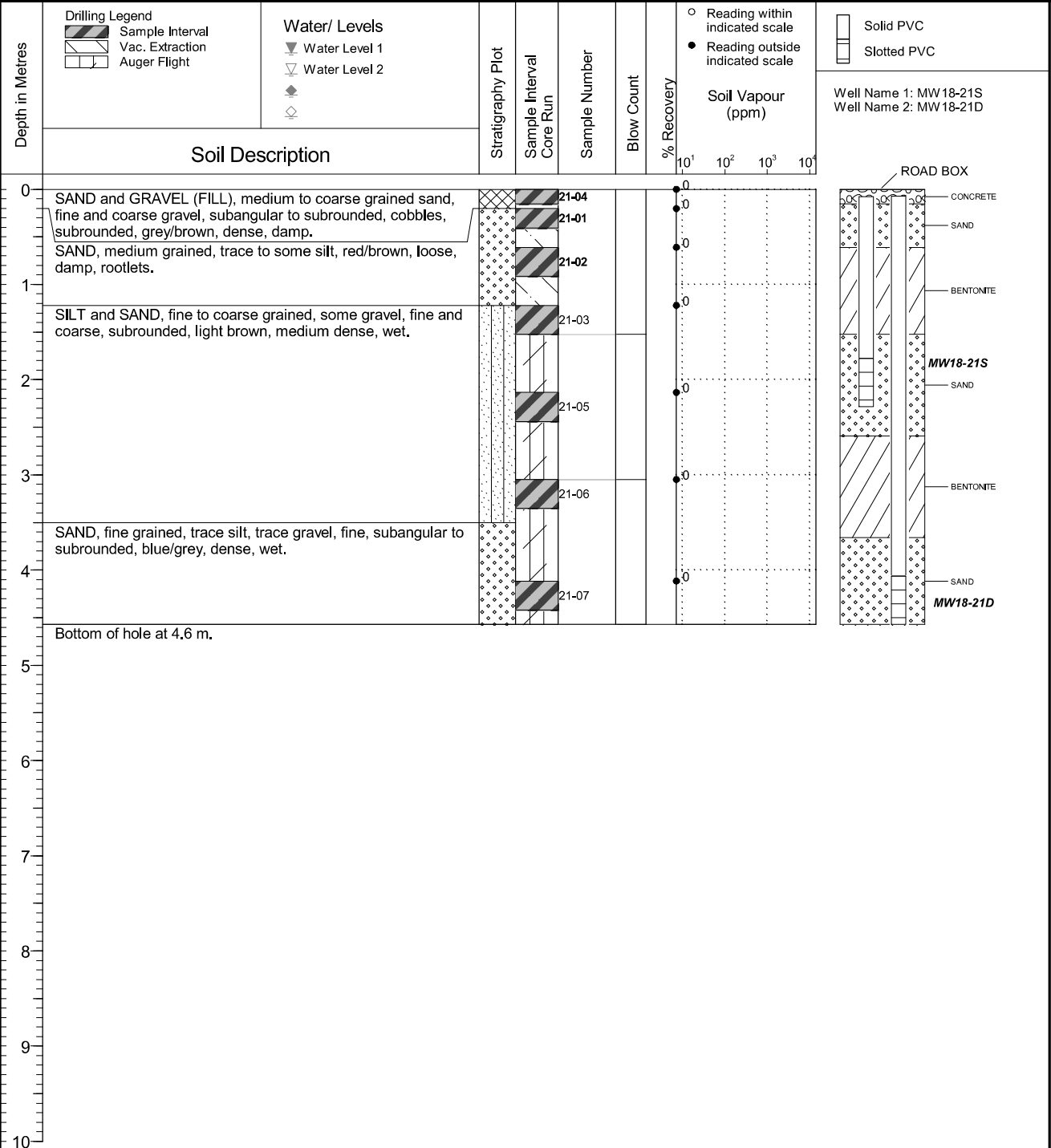
Location
CFB Comox

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Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,734
Top of Casing Elev. (m) 18,657 18,662
Northing: 5509486,683 Easting: 362331,212

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 11
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-22

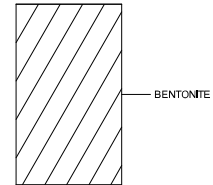
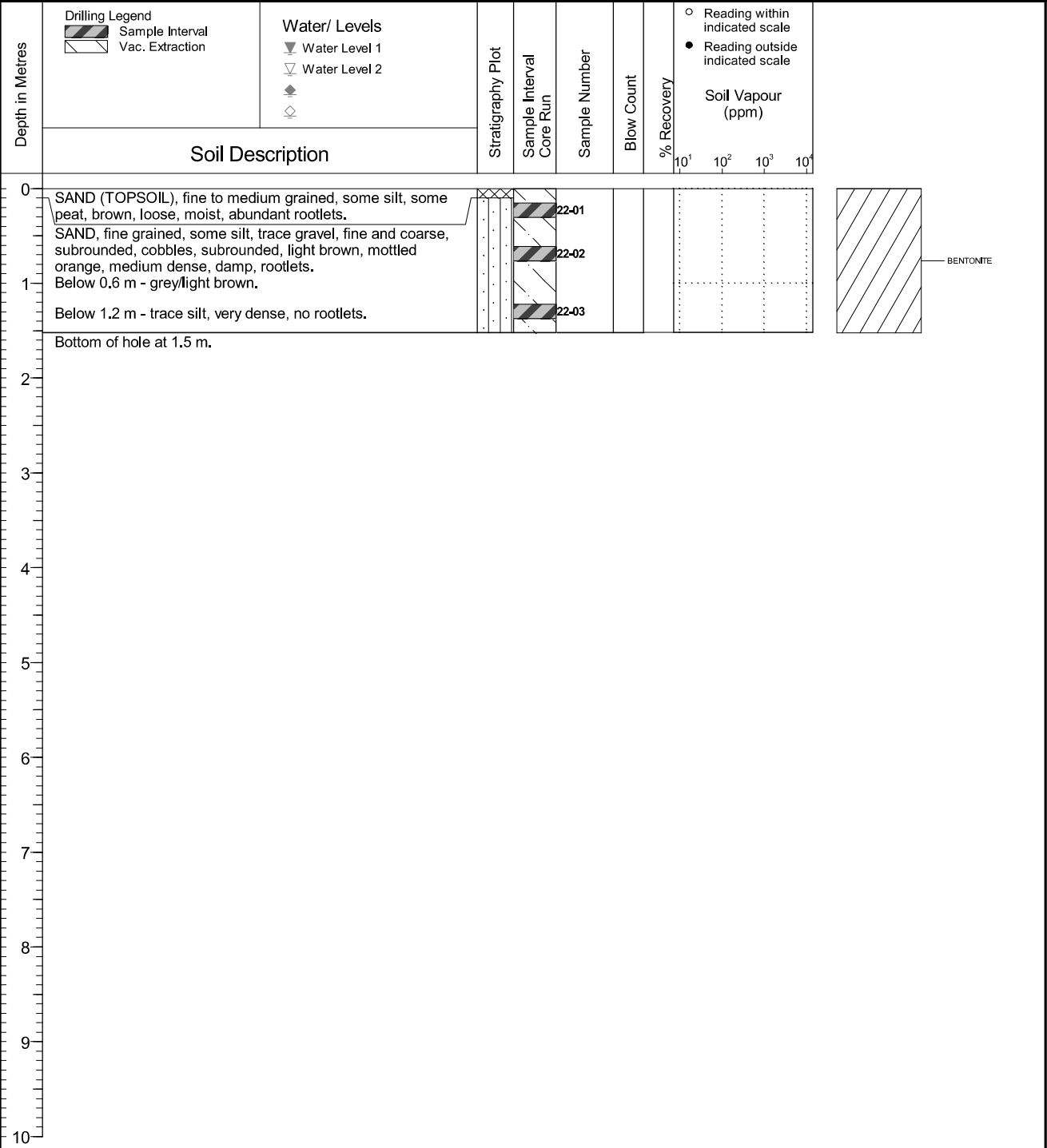
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting Ltd.
Drilling Method Hydrovac
Borehole Dia. (m) 0,25
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 15.891
Top of Casing Elev. (m) n/a
Northing: 5509803.063 Easting: 362311.867

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 11
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-23

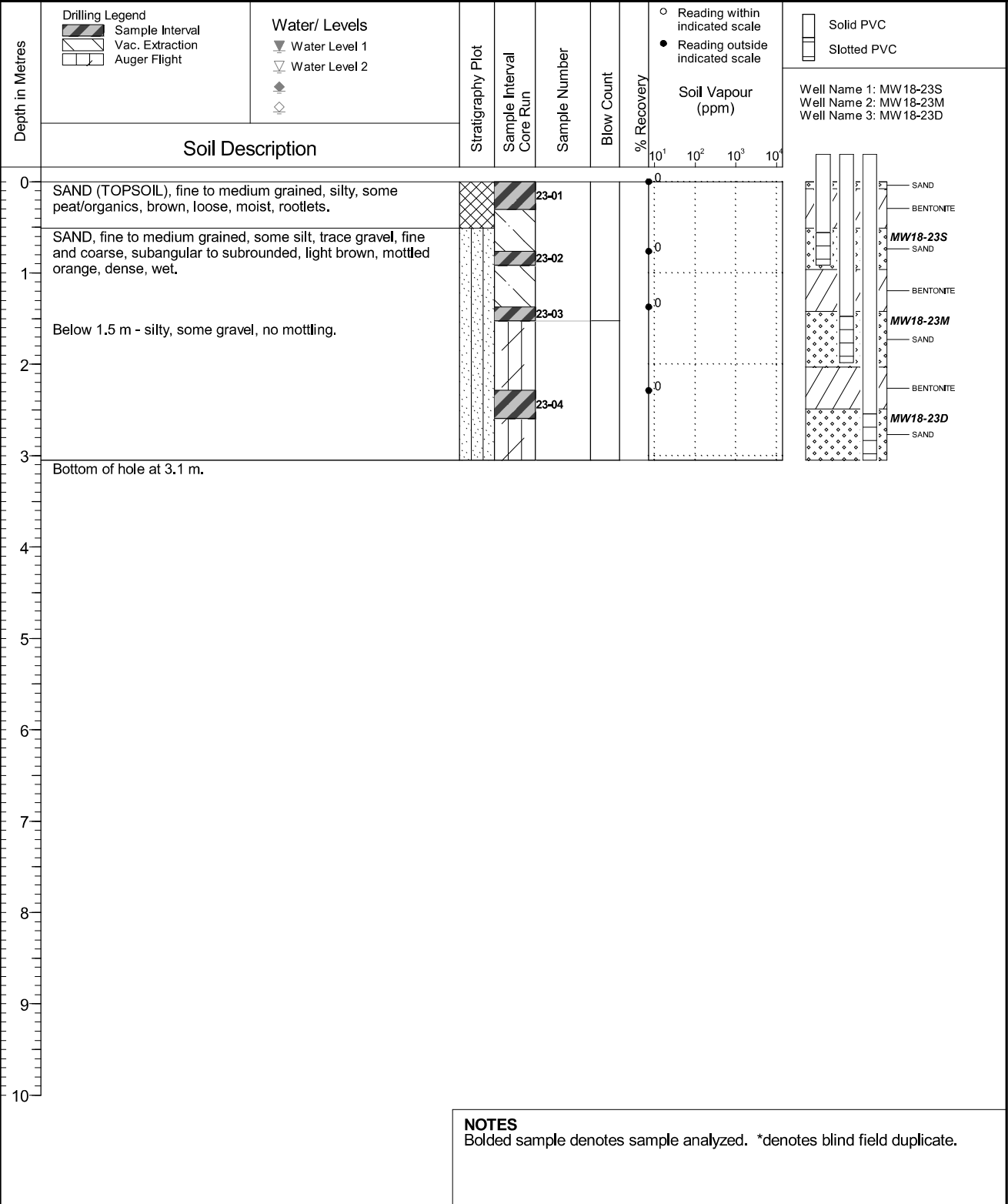
Location
CFB Comox

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Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 16,745
Top of Casing Elev. (m) 17,763 17,754
Northing: 5509709.203 Easting: 362311.050

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 12
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-24

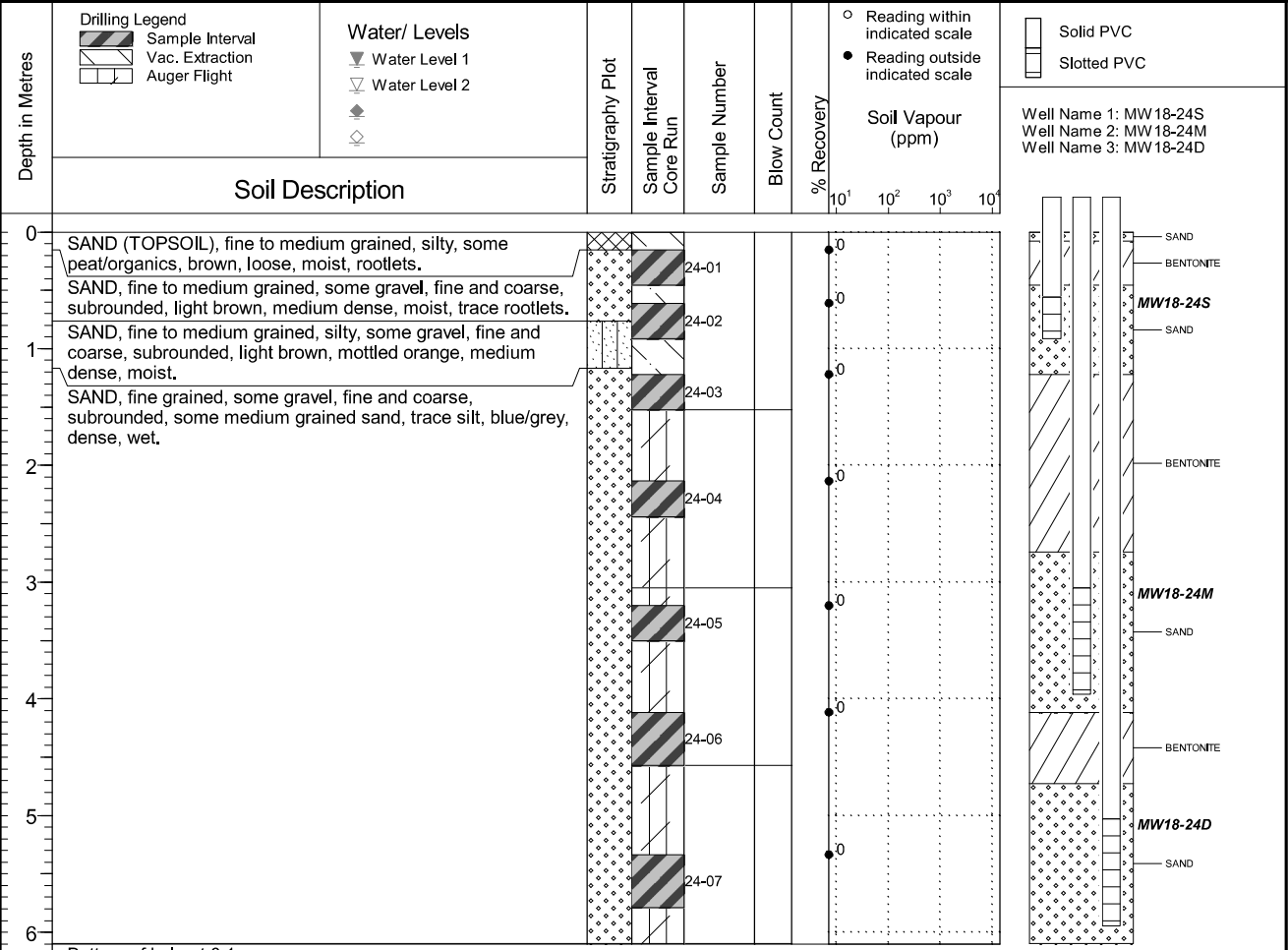
Location
CFB Comox

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Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 16,872
Top of Casing Elev. (m) 17,812 17,796
Northing: 5509683,822 Easting: 362189,235

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 13
Log Typed By: NDS



Bottom of hole at 6.1 m.

NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.

QA_TP 2019 02 26 Print Date: 2019-03-26



Client
Public Services and Procurement Canada

Borehole No. : BH18-25

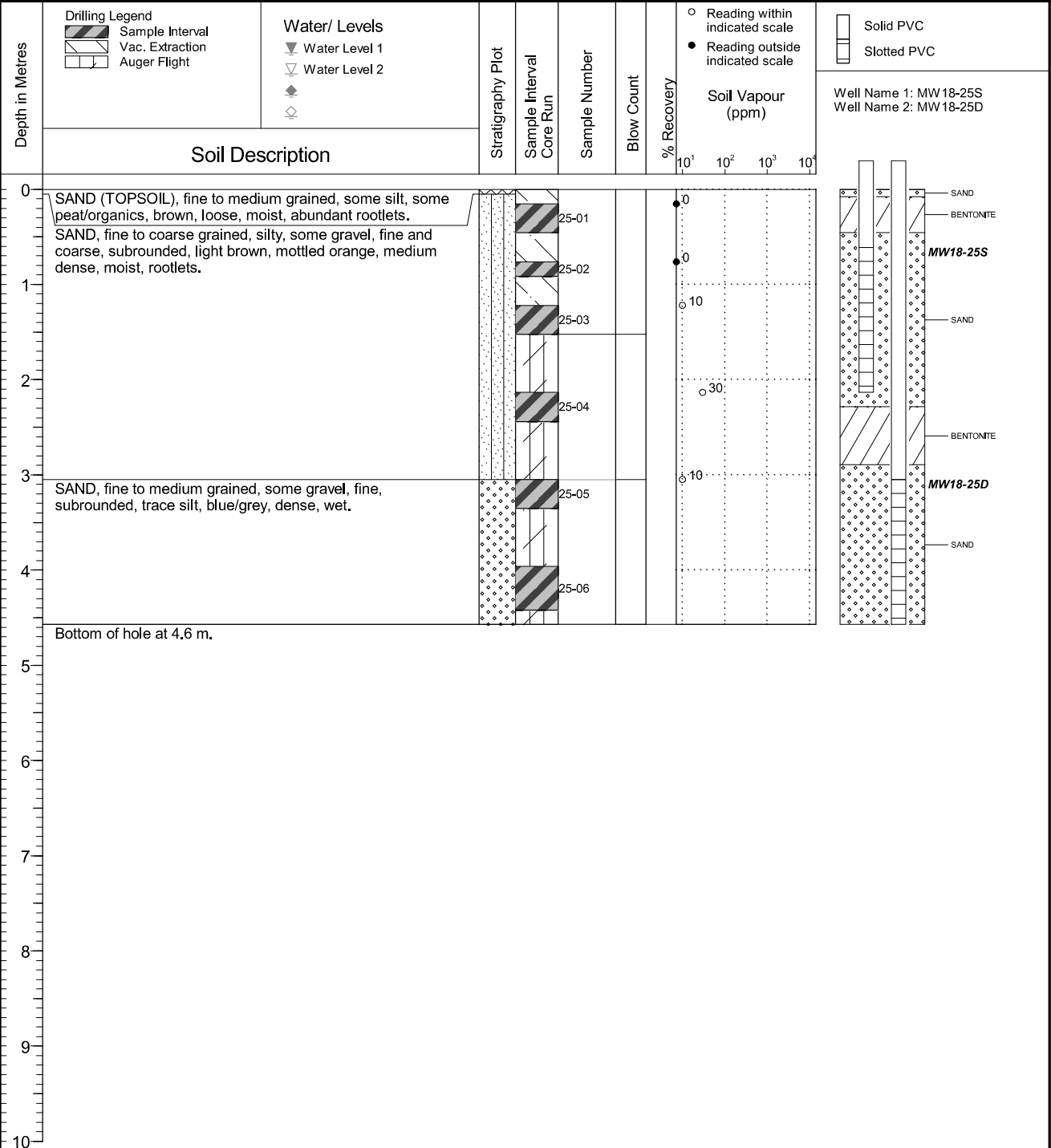
Location
CFB Comox

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Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 15,508
Top of Casing Elev. (m) 16,396 16,420
Northing: 5509782,040 Easting: 362209,464

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 12
Log Typed By: NDS





Client
Public Services and Procurement Canada

Borehole No. : BH18-26

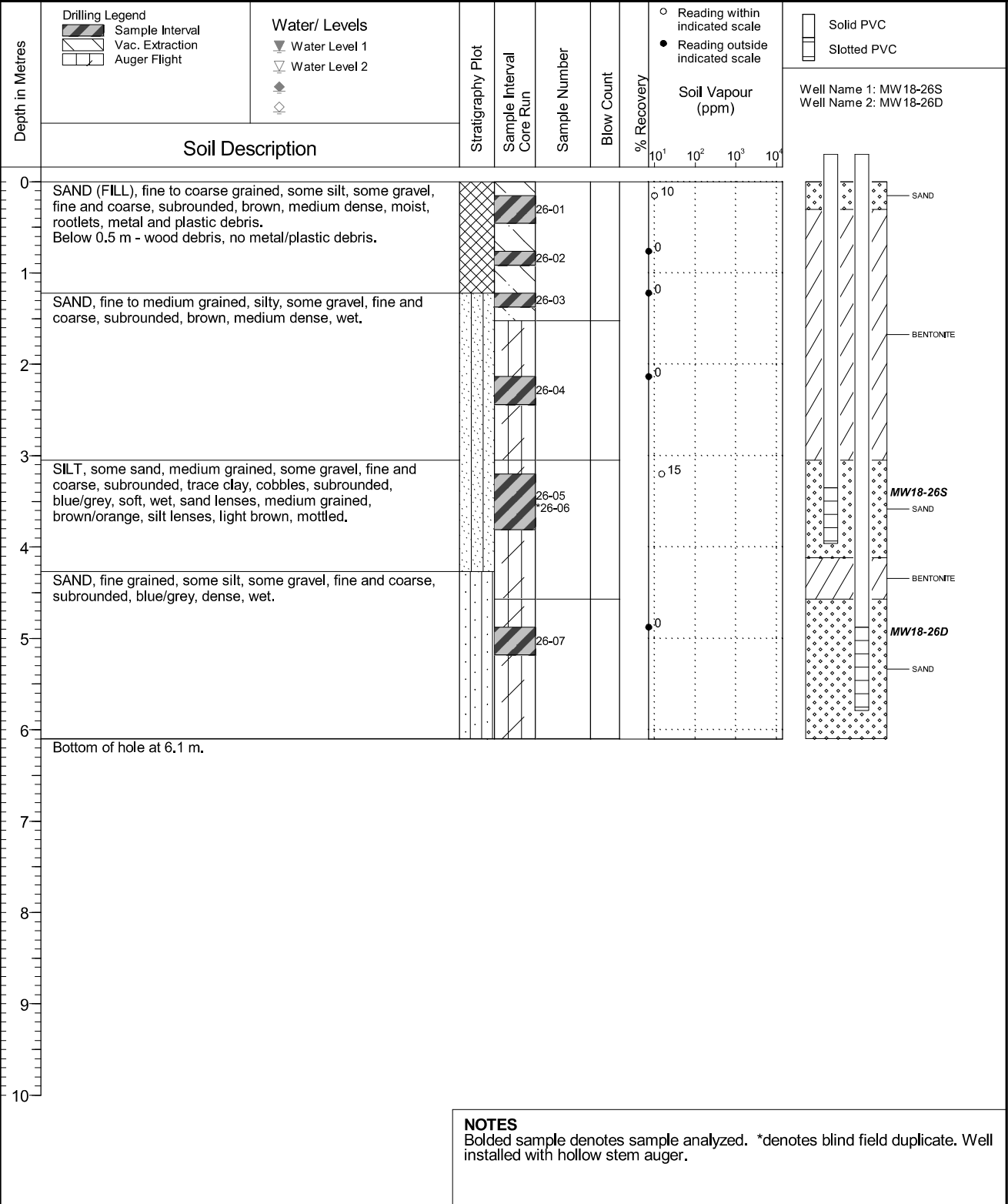
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,20
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,156
Top of Casing Elev. (m) 19,203 19,116
Northing: 5509451,696 Easting: 362286,869

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 13
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate. Well installed with hollow stem auger.



Client
Public Services and Procurement Canada

Borehole No. : BH18-27

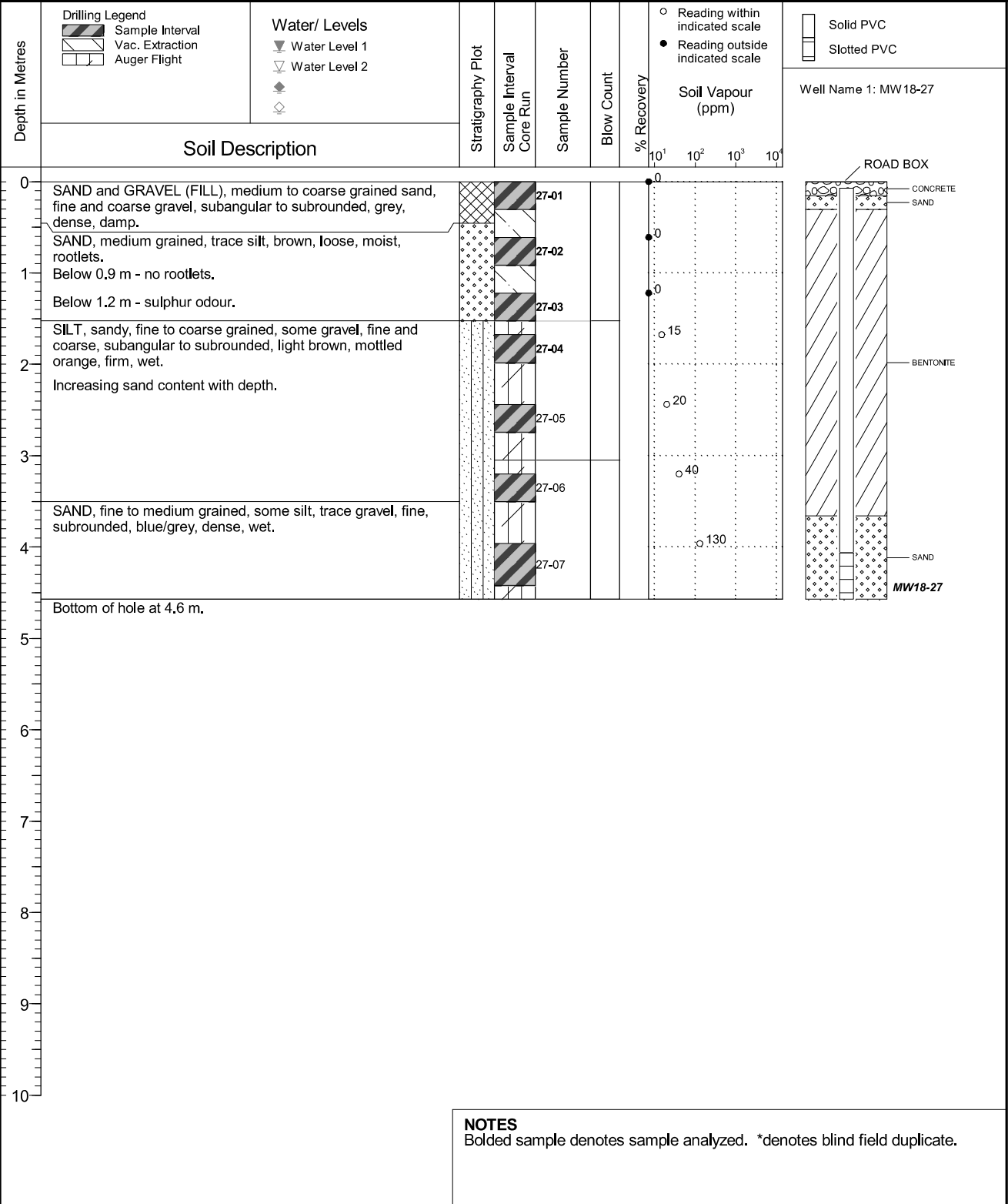
Location
CFB Comox

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Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,319
Top of Casing Elev. (m) 18,245
Northing: 5509534,700 Easting: 362315,871

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 12
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-28

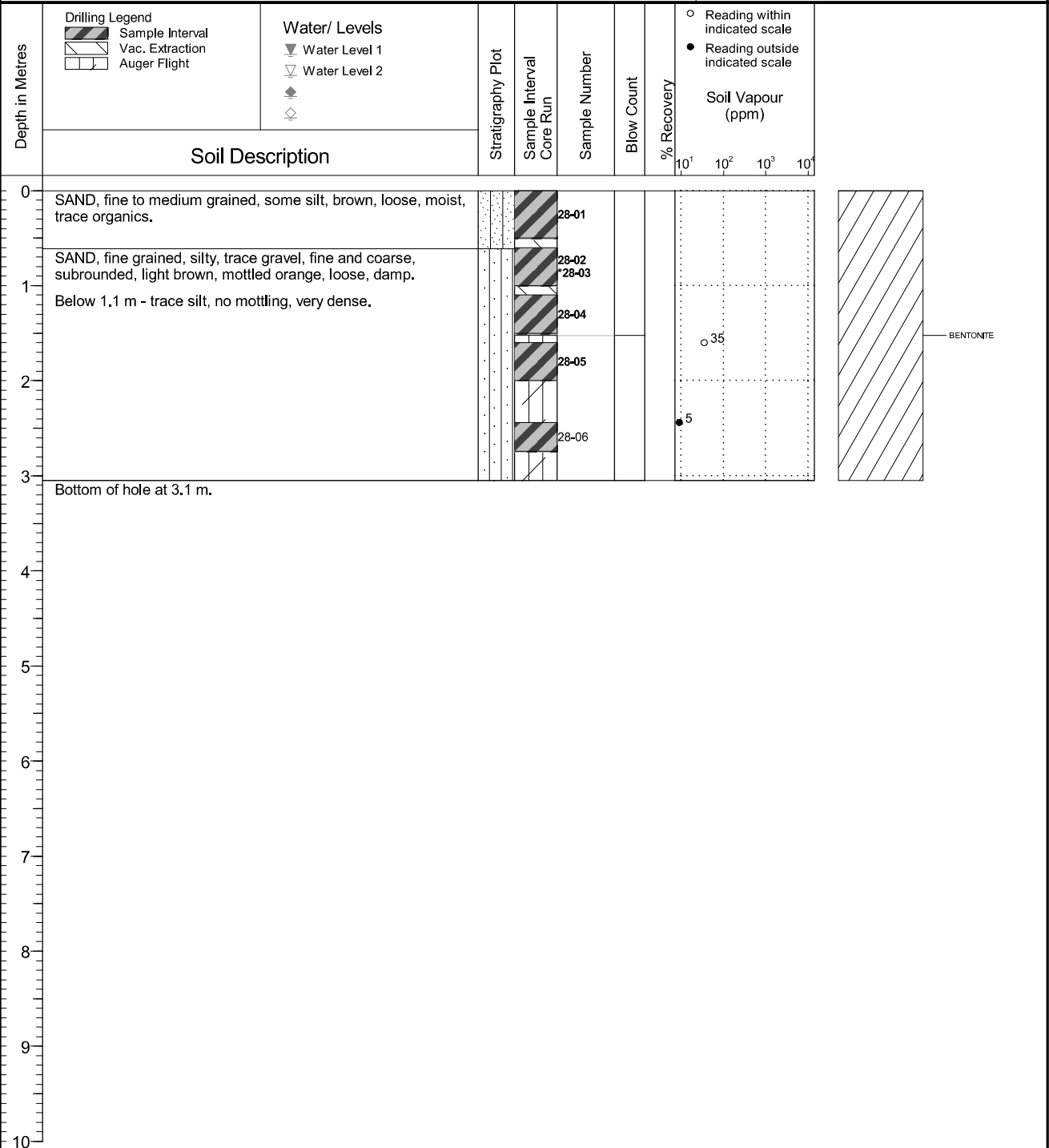
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 17,588
Top of Casing Elev. (m) n/a
Northing: 5509585,494 Easting: 362317,358

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 12
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-29

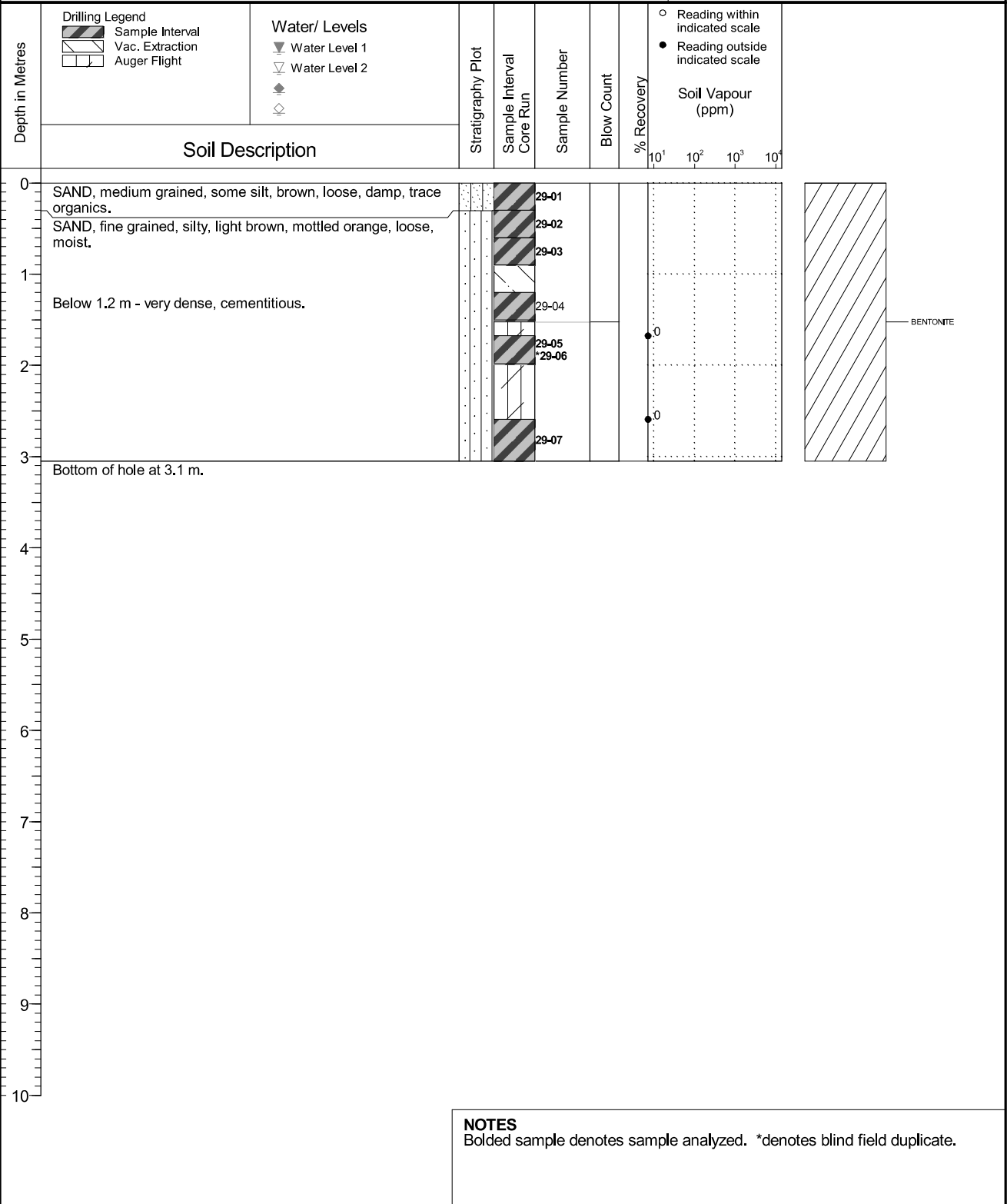
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 17.072
Top of Casing Elev. (m) n/a
Northing: 5509638,819 Easting: 362323,871

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 13
Log Typed By: NDS





Client
Public Services and Procurement Canada

Borehole No. : BH18-30

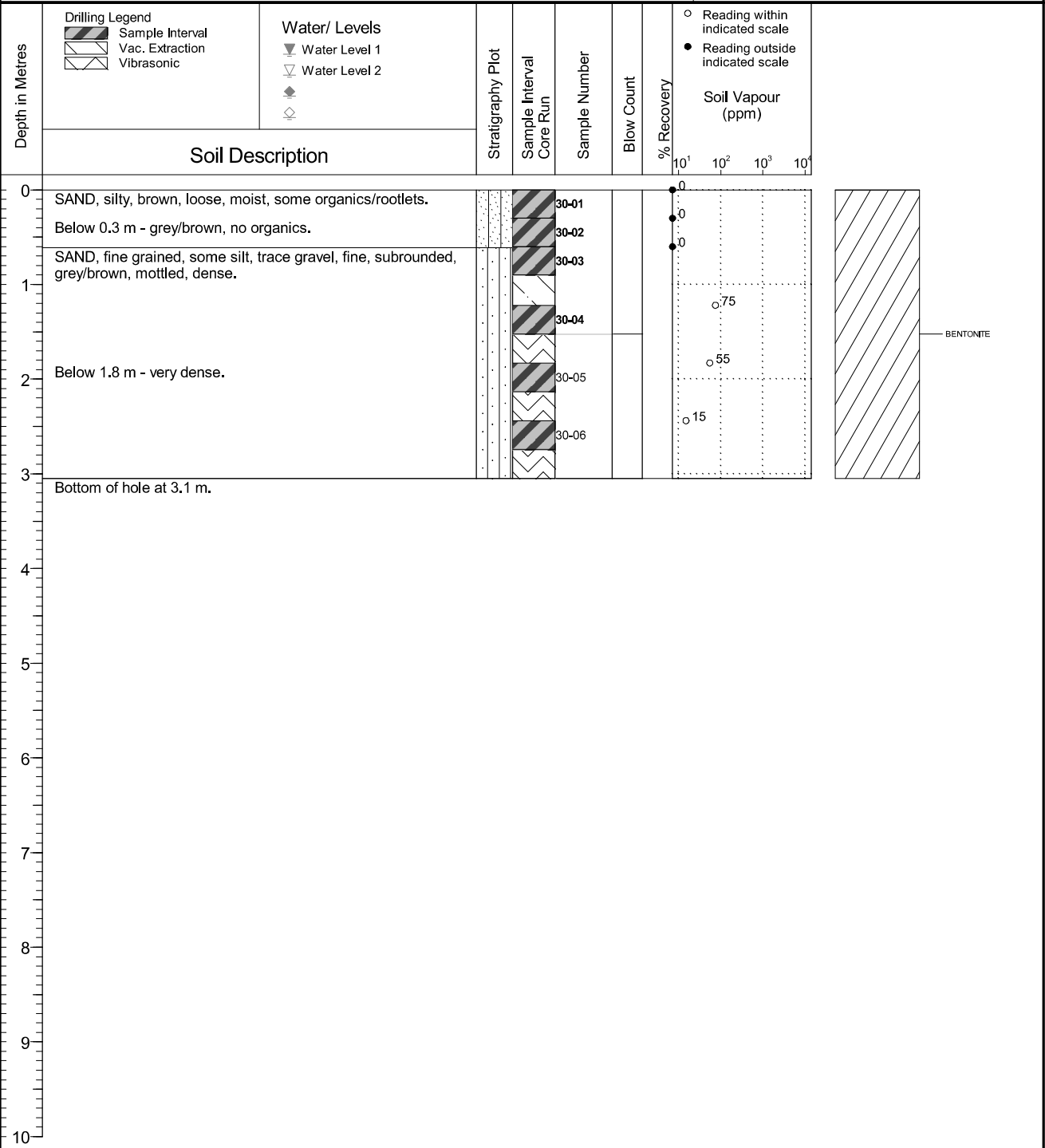
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 19,766
Top of Casing Elev. (m) n/a
Northing: 5509465,612 Easting: 362445,205

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 15
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-31

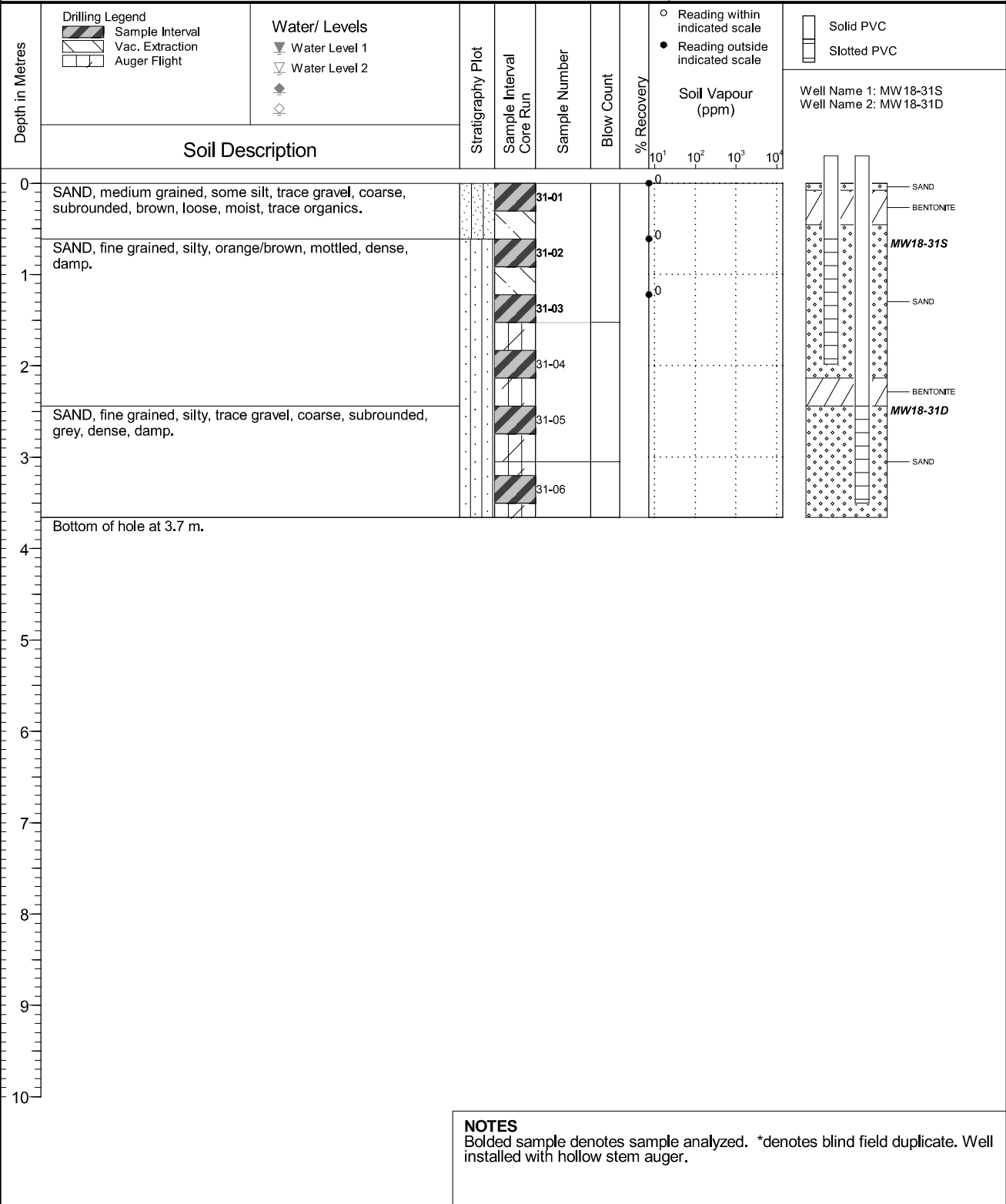
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0.20
Pipe/Slotted Pipe Dia. (m) 0.03/0.03

Date Monitored n/a
Ground Surface Elev. (m) 17.673
Top of Casing Elev. (m) 18.843 18.826
Northing: 5509377.092 Easting: 362328.988

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 13
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate. Well installed with hollow stem auger.



Client
Public Services and Procurement Canada

Borehole No. : BH18-32

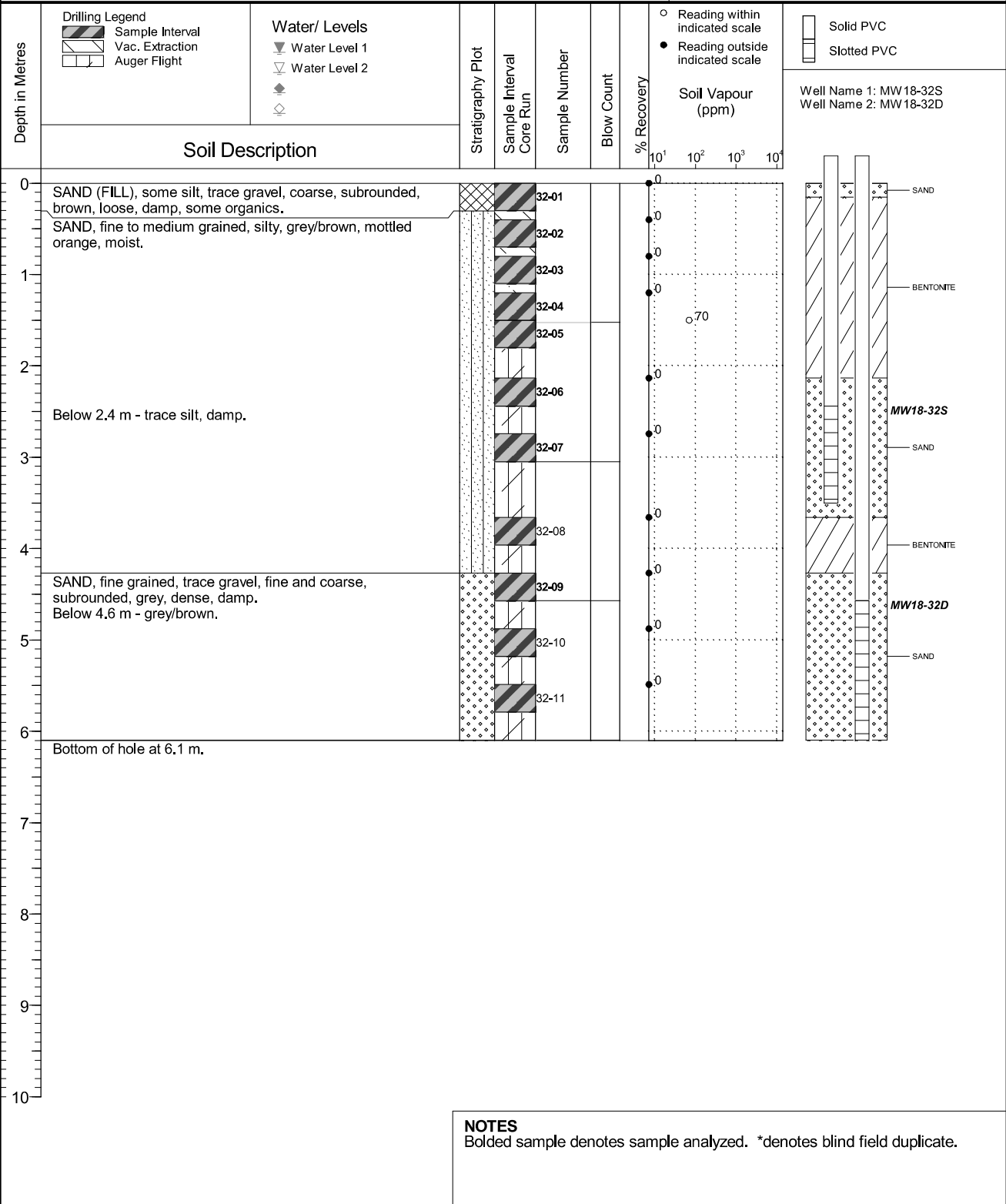
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 16,759
Top of Casing Elev. (m) 17,905 17,906
Northing: 5509697,763 Easting: 362346,943

Project Number: 658394
Borehole Logged By: ZL
Date Drilled: 2018 12 15
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-33D

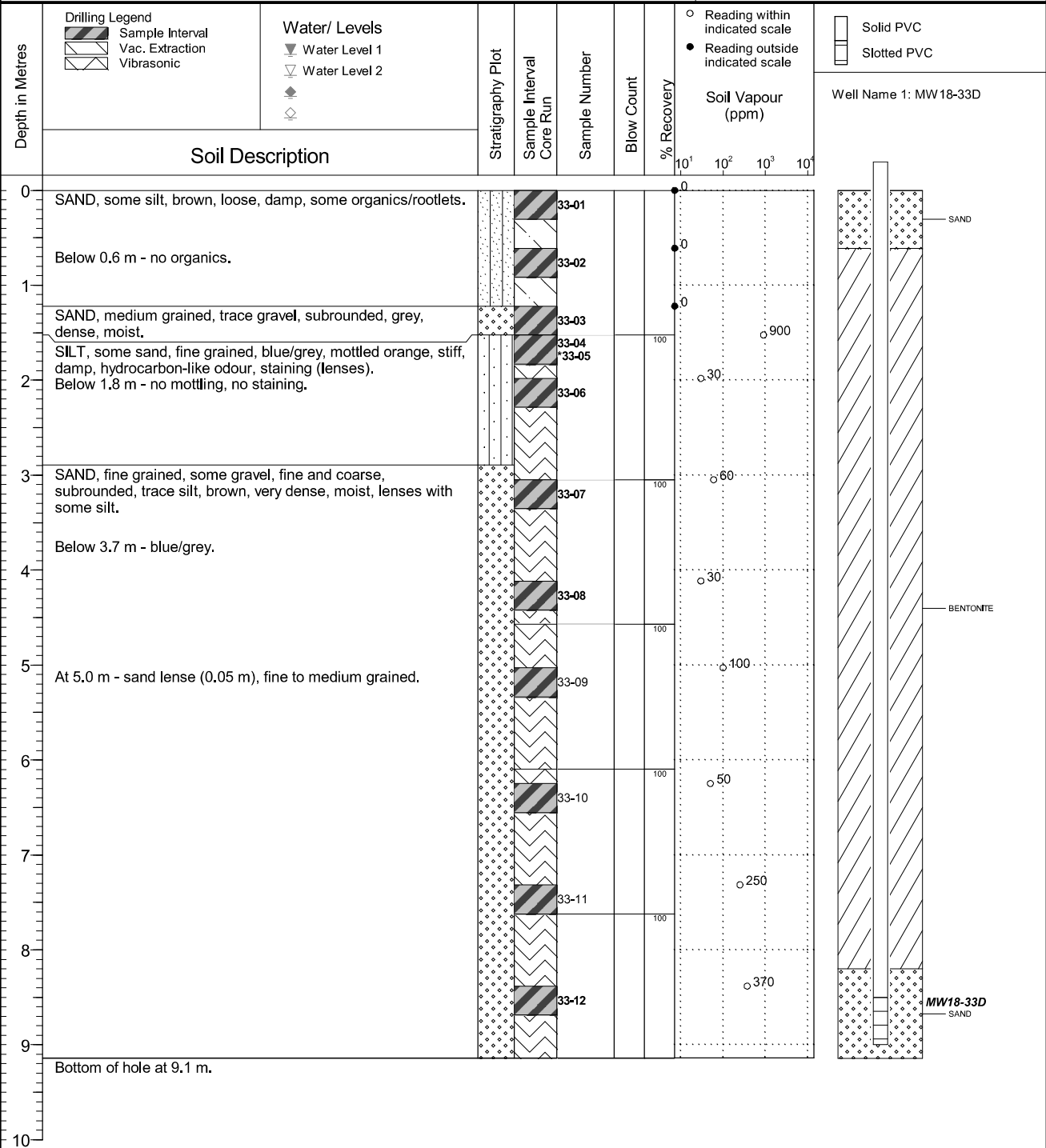
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0.15
Pipe/Slotted Pipe Dia. (m) 0.05/0.05

Date Monitored n/a
Ground Surface Elev. (m) 18.542
Top of Casing Elev. (m) 19.705
Northing: 5509606.791 Easting: 362401.014

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 14
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-33S

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,542
Top of Casing Elev. (m) n/a
Northing: 5509606,791 Easting: 362401,014

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 14
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | | | Well Name 1: MW18-33S | |
|-----------------|---|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------|-----------------|-----------------------|--|
| | | | | | | | 10 ¹ | 10 ² | 10 ³ | 10 ⁴ | | |
| 0 | SAND, some silt, brown, loose, damp, some organics/rootlets. Below 0,6 m - no organics. | | | | | | | | | | | |
| 1 | SAND, medium grained, trace gravel, subrounded, grey, dense, moist. SILT, some sand, fine grained, blue/grey, mottled orange, stiff, damp, hydrocarbon-like odour, staining (lenses). Below 1,8 m - no mottling, no staining. | | | | | | | | | | | |
| 2 | SAND, fine grained, some gravel, fine and coarse, subrounded, trace silt, brown, very dense, moist, lenses with some silt. Below 3,7 m - blue/grey. | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | At 5,0 m - sand lense (0,05 m), fine to medium grained. | | | | | | | | | | | |
| 6 | Bottom of hole at 6,3 m. | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |

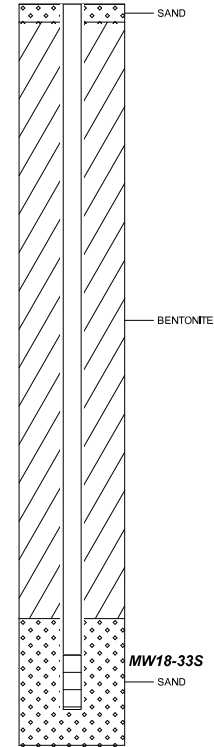
Drilling Legend
 Sample Interval
 Vac. Extraction
 Vibrasonic

Water/ Levels
 Water Level 1
 Water Level 2
 Well
 Casing

○ Reading within indicated scale
 ● Reading outside indicated scale

Solid PVC
 Slotted PVC

Well Name 1: MW18-33S



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-34

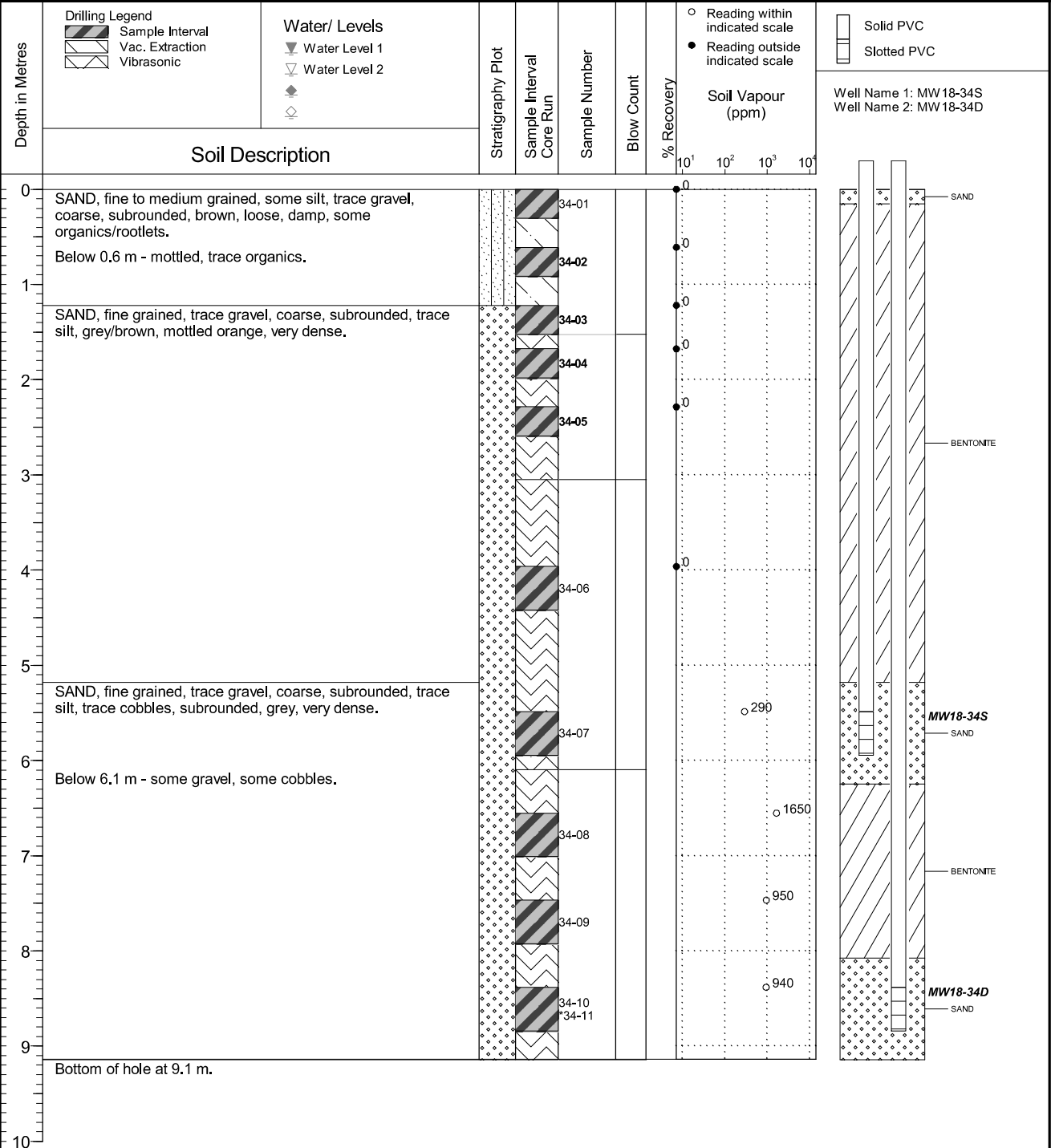
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 18,859
Top of Casing Elev. (m) 19,905 19,939
Northing: 5509553,307 Easting: 362373,986

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 15
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.

QA TP 2019 02 26 Print Date: 2019-03-26



Client
Public Services and Procurement Canada

Borehole No. : BH18-35

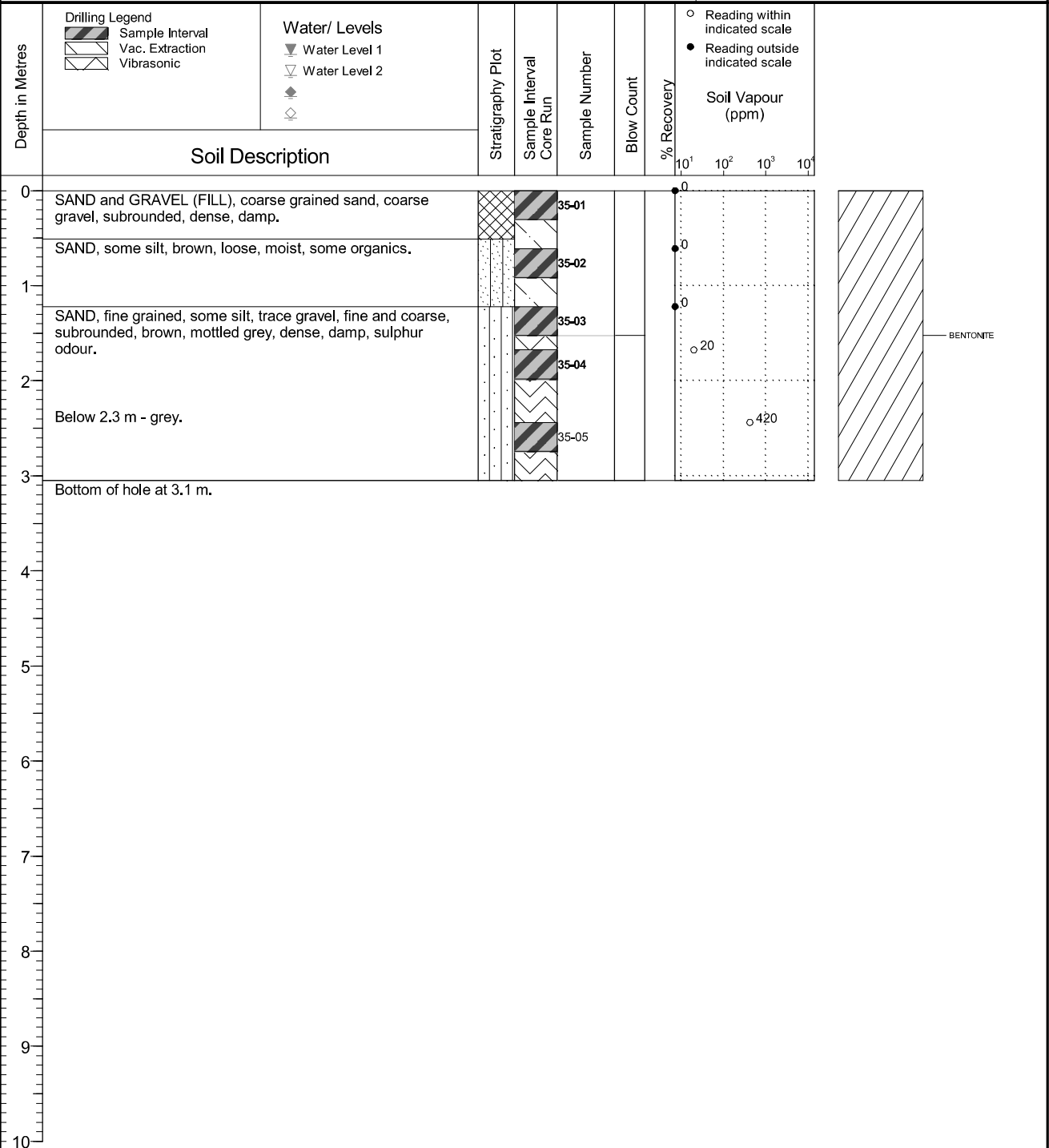
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 19,006
Top of Casing Elev. (m) n/a
Northing: 5509516,816 Easting: 362403,312

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 15
Log Typed By: NDS



BENTONITE

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-36

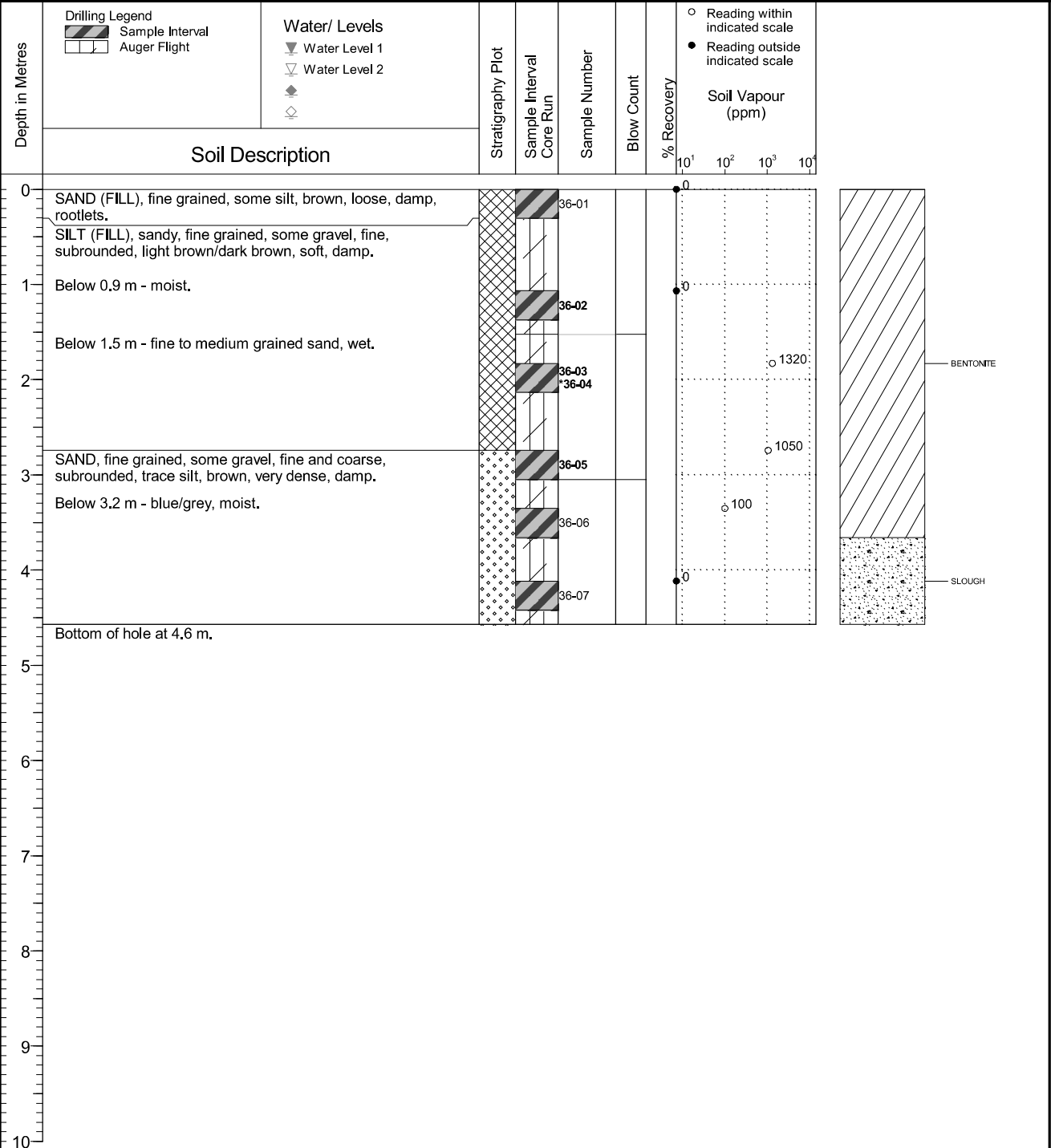
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 20,845
Top of Casing Elev. (m) n/a
Northing: 5509574,623 Easting: 362496,194

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-37

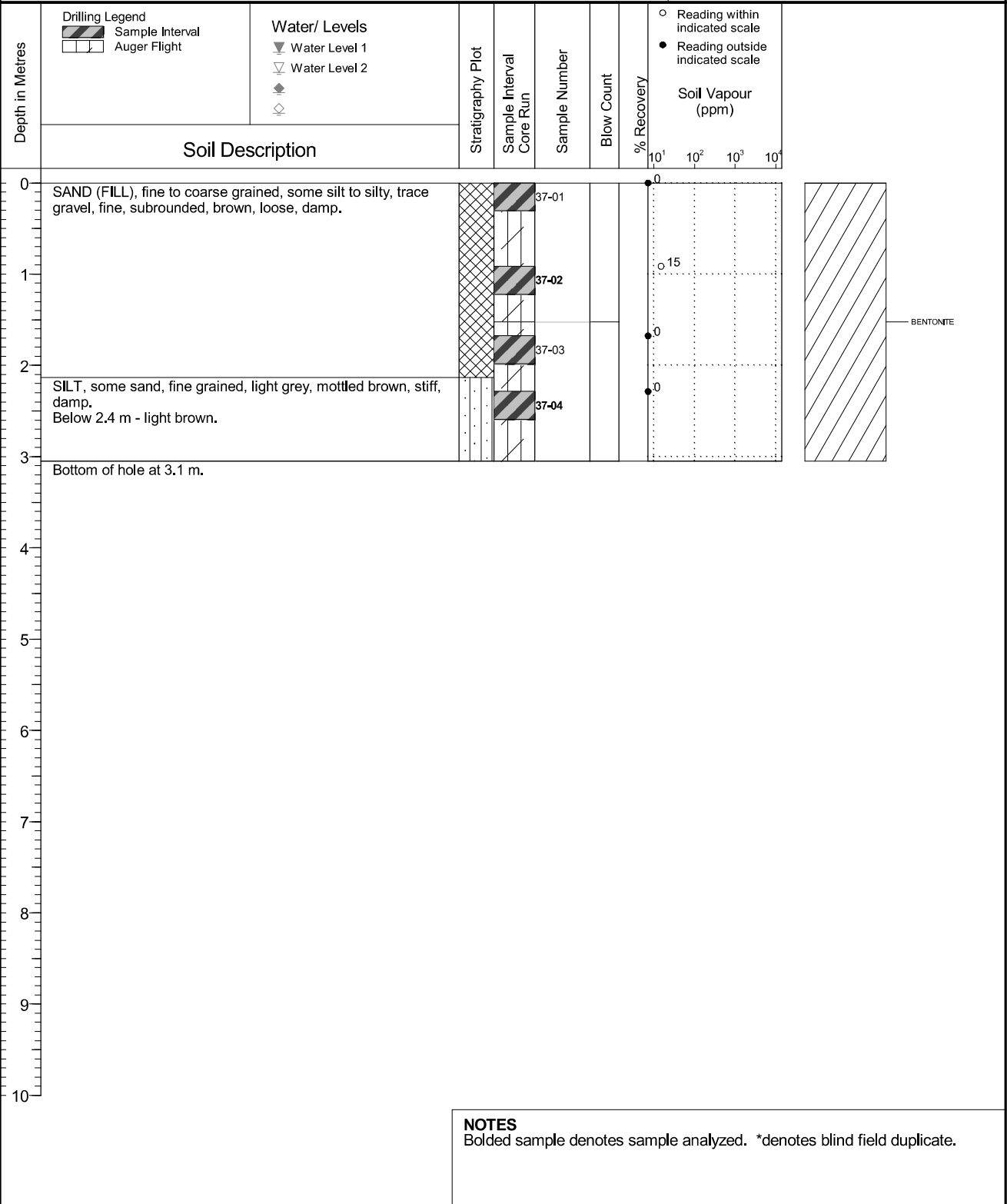
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 20,971
Top of Casing Elev. (m) n/a
Northing: 5509595,721 Easting: 362501,574

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS





Client
Public Services and Procurement Canada

Borehole No. : BH18-38D

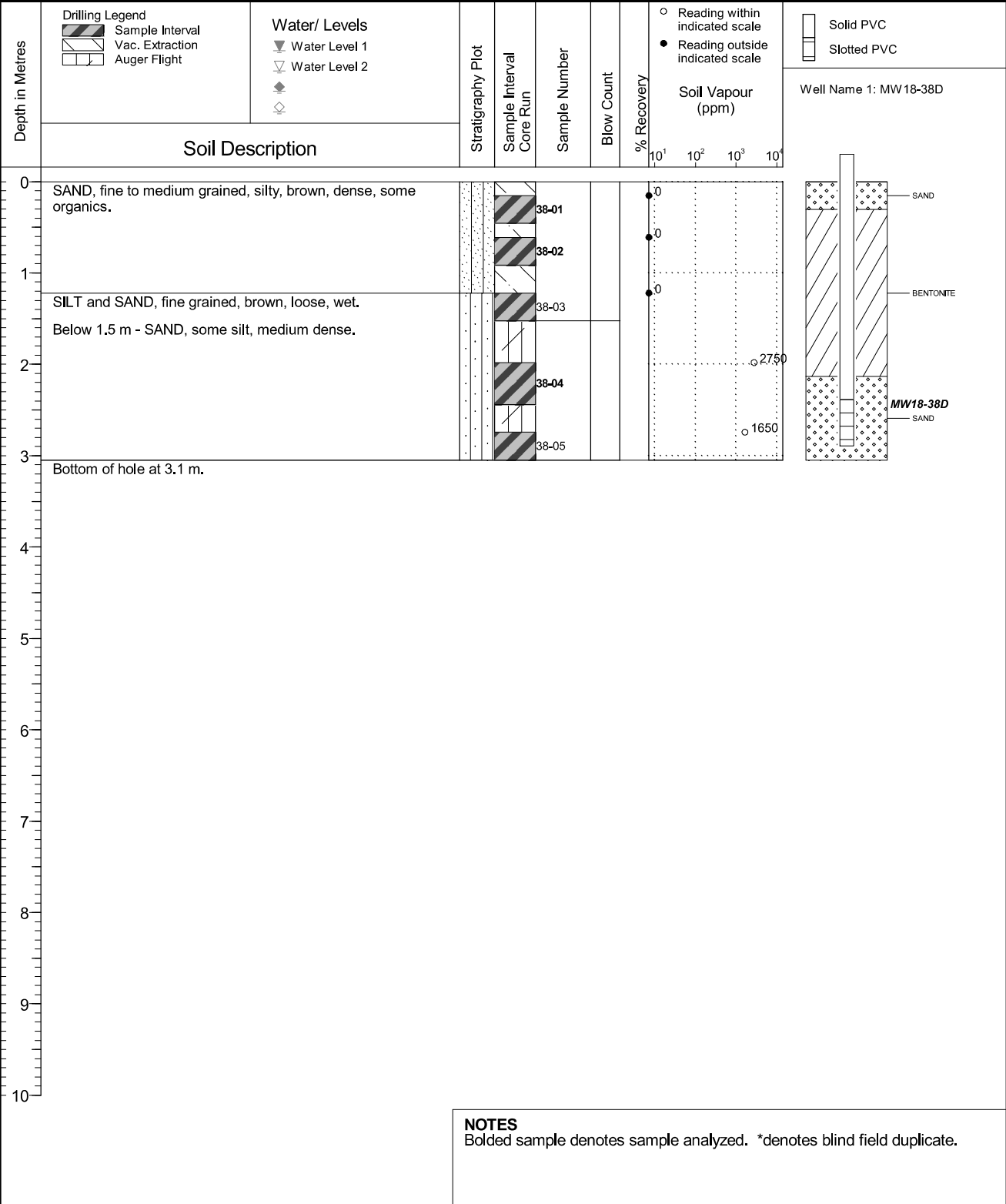
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 17,852
Top of Casing Elev. (m) 18,920
Northing: 5509605,031 Easting: 362614,218

Project Number: 658394
Borehole Logged By: ZL
Date Drilled: 2018 12 18
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-38S

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting Ltd.
Drilling Method Hydrovac
Borehole Dia. (m) 0,25
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 17,852
Top of Casing Elev. (m) 18,872
Northing: 5509605,309 Easting: 362616,332

Project Number: 658394
Borehole Logged By: ZL
Date Drilled: 2018 12 18
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-38S |
|-----------------|---|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------------|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SAND, fine to medium grained, silty, brown, dense, some organics. | | | | | | | | |
| 1 | SILT and SAND, fine grained, brown, loose, wet. Below 1.5 m - SAND, some silt, medium dense. | | | | | | | | |
| 2 | Bottom of hole at 1.8 m. | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-39

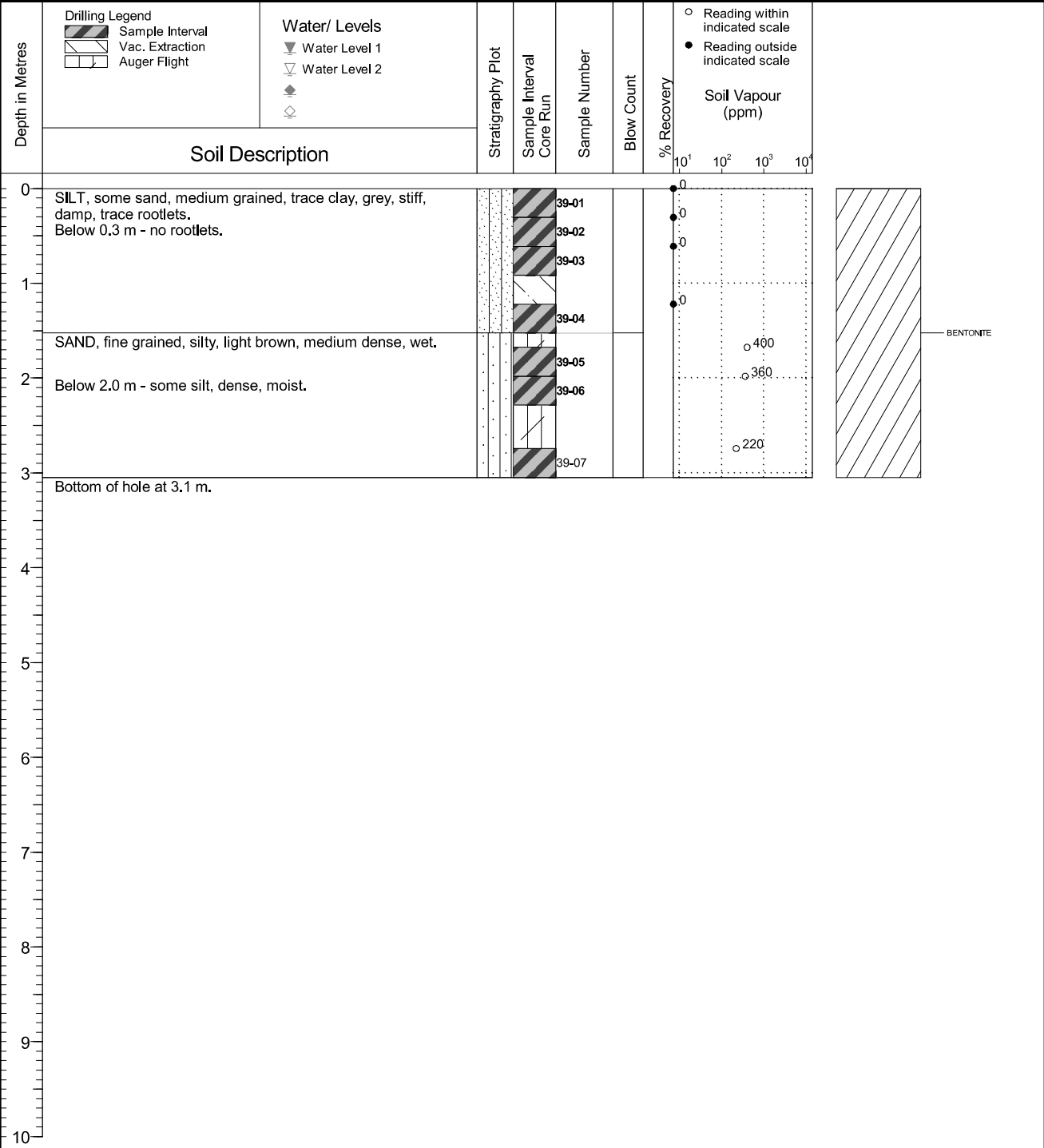
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
 Drilling Method Hydrovac/Solid Stem Auger
 Borehole Dia. (m) 0,15
 Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
 Ground Surface Elev. (m) 19,267
 Top of Casing Elev. (m) n/a
 Northing: 5509547,619 Easting: 362529,820

Project Number: 658394
 Borehole Logged By: ZL
 Date Drilled: 2018 12 18
 Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-40

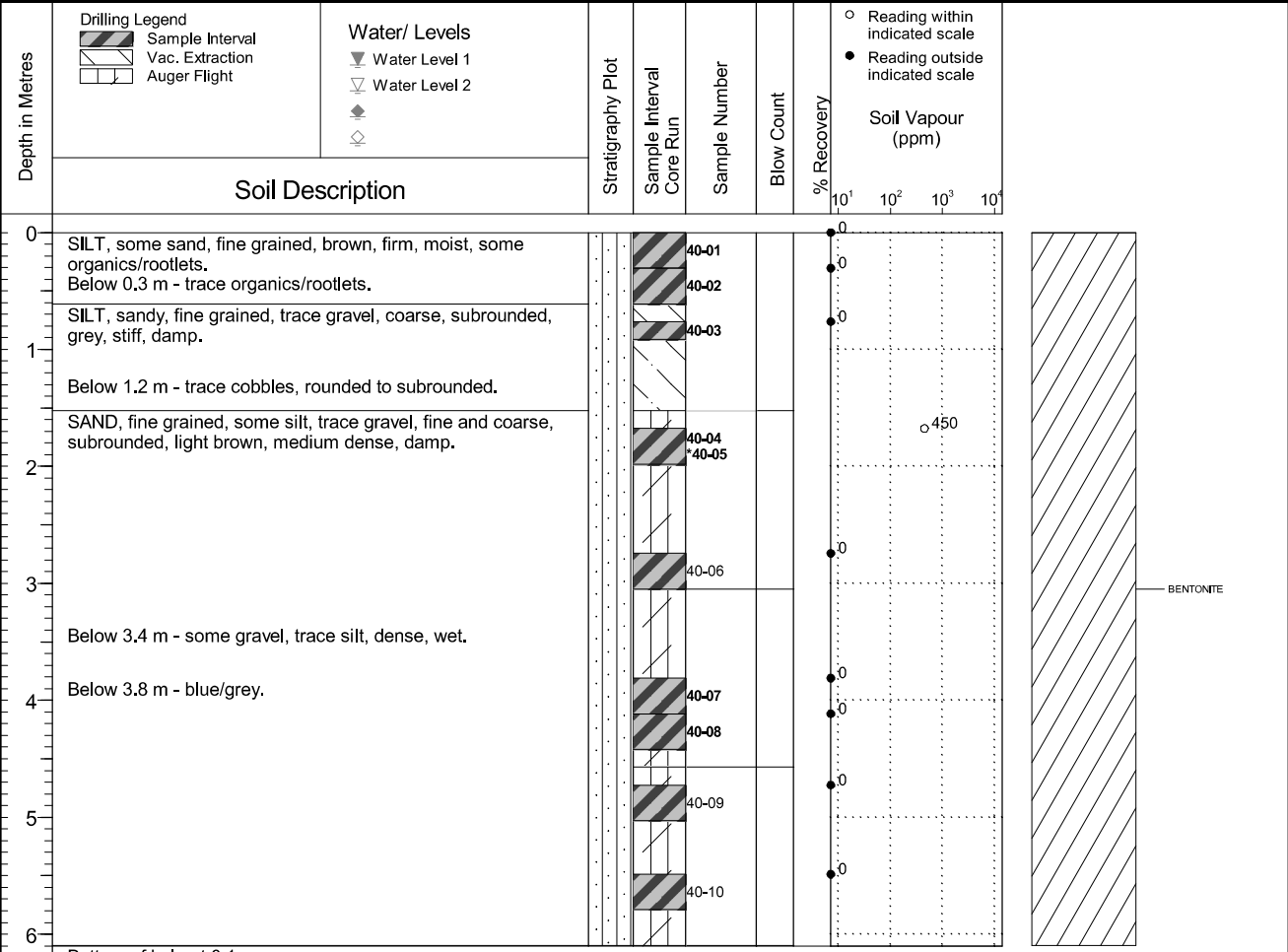
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 16.605
Top of Casing Elev. (m) n/a
Northing: 5509683.674 Easting: 362441.987

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 19
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-41D

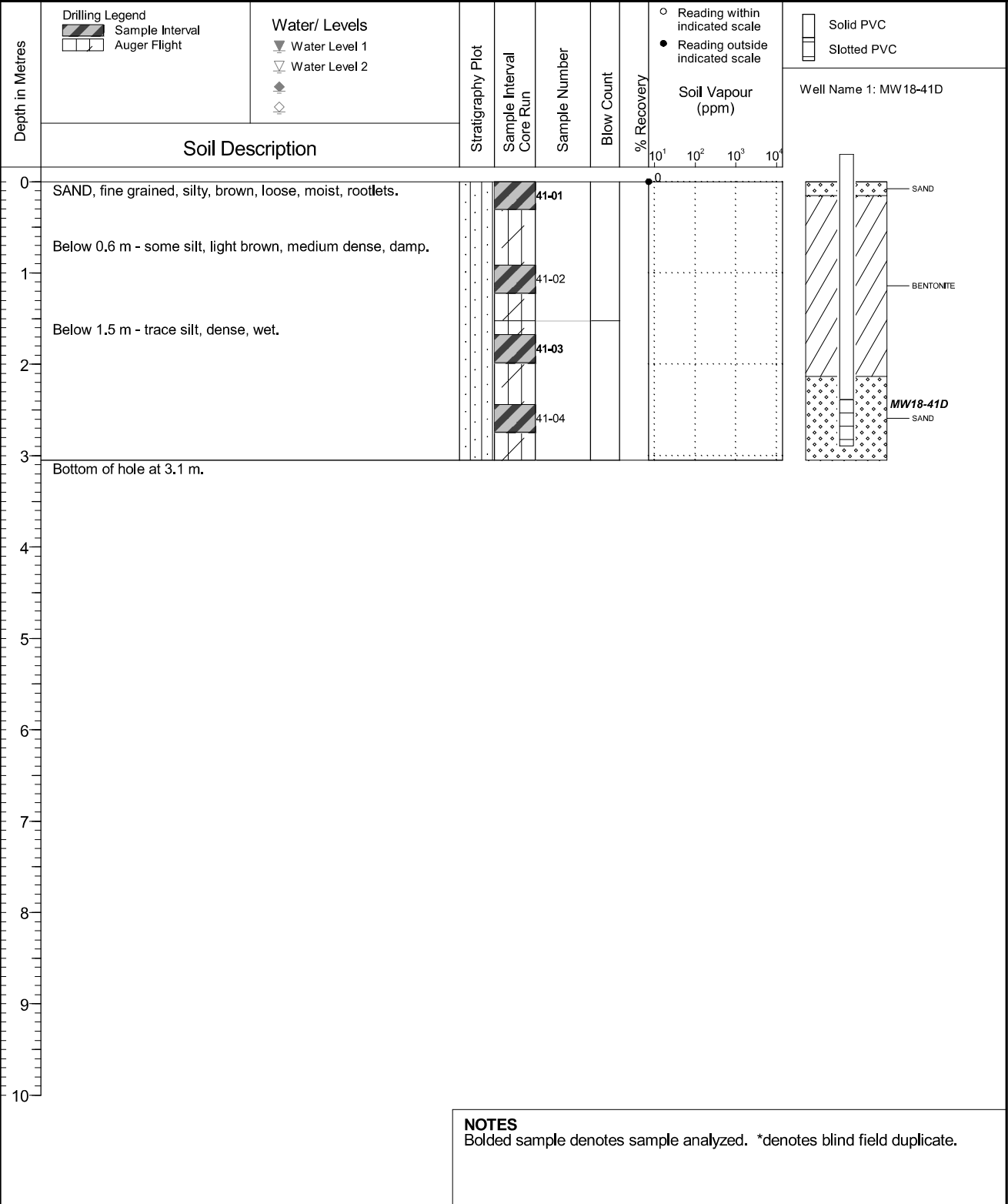
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,590
Top of Casing Elev. (m) 14,697
Northing: 5509964,316 Easting: 362273,962

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-41S

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,590
Top of Casing Elev. (m) 14,781
Northing: 5509964,316 Easting: 362273,962

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-41S |
|-----------------|---|-------------------|--------------------------|---------------|------------|------------|-------------------|-----------------|-----------------------|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SAND, fine grained, silty, brown, loose, moist, rootlets. | | | | | | | | |
| Below 0,6 m | Below 0,6 m - some silt, light brown, medium dense, damp. | | | | | | | | |
| Below 1,5 m | Below 1,5 m - trace silt, dense, wet. | | | | | | | | |
| Bottom of hole | at 2.1 m. | | | | | | | | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-42D

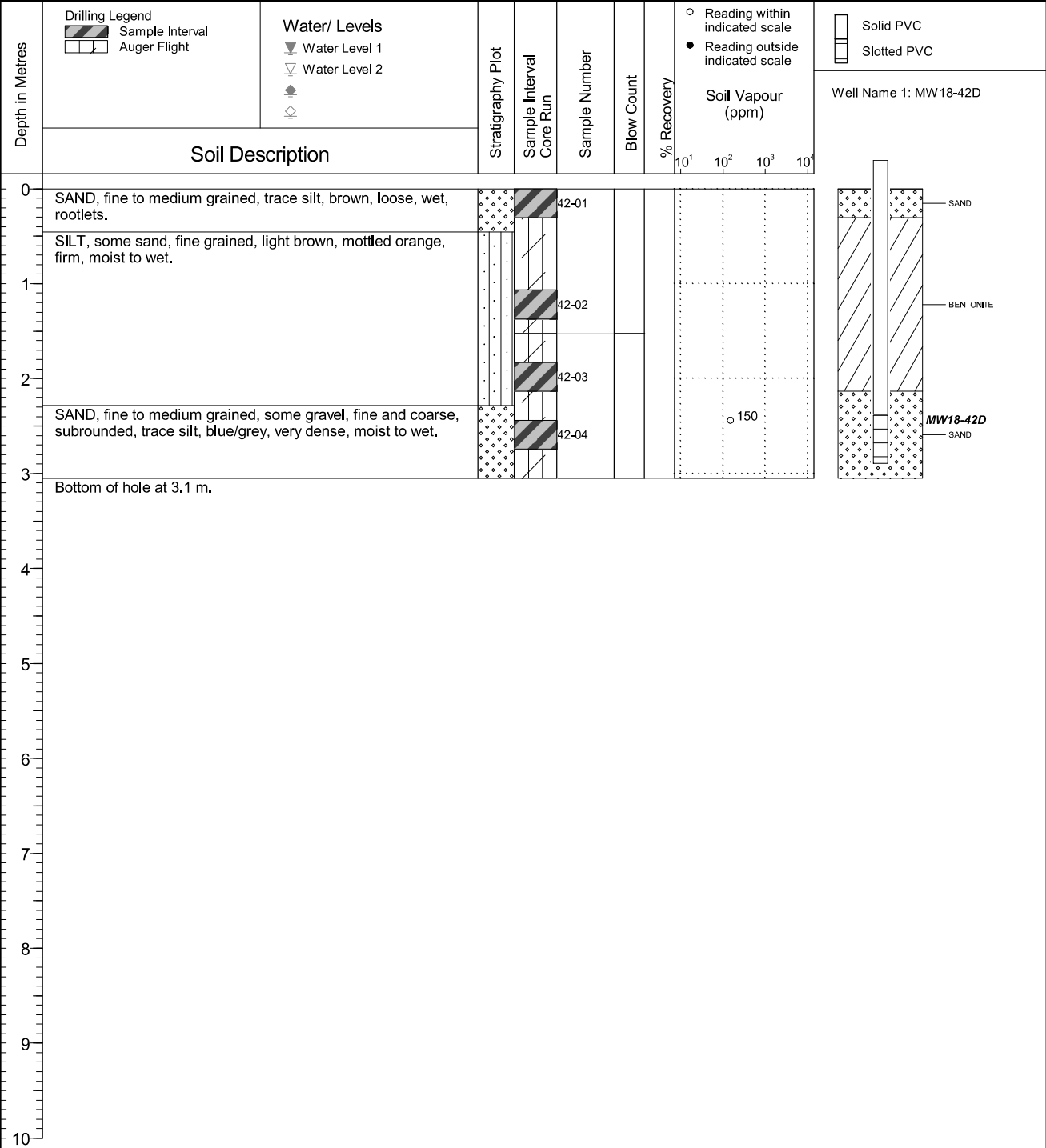
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,857
Top of Casing Elev. (m) 15,043
Northing: 5509960,927 Easting: 362365,589

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-42S

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,857
Top of Casing Elev. (m) 14,950
Northing: 5509960,927 Easting: 362365,589

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-42S |
|-----------------|---|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------------|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SAND, fine to medium grained, trace silt, brown, loose, wet, rootlets. | | | | | | | | |
| 1 | SILT, some sand, fine grained, light brown, mottled orange, firm, moist to wet. | | | | | | | | |
| 2 | Bottom of hole at 2.1 m. | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-43D

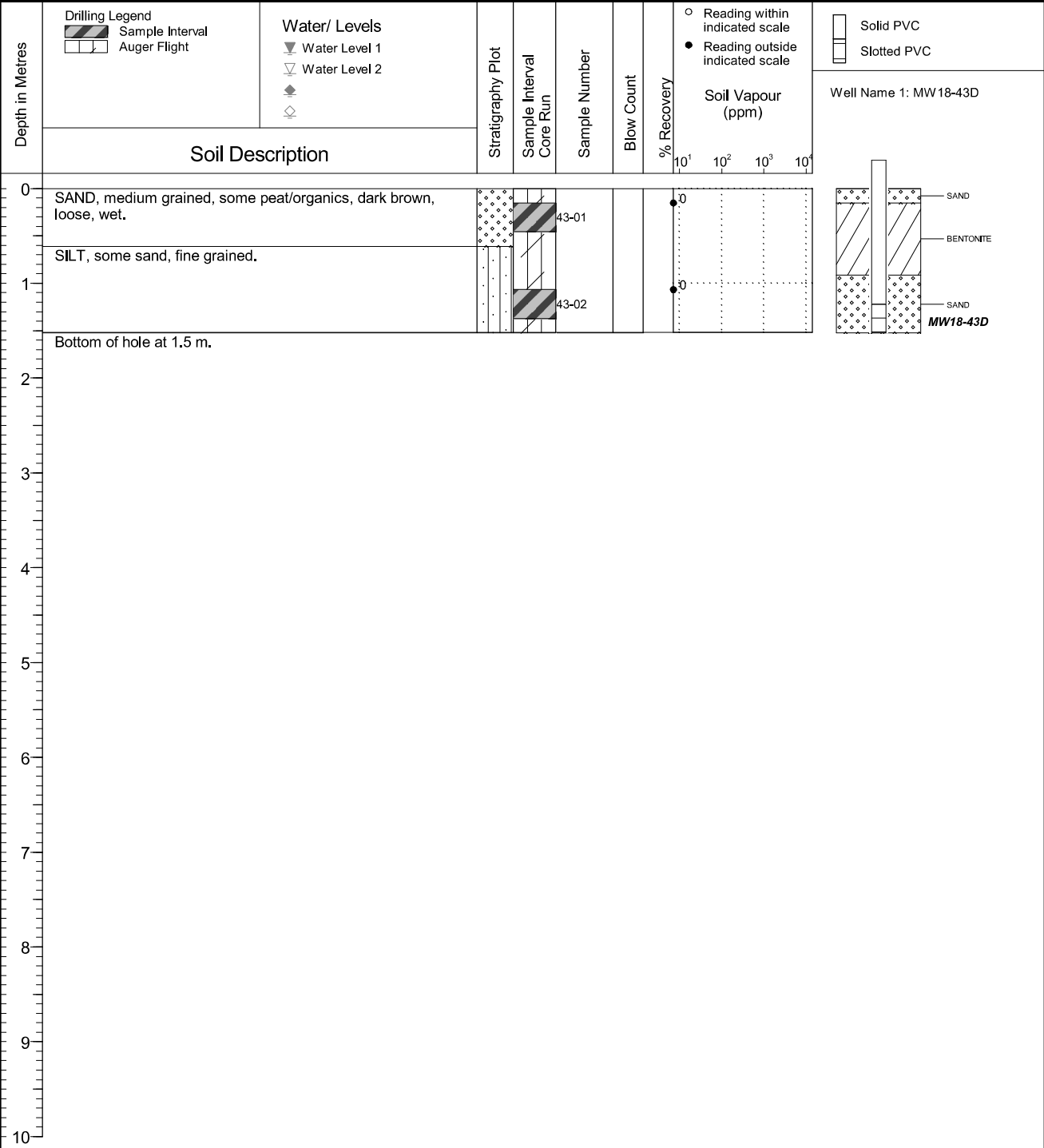
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,298
Top of Casing Elev. (m) 14,409
Northing: 5509954,847 Easting: 362502,698

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-43S

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,298
Top of Casing Elev. (m) 14,338
Northing: 5509954,847 Easting: 362502,698

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 17
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-43S |
|-----------------|---|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------------|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SAND, medium grained, some peat/organics, dark brown, loose, wet. | | | | | | | | |
| | SILT, some sand, fine grained. | | | | | | | | |
| 1 | Bottom of hole at 0.9 m. | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-44M_DD

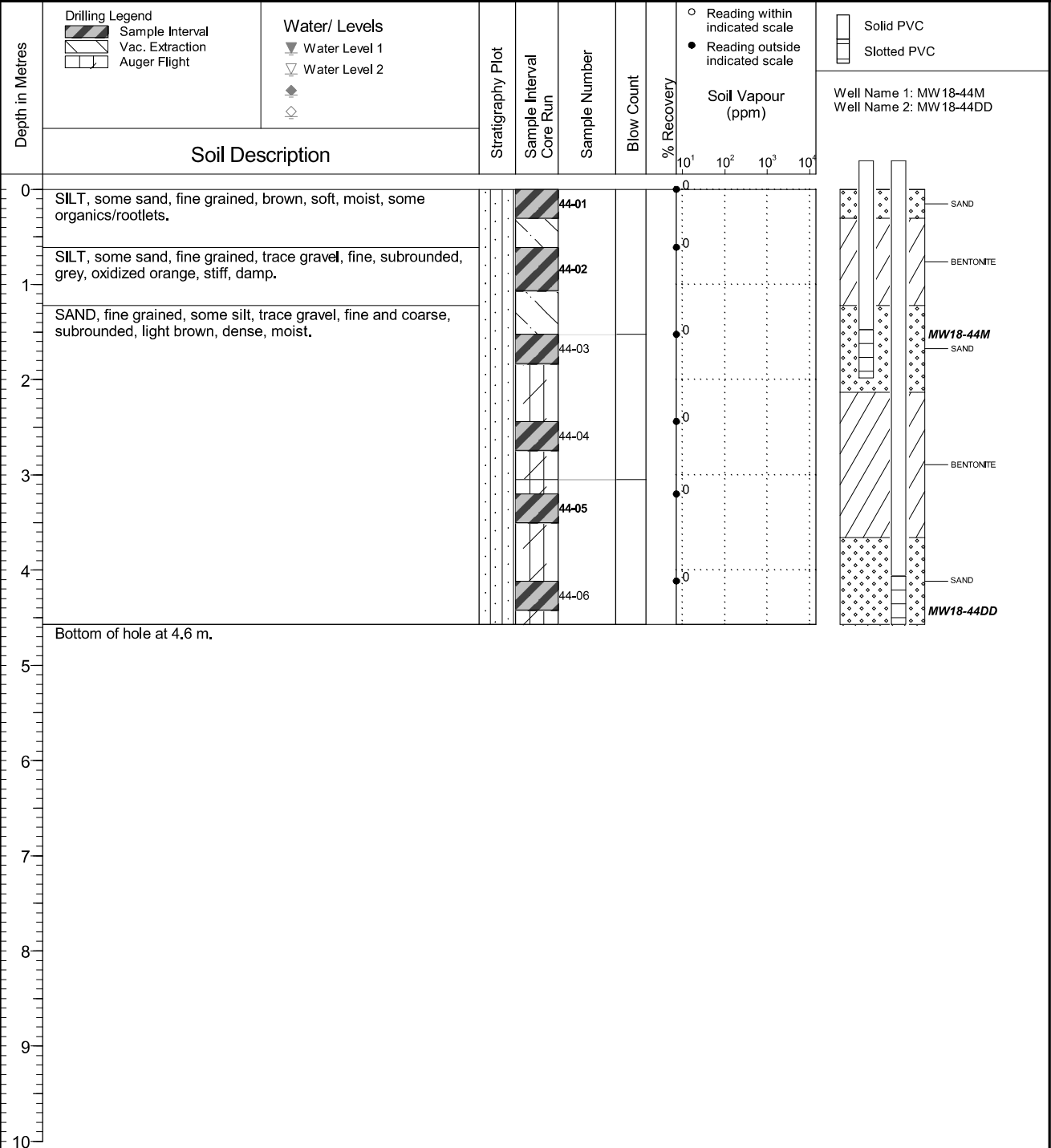
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
 Drilling Method Hydrovac/Solid Stem Auger
 Borehole Dia. (m) 0,15
 Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
 Ground Surface Elev. (m) 18,130
 Top of Casing Elev. (m) 19,079 19,087
 Northing: 5509448,742 Easting: 362225,078

Project Number: 658394
 Borehole Logged By: ZL/GG
 Date Drilled: 2018 12 18
 Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-44S_D

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 18,130
Top of Casing Elev. (m) 19,216 19,236
Northing: 5509450,123 Easting: 362224,526

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 18
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-44S Well Name 2: MW18-44D |
|-----------------|--|-------------------|--------------------------|---------------|------------|------------|-------------------|-----------------|--|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SILT, some sand, fine grained, brown, soft, moist, some organics/rootlets. | | | | | | | | |
| 1 | SILT, some sand, fine grained, trace gravel, fine, subrounded, grey, oxidized orange, stiff, damp. | | | | | | | | |
| 2 | SAND, fine grained, some silt, trace gravel, fine and coarse, subrounded, light brown, dense, moist. | | | | | | | | |
| 3 | Bottom of hole at 3.1 m. | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

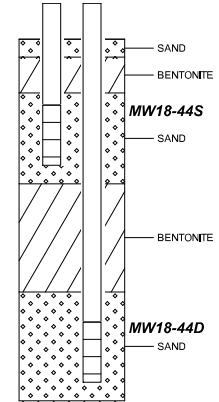
Drilling Legend
 Sample Interval
 Vac. Extraction
 Auger Flight

Water/ Levels
 Water Level 1
 Water Level 2
 Well
 Casing

○ Reading within indicated scale
 ● Reading outside indicated scale

Solid PVC
 Slotted PVC

Well Name 1: MW18-44S
Well Name 2: MW18-44D



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-45

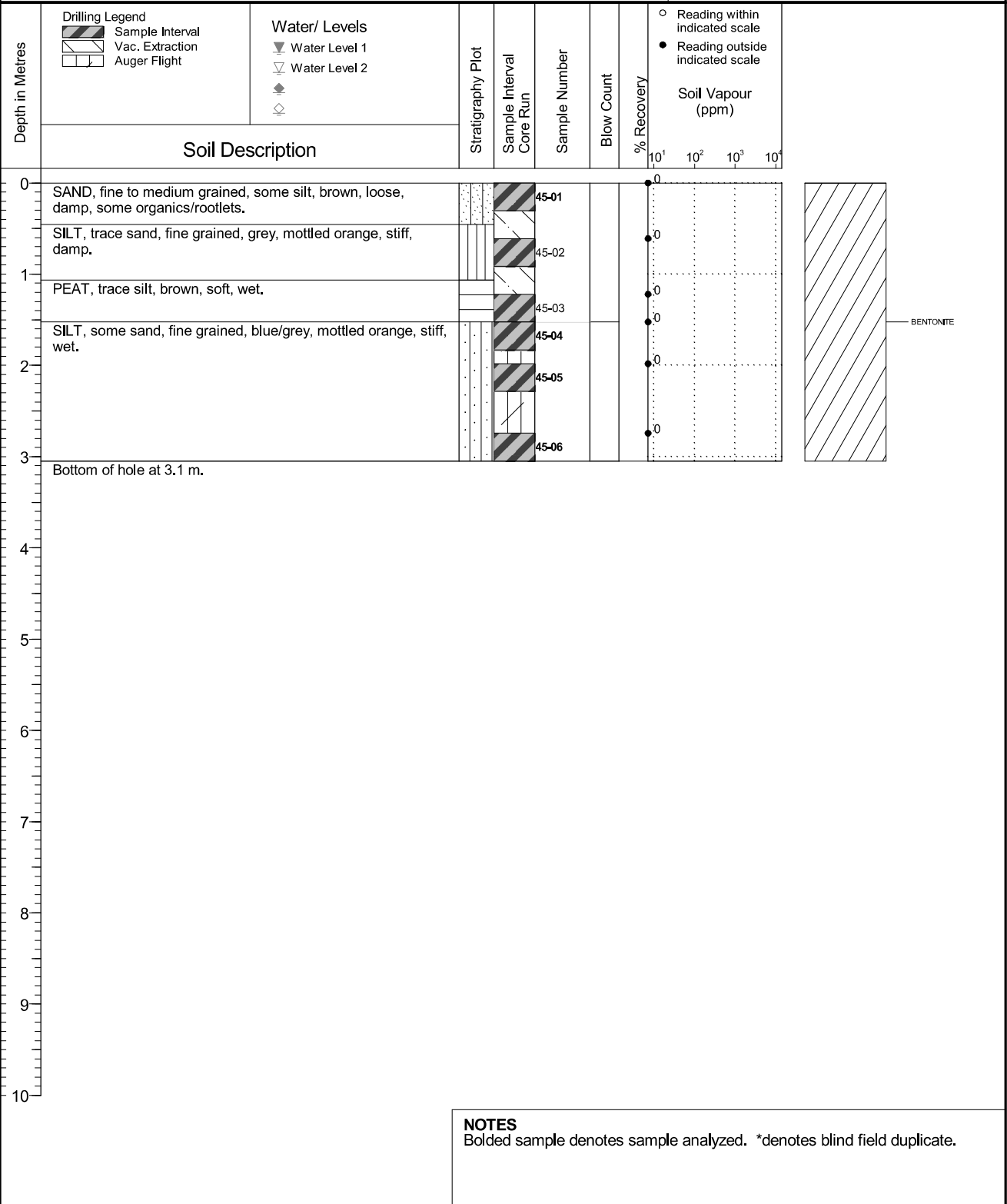
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 19,326
Top of Casing Elev. (m) n/a
Northing: 5509569,548 Easting: 362460,968

Project Number: 658394
Borehole Logged By: ZL/GG
Date Drilled: 2018 12 18
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-46

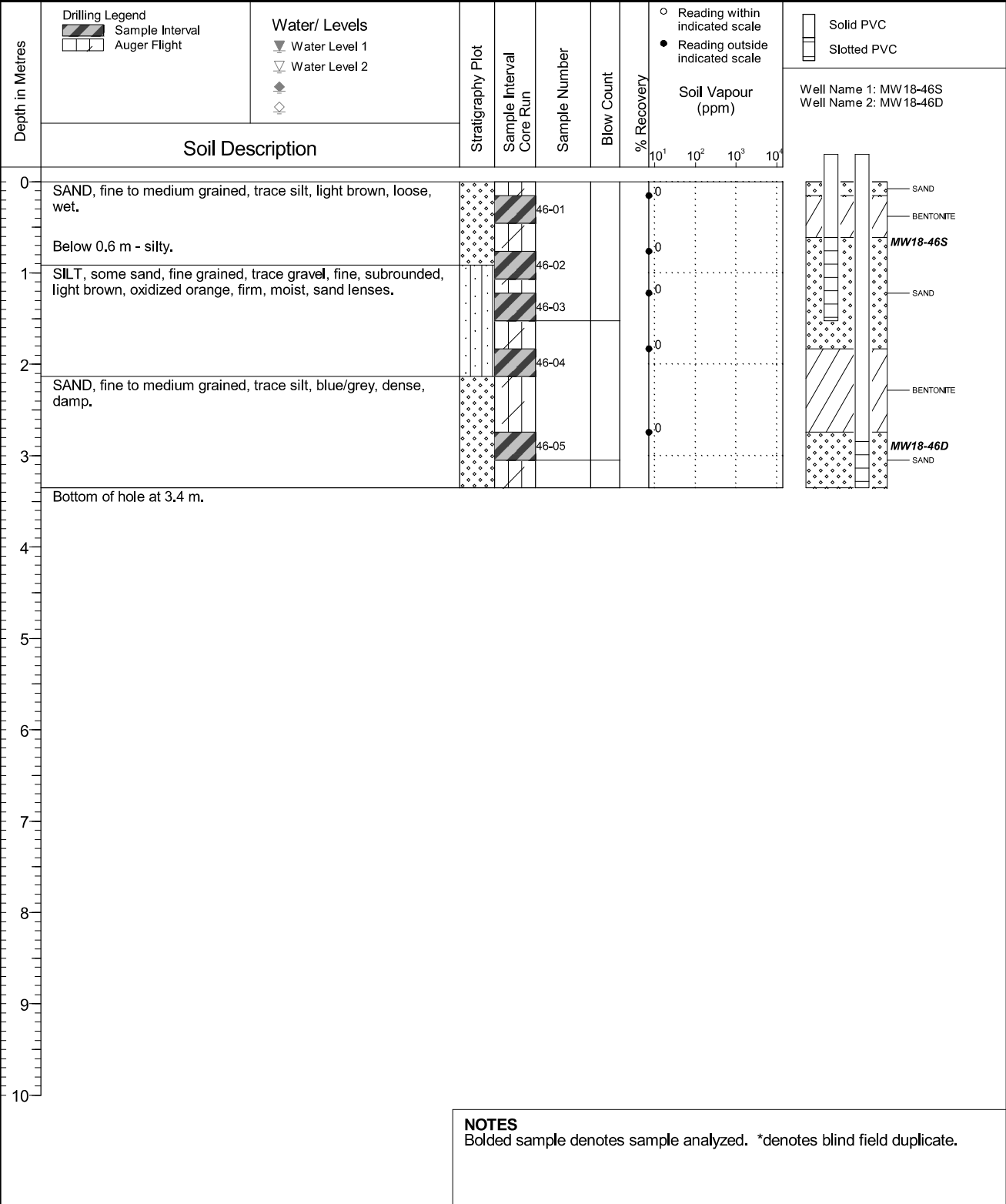
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 14,468
Top of Casing Elev. (m) 15,432 15,437
Northing: 5509876,738 Easting: 362445,625

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 18
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-47M

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,431
Top of Casing Elev. (m) 14,412
Northing: 5509849,282 Easting: 362570,052

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 18
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | Well Name 1: MW18-47M |
|-----------------|--|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------------|
| | | | | | | | 10 ¹ | 10 ² | |
| 0 | SAND, fine to medium grained, trace silt, light brown, mottled orange, loose, moist. Below 0.5 m - wet. | | | | | | | | |
| 1 | | | | | | | | | |
| 2 | Below 1.5 m - blue/grey. Bottom of hole at 1.5 m. | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH18-47S_D

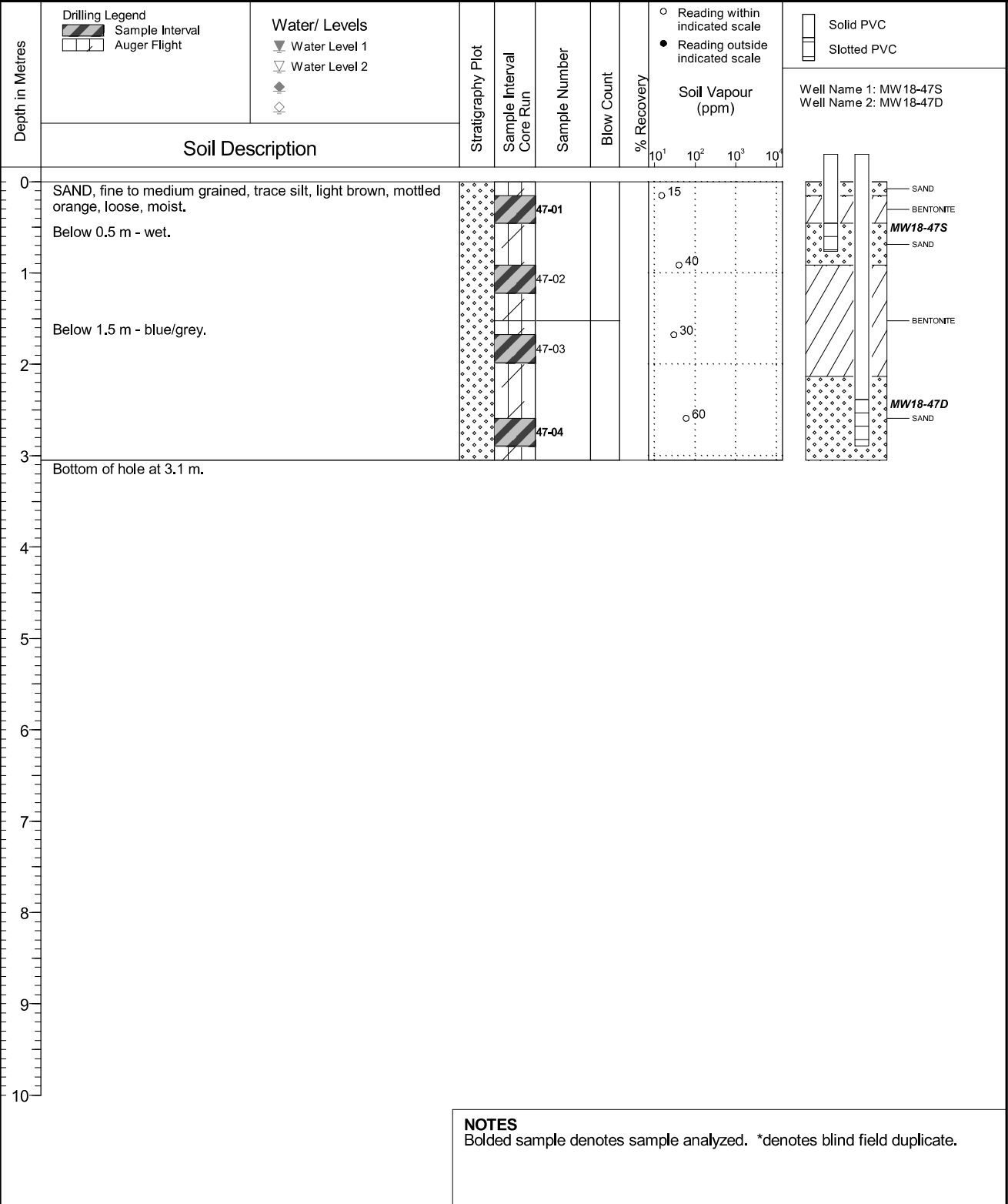
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,03/0,03

Date Monitored n/a
Ground Surface Elev. (m) 13,431
Top of Casing Elev. (m) 14,407 14,418
Northing: 5509849,922 Easting: 362569,663

Project Number: 658394
Borehole Logged By: GG
Date Drilled: 2018 12 18
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-48

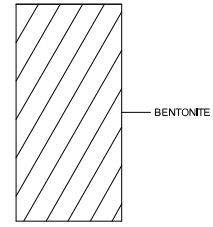
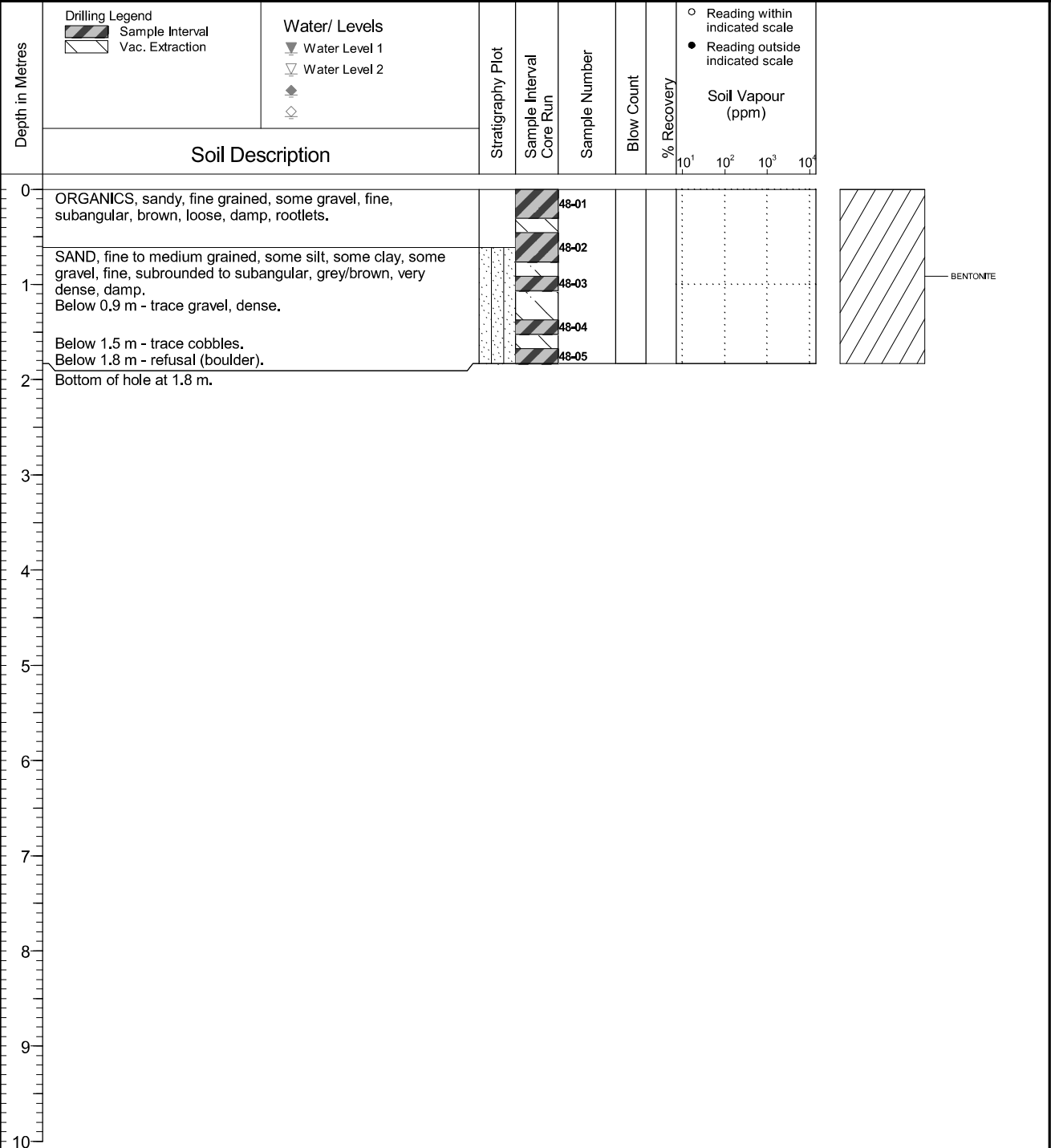
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting Ltd.
Drilling Method Hydrovac
Borehole Dia. (m) 0,25
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 17,860
Top of Casing Elev. (m) n/a
Northing: 5509676,052 Easting: 362510,307

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 04
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-49

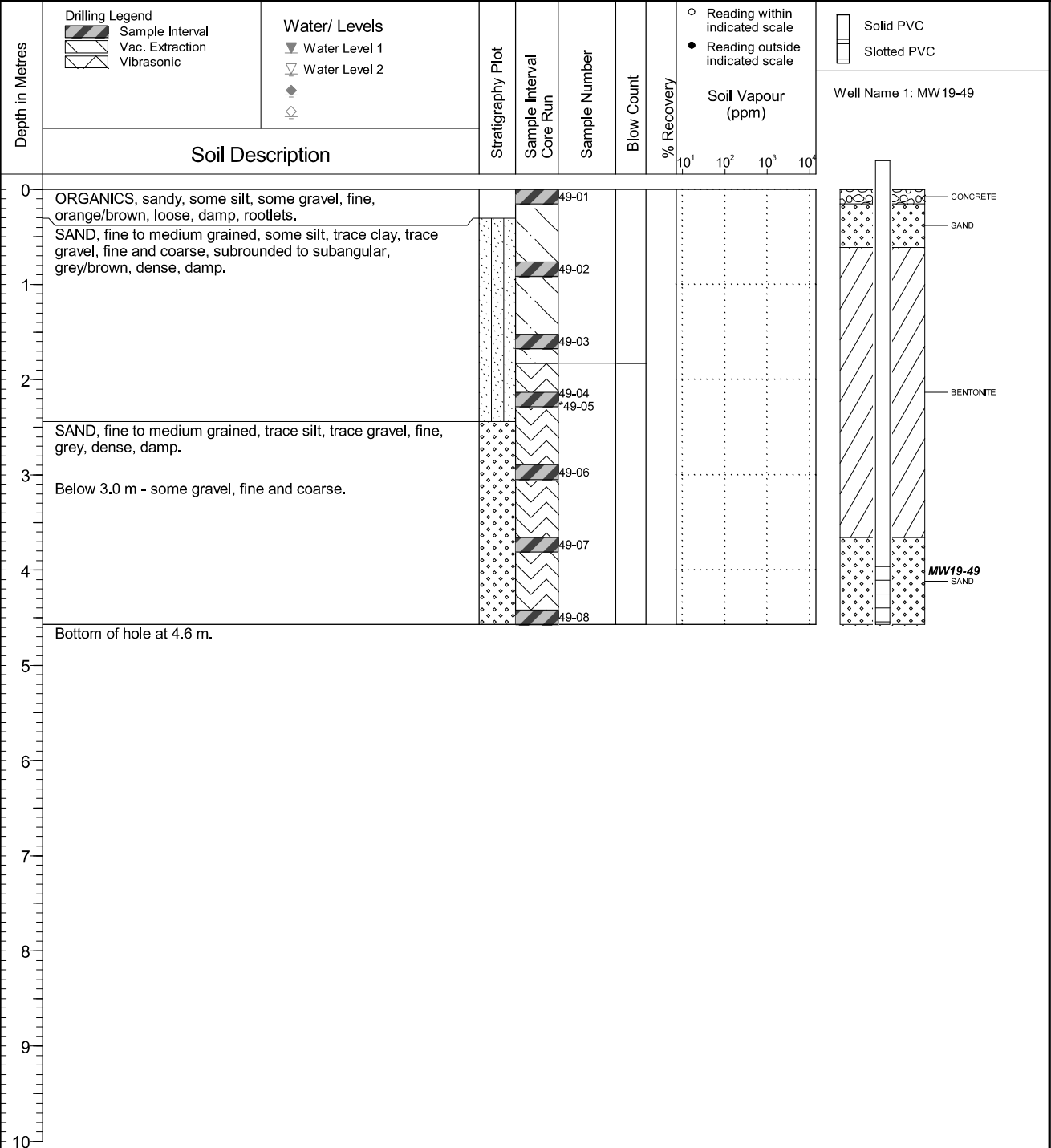
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
 Drilling Method Hydrovac/Vibratory Sonic
 Borehole Dia. (m) 0,15
 Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
 Ground Surface Elev. (m) 14,149
 Top of Casing Elev. (m) 15,203
 Northing: 5509961,316 Easting: 362346,943

Project Number: 658394
 Borehole Logged By: CP/TP
 Date Drilled: 2019 03 05
 Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-50

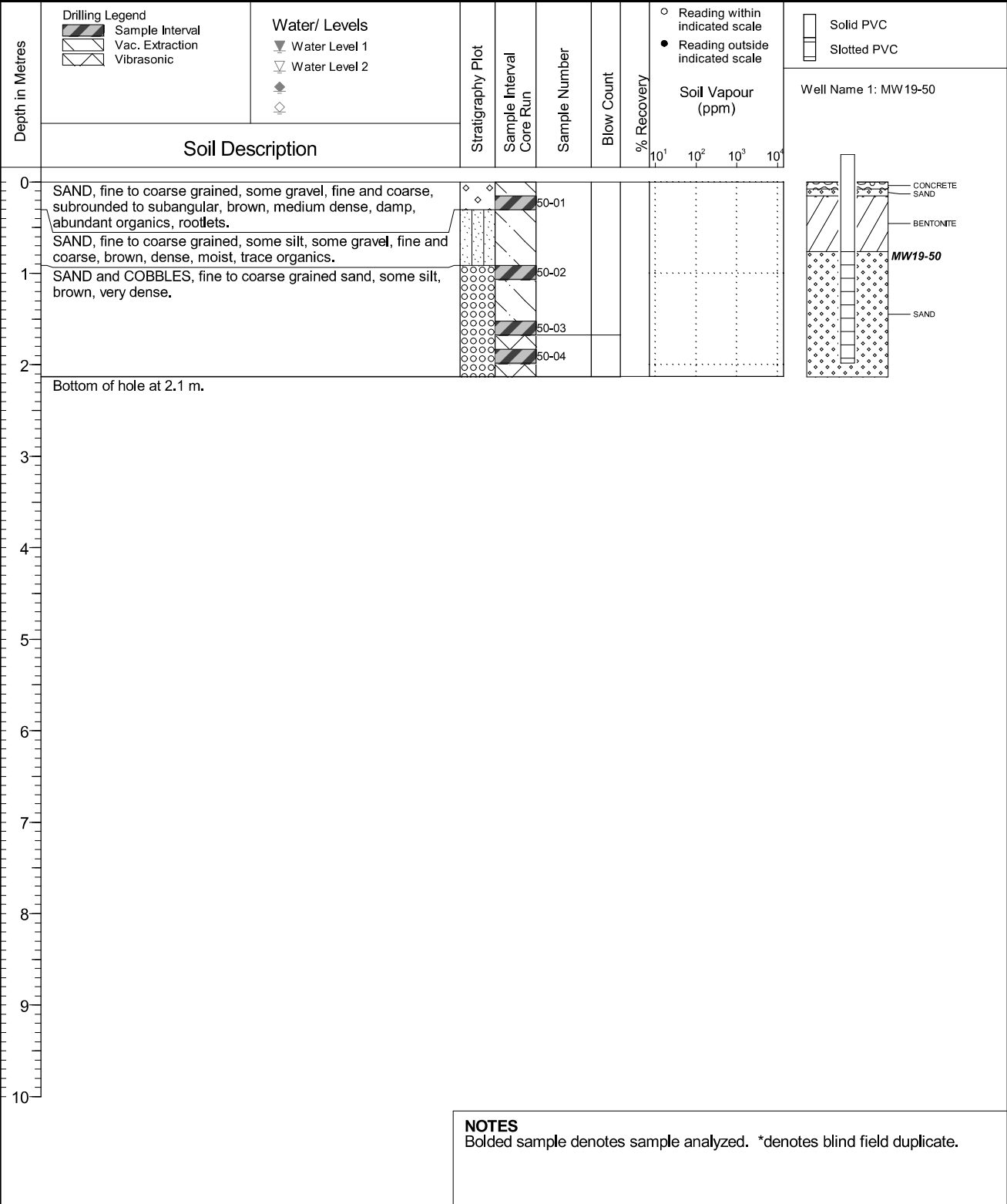
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 20,205
Top of Casing Elev. (m) 21,218
Northing: 5509468,834 Easting: 362570,286

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 05
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-52

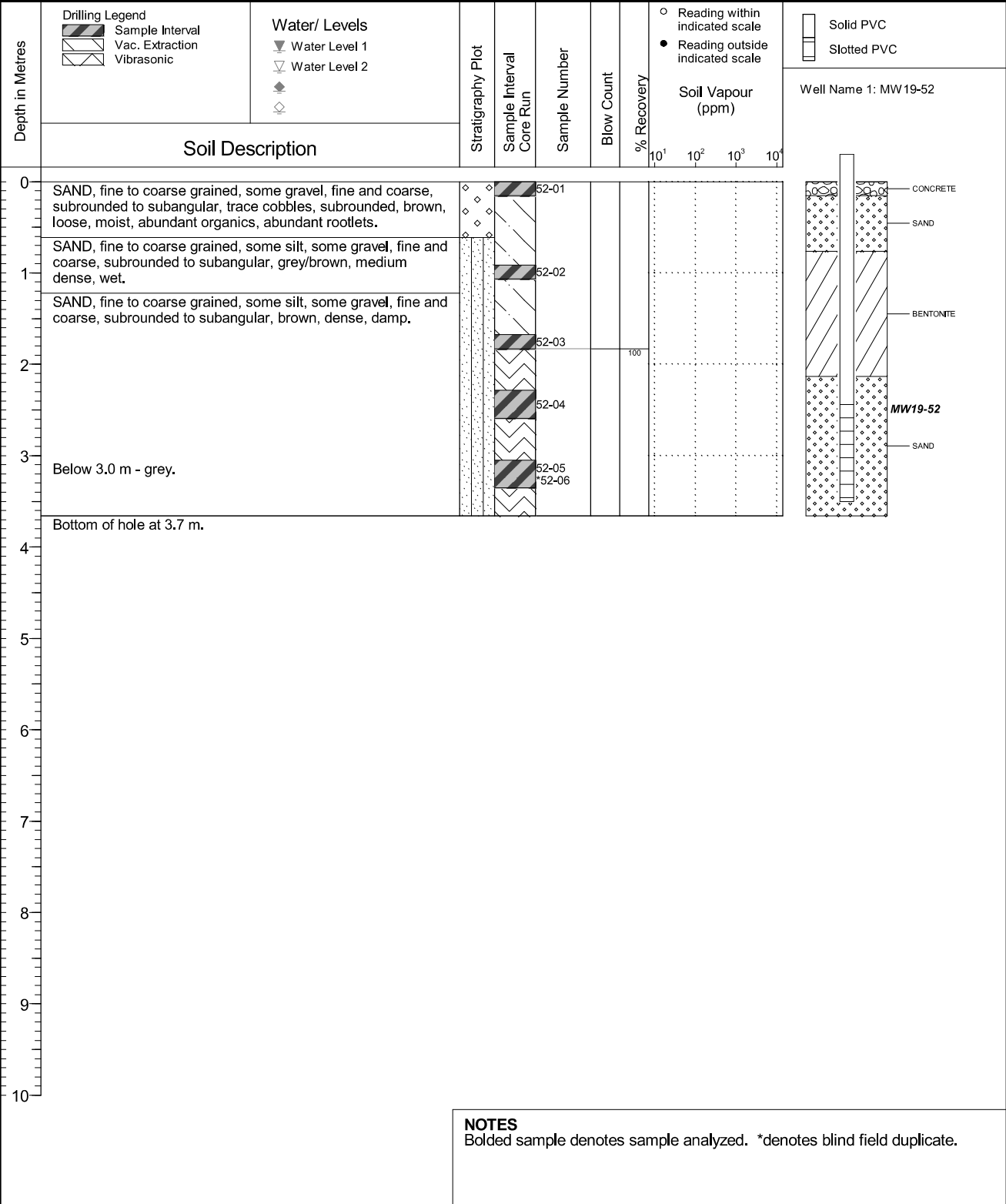
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 15,886
Top of Casing Elev. (m) 16,831
Northing: 5509803,452 Easting: 362309,527

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 05
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-53

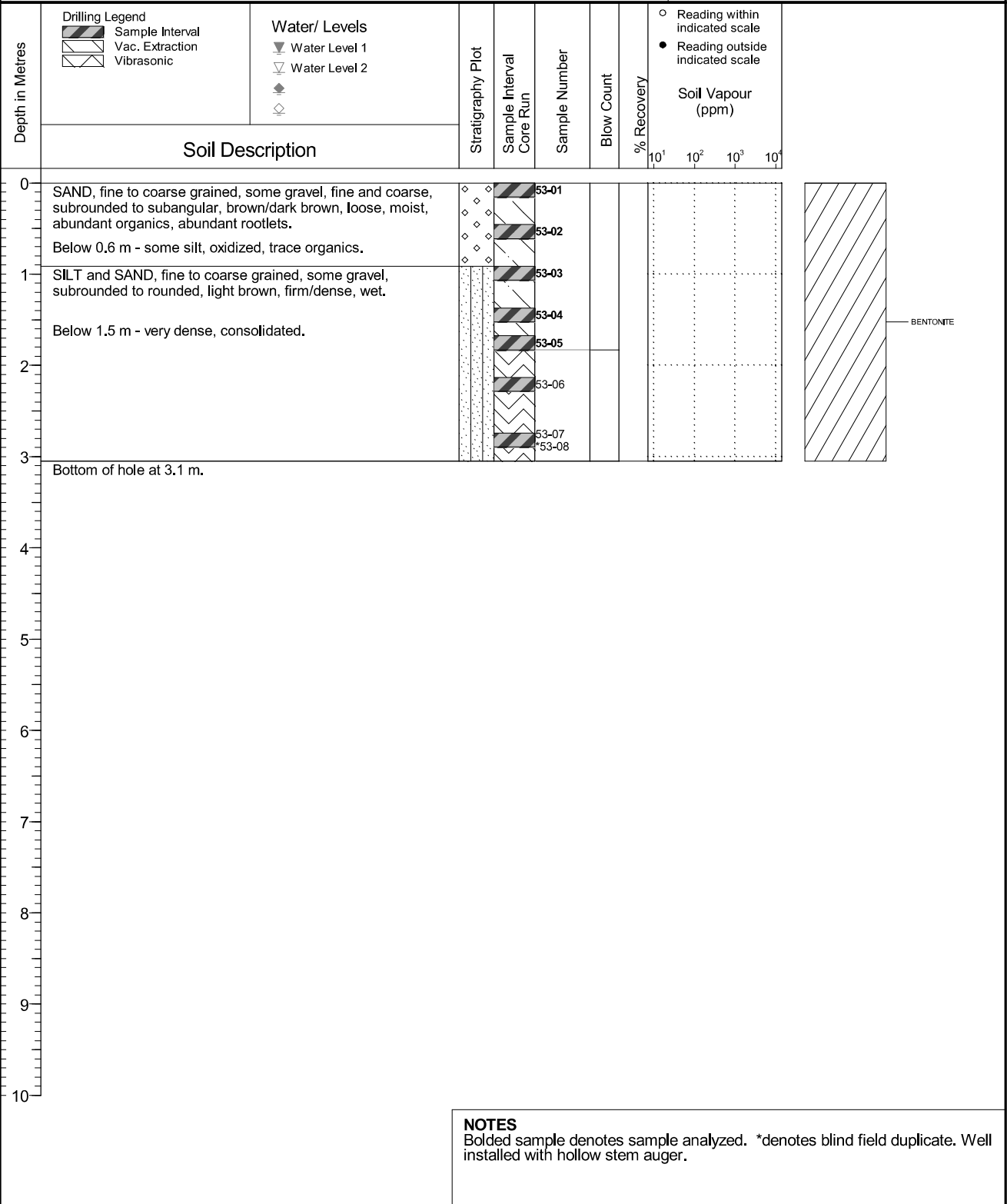
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 16.504
Top of Casing Elev. (m) n/a
Northing: 5509731.142 Easting: 362390.225

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 05
Log Typed By: NDS





Client
Public Services and Procurement Canada

Borehole No. : BH19-54

Location
CFB Comox

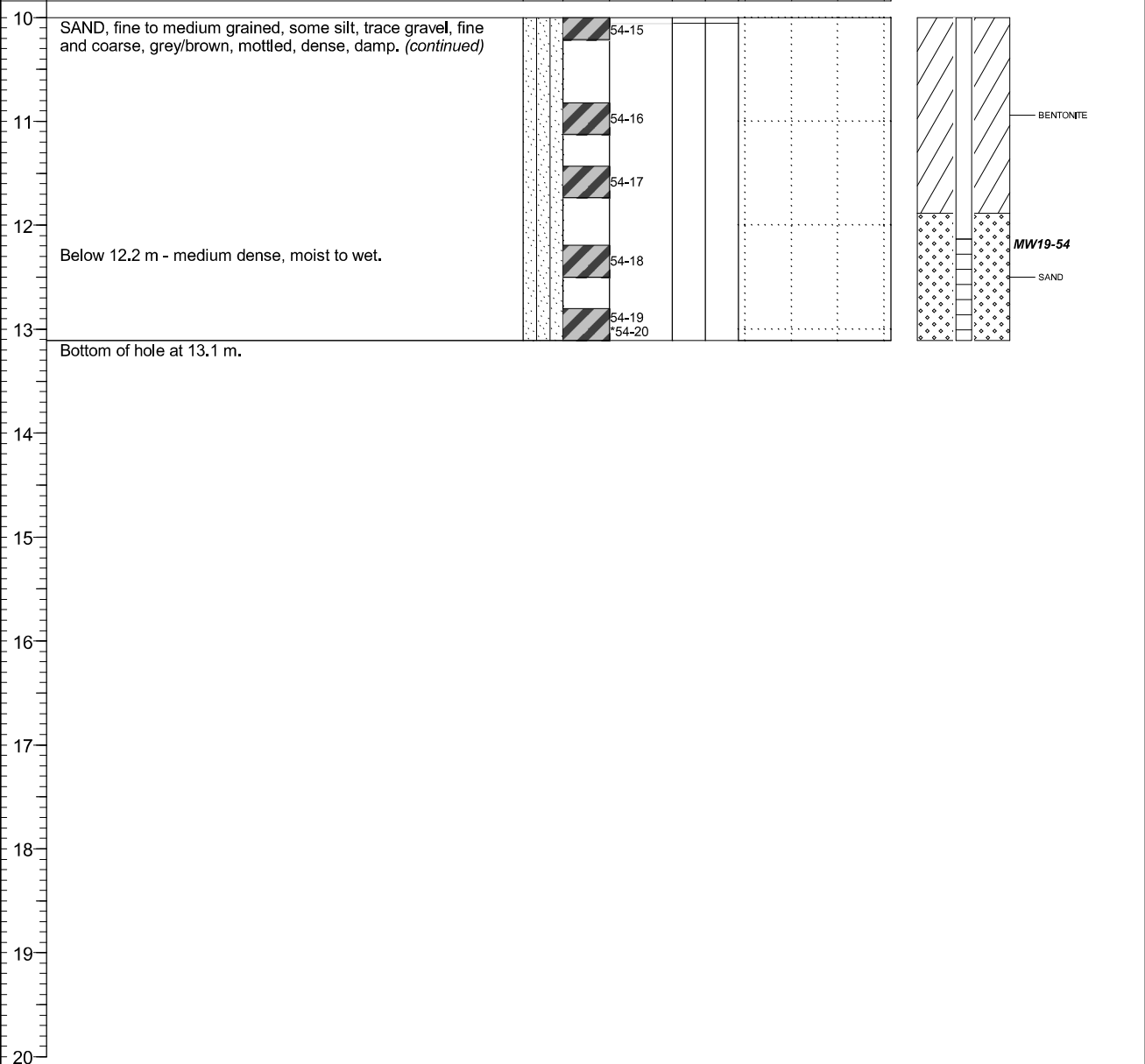
PAGE 2 OF 2

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,454
Top of Casing Elev. (m) 19,549
Northing: 5509608,094 Easting: 362398,472

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 06
Log Typed By: NDS

| | | | | | | | | | |
|-----------------|--|--|-------------------|-----------------------------|---------------|------------|------------|--|--------------------------|
| Depth in Metres | Drilling Legend Sample Interval Vac. Extraction Vibrasonic | Water/ Levels Water Level 1 Water Level 2 | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | <input type="radio"/> Reading within indicated scale <input checked="" type="radio"/> Reading outside indicated scale | Solid PVC Slotted PVC |
| | Soil Description | | | | | | | Soil Vapour (ppm) | |



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-55

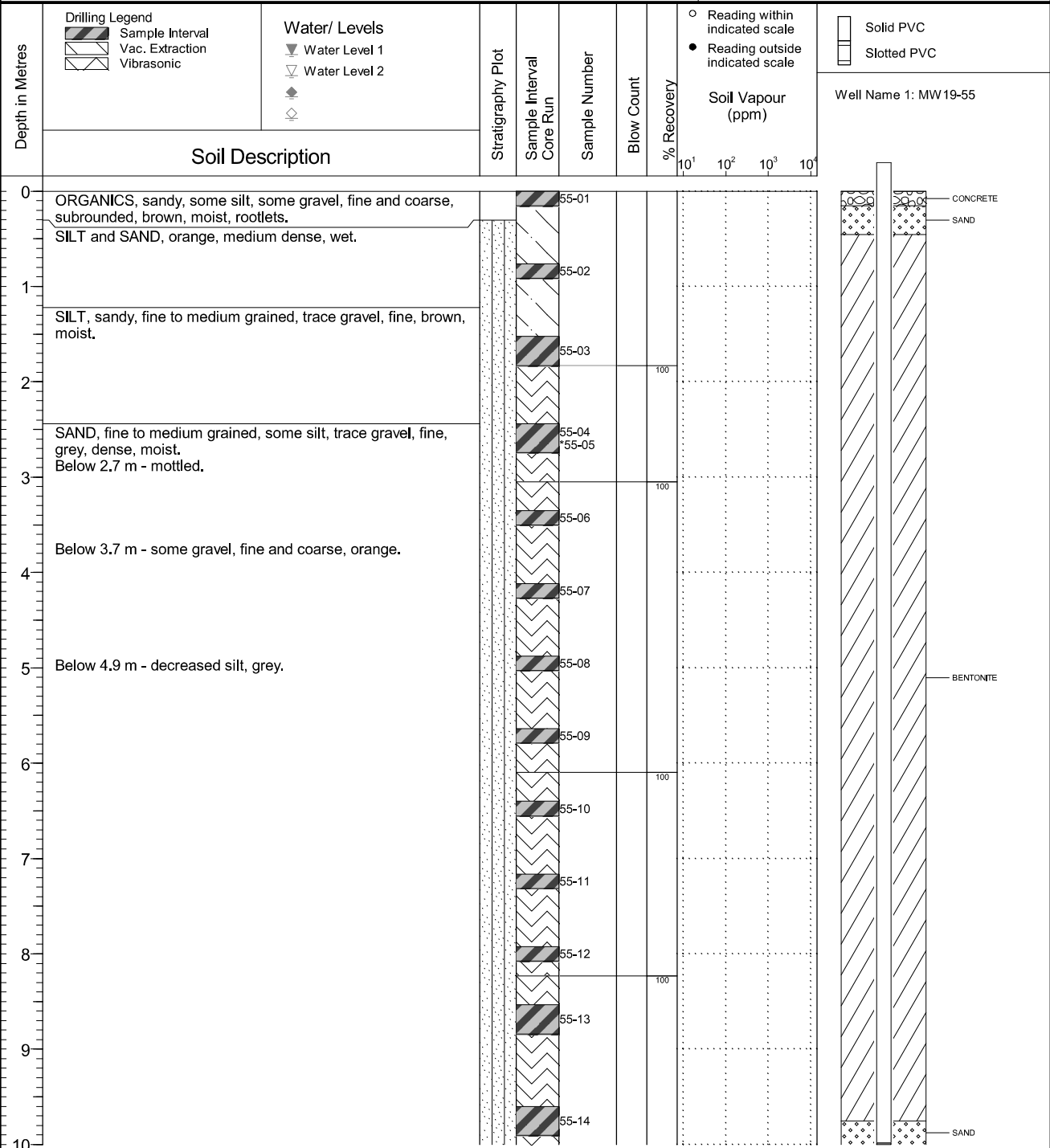
Location
CFB Comox

PAGE 1 OF 2

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,471
Top of Casing Elev. (m) 19,438
Northing: 5509605,464 Easting: 362398,714

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 06
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-55

Location
CFB Comox

PAGE 2 OF 2

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,471
Top of Casing Elev. (m) 19,438
Northing: 5509605,464 Easting: 362398,714

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 06
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | | | Well Name 1: MW19-55 | |
|-----------------|---|-------------------|--------------------------|---------------|------------|------------|-------------------|-----------------|-----------------|-----------------|----------------------|--|
| | | | | | | | 10 ¹ | 10 ² | 10 ³ | 10 ⁴ | | |
| 10 | SAND, fine to medium grained, some silt, trace gravel, fine, grey, dense, moist. <i>(continued)</i> | | | 55-15 | | | | | | | | |
| 11 | Bottom of hole at 11.0 m. | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |

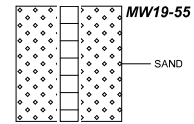
Drilling Legend
 Sample Interval
 Vac. Extraction
 Vibrasonic

Water/ Levels
 Water Level 1
 Water Level 2
 Well
 Casing

○ Reading within indicated scale
 ● Reading outside indicated scale

Solid PVC
 Slotted PVC

Well Name 1: MW19-55



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-56

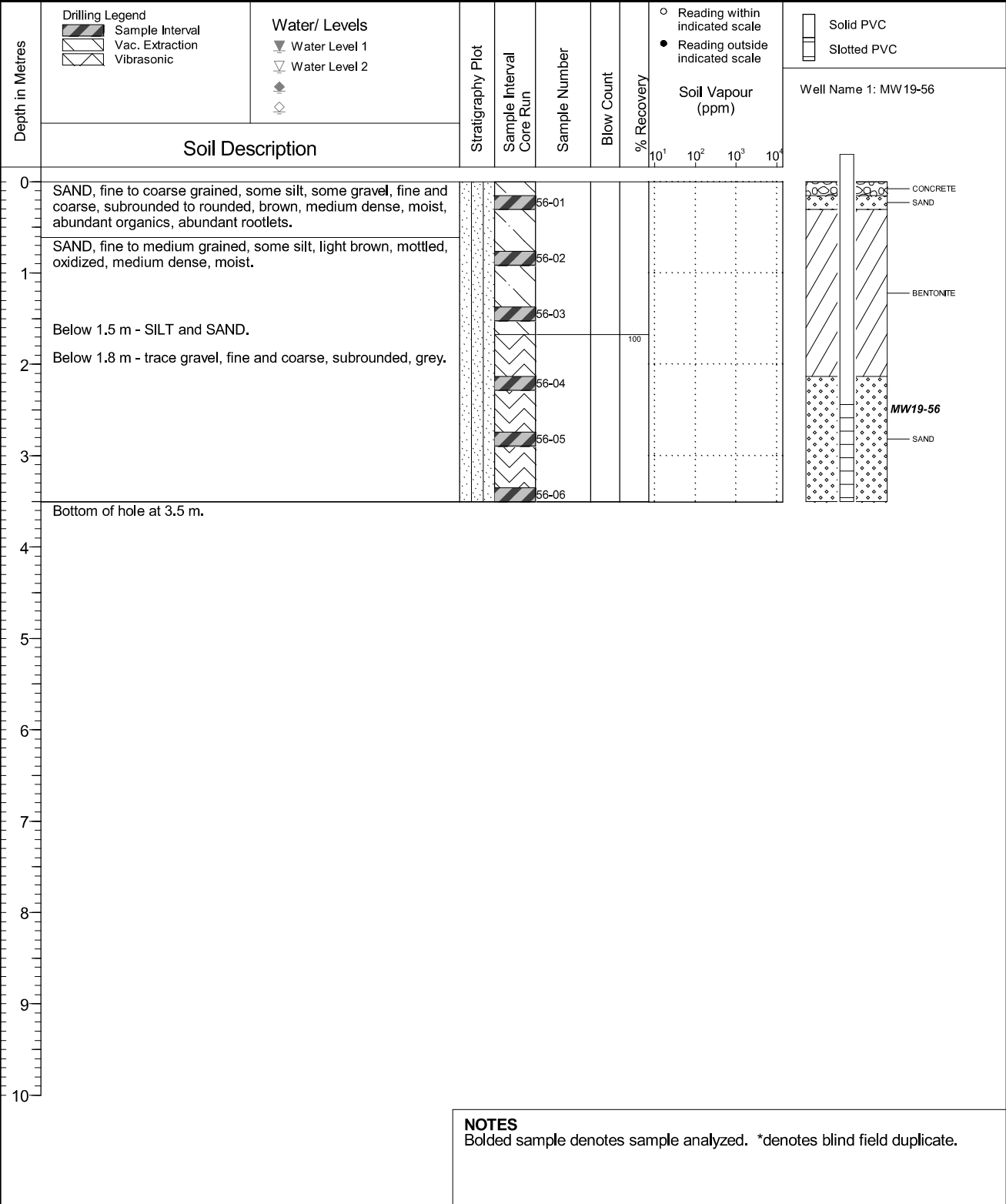
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 13,507
Top of Casing Elev. (m) 14,381
Northing: 5509955,506 Easting: 362494,416

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 06
Log Typed By: NDS





Client
Public Services and Procurement Canada

Borehole No. : BH19-57

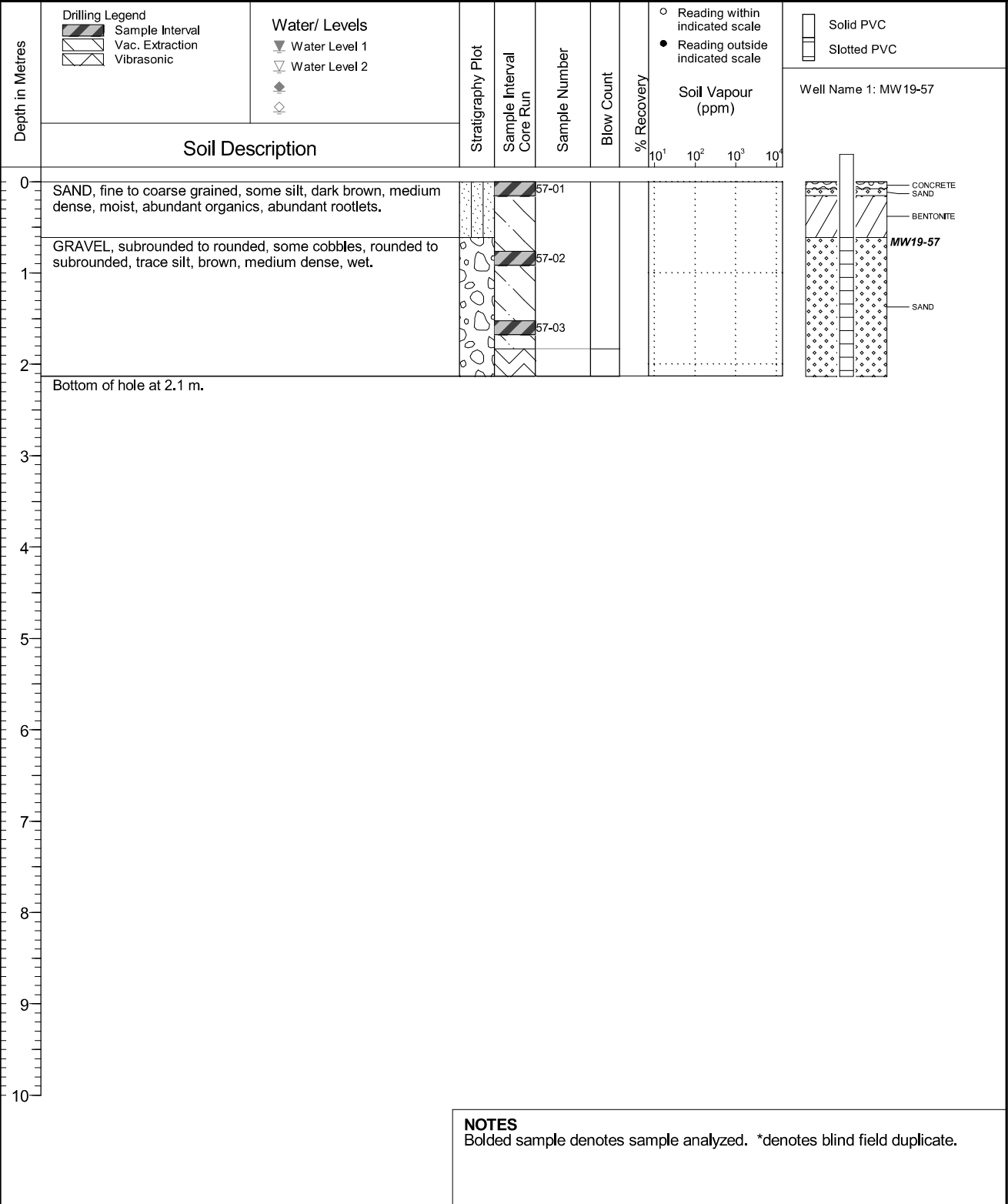
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
 Drilling Method Hydrovac/Vibratory Sonic
 Borehole Dia. (m) 0,15
 Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
 Ground Surface Elev. (m) 13,546
 Top of Casing Elev. (m) 14,282
 Northing: 5509955,457 Easting: 362494,575

Project Number: 658394
 Borehole Logged By: CP/TP
 Date Drilled: 2019 03 06
 Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-58

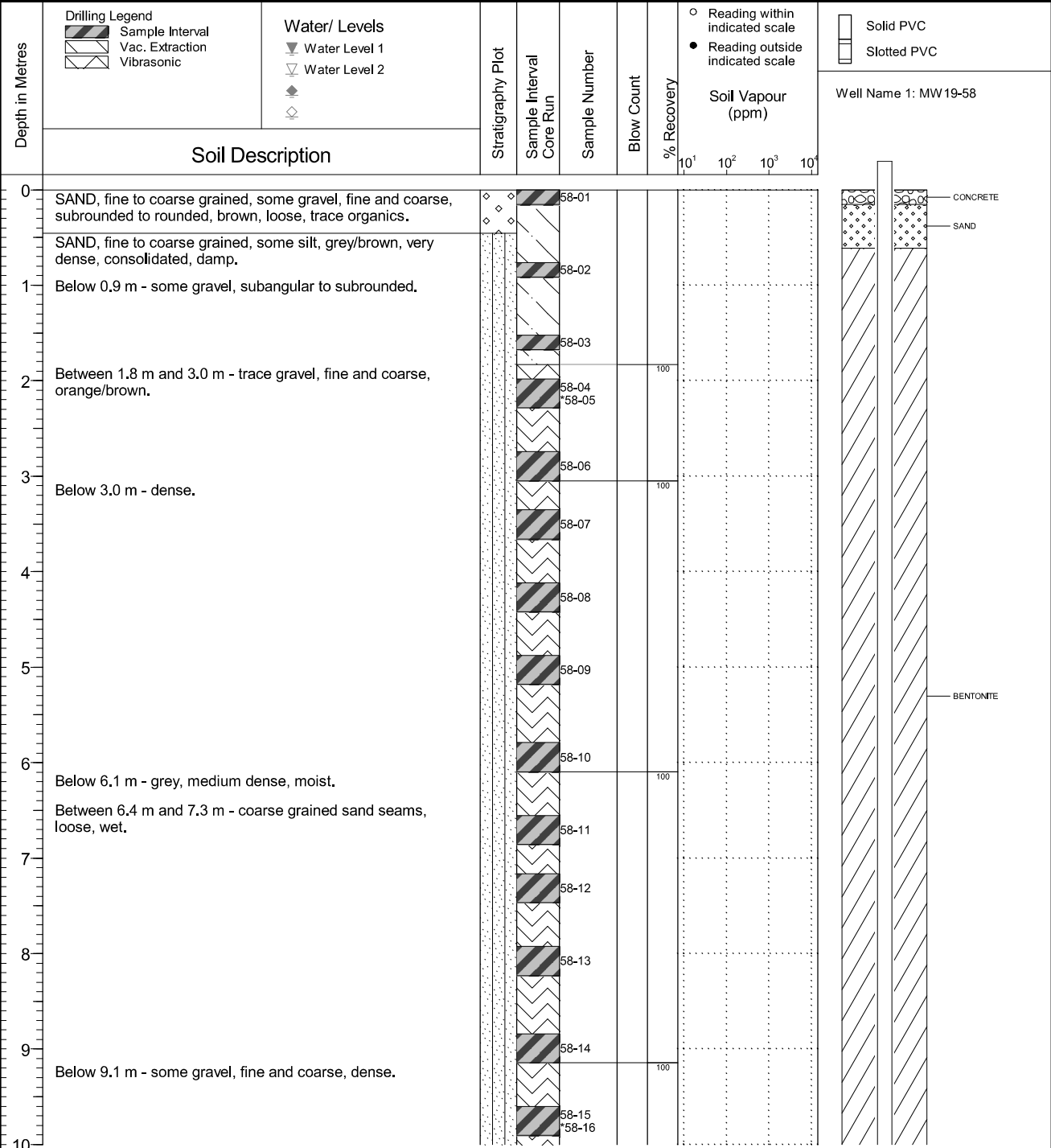
Location
CFB Comox

PAGE 1 OF 2

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,709
Top of Casing Elev. (m) 19,794
Northing: 5509559,038 Easting: 362408,325

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate. Well installed with hollow stem auger.



Client
Public Services and Procurement Canada

Borehole No. : BH19-58

Location
CFB Comox

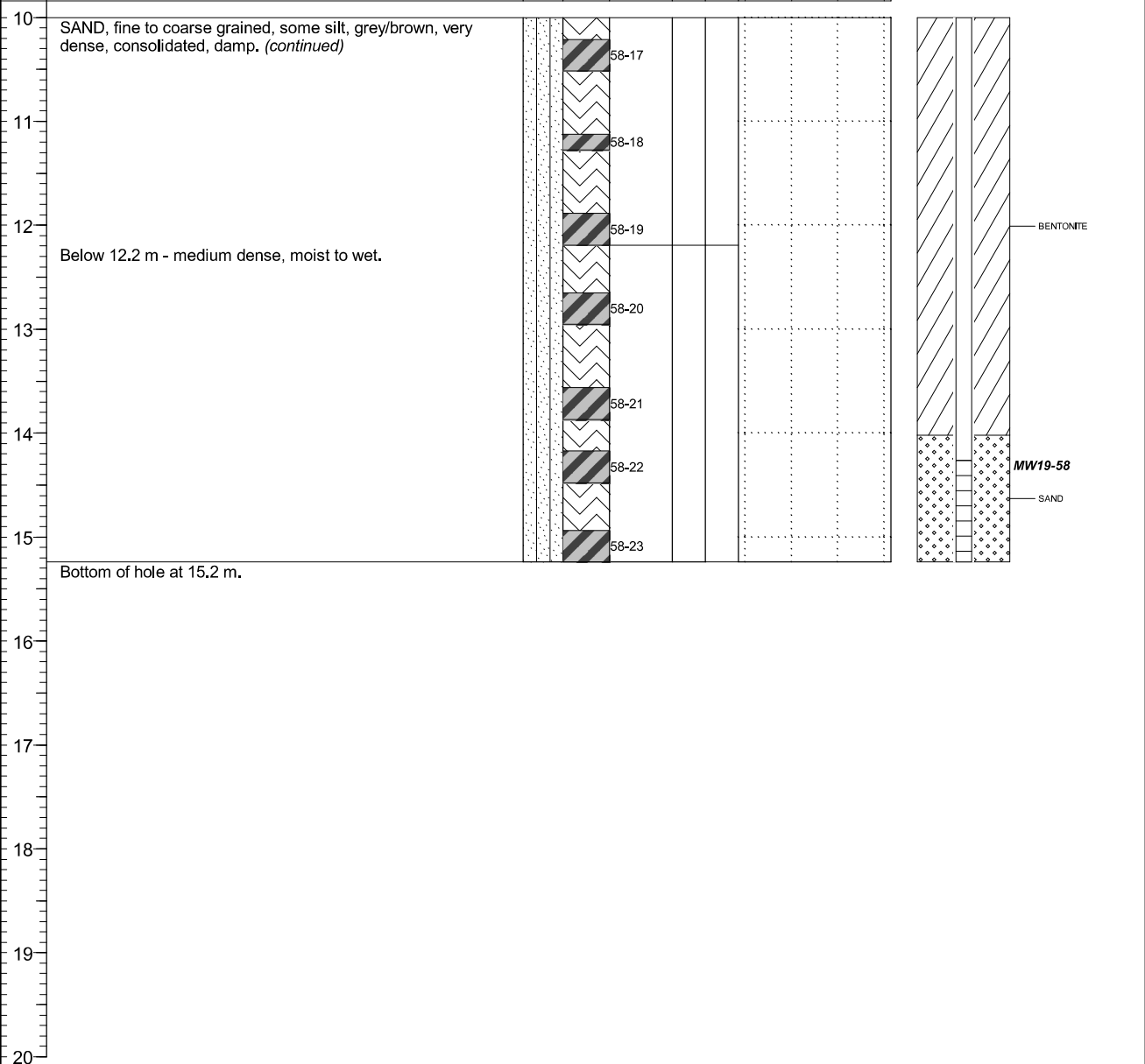
PAGE 2 OF 2

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,709
Top of Casing Elev. (m) 19,794
Northing: 5509559,038 Easting: 362408,325

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS

| | | | | | | | | | |
|-----------------|--|--|-------------------|-----------------------------|---------------|------------|------------|---|--------------------------|
| Depth in Metres | Drilling Legend Sample Interval Vac. Extraction Vibrasonic | Water/ Levels Water Level 1 Water Level 2 Well Casing | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | ○ Reading within indicated scale ● Reading outside indicated scale | Solid PVC Slotted PVC |
| | Soil Description | Soil Vapour (ppm) | | | | | | Well Name 1: MW19-58 | |



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate. Well installed with hollow stem auger.



Client
Public Services and Procurement Canada

Borehole No. : BH19-59

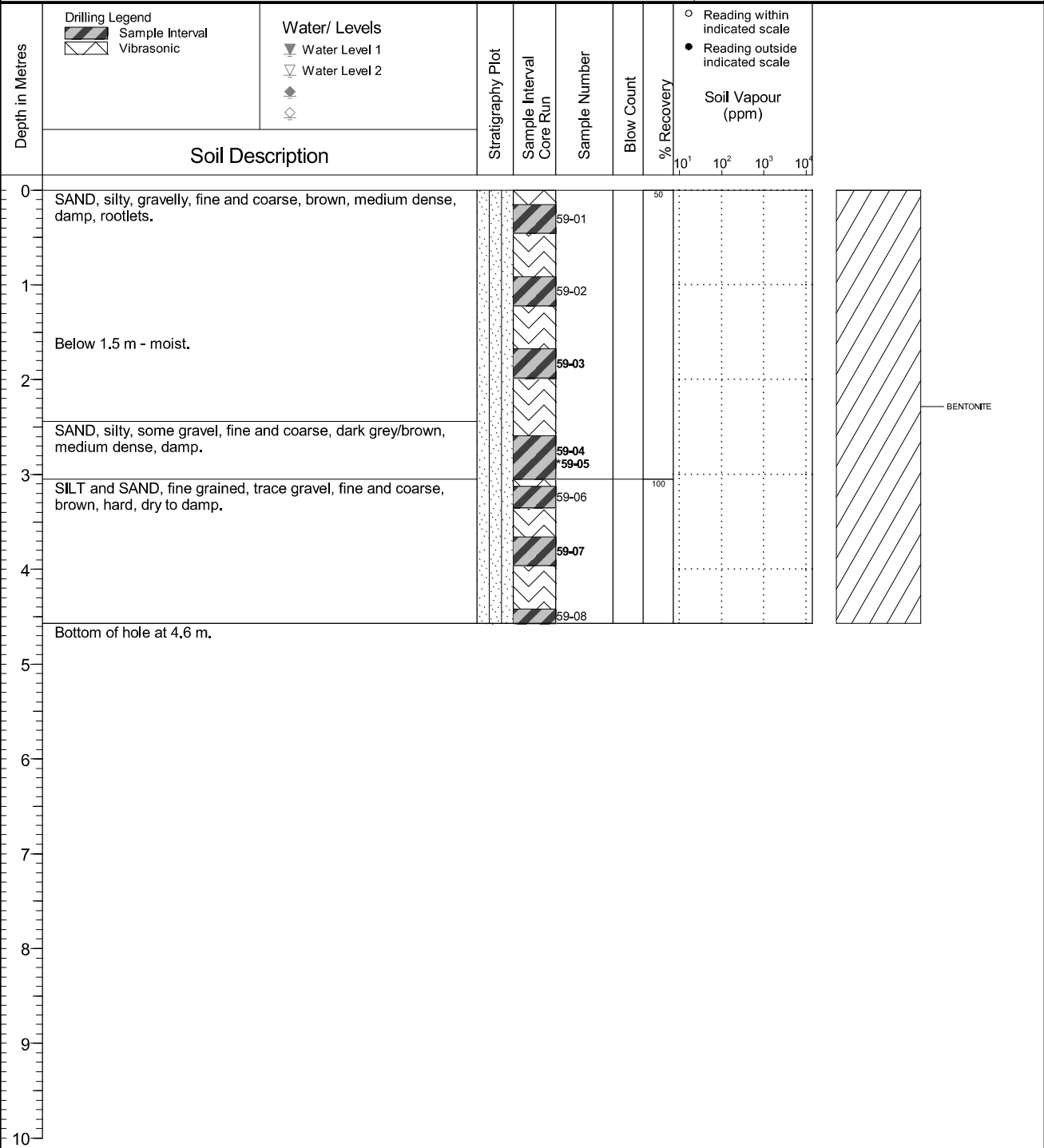
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor Blue Max Drilling Inc.
Drilling Method Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 20,857
Top of Casing Elev. (m) n/a
Northing: 5509597,194 Easting: 362512,515

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-60

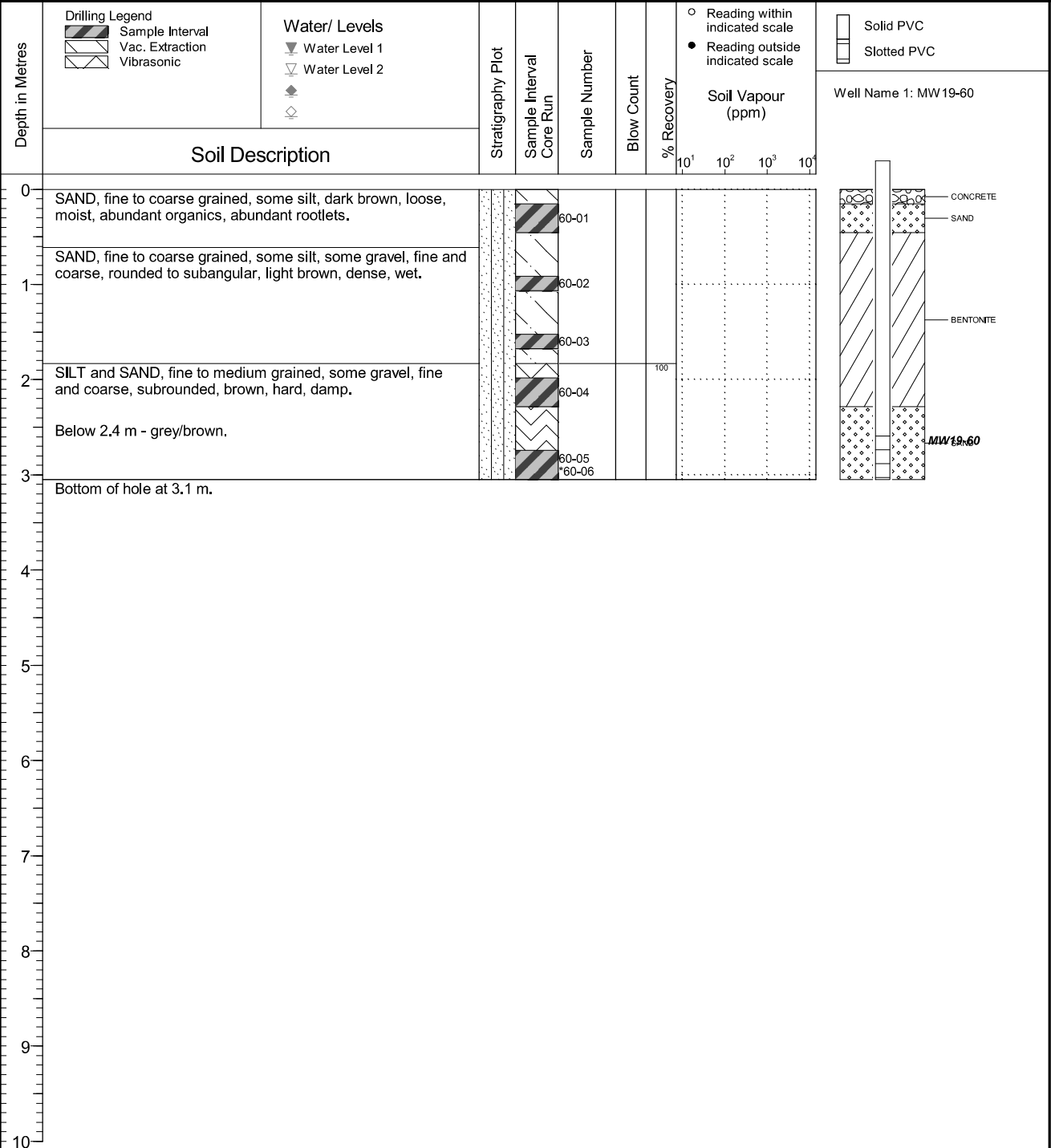
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 20,040
Top of Casing Elev. (m) 20,925
Northing: 5509439,887 Easting: 362476,212

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-61

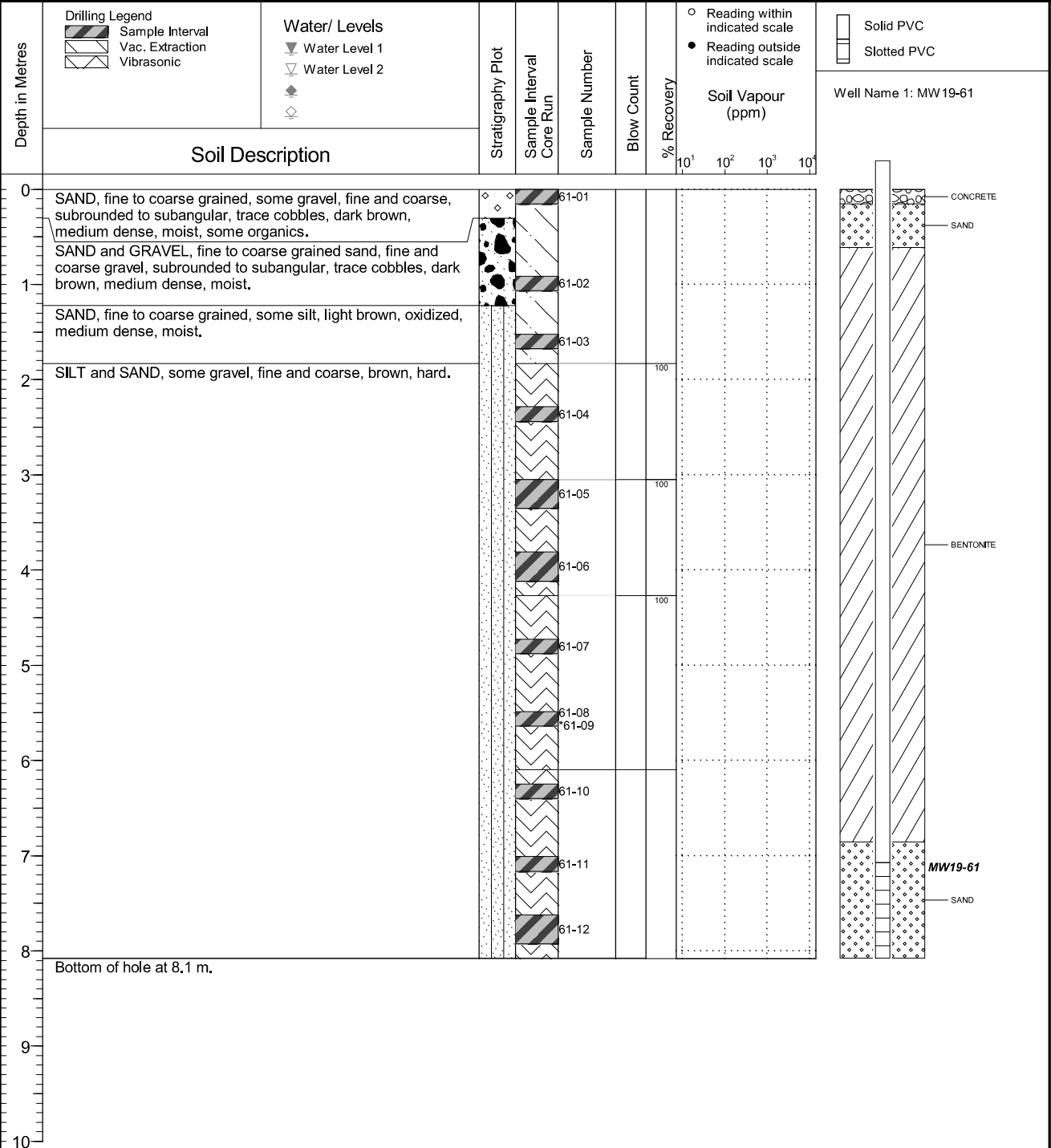
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,132
Top of Casing Elev. (m) 19,043
Northing: 5509455,588 Easting: 362286,791

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-62

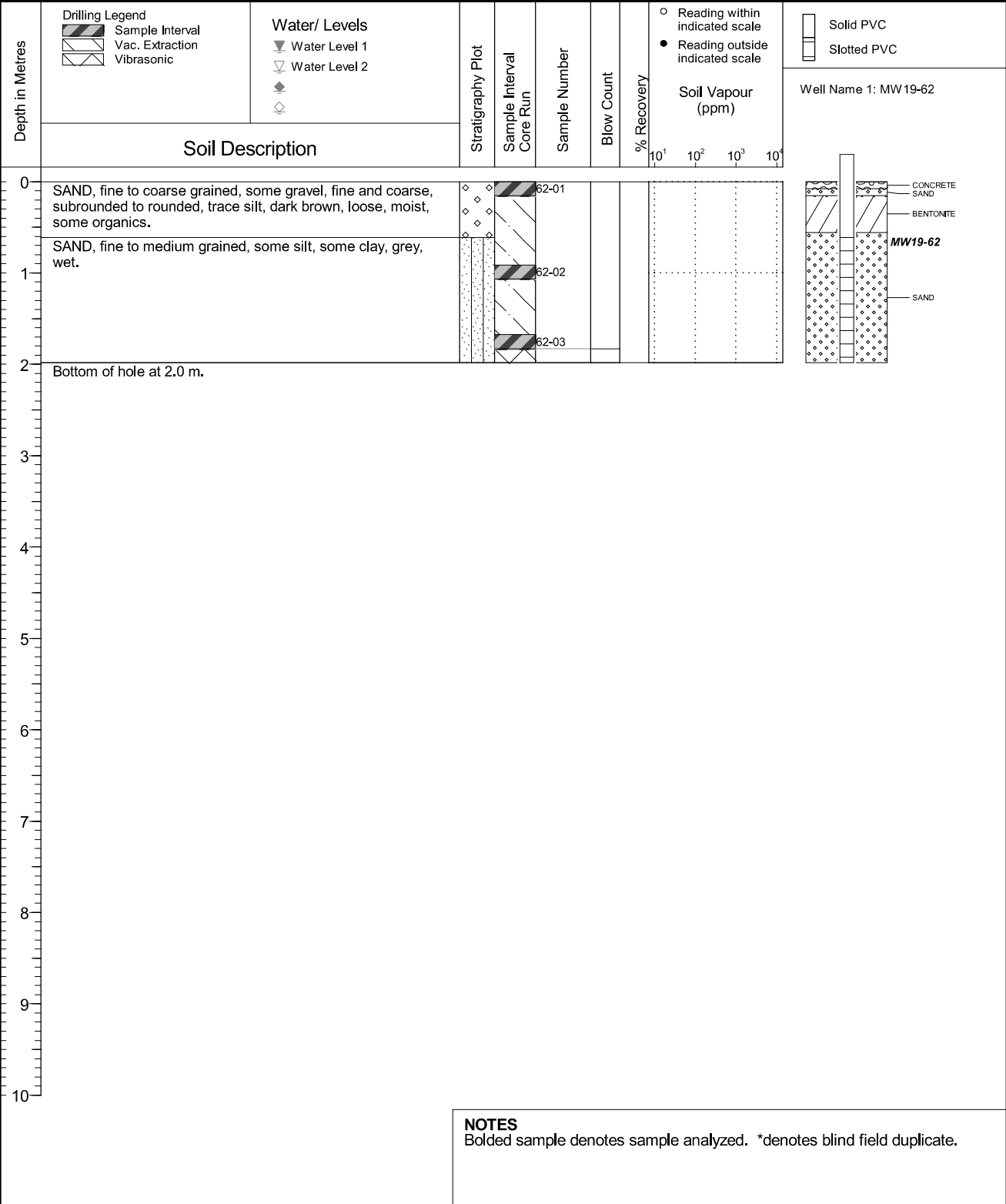
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 17,391
Top of Casing Elev. (m) 18,535
Northing: 5509354,015 Easting: 362326,564

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-63

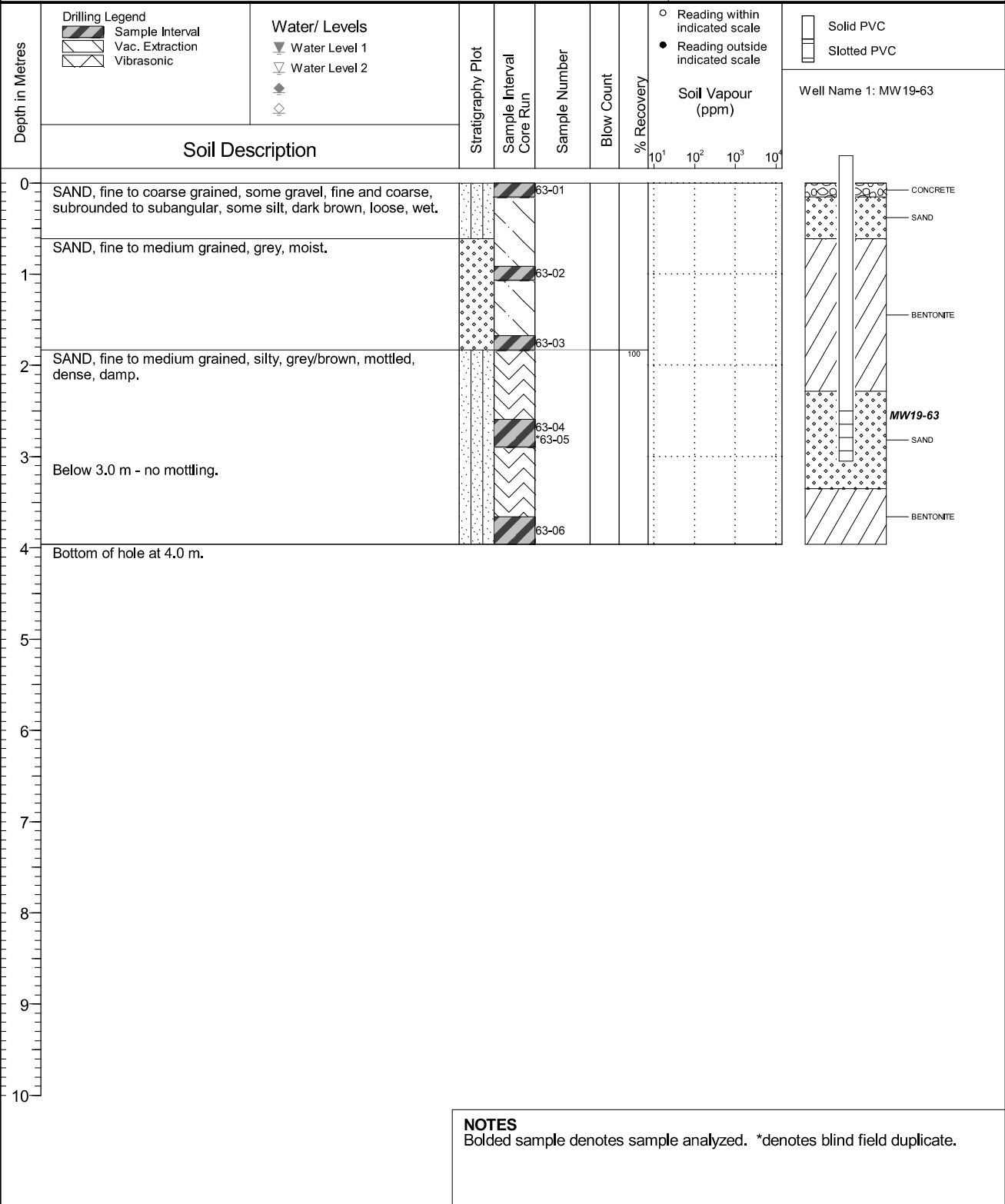
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 17,391
Top of Casing Elev. (m) 18,444
Northing: 5509352,193 Easting: 362327,359

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-64

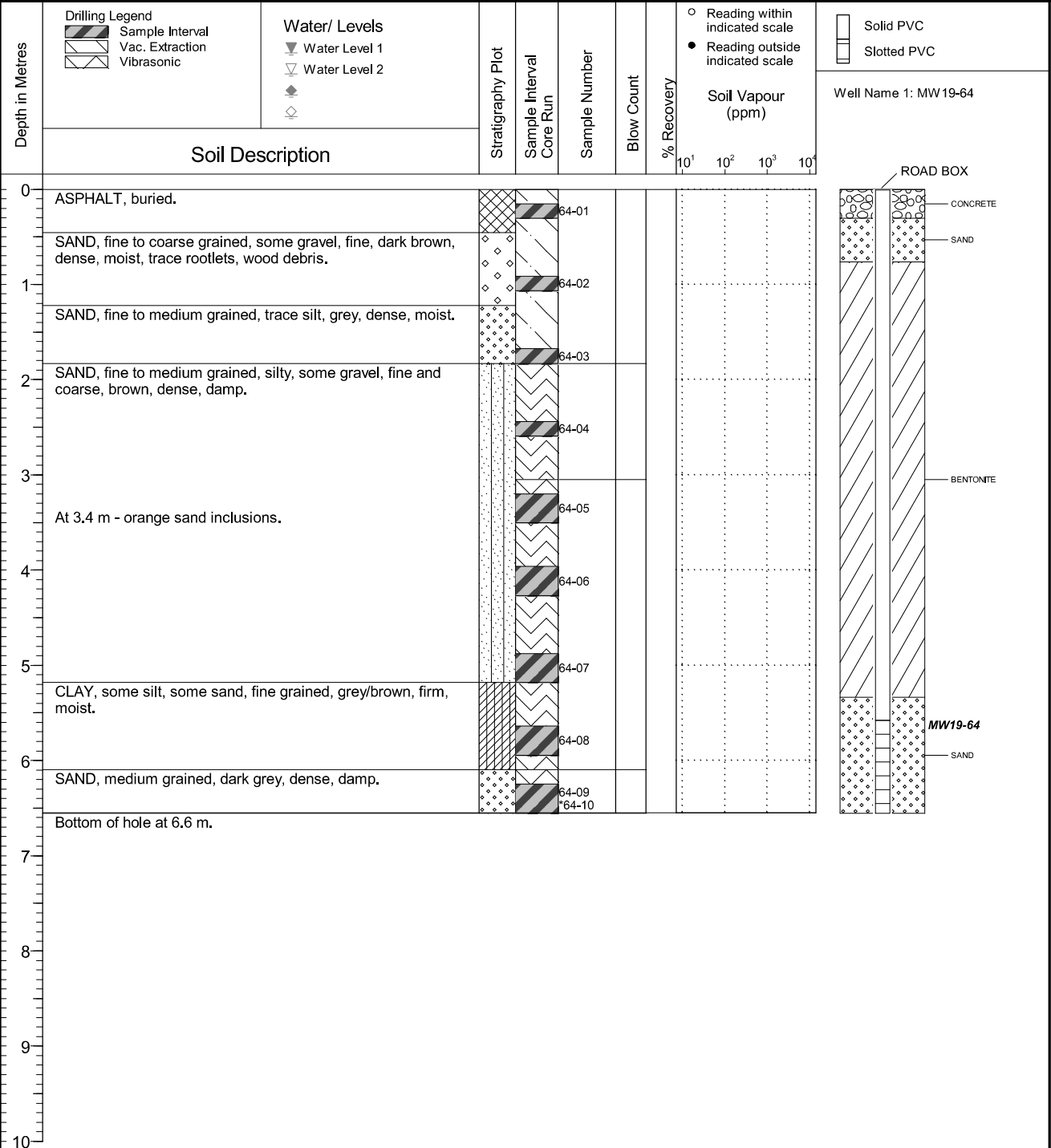
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,015
Top of Casing Elev. (m) 18,008
Northing: 5509545,103 Easting: 362263,925

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 08
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-65

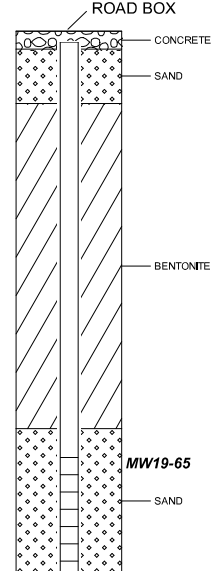
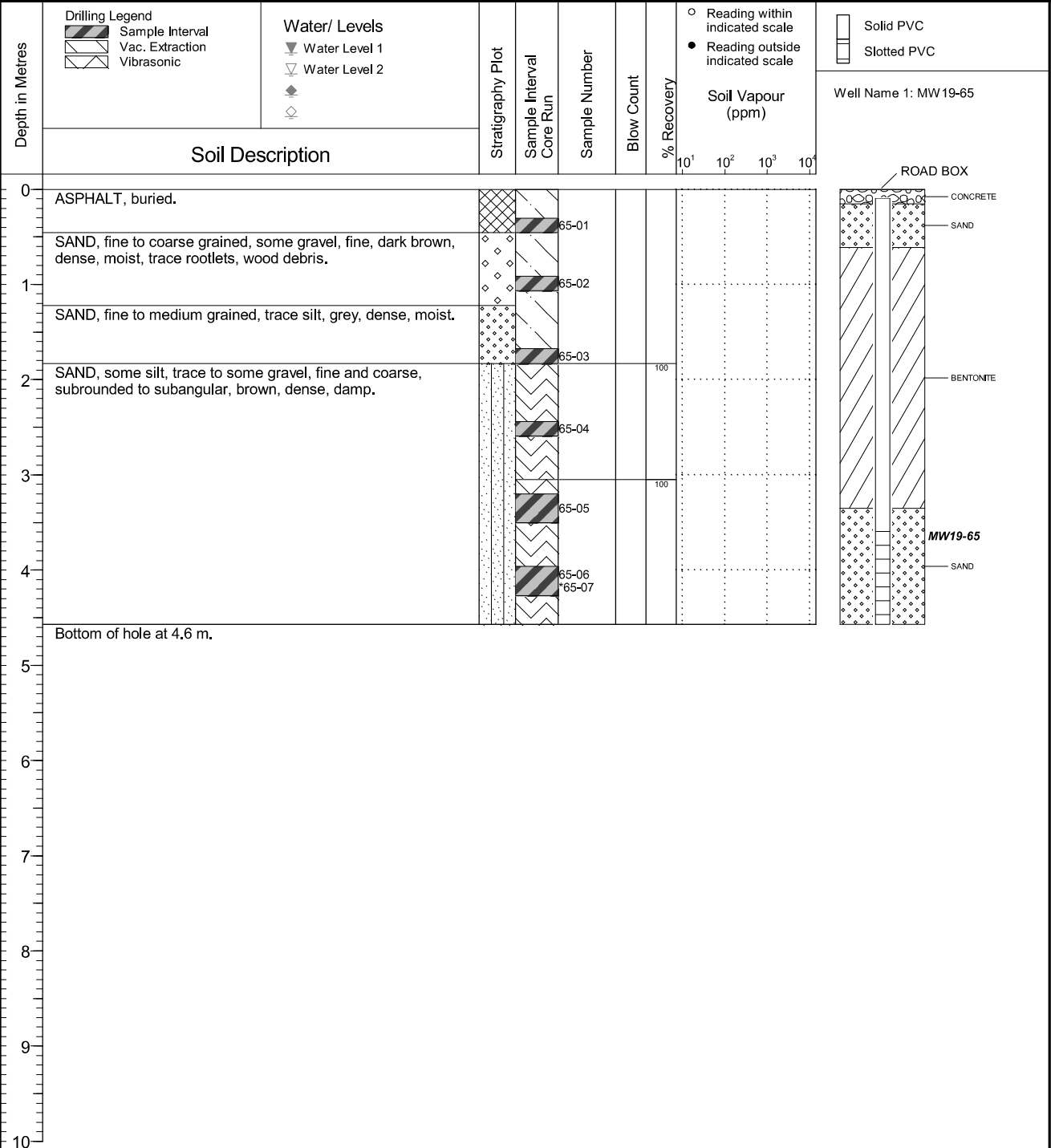
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
 Drilling Method Hydrovac/Vibratory Sonic
 Borehole Dia. (m) 0,15
 Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
 Ground Surface Elev. (m) 18,018
 Top of Casing Elev. (m) 17,923
 Northing: 5509546,846 Easting: 362263,336

Project Number: 658394
 Borehole Logged By: CP/TP
 Date Drilled: 2019 03 08
 Log Typed By: NDS



NOTES
 Bolded sample denotes sample analyzed. *denotes blind field duplicate.

QA TP 2019 04 09 Print Date: 2019-10-23



Client
Public Services and Procurement Canada

Borehole No. : BH19-66

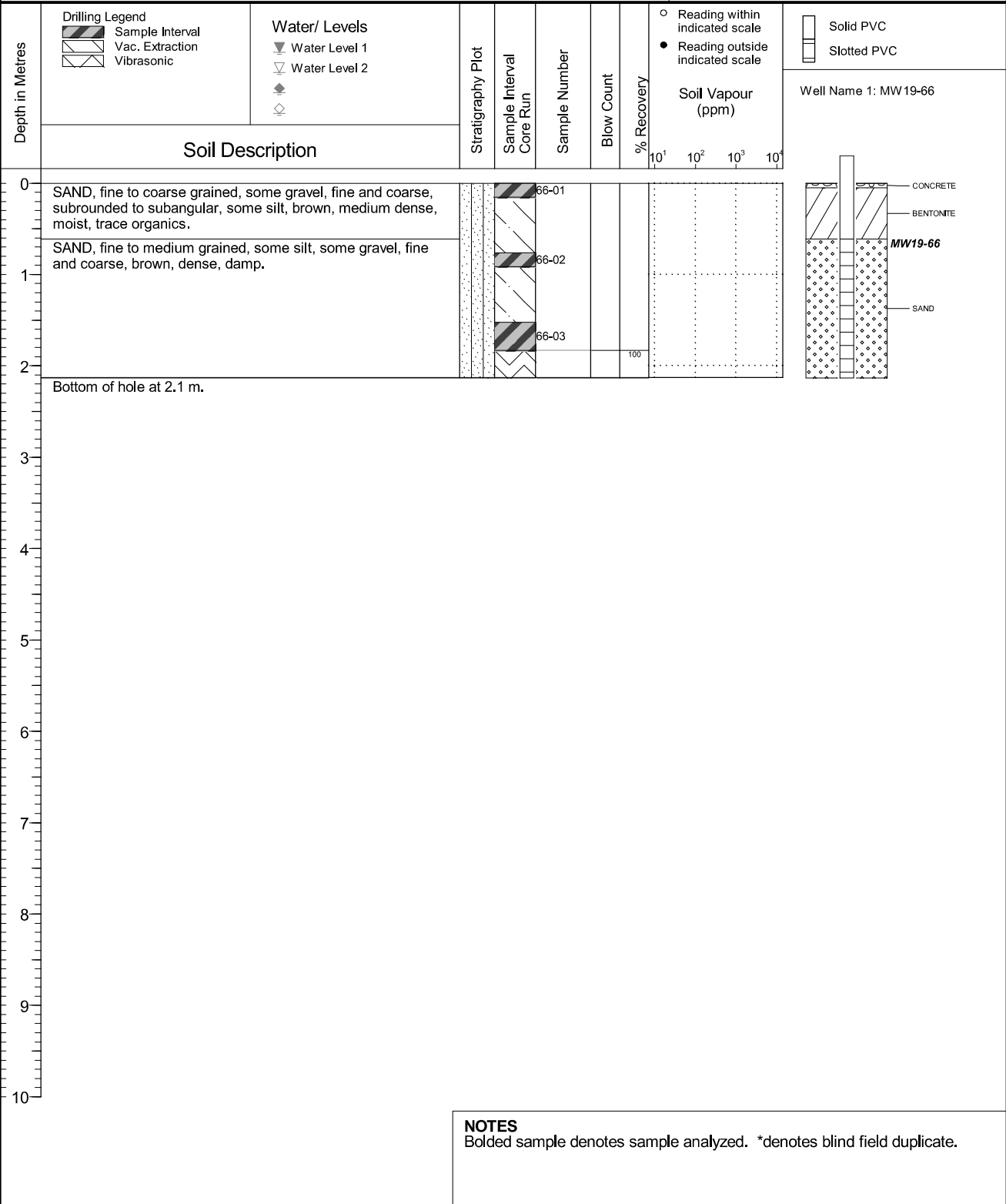
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 15,074
Top of Casing Elev. (m) 16,090
Northing: 5509805,206 Easting: 362198,611

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 07
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-67

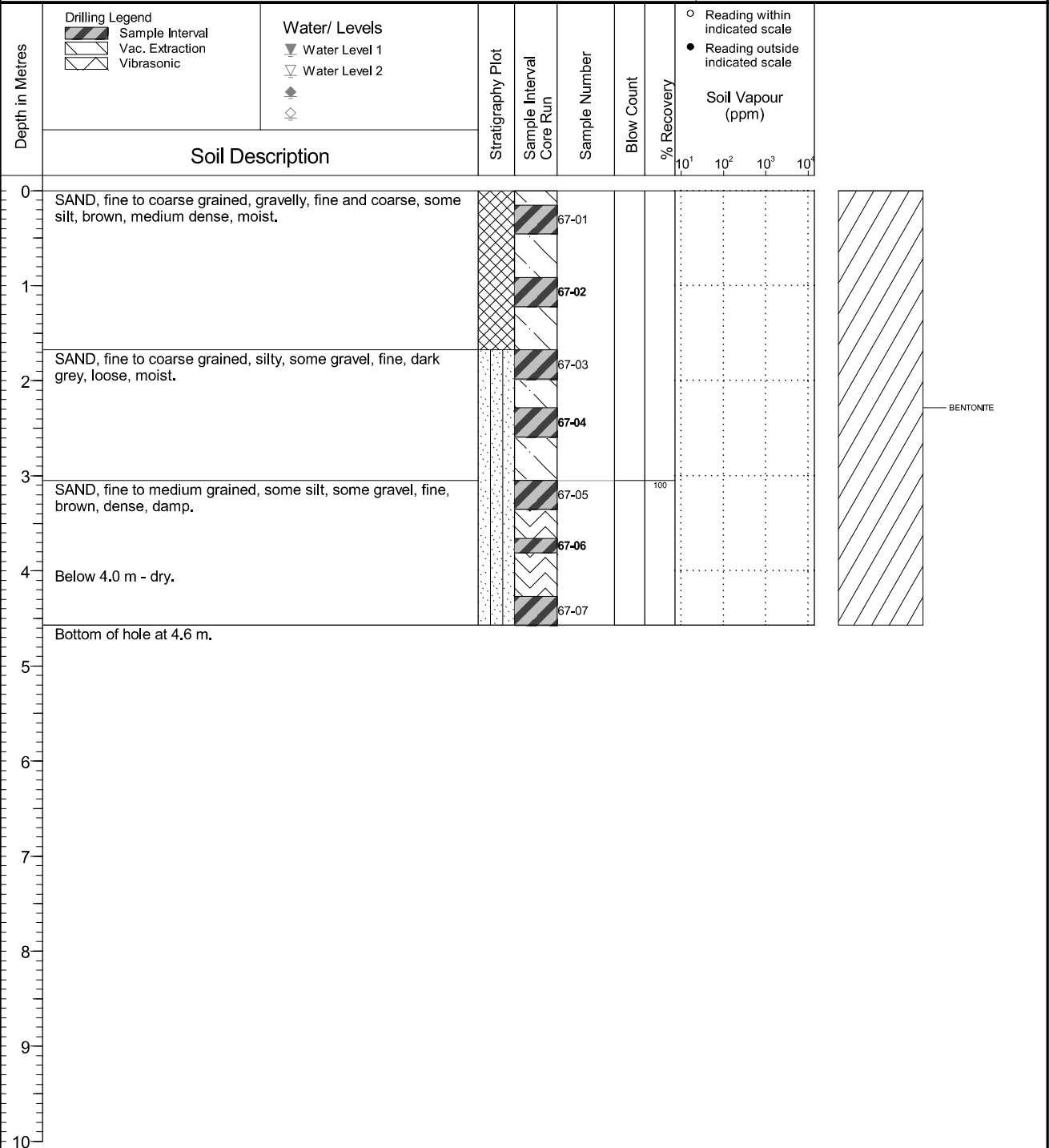
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 20.931
Top of Casing Elev. (m) n/a
Northing: 5509582.316 Easting: 362513.369

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 08
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-68

Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 16,698
Top of Casing Elev. (m) 17,567
Northing: 5509708,556 Easting: 362312,140

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 08
Log Typed By: NDS

| Depth in Metres | Soil Description | Stratigraphy Plot | Sample Interval Core Run | Sample Number | Blow Count | % Recovery | Soil Vapour (ppm) | | | | Well Name 1: MW19-68 | | |
|-----------------|---|-------------------|-----------------------------|---------------|------------|------------|-------------------|-----------------|-----------------|-----------------|----------------------|--|--|
| | | | | | | | 10 ¹ | 10 ² | 10 ³ | 10 ⁴ | | | |
| 0 | SAND, fine to coarse grained, trace gravel, fine, dark brown, loose, moist, abundant organics, abundant rootlets. | | 68-01 | | | | | | | | | | |
| 1 | SAND, fine to coarse grained, trace gravel, fine, brown, very dense, consolidated, damp. | | 68-02 | | | | | | | | | | |
| 2 | SAND, medium grained, trace silt, trace gravel, fine, grey/brown, dense, moist. | | 68-03 | | | | | | | | | | |
| 3 | Below 3.0 m - decreased silt, grey. | | 68-04 | | | | | | | | | | |
| | | | 68-05 | | | | | | | | | | |
| 4 | Below 3.7 m - medium dense. | | 68-06 | | | | | | | | | | |
| | | | 68-07 | | | | | | | | | | |
| 5 | Bottom of hole at 5.0 m. | | 68-08 | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |

NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-69

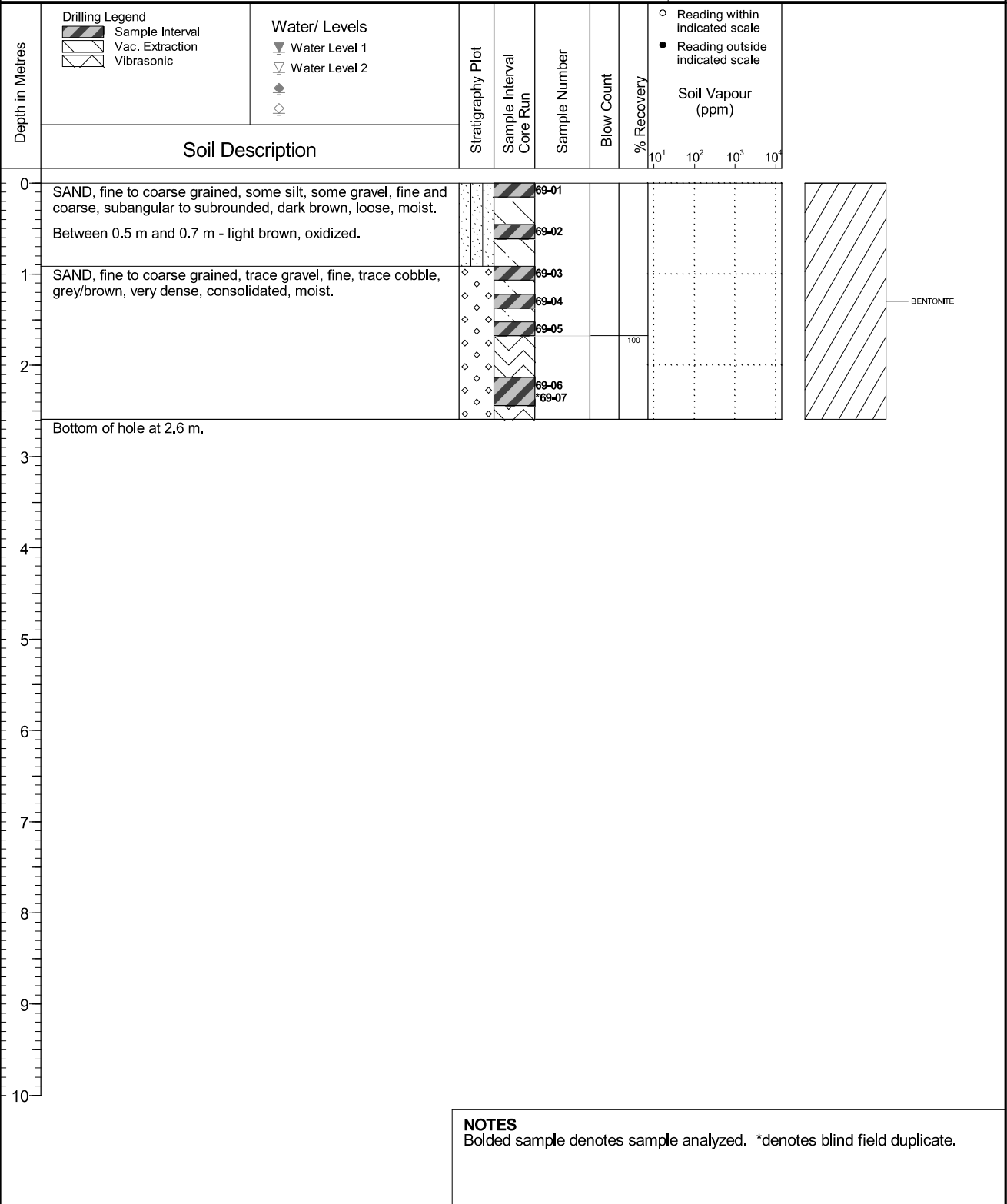
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 17.476
Top of Casing Elev. (m) n/a
Northing: 5509610.325 Easting: 362317.621

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 08
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



Client
Public Services and Procurement Canada

Borehole No. : BH19-70

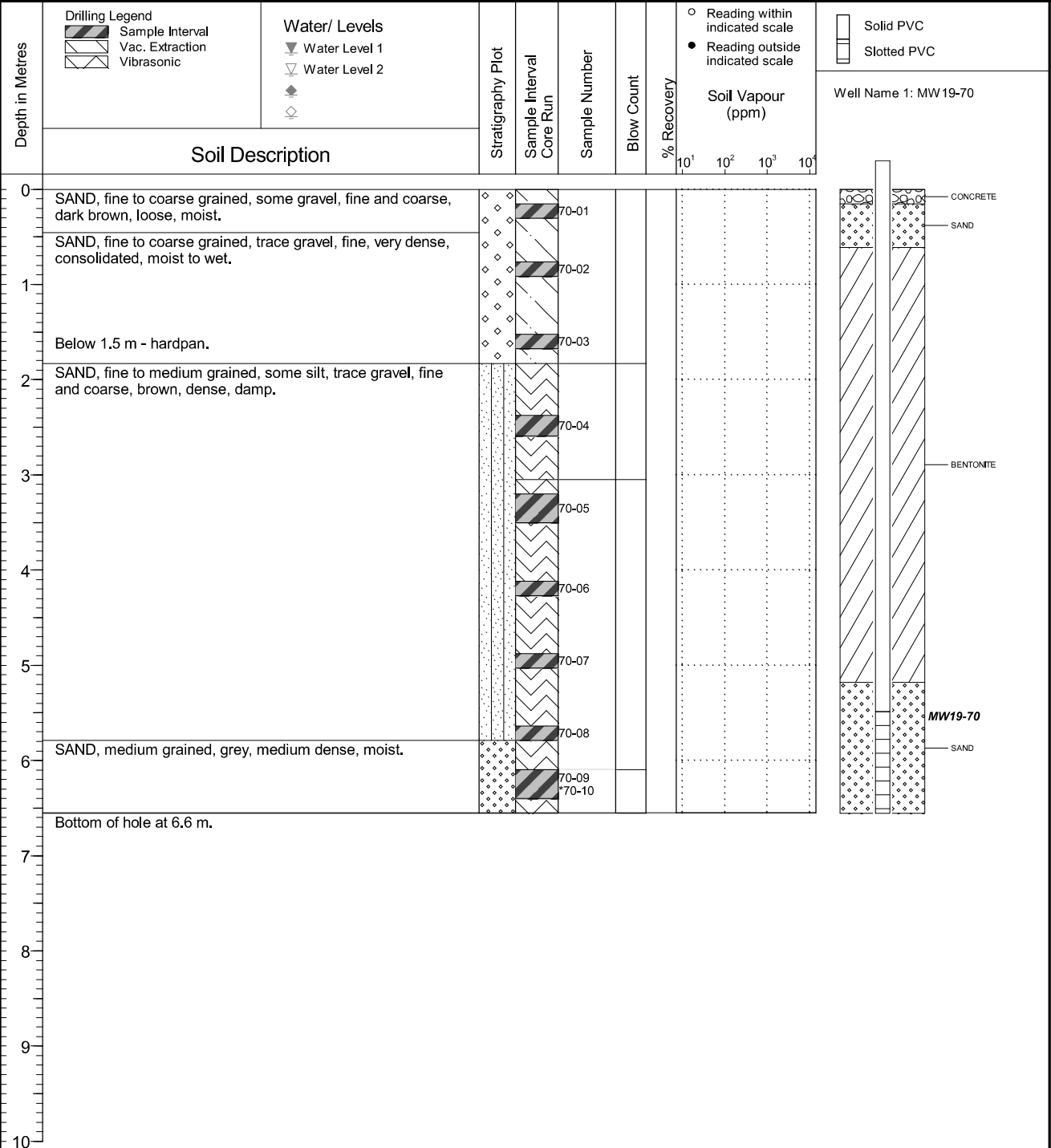
Location
CFB Comox

PAGE 1 OF 1

Drilling Contractor H2X Contracting/Blue Max
Drilling Method Hydrovac/Vibratory Sonic
Borehole Dia. (m) 0,15
Pipe/Slotted Pipe Dia. (m) 0,05/0,05

Date Monitored n/a
Ground Surface Elev. (m) 18,961
Top of Casing Elev. (m) 19,964
Northing: 5509493,980 Easting: 362413,840

Project Number: 658394
Borehole Logged By: CP/TP
Date Drilled: 2019 03 08
Log Typed By: NDS



NOTES
Bolded sample denotes sample analyzed. *denotes blind field duplicate.



CLIENT: **PSPC - CFB Comox**
 PROJECT: **FFTA - Waste Oil Assessment**
 ADDRESS: **Canadian Forces Base Comox Lazo, BC**
 SLR JOB NO: **219.05329.00011**

BOREHOLE LOG

BOREHOLE NO: **BH20-01**
 SURFACE ELEVATION:

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | BOREHOLE COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) | | | | |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|--|--|--|-----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | | | |
| 0.0 - 0.4 | ▲ | BH20-01 | 0.1 | 0.4 | CONCRETE SAND well graded, some silt, trace gravel, loose, brown, moist | | | 45 | | | | | | | | | | |
| 0.9 - 1.2 | ▲ | BH20-01 | 0.9 | 1.2 | silty SAND poorly graded, fine grained, trace gravel, trace clay, dense, HC odour 0.75-1.4m, grey, moist | | | | 125 | | | | | | | | | 1.0 |
| 1.5 - 1.7 | ▲ | BH20-01 | 1.5 | 1.7 | well graded, no clay, brown below 1.4m, brown | | | 40 | | | | | | | | | | |
| 2.0 - 2.2 | ▲ | BH20-01 | 2.0 | 2.2 | | | | 30 | | | | | | | | | | 2.0 |
| 3.0 - 3.2 | ▲ | BH20-01 | 3.0 | 3.2 | | | | 20 | | | | | | | | | | 3.0 |
| 3.8 - 4.1 | ▲ | BH20-01 | 3.8 | 4.1 | SAND poorly graded, fine grained, some silt, occasional gravel, dense, grey, moist | | | | | | | | | | | | | 4.0 |
| 5.0 - 5.3 | ▲ | BH20-01 | 5.0 | 5.3 | | | | | | | | | | | | | | 5.0 |
| 6.0 - 6.3 | ▲ | BH20-01 | 6.0 | 6.3 | | | | | | | | | | | | | | 6.0 |
| | | | | | End of borehole at 6.3 m | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329 FFTA WOA GPJ SLR_CAN V5.2.GDT 8/21/20

DRILLING METHOD: Solid Stem Auger Drilling

Notes: AUGER SAMPLE

DRILL DATE: June 30, 2020

LOGGED BY: JH
 DRILLED BY:



CLIENT: **PSPC - CFB Comox**
 PROJECT: **FFTA - Waste Oil Assessment**
 ADDRESS: **Canadian Forces Base Comox Lazo, BC**
 SLR JOB NO: **219.05329.00011**

BOREHOLE LOG

BOREHOLE NO: **BH20-02**
 SURFACE ELEVATION:

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | BOREHOLE COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) | | | |
|--------------------------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|--|--|--|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | | |
| 0.2 | AUGER | BH20-02 A | 0.4 | DUP | CONCRETE | | | | | | | | | | | | |
| 0.4 | AUGER | | | | SAND coarse grained, some gravel, trace silt, loose, brown, moist | 5 | | | | | | | | | | | |
| 0.7 | AUGER | BH20-02 | 1.0 | | -some silt below 0.6m, brown-grey | | | | | | | | | | | | |
| 1.0 | AUGER | | | | | 60 | | | | | | | | | | | |
| 1.7 | AUGER | BH20-02 | 1.9 | | silty SAND trace gravel, dense, brown, moist | | | | | | | | | | | | |
| 2.2 | AUGER | BH20-02 | 2.4 | | | | | | | | | | | | | | |
| 2.4 | AUGER | | | | | 30 | | | | | | | | | | | |
| 3.1 | AUGER | BH20-02 B | 3.3 | DUP | -wet below 3m | | | | | | | | | | | | |
| 3.3 | AUGER | | | | | | | | | | | | | | | | |
| 4.1 | AUGER | BH20-02 | 4.3 | | | | | | | | | | | | | | |
| 4.3 | AUGER | | | | SILT trace fine grained gravel, some clay, firm, medium plasticity, grey, wet | | | | | | | | | | | | |
| 5.0 | AUGER | BH20-02 | 5.2 | | | | | | | | | | | | | | |
| 5.2 | AUGER | | | | | 20 | | | | | | | | | | | |
| 6.1 | AUGER | BH20-02 | 6.3 | | silty SAND occasional gravel, dense, grey, wet | | | | | | | | | | | | |
| 6.3 | AUGER | | | | | | | | | | | | | | | | |
| End of borehole at 6.3 m | | | | | | | | | | | | | | | | | |

SLR CANADA V5.2 219.05329 FFTA WOA GPJ SLR_CAN V5.2.GDT 8/21/20

DRILLING METHOD: Solid Stem Auger Drilling

Notes: AUGER SAMPLE

DRILL DATE: June 30, 2020

LOGGED BY: JH
 DRILLED BY:



CLIENT: **PSPC - CFB Comox**
 PROJECT: **FFTA - Waste Oil Assessment**
 ADDRESS: **Canadian Forces Base Comox Lazo, BC**
 SLR JOB NO: **219.05329.00011**

TESTPIT LOG

TESTPIT NO: **BH20-03**

SURFACE ELEVATION:

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TESTPIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|--------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| | | | | | TOPSOIL sand, some silt, occasional gravel, soft, brown, moist | | | | | | | | | |
| | | | | | SAND fine grained, some silt, trace clay, grey w/ orange mottling -hard, dense below 0.4m, increased gravel | | | | | | | | | |
| 1 | | BH20-03 | 1.1 | 1.25 | | | | | | | | | | |
| | | BH20-03 | 1.5 | 1.65 | | | | | | | | | | |
| 2 | | BH20-03 | 2.0 | 2.15 | | | | | | | | | | |
| | | BH20-03 | 2.35 | 2.5 | | | | | | | | | | |
| | | | | | End of testpit at 2.5 m | | | | | | | | | |

backfilled with original soils

SLR CANADA V5.2 219.05329 FFTA WOA GPJ SLR_CAN V5.2.GDT 8/21/20

DRILLING METHOD: Excavation

Notes: ■ GRAB SAMPLE

DRILL DATE: June 30, 2020 LOGGED BY: MC DRILLED BY:

Sheet 1 of 1



CLIENT: **PSPC - CFB Comox**
 PROJECT: **FFTA - Waste Oil Assessment**
 ADDRESS: **Canadian Forces Base Comox Lazo, BC**
 SLR JOB NO: **219.05329.00011**

TESTPIT LOG

TESTPIT NO: **BH20-04**

SURFACE ELEVATION:

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TESTPIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|------------|-------------|-----------|-----------|--------------------|---|-----------------------------|----|-----|------|-------|--------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.25 | | BH20-04 | 0.25 | TOPSOIL | sand, some silt, occasional gravel, grass, organics, soft, brown, moist | | | | | | | | | |
| 0.25 - 1.1 | | | | SAND | some gravel and silt, firm, brown w/ orange mottling | | | | | | | | | |
| 1.1 - 1.25 | | BH20-04 | 1.1 | SILT & SAND (till) | occasional gravel and cobbles, very hard, dense, light grey | | | | | | | | | |
| 1.25 - 1.5 | | | | | | | | | | | | | | |
| 1.5 - 2.0 | | BH20-04 | 1.5 | | | | | | | | | | | |
| 2.0 - 2.3 | | BH20-04 | 2.0 | | | | | | | | | | | |
| | | | | | End of testpit at 2.3 m | | | | | | | | | |

SLR CANADA V5.2 219.05329 FFTA WOA GPJ SLR_CAN V5.2.GDT 8/21/20

DRILLING METHOD: Excavation

Notes: ■ GRAB SAMPLE

DRILL DATE: June 30, 2020

LOGGED BY: MC
 DRILLED BY:



CLIENT: **PSPC - CFB Comox**
 PROJECT: **FFTA - Waste Oil Assessment**
 ADDRESS: **Canadian Forces Base Comox Lazo, BC**
 SLR JOB NO: **219.05329.00011**

TESTPIT LOG

TESTPIT NO: **BH20-05**

SURFACE ELEVATION:

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TESTPIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|------------|-------------|-----------|-----------|--------------------|---|-----------------------------|----|-----|------|-------|--------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.0 - 0.25 | | BH20-05 | 0.25 | TOPSOIL | sand, silt, occasional gravel, roots/organics, soft, brown, moist | | | | | | | | | |
| 0.25 - 1.1 | | BH20-05 | 1.1 | SAND | some silt, occasional gravel and cobbles, brown w/ orange mottling, dry | | | | | | | | | |
| 1.1 - 1.5 | | BH20-05 | 1.5 | SILT & SAND (till) | occasional gravel and cobbles, firm, brown w/ orange mottling, dry | | | | | | | | | |
| 1.5 - 2.0 | | BH20-05 | 2.0 | | | | | | | | | | | |
| 2.0 - 2.3 | | BH20-05 | 2.0 | | | | | | | | | | | |
| | | | | | End of testpit at 2.3 m | | | | | | | | | |

SLR CANADA V5.2 219.05329 FFTA WOA GPJ SLR_CAN V5.2.GDT 8/21/20

DRILLING METHOD: Excavation

Notes: ■ GRAB SAMPLE

DRILL DATE: June 30, 2020

LOGGED BY: MC
 DRILLED BY:



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-05** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509702 N
 362330 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND fine grained, trace silt, loose, brown, dry | | | | | | | | | 0.2 |
| 0.4 | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | sandy SILT dense, grey, moist | | | | | | | | | 0.6 |
| 0.8 | | | | | | | | | | | | | | 0.8 |
| 1.0 | | | | | End of borehole at 1.0 m | | | | | | | | | 1.0 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-06** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509685 N
 362368 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | silty SAND rich in organics, dark brown, moist | | | | | | | | | 0.2 |
| 0.4 | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | SAND poorly graded, grey-brown, moist | | | | | | | | | 0.6 |
| 0.8 | | | | | End of borehole at 0.8 m | | | | | | | | | 0.8 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-07** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509628 N
 362330 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND well graded, trace silt, loose, brown, dry | | | | | | | | | 0.2 |
| 0.4 | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 0.6 |
| 0.8 | | | | | | | | | | | | | | 0.8 |
| 1.0 | | | | | End of borehole at 1.0 m | | | | | | | | | 1.0 |

DRILLING METHOD: Excavator

Notes: ■ GRAB SAMPLE

DRILL DATE: July 21, 2020

LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-08**
 SURFACE ELEVATION: *not surveyed*

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND fine grained, some silt, brown, moist | | | | | | | | | 0.2 |
| 0.4 | | | | | silty SAND grey, moist | | | | | | | | | 0.4 |
| 0.6 | | | | | End of borehole at 0.6 m | | | | | | | | | 0.6 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-09** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509619 N
 362403 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | silty SAND well graded, trace gravel, loose, brown, dry | | | | | | | | | 0.2 |
| 0.4 | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | | | | | | | | | | 0.6 |
| 0.8 | | | | | | | | | | | | | | 0.8 |
| 1.0 | | | | | SAND well graded, trace silt, loose, red-brown, moist | | | | | | | | | 1.0 |
| 1.2 | | | | | | | | | | | | | | 1.2 |
| 1.4 | | | | | | | | | | | | | | 1.4 |
| 1.6 | | | | | SAND well graded, some silt, dense, grey, moist | | | | | | | | | 1.6 |
| 1.8 | | | | | | | | | | | | | | 1.8 |
| 2.0 | | | | | | | | | | | | | | 2.0 |
| 2.2 | | | | | - strong petroleum hydrocarbon odor noted at 2.2 m | | | | | | | | | 2.2 |
| 2.2 | | | | | End of borehole at 2.2 m | | | | | | | | | 2.2 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: ■ GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-10** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509572 N
 362323 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|--------------------------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | TOPSOIL organics, rootlets throughout, brown, moist | | | | | | | | | 0.2 |
| 0.4 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 0.4 |
| 0.6 | | | | | | | | | | | | | | 0.6 |
| End of borehole at 0.7 m | | | | | | | | | | | | | | |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-11** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509576 N
 362373 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND AND GRAVEL trace silt, dense, grey, dry | | | | | | | | | 0.2 |
| 0.4 | | | | | SAND some silt, trace gravel, dense, brown, moist | | | | | | | | | 0.4 |
| 0.6 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 0.6 |
| 1.0 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 1.0 |
| 1.2 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 1.2 |
| 1.4 | | | | | silty SAND trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 1.4 |
| | | | | | End of borehole at 1.5 m | | | | | | | | | |

DRILLING METHOD: Excavator

Notes: GRAB SAMPLE

DRILL DATE: July 21, 2020 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-12** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509598 N
 362418 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| | | | | | topsoil | | | | | | | | | |
| 0.2 | | | | | ASH ash-like material mixed with sands and gravel, dense, grey, dry | | | | | | | | | 0.2 |
| 0.4 | | | | | SAND well graded sand, some silt, some gravel | | | | | | | | | 0.4 |
| 0.6 | | | | | End of borehole at 0.6 m | | | | | | | | | 0.6 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes:



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-13** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509533 N
 362353 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|------------|---|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | TOPSOIL | organics, rootlets throughout, brown, moist | | | | | | | | | 0.2 |
| 0.4 | | | | silty SAND | trace gravel, mottled, dense, grey-brown, moist | | | | | | | | | 0.4 |
| 0.6 | | | | | | | | | | | | | | 0.6 |
| 0.8 | | | | | | | | | | | | | | 0.8 |
| 1.0 | | | | | | | | | | | | | | 1.0 |
| 1.2 | | | | | | | | | | | | | | 1.2 |
| 1.4 | | | | | End of borehole at 1.4 m | | | | | | | | | 1.4 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: ■ GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-14** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509546 N
 362411 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) | | |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|--------------------------|-----|------|-------|---------------------|-------------|-----------------------|-----------|--|-----|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | | | |
| 0.2 | | | | | SAND AND GRAVEL dense, brown, moist | | | | | | | | | 0.2 | | |
| 0.4 | | | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | | | | | | | | | | | | 0.6 |
| 0.8 | | | | | | | | | | | | | | | | 0.8 |
| 1.0 | | | | | | | | | | | | | | | | 1.0 |
| 1.2 | | | | | | | | | | | | | | | | 1.2 |
| 1.4 | | | | | | | | | | | | | | | | 1.4 |
| 1.6 | | | | | | | | | | | | | | | | 1.6 |
| 1.8 | | | | | | | | | | | | | | | | 1.8 |
| | | | | | | | End of borehole at 1.9 m | | | | | | | | | |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes: GRAB SAMPLE



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-15** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509540 N
 362450 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|--|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND AND GRAVEL very dense, grey, moist | | | | | | | | | 0.2 |
| 0.4 | | | | | SAND well graded, some silt, dense. strong petroleum hydrocarbon odor, dark brown, moist | | | | | | | | | 0.4 |
| 1.0 | | | | | silty SAND poorly graded, dense, grey, moist | | | | | | | | | 1.0 |
| 1.2 | | | | | End of borehole at 1.2 m | | | | | | | | | 1.2 |

DRILLING METHOD: Excavator

Notes:

DRILL DATE: July 21, 2020 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating



CLIENT: **Defence and Construction Canada**
 PROJECT: **FFTA Remediation Specifications**
 ADDRESS: **CFB Comox**
 SLR JOB NO: **219.05444**

BOREHOLE LOG

BOREHOLE NO: **TP20-16** UTM COORDINATES
 SURFACE ELEVATION: *not surveyed* 5509514 N
 362429 E

SLR CONSULTING (CANADA) LTD.

| DEPTH (m) | SAMPLE TYPE | SAMPLE ID | SPT COUNT | SOIL TYPE | SOIL DESCRIPTION | FIELD TEST DATA | | | | | TEST PIT COMPLETION | WATER LEVEL | WELL COMPLETION NOTES | DEPTH (m) |
|-----------|-------------|-----------|-----------|-----------|---|-----------------------------|----|-----|------|-------|---------------------|-------------|-----------------------|-----------|
| | | | | | | ORGANIC VAPOUR LEVEL (ppmv) | | | | | | | | |
| | | | | | | 1 | 10 | 100 | 1000 | 10000 | | | | |
| 0.2 | | | | | SAND AND GRAVEL very dense, grey, moist | | | | | | | | | 0.2 |
| 0.4 | | | | | | | | | | | | | | 0.4 |
| 0.6 | | | | | End of borehole at 0.6 m | | | | | | | | | 0.6 |

SLR CANADA V5.2 TP LOGS JULY 21 2020 GP.J SLR_CAN V5.2.GDT 8/18/20

DRILLING METHOD: Excavator
 DRILL DATE: July 21, 2020
 LOGGED BY: JHupman
 DRILLER NAME: Edgett Excavating

Notes:



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SLR
CFB Comox

TP20-05 (A)

Pg 1 of 1

Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0.0 - 0.5 | black, ORGANIC SILT (TOPSOIL), moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 0.5 - 1.0 | compact, light brown, SAND, some fines, trace gravel, moist. | | | | G1 | | | | | | | | | | | | | | | |
| 1.0 - 1.5 | dense, light brown, SAND AND SILT (inferred weathered till), some gravel, moist, occasional cobbles. | | | | GB1 | | | | | | | | | | | | | | | |
| 1.5 - 16.0 | End of test pit at 1.0 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |

C: Condition of Sample
 Good
 Disturbed
 No Recovery

Type: Type of Sampler
 SPT : 2 in. standard
 ST : Shelby
 G : Grab
 CORE

N: Number of Blows
 WH : Weight of Hammer
 WR : Weight of Rod
 Standard Penetration Test : ASTM D1586
 Hammer Type:

Plastic Limit (%) Liquid Limit (%)
 Moisture Content (%)
 ▽ Ground Water Level
 ⊗ Shear strength in kPa (Torvane)
 PP Pocket Penetrometer
 (compressive strength in kPa)
 X Shear strength in kPa (Unconfined)
 ⊗ Shear strength in kPa (Field vane)
 ⊠ Remolded strength in kPa
 ■ Percent Passing # 200 sieve

SOIL REUSE
 DESTROY
 REUSE

Drill Method: Backhoe
 Date Drilled: 7/21/2020
 Logged by: LM
 Checked by: CM

1 LOG PER PAGE 8/6/20

SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006.

DCPT Blow/300 mm

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TP20-06 (B)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0.6 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 2 | compact to dense, light brown, SAND, trace to some fines, moist. | | | | G1 | | | | | | | | | | | | | | | |
| 16 | End of test pit at 0.6 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) ▼ Ground Water Level ⊗ Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) X Shear strength in kPa (Unconfined) ⊗ Shear strength in kPa (Field vane) ⊠ Remolded strength in kPa ■ Percent Passing # 200 sieve | SOIL REUSE DESTROY REUSE |
| | | | | SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. THIS LOG IS FOR GEOTECHNICAL PURPOSES ONLY THIS LOG IS THE SOLE PROPERTY OF WSP CANADA INC. AND CANNOT BE USED OR DUPLICATED IN ANY WAY WITHOUT EXPRESS WRITTEN PERMISSION. |

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TP20-07 (C)

Pg 1 of 1

Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | | |
| 0 - 0.2 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | | | | | | | | | | | | | | | | | | | | |
| 0.2 - 1.2 | compact, light brown, SAND (inferred weathered till), some fines, trace gravel, moist, occasional cobbles. | | | | GB1 | | | | | | | | | | | | | | | | |
| 1.2 - 1.6 | -below 0.8 m, dense, silty, some gravel | | | | G1 | | | | | | | | | | | | | | | | |
| 1.6 - 1.8 | End of test pit at 1.2 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | | |
| 1.8 - 2.0 | | | | | | | | | | | | | | | | | | | | | |
| 2.0 - 2.2 | | | | | | | | | | | | | | | | | | | | | |
| 2.2 - 2.4 | | | | | | | | | | | | | | | | | | | | | |
| 2.4 - 2.6 | | | | | | | | | | | | | | | | | | | | | |
| 2.6 - 2.8 | | | | | | | | | | | | | | | | | | | | | |
| 2.8 - 3.0 | | | | | | | | | | | | | | | | | | | | | |
| 3.0 - 3.2 | | | | | | | | | | | | | | | | | | | | | |
| 3.2 - 3.4 | | | | | | | | | | | | | | | | | | | | | |
| 3.4 - 3.6 | | | | | | | | | | | | | | | | | | | | | |
| 3.6 - 3.8 | | | | | | | | | | | | | | | | | | | | | |
| 3.8 - 4.0 | | | | | | | | | | | | | | | | | | | | | |
| 4.0 - 4.2 | | | | | | | | | | | | | | | | | | | | | |
| 4.2 - 4.4 | | | | | | | | | | | | | | | | | | | | | |
| 4.4 - 4.6 | | | | | | | | | | | | | | | | | | | | | |
| 4.6 - 4.8 | | | | | | | | | | | | | | | | | | | | | |
| 4.8 - 5.0 | | | | | | | | | | | | | | | | | | | | | |
| 5.0 - 5.2 | | | | | | | | | | | | | | | | | | | | | |
| 5.2 - 5.4 | | | | | | | | | | | | | | | | | | | | | |
| 5.4 - 5.6 | | | | | | | | | | | | | | | | | | | | | |
| 5.6 - 5.8 | | | | | | | | | | | | | | | | | | | | | |
| 5.8 - 6.0 | | | | | | | | | | | | | | | | | | | | | |
| 6.0 - 6.2 | | | | | | | | | | | | | | | | | | | | | |
| 6.2 - 6.4 | | | | | | | | | | | | | | | | | | | | | |
| 6.4 - 6.6 | | | | | | | | | | | | | | | | | | | | | |
| 6.6 - 6.8 | | | | | | | | | | | | | | | | | | | | | |
| 6.8 - 7.0 | | | | | | | | | | | | | | | | | | | | | |
| 7.0 - 7.2 | | | | | | | | | | | | | | | | | | | | | |
| 7.2 - 7.4 | | | | | | | | | | | | | | | | | | | | | |
| 7.4 - 7.6 | | | | | | | | | | | | | | | | | | | | | |
| 7.6 - 7.8 | | | | | | | | | | | | | | | | | | | | | |
| 7.8 - 8.0 | | | | | | | | | | | | | | | | | | | | | |
| 8.0 - 8.2 | | | | | | | | | | | | | | | | | | | | | |
| 8.2 - 8.4 | | | | | | | | | | | | | | | | | | | | | |
| 8.4 - 8.6 | | | | | | | | | | | | | | | | | | | | | |
| 8.6 - 8.8 | | | | | | | | | | | | | | | | | | | | | |
| 8.8 - 9.0 | | | | | | | | | | | | | | | | | | | | | |
| 9.0 - 9.2 | | | | | | | | | | | | | | | | | | | | | |
| 9.2 - 9.4 | | | | | | | | | | | | | | | | | | | | | |
| 9.4 - 9.6 | | | | | | | | | | | | | | | | | | | | | |
| 9.6 - 9.8 | | | | | | | | | | | | | | | | | | | | | |
| 9.8 - 10.0 | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|---|--|--|--|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) ▼ Ground Water Level ⊗ Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) X Shear strength in kPa (Unconfined) ⊗ Shear strength in kPa (Field vane) ⊠ Remolded strength in kPa ■ Percent Passing # 200 sieve | SOIL REUSE DESTROY REUSE Drill Method: Backhoe Date Drilled: 7/21/2020 Logged by: LM Checked by: CM |
| | | | | |
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TP20-08 (D)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0.0 - 0.2 | black, ORGANIC SILT (TOPSOIL), moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 0.2 - 0.6 | compact, red/brown, silty SAND, trace gravel, moist, occasional cobbles, boulders, and organics. | | | | GB1 | | | | | | | | | | | | | | | |
| 0.6 - 1.6 | dense, light brown, SAND AND SILT (inferred weathered till), trace gravel, moist, occasional cobbles. | | | | GB2 | | | | | | | | | | | | | | | |
| 1.6 - 1.8 | End of test pit at 0.6 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 1.8 - 2.0 | | | | | | | | | | | | | | | | | | | | |
| 2.0 - 2.2 | | | | | | | | | | | | | | | | | | | | |
| 2.2 - 2.4 | | | | | | | | | | | | | | | | | | | | |
| 2.4 - 2.6 | | | | | | | | | | | | | | | | | | | | |
| 2.6 - 2.8 | | | | | | | | | | | | | | | | | | | | |
| 2.8 - 3.0 | | | | | | | | | | | | | | | | | | | | |
| 3.0 - 3.2 | | | | | | | | | | | | | | | | | | | | |
| 3.2 - 3.4 | | | | | | | | | | | | | | | | | | | | |
| 3.4 - 3.6 | | | | | | | | | | | | | | | | | | | | |
| 3.6 - 3.8 | | | | | | | | | | | | | | | | | | | | |
| 3.8 - 4.0 | | | | | | | | | | | | | | | | | | | | |
| 4.0 - 4.2 | | | | | | | | | | | | | | | | | | | | |
| 4.2 - 4.4 | | | | | | | | | | | | | | | | | | | | |
| 4.4 - 4.6 | | | | | | | | | | | | | | | | | | | | |
| 4.6 - 4.8 | | | | | | | | | | | | | | | | | | | | |
| 4.8 - 5.0 | | | | | | | | | | | | | | | | | | | | |
| 5.0 - 5.2 | | | | | | | | | | | | | | | | | | | | |
| 5.2 - 5.4 | | | | | | | | | | | | | | | | | | | | |
| 5.4 - 5.6 | | | | | | | | | | | | | | | | | | | | |
| 5.6 - 5.8 | | | | | | | | | | | | | | | | | | | | |
| 5.8 - 6.0 | | | | | | | | | | | | | | | | | | | | |
| 6.0 - 6.2 | | | | | | | | | | | | | | | | | | | | |
| 6.2 - 6.4 | | | | | | | | | | | | | | | | | | | | |
| 6.4 - 6.6 | | | | | | | | | | | | | | | | | | | | |
| 6.6 - 6.8 | | | | | | | | | | | | | | | | | | | | |
| 6.8 - 7.0 | | | | | | | | | | | | | | | | | | | | |
| 7.0 - 7.2 | | | | | | | | | | | | | | | | | | | | |
| 7.2 - 7.4 | | | | | | | | | | | | | | | | | | | | |
| 7.4 - 7.6 | | | | | | | | | | | | | | | | | | | | |
| 7.6 - 7.8 | | | | | | | | | | | | | | | | | | | | |
| 7.8 - 8.0 | | | | | | | | | | | | | | | | | | | | |
| 8.0 - 8.2 | | | | | | | | | | | | | | | | | | | | |
| 8.2 - 8.4 | | | | | | | | | | | | | | | | | | | | |
| 8.4 - 8.6 | | | | | | | | | | | | | | | | | | | | |
| 8.6 - 8.8 | | | | | | | | | | | | | | | | | | | | |
| 8.8 - 9.0 | | | | | | | | | | | | | | | | | | | | |
| 9.0 - 9.2 | | | | | | | | | | | | | | | | | | | | |
| 9.2 - 9.4 | | | | | | | | | | | | | | | | | | | | |
| 9.4 - 9.6 | | | | | | | | | | | | | | | | | | | | |
| 9.6 - 9.8 | | | | | | | | | | | | | | | | | | | | |
| 9.8 - 10.0 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) ▼ Ground Water Level ⊗ Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) X Shear strength in kPa (Unconfined) ⊗ Shear strength in kPa (Field vane) ⊠ Remolded strength in kPa ■ Percent Passing # 200 sieve | SOIL REUSE |
| | | | | DESTROY REUSE |
| SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. | | | DCPT Blow/300 mm | Drill Method: Backhoe Date Drilled: 7/21/2020 Logged by: LM Checked by: CM |
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TP20-09 (E)

Pg 1 of 1

Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0 | black, ORGANIC SILT (TOPSOIL), moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 0.5 | compact, brown, silty SAND (FILL), trace gravel, moist, occasional cobbles, boulders, organics, and construction debris. | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | GB1 | | | | | | | | | | | | | | | |
| 4 | compact, red/brown, SAND, some fines, some gravel, moist, occasional organics and roots. | | | | G1 | | | | | | | | | | | | | | | |
| 6 | compact, brown/grey, SAND AND SILT (inferred weathered till), trace gravel, moist to wet, occasional cobbles. | | | | | | | | | | | | | | | | | | | |
| 8 | dense to very dense, grey, SAND, some fines, some gravel, moist (hydrocarbon odour). | | | | G2 | | | | | | | | | | | | | | | |
| 8 | End of test pit at 2.3 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) ▼ Ground Water Level ⊗ Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) ⊗ Shear strength in kPa (Unconfined) ⊗ Shear strength in kPa (Field vane) ⊠ Remolded strength in kPa ■ Percent Passing # 200 sieve | SOIL REUSE DESTROY REUSE |
| | | | | SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. DCPT Blow/300 mm |

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TP20-10 (F)

Pg 1 of 1

Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | | |
| 0 - 0.8 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | | | | | | | | | | | | | | | | | | | | |
| 0.8 - 2.0 | dense, light brown, silty SAND (inferred weathered till), some gravel, moist, occasional cobbles. | | | | GB1 | | | | | | | | | | | | | | | | |
| 2.0 - 16.0 | End of test pit at 0.8 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | | |

C: Condition of Sample

- Good
- Disturbed
- No Recovery

Type: Type of Sampler

- SPT : 2 in. standard
- ST : Shelby
- G : Grab
- CORE

N: Number of Blows

- WH : Weight of Hammer
- WR : Weight of Rod
- Standard Penetration Test : ASTM D1586
- Hammer Type:

Plastic Limit (%) Liquid Limit (%)

- Moisture Content (%)
- ▼ Ground Water Level
- ⊗ Shear strength in kPa (Torvane)
- PP Pocket Penetrometer (compressive strength in kPa)
- ⊗ Shear strength in kPa (Unconfined)
- ⊗ Shear strength in kPa (Field vane)
- ⊗ Remolded strength in kPa
- Percent Passing # 200 sieve

SOIL REUSE

- DESTROY
- REUSE

Drill Method: Backhoe
 Date Drilled: 7/21/2020
 Logged by: LM
 Checked by: CM

SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006.

DCPT Blow/300 mm

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TP20-11 (G)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 2 | compact, dark brown, silty, SAND, some gravel, moist, frequent cobbles, trace rootlets. | | | | GB1 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 6 | dense, light brown, silty SAND, some gravel, moist, occasional cobbles. | | | | G1 | | | | | | | | | | | | | | | |
| 2 | End of test pit at 1.8 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|------------------|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) Moisture Content (%) Ground Water Level Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) Shear strength in kPa (Unconfined) Shear strength in kPa (Field vane) Remolded strength in kPa Percent Passing # 200 sieve | SOIL REUSE |
| | | | | DESTROY REUSE |

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TP20-12 (H)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0.0 - 0.6 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | [diagonal lines] | | | | | | | | | | | | | | | | | | |
| 0.6 - 1.0 | compact to dense, grey, sandy GRAVEL (FILL), trace fines, angular, maximum particle size encountered = 25 mm, moist. | [grid] | | | G1 | | | | | | | | | | | | | | | |
| 1.0 - 1.6 | compact, dark brown, silty SAND (FILL), some gravel, moist, occasional wood debris. | [grid] | | | G2 | | | | | | | | | | | | | | | |
| 1.6 - 1.7 | End of test pit at 0.6 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | [grid] | | | | | | | | | | | | | | | | | | |
| 1.7 - 16.0 | | [grid] | | | | | | | | | | | | | | | | | | |

C: Condition of Sample
 Good [solid grey]
 Disturbed [grid]
 No Recovery [diagonal lines]

Type: Type of Sampler
 SPT : 2 in. standard
 ST : Shelby
 G : Grab
 CORE

N: Number of Blows
 WH : Weight of Hammer
 WR : Weight of Rod
 Standard Penetration Test : ASTM D1586
 Hammer Type:

Plastic Limit (%) Liquid Limit (%)
 ───────────────────┬──────────────────
 ───────────────────┬──────────────────
 Moisture Content (%)
 ▼ Ground Water Level
 ⊗ Shear strength in kPa (Torvane)
 PP Pocket Penetrometer
 (compressive strength in kPa)
 X Shear strength in kPa (Unconfined)
 ⊗ Shear strength in kPa (Field vane)
 ⊠ Remolded strength in kPa
 ■ Percent Passing # 200 sieve

SOIL REUSE
 DESTROY [grid]
 REUSE [diagonal lines]

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DCPT Blow/300 mm

Drill Method: Backhoe
 Date Drilled: 7/21/2020
 Logged by: LM
 Checked by: CM

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TP20-13 (I)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0 | black, ORGANIC SILT (TOPSOIL), some sand, moist, rootlets. | | | | | | | | | | | | | | | | | | | |
| 2 | compact to dense, light brown, silty, SAND (inferred weathered till), some gravel, moist, occasional cobbles. | | | | G1 | | | | | | | | | | | | | | | |
| 1 | -below 0.8 m, dense to very dense | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | GB1 | | | | | | | | | | | | | | | |
| 6 | End of test pit at 1.5 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) Moisture Content (%) Ground Water Level Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) Shear strength in kPa (Unconfined) Shear strength in kPa (Field vane) Remolded strength in kPa Percent Passing # 200 sieve | SOIL REUSE DESTROY REUSE |
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TP20-14 (J)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|---|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0 | grey GRAVEL (FILL), rootlets. | | | | | | | | | | | | | | | | | | | |
| 0.5 | compact, dark brown, SAND AND GRAVEL (FILL), trace fines, maximum particle size encountered = 75 mm, subrounded, moist, occasional cobbles. | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | G1 | | | | | | | | | | | | | | | |
| 4 | | | | | GB1 | | | | | | | | | | | | | | | |
| 6 | -below 1.2 m, grey, wet (hydrocarbon smell) | | | | | | | | | | | | | | | | | | | |
| 6 | dense, grey, silty SAND, some gravel, moist, occasional cobbles. | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | G2 | | | | | | | | | | | | | | | |
| 1.9 | End of test pit at 1.9 m due to scheduled depth. Moderate sloughing and minor seepage noted between 1.2 m and 1.7 m. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) Moisture Content (%) ▼ Ground Water Level Shear strength in kPa (Torvane) Shear strength in kPa (Unconfined) PP Pocket Penetrometer (compressive strength in kPa) Shear strength in kPa (Field vane) Remolded strength in kPa Percent Passing # 200 sieve | SOIL REUSE |
| | | | | DESTROY REUSE |
| SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. | | | DCPT Blow/300 mm | Drill Method: Backhoe Date Drilled: 7/21/2020 Logged by: LM Checked by: CM |
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TP20-15 (K)
 Pg 1 of 1
 Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|--|------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0.5 | grey GRAVEL (FILL) some sand angular, rootlets. | | | | | | | | | | | | | | | | | | | |
| 1.5 | compact, black, silty SAND, some gravel, moist. (hydrocarbon smell) | | | | G1 | | | | | | | | | | | | | | | |
| 2.5 | dense, grey, SAND, trace gravel, moist, occasional cobbles. | | | | G2 | | | | | | | | | | | | | | | |
| 4.0 | End of test pit at 1.2 m due to scheduled depth. No sloughing and no seepage noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |
| 6.0 | | | | | | | | | | | | | | | | | | | | |
| 8.0 | | | | | | | | | | | | | | | | | | | | |
| 10.0 | | | | | | | | | | | | | | | | | | | | |
| 12.0 | | | | | | | | | | | | | | | | | | | | |
| 14.0 | | | | | | | | | | | | | | | | | | | | |
| 16.0 | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|---|
| C: Condition of Sample Good Disturbed No Recovery | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) Moisture Content (%) Ground Water Level Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) Shear strength in kPa (Unconfined) Shear strength in kPa (Field vane) Remolded strength in kPa Percent Passing # 200 sieve | SOIL REUSE DESTROY REUSE |
| | | | | SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. THIS LOG IS FOR GEOTECHNICAL PURPOSES ONLY THIS LOG IS THE SOLE PROPERTY OF WSP CANADA INC. AND CANNOT BE USED OR DUPLICATED IN ANY WAY WITHOUT EXPRESS WRITTEN PERMISSION. |

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TP20-16 (L)

Pg 1 of 1

Project No: 201-05243-00

| Depth (m) (ft) | Description | SOIL REUSE | C | N | Type/ Sample #/ Recovery | Water Level | | | | | | | | | | | | | | |
|-------------------|---|------------------|---|---|--------------------------------|----------------|----|----|----|----|----|----|----|----|----|--|--|--|--|--|
| | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | | |
| 0 - 0.5 | grey GRAVEL (FILL) some sand, subrounded to angular, rootlets. | [diagonal lines] | | | | | | | | | | | | | | | | | | |
| 0.5 - 2.0 | compact, brown, gravelly SAND (FILL), some fines, moist to wet. (hydrocarbon smell) | [diagonal lines] | | | G1 | | | | | | | | | | | | | | | |
| 2.0 - 4.0 | dense, grey, silty SAND (inferred weathered till), some gravel, moist to wet, occasional cobbles. | [diagonal lines] | | | G2 | | | | | | | | | | | | | | | |
| 4.0 - 16.0 | End of test pit at 1.6 m due to scheduled depth. No sloughing and minor seepage below 1.0 m noted. Test pit backfilled with bucket packed excavated material. | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|---|--|--|---|
| C: Condition of Sample Good [solid grey] Disturbed [diagonal lines] No Recovery [cross-hatch] | Type: Type of Sampler SPT : 2 in. standard ST : Shelby G : Grab CORE | N: Number of Blows WH : Weight of Hammer WR : Weight of Rod Standard Penetration Test : ASTM D1586 Hammer Type: | Plastic Limit (%) Liquid Limit (%) ───────────┬────────── Moisture Content (%) ▼ Ground Water Level ⊗ Shear strength in kPa (Torvane) PP Pocket Penetrometer (compressive strength in kPa) X Shear strength in kPa (Unconfined) ⊗ Shear strength in kPa (Field vane) ⊠ Remolded strength in kPa ■ Percent Passing # 200 sieve | SOIL REUSE DESTROY [diagonal lines] REUSE [cross-hatch] |
| | | | | SOIL CLASSIFICATION IN ACCORDANCE WITH THE CANADIAN FOUNDATION ENGINEERING MANUAL 4TH EDITION 2006. DCPT Blow/300 mm |

1 LOG PER PAGE 8/6/20

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SOIL ANALYTICAL TABLES

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

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**TABLE 1: SOIL -
 PARTICLE SIZE**

| | Particle Size | | |
|--------------------------|---------------|----------|-----------------------|
| | % < 0.075 mm | % > 75µm | % gravel (4.75mm-3in) |
| | % | % | % |
| Reported Detection Limit | 0.1 | 0.1 | 0.01 |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | % < 0.075 mm | % > 75µm | % gravel (4.75mm-3in) |
|-----------|-----------------|--------------------|-------------|-----------------|--------------|----------|-----------------------|
| FFTA | BH16-16 | 0.6 - 1.2 | 2016-Sep-13 | BH16-16-S4 | - | - | <0.01 |
| | | 2.4 - 2.7 | | BH16-16-S5 | - | - | 3.5 |
| | | 8.3 - 8.6 | | BH16-16-S9 | - | - | 6.69 |
| | | 11.3 - 12.2 | | BH16-16-S11 | - | - | <0.01 |
| | BH16-19 | 4.0 - 4.3 | 2016-Sep-14 | BH16-19-S4 | - | - | 5.71 |
| | | 4.9 - 5.8 | | BH16-19-S5 | - | - | <0.01 |
| | BH18-33 | 0.0 - 0.3 | 2018-Dec-13 | BH18-33-01 | 28 | 72 | - |
| | | 3.0 - 3.4 | 2018-Dec-14 | BH18-33-07 | 46.1 | 53.9 | - |
| | | 8.4 - 8.7 | | BH18-33-12 | 44.1 | 55.9 | - |
| | BH18-39 | 0.3 - 0.6 | 2018-Dec-17 | BH18-39-02 | 84.9 | 15.1 | - |
| | | 2.0 - 2.3 | 2018-Dec-18 | BH18-39-06 | 41.5 | 58.5 | - |
| | BH18-41 | 0.0 - 0.3 | 2018-Dec-17 | BH18-41-01 | 46.2 | 53.8 | - |
| | | 1.7 - 2.0 | | BH18-41-03 | 40.6 | 59.4 | - |
| | BH18-44 | 0.6 - 1.1 | 2018-Dec-17 | BH18-44-02 | 27.9 | 72.1 | - |
| | | 3.2 - 3.5 | 2018-Dec-18 | BH18-44-05 | 50.3 | 49.7 | - |
| | BH18-47 | 0.2 - 0.5 | 2018-Dec-18 | BH18-47-01 | 13.5 | 86.5 | - |
| | | 2.6 - 2.9 | | BH18-47-04 | 52.7 | 47.3 | - |
| | BH19-59 | 2.6 - 3.0 | 2019-Mar-7 | BH19-59-04 | 29.3 | 70.7 | - |
| | BH19-67 | 2.3 - 2.6 | 2019-Mar-8 | BH19-67-04 | 28.5 | 71.5 | - |
| | BH20-01 | 0.9 - 1.2 | 2020-Jun-30 | BH20-01_0.9-1.2 | 53.4 | 46.6 | - |
| 1.5 - 1.7 | | BH20-01_1.5-1.7 | | 50.8 | 49.2 | - | |
| 2.0 - 2.2 | | BH20-01_2.0-2.2 | | 50.7 | 49.3 | - | |
| 3.8 - 4.1 | | BH20-01_3.8-4.1 | | 42.4 | 57.6 | - | |

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

µm - micrometres

% - percent

'-' - sample not analyzed for parameter indicated

> - denotes particle size greater than 75 micrometres

- laboratory reports detail detection limits, testing protocols and QA/QC procedures.

SLR

**TABLE 2: SOIL -
 TOTAL ORGANIC CARBON**

| | | | | | Carbon | |
|--------------------------|-----------------|--|--------------|------------------|----------------------|----------------------------|
| | | | | | Total Organic Carbon | Fraction of Organic Carbon |
| | | | | | µg/g | g/g |
| Reported Detection Limit | | | | | 500 | 0.0005 |
| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | |
| FFTA | BH16-11 | 4.9 - 5.8 | 2016-Sep-12 | BH16-11-S6 | - | <0.0005 |
| | BH16-12 | 0.6 - 1.0 | 2016-Sep-12 | BH16-12-S2 | - | 0.013 |
| | | | 2016-Sep-12 | BH16-DUP-B | - | 0.012 |
| | BH16-13 | 0.8 - 1.9 | 2016-Sep-13 | BH16-13-S3 | - | <0.0005 |
| | BH16-14 | 1.7 - 2.2 | 2016-Sep-14 | BH16-14-S2 | - | 0.0006 |
| | BH16-16 | 0.6 - 1.2 4.6 - 5.5 11.3 - 12.2 | 2016-Sep-13 | BH16-16-S4 | - | 0.00073 |
| | | | | BH16-16-S7 | - | <0.0005 |
| | | | | BH16-16-S11 | - | <0.0005 |
| | BH16-17 | 0.5 - 0.8 | 2016-Sep-14 | BH16-17-S2 | - | 0.0047 |
| | BH16-19 | 0.9 - 1.5 4.9 - 5.8 11.3 - 12.2 | 2016-Sep-14 | BH16-19-S2 | - | <0.0005 |
| | | | | BH16-19-S5 | - | <0.0005 |
| | | | | BH16-DUP-F | - | <0.0005 |
| | BH16-20 | 1.2 - 1.5 5.5 - 6.1 | 2016-Sep-12 | BH16-20-S3 | - | 0.0017 |
| | | | | BH16-20-S6 | - | <0.0005 |
| | BH20-01 | 0.1 - 0.4 0.9 - 1.2 1.5 - 1.7 2.0 - 2.2 3.0 - 3.2 3.8 - 4.1 | 2020-Jun-30 | BH20-01_0.1-0.4 | 18,000 | - |
| | | | | BH20-01_0.9-1.2 | 2900 | - |
| | | | | BH20-01_1.5-1.7 | <500 | - |
| | | | | BH20-01_2.0-2.2 | <500 | - |
| | | | | BH20-01_3.0-3.2 | <500 | - |
| | BH20-02 | 0.2 - 0.4 0.7 - 1.0 1.7 - 1.9 2.2 - 2.4 3.1 - 3.3 | 2020-Jun-30 | BH20-02_0.2-0.4 | 4300 | - |
| | | | | BH20-02_DUPA | 4500 | - |
| | | | 2020-Jun-30 | BH20-02_0.7-1.0 | 16,000 | - |
| | | | | BH20-02_1.7-1.9 | 610 | - |
| | | | | BH20-02_2.2-2.4 | 720 | - |
| | BH20-03 | 1.1 - 1.3 1.5 - 1.7 2.0 - 2.2 2.4 - 2.5 | 2020-Jun-30 | BH20-02_3.1-3.3 | 860 | - |
| | | | | BH20-03_1.1-1.25 | <500 | - |
| | | | | BH20-03_1.5-1.65 | <500 | - |
| | | | | BH20-03_2.0-2.15 | <500 | - |
| | BH20-04 | 0.3 - 0.4 1.1 - 1.3 1.5 - 1.7 2.0 - 2.2 | 2020-Jun-30 | BH20-03_2.35-2.5 | 550 | - |
| | | | | BH20-04_0.25-0.4 | 25,000 | - |
| | | | | BH20-04_1.1-1.25 | <500 | - |
| | | | | BH20-04_1.5-1.65 | <500 | - |
| | BH20-05 | 0.3 - 0.4 1.1 - 1.3 1.5 - 1.7 2.0 - 2.2 | 2020-Jun-30 | BH20-04_2.0-2.15 | <500 | - |
| | | | | BH20-05_0.25-0.4 | 19,000 | - |
| | | | | BH20-05_1.1-1.25 | 5800 | - |
| | | | | BH20-05_1.5-1.65 | <500 | - |
| | FFTA-SED-1 | 0.0 - 0.1 | 2016-Aug-18 | FFTA-SED-1B | - | 0.0042 |
| | | | 2016-Aug-18 | FFTA-SED-DUP-4 | - | 0.0034 |
| | | 0.1 - 0.2 | 2018-Jan-11 | FFTA-SED-1A | - | 0.043 |
| | | | | FFTA-SED-1B | - | 0.043 |
| | | | | FFTA-SED-1C | - | 0.023 |
| | | 0.0 - 0.2 | 2018-Jan-11 | FFTA-SED-DUPA | - | 0.025 |
| | | | | 2016-Aug-18 | FFTA-SED-1A | - |
| | FFTA-SED-10 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-1C | - | 0.0081 |
| | | | | FFTA-SED-10A | - | 0.0038 |
| | | | | FFTA-SED-10B | - | 0.029 |
| | | | 2018-Jan-11 | FFTA-SED-10C | - | 0.0035 |
| FFTA-SED-10A | | | | - | 0.0072 | |
| FFTA-SED-10B | | | | - | 0.026 | |
| FFTA-SED-10C | | | | - | 0.0023 | |
| FFTA-SED-11 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-11B | - | 0.017 | |
| | | | FFTA-SED-11C | - | 0.017 | |
| | 0.1 - 0.2 | 2018-Jan-11 | FFTA-SED-11A | - | 0.041 | |
| | | | FFTA-SED-11B | - | 0.021 | |
| | | | FFTA-SED-11C | - | 0.0038 | |
| 0.0 - 0.5 | 2016-Aug-17 | FFTA-SED-11A | - | 0.0096 | | |

**TABLE 2: SOIL -
 TOTAL ORGANIC CARBON**

| | | | | | Carbon | |
|--------------------------|-----------------|--------------------|-------------------|-------------------|----------------------|----------------------------|
| | | | | | Total Organic Carbon | Fraction of Organic Carbon |
| | | | | | µg/g | g/g |
| Reported Detection Limit | | | | | 500 | 0.0005 |
| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | |
| FFTA | FFTA-SED-12 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-12A | - | 0.094 |
| | | | | FFTA-SED-12B | - | 0.11 |
| | | | | FFTA-SED-12C | - | 0.09 |
| | FFTA-SED-13 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-13A | - | 0.0067 |
| | | | | FFTA-SED-13B | - | 0.012 |
| | | | | FFTA-SED-13C | - | 0.011 |
| | FFTA-SED-14 | 0.0 - 0.1 | 2016-Aug-18 | FFTA-SED-14A | - | 0.24 |
| | | | | FFTA-SED-14B | - | 0.23 |
| | | | 2016-Aug-18 | FFTA-SED-DUP-2 | - | 0.23 |
| | FFTA-SED-2 | 0.0 - 0.1 | 2016-Aug-18 | FFTA-SED-14C | - | 0.29 |
| | | | 2016-Aug-18 | FFTA-SED-2A | - | 0.013 |
| | | | 2016-Aug-18 | FFTA-SED-2B | - | 0.033 |
| | FFTA-SED-3 | 0.0 - 0.1 | 2016-Aug-18 | FFTA-SED-DUP-3 | - | 0.037 |
| | | | 2016-Aug-18 | FFTA-SED-2C | - | 0.015 |
| | | | 2016-Aug-18 | FFTA-SED-3B | - | 0.0035 |
| | FFTA-SED-3 | 0.0 - 0.2 | 2016-Aug-18 | FFTA-SED-DUP-5 | - | 0.0048 |
| | | | 2016-Aug-18 | FFTA-SED-3C | - | 0.0053 |
| | | | 2016-Aug-18 | FFTA-SED-3A | - | 0.0091 |
| | FFTA-SED-4 | 0.0 - 0.1 | 2016-Aug-18 | FFTA-SED-4A | - | 0.023 |
| | | | | FFTA-SED-4B | - | 0.0048 |
| | | | | FFTA-SED-4C | - | 0.0078 |
| | | | 2018-Jan-11 | FFTA-SED-4A | - | 0.051 |
| | | | | FFTA-SED-4B | - | 0.12 |
| | FFTA-SED-5 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-4C | - | 0.048 |
| | | | | FFTA-SED-5A | - | 0.023 |
| | | | | FFTA-SED-5B | - | 0.011 |
| | FFTA-SED-6 | 0.0 - 0.3 | 2016-Aug-17 | FFTA-SED-5C | - | 0.12 |
| | | | | FFTA-SED-6A | - | 0.019 |
| | | | | FFTA-SED-6B | - | 0.014 |
| | FFTA-SED-7 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-6C | - | 0.0042 |
| | | | | FFTA-SED-7A | - | 0.012 |
| | | | | FFTA-SED-7B | - | 0.0059 |
| | | | 2018-Jan-11 | FFTA-SED-7C | - | 0.015 |
| | | | | FFTA-SED-7A | - | 0.01 |
| | | | | FFTA-SED-7B | - | 0.026 |
| | 43111.65347 | FFTA-SED-7C | - | 0.025 | | |
| | FFTA-SED-8 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-DUPB | - | 0.039 |
| | | | | FFTA-SED-8A | - | 0.014 |
| | | | | FFTA-SED-8B | - | 0.0073 |
| | FFTA-SED-9 | 0.0 - 0.1 | 2016-Aug-17 | FFTA-SED-8C | - | 0.0086 |
| | | | | FFTA-SED-9A | - | 0.0033 |
| | | | | FFTA-SED-9B | - | 0.0019 |
| | TH15-01 | 0.0 - 0.4 | 2015-Jan-22 | FFTA-SED-9C | - | 0.023 |
| | | 0.8 - 1.5 | | LO4087\TH15-01 S1 | 15,000 | - |
| | | 4.6 - 5.3 | | LO4088\TH15-01 S2 | 530 | - |
| TH15-02 | 1.2 - 1.5 | 2015-Jan-22 | LO4091\TH15-01 S7 | 740 | - | |
| | 2.4 - 2.7 | | LO4093\TH15-02 S2 | 11,000 | - | |
| | 4.6 - 4.9 | | LO4095\TH15-02 S4 | 1200 | - | |
| TH15-03 | 0.0 - 0.3 | 2015-Jan-20 | LO4096\TH15-02 S7 | 880 | - | |
| | 3.3 - 3.7 | 2015-Jan-20 | LO4098\TH15-03 S1 | 1300 | - | |
| | 5.8 - 6.1 | 2015-Jan-20 | LO4101\TH15-03 S5 | 880 | - | |
| TH15-04 | 0.9 - 1.5 | 2015-Jan-21 | LO4126\TH15-100 | 1300 | - | |
| | 2.6 - 2.9 | | LO4102\TH15-03 S8 | <500 | - | |
| | 3.9 - 4.6 | | LO4103\TH15-04 S2 | 530 | - | |
| | | | LO4105\TH15-04 S5 | 550 | - | |
| | | | LO4106\TH15-04 S7 | 620 | - | |

**TABLE 2: SOIL -
 TOTAL ORGANIC CARBON**

| | Carbon | |
|--------------------------|----------------------|----------------------------|
| | Total Organic Carbon | Fraction of Organic Carbon |
| | µg/g | g/g |
| Reported Detection Limit | 500 | 0.0005 |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | Total Organic Carbon | Fraction of Organic Carbon |
|-----------|-----------------|--------------------|-------------|----------------------|----------------------|----------------------------|
| FFTA | TH15-05 | 0.8 - 1.0 | 2015-Jan-21 | LO4108\TH15-05 S2 | 3500 | - |
| | | 3.0 - 3.3 | 2015-Jan-21 | LO4127\TH15 101 S100 | 1300 | - |
| | | | 2015-Jan-22 | LO4136\TH15-05 S5 | 1100 | - |
| | | TH15-06 | 4.9 - 5.2 | 2015-Jan-21 | LO4109\TH15-05 S7 | 940 |
| | 0.6 - 0.9 | | 2015-Jan-21 | LO4110\TH15-06 S2 | 3000 | - |
| | | | | LO4111\TH15-06 S4 | 810 | - |
| | TH15-07 | 5.8 - 6.1 | | LO4112\TH15-06 S9 | 910 | - |
| | | 0.0 - 0.3 | 2015-Jan-21 | LO4113\TH15-07 S1 | 3100 | - |
| | | | | LO4114\TH15-07 S6 | 1700 | - |
| | TH15-08 | 4.2 - 4.6 | | LO4115\TH15-07 S7 | 640 | - |
| | | 0.0 - 0.6 | 2015-Jan-20 | LO4116\TH15-08 S1 | 46,000 | - |
| | | | 2015-Jan-22 | LO4117\TH15-08 S2 | 1100 | - |
| | | 0.6 - 1.1 | | LO4129\TH15 103 | 1600 | - |
| | TH15-09 | 1.1 - 1.5 | 2015-Jan-22 | LO4118\TH15-08 S3 | <500 | - |
| | | 0.5 - 0.6 | 2015-Jan-22 | LO4120\TH15-09 S2 | 18,000 | - |
| | | | | LO4121\TH15-09 S4 | 1300 | - |
| | TH15-10 | 1.8 - 2.1 | | LO4122\TH15-09 S7 | 1900 | - |
| | | 0.3 - 0.6 | 2015-Jan-22 | LO4123\TH15-10 S1 | 2000 | - |
| | | | | LO4124\TH15-10 S3 | 920 | - |
| | TP1 | 3.3 - 3.6 | | LO4125\TH15-10 S5 | 1600 | - |
| | TP10 | 0.0 - 0.6 | 2016-Sep-15 | TP1-S1 | - | 0.016 |
| | TP2 | 0.0 - 0.3 | 2016-Sep-15 | TP10-S1 | - | 0.0057 |
| | TP3 | 0.0 - 0.5 | 2016-Sep-15 | TP2-S1 | - | 0.023 |
| | TP4 | 0.0 - 0.2 | 2016-Sep-15 | TP3-S1 | - | 0.041 |
| | TP5 | 0.0 - 0.3 | 2016-Sep-15 | TP4-S1 | - | 0.01 |
| | TP6 | 0.0 - 0.6 | 2016-Sep-15 | TP5-S1 | - | 0.0052 |
| TP7 | 0.0 - 0.3 | 2016-Sep-15 | TP6-S1 | - | 0.017 | |
| TP8 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S1 | - | 0.0097 | |
| TP9 | 0.0 - 0.3 | 2016-Sep-15 | TP8-S1 | - | 0.03 | |
| | 0.0 - 0.3 | 2016-Sep-15 | TP9-S1 | - | 0.021 | |

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

**TABLE 4: SOIL -
POLYCYCLIC AROMATIC HYDROCARBONS**

| | PAHs | | | | | | | | | | | | | | | | | | | | light molecular weight PAHs | heavy molecular weight PAHs | PAHs (sum of total) | IACR (CCME Lab) | B[a]P TPE (Lab) | | |
|-------------------------------------|-------------------|--------------------|------------------|-------------------|----------------------|------------------------|----------------------|----------------------|------------------|------------------|-----------------------|-------------------|--------------------|------------------------|-----------------------|---------------------|-------------------|--------|------|------|-----------------------------|-----------------------------|---------------------|-----------------|-----------------|-------------------|------|
| | acenaphthylene | acenaphthene | anthracene | benz(a)anthracene | benzo(b)fluoranthene | benzo(b+j)fluoranthene | benzo(g,h,i)perylene | benzo(k)fluoranthene | benzo(a)pyrene | chrysene | dibenz(a,h)anthracene | fluoranthene | fluorene | indeno(1,2,3-cd)pyrene | methylnaphthalene, 2- | naphthalene | phenanthrene | pyrene | | | | | | | | | |
| Reported Detection Limit | 0.005 | 0.005 | 0.004 | 0.02 | 0.02 | 0.02 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.05 | 0.05 | 0.05 | N/A | 0.1 | 0.01 |
| CCME SoilQG Tier 1 IL (Coarse Soil) | 320 ^{#1} | 0.28 ^{#1} | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | 10 ^{#3} | 10 ^{#3} | 72 ^{#2} | 10 ^{#3} | 72 ^{#2} | 10 ^{#3} | 180 ^{#2} | 0.25 ^{#1} | 10 ^{#3} | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | | | | | | 1 ^{#5} | 5.3 ^{#6} | |
| CCME SoilQG Tier 1 IL (Fine Soil) | 320 ^{#1} | 0.28 ^{#1} | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | 10 ^{#3} | 10 ^{#3} | 72 ^{#2} | 10 ^{#3} | 72 ^{#2} | 10 ^{#3} | 180 ^{#2} | 0.25 ^{#1} | 10 ^{#3} | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | | | | | | 1 ^{#5} | 5.3 ^{#6} | |
| CCME SoilQG PAHs Table 1 - IL | | | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | | | 10 ^{#3} | 72 ^{#2} | 10 ^{#3} | 180 ^{#2} | | | 10 ^{#3} | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | | | | | | 1 ^{#5} | 5.3 ^{#6} | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | acenaphthylene | acenaphthene | anthracene | benz(a)anthracene | benzo(b)fluoranthene | benzo(b+j)fluoranthene | benzo(g,h,i)perylene | benzo(k)fluoranthene | benzo(a)pyrene | chrysene | dibenz(a,h)anthracene | fluoranthene | fluorene | indeno(1,2,3-cd)pyrene | methylnaphthalene, 2- | naphthalene | phenanthrene | pyrene | light molecular weight PAHs | heavy molecular weight PAHs | PAHs (sum of total) | IACR (CCME Lab) | B[a]P TPE (Lab) | |
|-----------|-----------------|--------------------|-------------|-----------|----------------|--------------|------------|-------------------|----------------------|------------------------|----------------------|----------------------|----------------|----------|-----------------------|--------------|----------|------------------------|-----------------------|-------------|--------------|--------|-----------------------------|-----------------------------|---------------------|-----------------|-----------------|-------|
| FFTA | TP10 | 0.3 - 0.6 | 2016-Sep-15 | TP10-S2 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 2016-Sep-15 | TP-DUP-C | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 1.1 - 1.5 | 2016-Sep-15 | TP10-S4 | <0.005 | 0.0083 | 0.0048 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | 0.021 | <0.05 | 0.15 | 0.036 | 0.052 | <0.02 | 0.27 | <0.05 | 0.27 | 0.31 | 0.041 | |
| | TP2 | 0.0 - 0.5 | 2016-Sep-15 | TP2-S1 | <0.005 | <0.005 | 0.0056 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | 0.024 | 0.01 | 0.024 | <0.02 | 0.065 | <0.05 | 0.065 | 0.31 | 0.041 | |
| | | 0.9 - 1.5 | | TP2-S3 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | TP3 | 0.2 - 0.4 | 2016-Sep-15 | TP3-S2 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 1.1 - 1.5 | | TP3-S5 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | TP4 | 0.5 - 1.0 | 2016-Sep-15 | TP4-S2 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | 0.04 | 0.044 | <0.01 | <0.02 | 0.085 | <0.05 | 0.085 | 0.31 | 0.041 | |
| | | 1.0 - 1.5 | | TP4-S3 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | TP5 | 0.6 - 0.9 | 2016-Sep-15 | TP-DUP-A | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 |
| | | 1.2 - 1.5 | | TP5-S2 | <0.005 | 0.01 | 0.0051 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | 0.028 | 0.06 | <0.05 | 0.17 | 0.053 | 0.045 | 0.045 | 0.35 | 0.073 | 0.42 | 0.31 | 0.041 | |
| | TP6 | 0.3 - 0.6 | 2016-Sep-15 | TP5-S4 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 1.2 - 1.5 | | TP6-S2 | <0.005 | 0.0052 | 0.0084 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | 0.02 | <0.05 | 0.033 | <0.02 | <0.05 | <0.02 | <0.01 | 0.036 | 0.035 | <0.05 | 0.088 | 0.14 | 0.31 | 0.041 | |
| | TP7 | 0.3 - 0.9 | 2016-Sep-15 | TP6-S4 | 0.0074 | 0.36 | 0.04 | 0.056 | 0.038 | 0.062 | <0.05 | 0.021 | 0.042 | 0.073 | <0.05 | 0.2 | 0.22 | <0.05 | 0.59 | 4 | 0.26 | 0.18 | 5.5 | 0.63 | 6.1 | 0.96 | 0.084 | |
| | | 0.9 - 1.5 | | TP7-S2 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | TP8 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S3 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 0.6 - 2.1 | | TP8-S1 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | TP9 | 0.3 - 0.6 | 2016-Sep-15 | TP8-S3 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |
| | | 1.2 - 1.5 | | TP9-S2 | 0.013 | 0.019 | 0.042 | 0.076 | 0.087 | 0.14 | 0.15 | 0.034 | 0.11 | 0.092 | <0.05 | 0.24 | 0.078 | 0.099 | 0.089 | 0.2 | 0.23 | 0.38 | 0.67 | 1.3 | 2 | 1.8 | 0.17 | |
| | | | | TP9-S4 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.05 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 | 0.31 | 0.041 | |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 IL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Coarse Soil)
- CCME SoilQG Tier 1 IL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Fine Soil)
- CCME SoilQG PAHs Table 1 - IL:CCME PAHs Soil Quality Guidelines for the Protection of Environment and Human Health (Table 1), Industrial

Standards / Guidelines Comments:

- #1:No SQGe listed. Provisional value based on the protection of freshwater aquatic life. If impact to surface water is not a concern, see PAH Fact Sheet.
- #2:Ecological receptors only, based on non-carcinogenic effects of PAHs.
- #3:Ecological receptors only, based on non-carcinogenic effects of PAHs. Value based on Interim Soil Quality Criteria (CCME 1991)
- #4:Ecological receptors only (freshwater aquatic life), based on non-carcinogenic effects of PAHs. If impact to surface water is not a concern, revert to 1997 provisional SQGe (see Table 2 in PAH Fact Sheet).
- #5:For the protection of potable water.
- #6:SQG based on an incremental lifetime cancer risk (ILCR) of 1 in 100,000.

Notes:

- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment
PAH - polycyclic aromatic hydrocarbons
IACR (CCME Lab) - Index of Additive Cancer Risk
B[a]P TPE (Lab) - Benzo[a]pyrene Total Potency Equivalents

**TABLE 6: SOIL -
 PHENOLS**

| | | Phenols |
|--|--|-------------------------|
| | | pentachlorophenol [PCP] |
| | | µg/g |
| Reported Detection Limit | | 0.004 |
| CCME SoilQG Tier 1 IL (Coarse Soil) | | 7.6 |
| CCME SoilQG Tier 1 IL (Fine Soil) | | 7.6 |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | |
|-----------|-----------------|--------------------|-------------|------------|--------|
| FFTA | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | BH19-59-03 | <0.004 |
| | | 2.6 - 3.0 | | BH19-59-04 | <0.004 |
| | | 3.7 - 4.0 | | BH19-59-07 | <0.004 |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | BH19-67-02 | <0.004 |
| | | 2.3 - 2.6 | | BH19-67-04 | <0.004 |
| | | 3.7 - 3.8 | | BH19-67-06 | <0.004 |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 IL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Coarse Soil)
- CCME SoilQG Tier 1 IL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Fine Soil)

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
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CCME - Canadian Council of Ministers of the Environment

**TABLE 7: SOIL -
 GLYCOLS**

| | Glycols | | | |
|--|-----------------|-------------------|--------------------|------------------------|
| | ethylene glycol | diethylene glycol | triethylene glycol | propylene glycol, 1,2- |
| | µg/g | µg/g | µg/g | µg/g |
| Reported Detection Limit | 10 | 10 | 10 | 10 |
| CCME SoilQG Tier 1 IL (Coarse Soil) | 960 | | | |
| CCME SoilQG Tier 1 IL (Fine Soil) | 960 | | | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | |
|-----------|-----------------|--------------------|-----------------|-----------------|-----|-----|-----|-----|
| FFTA | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | BH19-59-03 | <10 | <10 | <10 | <10 |
| | | 2.6 - 3.0 | | BH19-59-04 | <10 | <10 | <10 | <10 |
| | | 3.7 - 4.0 | | BH19-59-07 | <10 | <10 | <10 | <10 |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | BH19-67-02 | <10 | <10 | <10 | <10 |
| | | 2.3 - 2.6 | | BH19-67-04 | <10 | <10 | <10 | <10 |
| | | 3.7 - 3.8 | | BH19-67-06 | <10 | <10 | <10 | <10 |
| | BH20-01 | 0.9 - 1.2 | 2020-Jun-30 | BH20-01_0.9-1.2 | <10 | <10 | <10 | <10 |
| | | 1.5 - 1.7 | | BH20-01_1.5-1.7 | <10 | <10 | <10 | <10 |
| | | 2.0 - 2.2 | | BH20-01_2.0-2.2 | <10 | <10 | <10 | <10 |
| | | 3.0 - 3.2 | | BH20-01_3.0-3.2 | <10 | <10 | <10 | <10 |
| | BH20-02 | 3.8 - 4.1 | 2020-Jun-30 | BH20-01_3.8-4.1 | <10 | <10 | <10 | <10 |
| | | 0.7 - 1.0 | | BH20-02_0.7-1.0 | <10 | <10 | <10 | <10 |
| | | 1.7 - 1.9 | | BH20-02_1.7-1.9 | <10 | <10 | <10 | <10 |
| | | 2.2 - 2.4 | | BH20-02_2.2-2.4 | <10 | <10 | <10 | <10 |
| | | 3.1 - 3.3 | | BH20-02_3.1-3.3 | <10 | <10 | <10 | <10 |
| 4.1 - 4.3 | BH20-02_DUP B | <10 | <10 | <10 | <10 | | | |
| | | | BH20-02_4.1-4.3 | <10 | <10 | <10 | <10 | |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 IL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Coarse Soil)
- CCME SoilQG Tier 1 IL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Fine Soil)

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
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CCME - Canadian Council of Ministers of the Environment

SLR

**TABLE 9: SOIL -
 INORGANICS**

| | | Inorganics |
|--------------------------|--|------------|
| | | phosphorus |
| | | µg/g |
| Reported Detection Limit | | 10 |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | |
|-----------|-----------------|--------------------|-------------|-----------------|-----|
| FFTA | BH16-11 | 1.2 - 1.5 | 2016-Sep-12 | BH16-11-S3 | 484 |
| | | 4.9 - 5.8 | | BH16-11-S6 | 461 |
| | BH16-12 | 0.6 - 1.0 | 2016-Sep-12 | BH16-12-S2 | 248 |
| | | 1.1 - 2.0 | 2016-Sep-12 | BH16-DUP-B | 233 |
| | | | 2016-Sep-12 | BH16-12-S3 | 253 |
| | BH16-13 | 0.8 - 1.8 | 2016-Sep-13 | BH16-13-S3 | 471 |
| | | 2.4 - 3.1 | | BH16-13-S5 | 469 |
| | BH16-14 | 1.7 - 2.2 | 2016-Sep-14 | BH16-14-S2 | 713 |
| | BH16-16 | 0.6 - 1.2 | 2016-Sep-13 | BH16-16-S4 | 399 |
| | | 4.6 - 5.5 | | BH16-16-S7 | 407 |
| | | 11.3 - 12.2 | | BH16-16-S11 | 502 |
| | BH16-17 | 0.5 - 0.8 | 2016-Sep-14 | BH16-17-S2 | 205 |
| | | 1.2 - 1.5 | | BH16-17-S3 | 449 |
| | BH16-19 | 0.9 - 1.5 | 2016-Sep-14 | BH16-19-S2 | 490 |
| | | 4.9 - 5.8 | 2016-Sep-14 | BH16-19-S5 | 445 |
| | | | 2016-Sep-14 | BH16-DUP-F | 451 |
| | BH16-20 | 11.3 - 12.2 | 2016-Sep-14 | BH16-19-S9 | 435 |
| | | 1.2 - 1.5 | 2016-Sep-12 | BH16-20-S3 | 104 |
| | | 5.5 - 6.1 | | BH16-20-S6 | 391 |
| | BH18-36 | 1.1 - 1.4 | 2018-Dec-17 | BH18-36-02 | 428 |
| | | 2.7 - 3.0 | | BH18-36-05 | 544 |
| | BH18-37 | 0.9 - 1.2 | 2018-Dec-17 | BH18-37-02 | 530 |
| | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | BH19-59-03 | 415 |
| | | 2.6 - 3.0 | | BH19-59-04 | 441 |
| | | 3.7 - 4.0 | | BH19-59-07 | 452 |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | BH19-67-02 | 422 |
| | | 2.3 - 2.6 | | BH19-67-04 | 422 |
| | | 3.7 - 3.8 | | BH19-67-06 | 436 |
| | BH20-01 | 0.9 - 1.2 | 2020-Jun-30 | BH20-01_0.9-1.2 | 266 |
| | | 1.5 - 1.7 | | BH20-01_1.5-1.7 | 539 |
| | | 2.0 - 2.2 | | BH20-01_2.0-2.2 | 529 |
| | | 3.0 - 3.2 | | BH20-01_3.0-3.2 | 485 |
| | | 3.8 - 4.1 | | BH20-01_3.8-4.1 | 501 |
| | BH20-02 | 0.7 - 1.0 | 2020-Jun-30 | BH20-02_0.7-1.0 | 427 |
| | | 1.7 - 1.9 | | BH20-02_1.7-1.9 | 643 |
| | | 2.2 - 2.4 | | BH20-02_2.2-2.4 | 475 |
| | | 3.1 - 3.3 | 2020-Jun-30 | BH20-02_3.1-3.3 | 457 |
| | | 4.1 - 4.3 | 2020-Jun-30 | BH20-02_DUP B | 465 |
| | TP1 | 0.0 - 0.6 | 2016-Sep-15 | TP1-S1 | 446 |
| | | 1.2 - 1.5 | | TP1-S3 | 305 |
| | TP10 | 0.3 - 0.6 | 2016-Sep-15 | TP10-S2 | 339 |
| | | 1.1 - 1.5 | 2016-Sep-15 | TP-DUP-C | 323 |
| | | | 2016-Sep-15 | TP10-S4 | 649 |
| | TP2 | 0.0 - 0.5 | 2016-Sep-15 | TP2-S1 | 478 |
| | | 0.9 - 1.5 | | TP2-S3 | 488 |
| | TP3 | 0.2 - 0.4 | 2016-Sep-15 | TP3-S2 | 318 |
| | | 1.1 - 1.5 | | TP3-S5 | 517 |
| | TP4 | 0.5 - 1.0 | 2016-Sep-15 | TP4-S2 | 454 |
| | | 1.0 - 1.5 | 2016-Sep-15 | TP4-S3 | 424 |
| | | | 2016-Sep-15 | TP-DUP-A | 389 |
| TP5 | 0.6 - 0.9 | 2016-Sep-15 | TP5-S2 | 329 | |
| | 1.2 - 1.5 | | TP5-S4 | 72 | |
| TP6 | 0.3 - 0.6 | 2016-Sep-15 | TP6-S2 | 374 | |
| | 1.2 - 1.5 | | TP6-S4 | 461 | |
| TP7 | 0.3 - 0.9 | 2016-Sep-15 | TP7-S2 | 504 | |
| | 0.9 - 1.5 | | TP7-S3 | 526 | |
| TP8 | 0.0 - 0.3 | 2016-Sep-15 | TP8-S1 | 260 | |
| | 0.6 - 2.1 | | TP8-S3 | 453 | |
| TP9 | 0.3 - 0.6 | 2016-Sep-15 | TP9-S2 | 414 | |
| | 1.2 - 1.5 | | TP9-S4 | 437 | |

Notes:

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- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
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- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

**TABLE 10: SOIL -
 PER- AND POLYFLUOROALKYL SUBSTANCES**

| | PFAS | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|-----------------------------|---------------------------------|--|----------------------------|--------------------------------|---------------------------------------|----------------------------|--------------------------------|---------------------------------------|----------------------------|--------------------------------|---------------------------------------|---------------------------|-------------------------------|------------------------------------|-------|--|
| | MeFOSE | perfluorobutanoate [PFBA] | perfluorobutanoic acid [PFBA] | perfluorobutane sulfonate [PFBS] | perfluorobutane sulfonic acid [PFBS] | perfluoropentanoate [PFPeA] | perfluoropentanoic acid [PFPeA] | perfluoropentane sulfonic acid [PFPeS] | perfluorohexanoate [PFHxA] | perfluorohexanoic acid [PFHxA] | perfluorohexane sulfonic acid [PFHxS] | perfluorohexanoate [PFHpA] | perfluorohexanoic acid [PFHpA] | perfluorohexane sulfonic acid [PFHpS] | perfluoroheptanoate [PFOA] | perfluoroheptanoic acid [PFOA] | perfluoroheptane sulfonic acid [PFOS] | perfluorononanoate [PFNA] | perfluorononanoic acid [PFNA] | perfluoronane sulfonic acid [PFNS] | | |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | |
| Reported Detection Limit | 0.002 | | 0.0001 | 0.0001 | 0.001 | | 0.0001 | 0.001 | | 0.0001 | 0.0001 | | 0.0001 | 0.001 | | 0.0001 | 0.0001 | | 0.0001 | 0.001 | 0.001 | |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | | | | | | | | | | | | | 0.14 | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | | | | | | | | | | | | | 0.21 | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|--------------------|-------------|-----------|---|------------|---|-----------|---|------------|---|---|------------|---|----------|------------|---|---|------------|---|-----------|------------|---|---|
| FFTA | TP4 | 0.0 - 0.3 | 2016-Sep-15 | TP4-S1 | - | 0.00244 | - | 0.000644 | - | 0.00645 | - | - | 0.00561 | - | 0.00843 | 0.00226 | - | - | 0.00368 | - | 0.165 | 0.00218 | - | - |
| | | 1.0 - 1.5 | 2016-Sep-15 | TP4-S3 | - | 0.00265 | - | 0.00371 | - | 0.0102 | - | - | 0.0161 | - | 0.0563 | 0.00357 | - | - | 0.0164 | - | 0.142 | 0.000216 | - | - |
| | | | | TP-DUP-A | - | 0.00336 | - | 0.00385 | - | 0.00967 | - | - | 0.0152 | - | 0.0572 | 0.00374 | - | - | 0.0155 | - | 0.101 | 0.000144 | - | - |
| | TP5 | 0.0 - 0.6 | 2016-Sep-15 | TP5-S1 | - | 0.00404 | - | 0.0102 | - | 0.0202 | - | - | 0.0366 | - | 0.134 | 0.00795 | - | - | 0.043 | - | 0.591 | 0.00355 | - | - |
| | | 0.6 - 0.9 | | TP5-S2 | - | 0.011 | - | 0.0369 | - | 0.0269 | - | - | 0.0901 | - | 0.922 | 0.0359 | - | - | 0.154 | - | 0.00475 | <0.000151 | - | - |
| | TP6 | 0.0 - 0.3 | 2016-Sep-15 | TP6-S1 | - | 0.000262 | - | <0.000189 | - | 0.000413 | - | - | 0.000339 | - | 0.00468 | <0.0000943 | - | - | 0.000328 | - | 0.173 | 0.00035 | - | - |
| | | 0.3 - 0.6 | | TP6-S2 | - | 0.000467 | - | 0.000959 | - | 0.00209 | - | - | 0.00207 | - | 0.00219 | 0.00084 | - | - | 0.000182 | - | 0.000788 | <0.000938 | - | - |
| | TP7 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S1 | - | <0.0000934 | - | 0.000252 | - | 0.00019 | - | - | 0.000197 | - | 0.00223 | 0.000117 | - | - | 0.000095 | - | 0.0104 | <0.0000934 | - | - |
| | | 0.3 - 0.9 | 2016-Sep-15 | TP-DUP-F | - | 0.000114 | - | <0.00019 | - | 0.000203 | - | - | 0.000205 | - | 0.00213 | <0.0000951 | - | - | 0.000173 | - | 0.011 | 0.000182 | - | - |
| | TP8 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S2 | - | <0.0000962 | - | <0.000192 | - | <0.0000962 | - | - | <0.0000962 | - | 0.000275 | <0.0000962 | - | - | <0.0000962 | - | <0.000211 | <0.0000962 | - | - |
| | | 0.3 - 0.9 | | TP8-S1 | - | 0.000696 | - | 0.000708 | - | 0.0025 | - | - | 0.000986 | - | 0.00496 | 0.000486 | - | - | 0.000877 | - | 0.116 | 0.00138 | - | - |
| | TP9 | 0.0 - 0.3 | 2016-Sep-15 | TP8-S2 | - | 0.000325 | - | <0.000198 | - | 0.000896 | - | - | 0.000609 | - | 0.00218 | 0.000334 | - | - | 0.00072 | - | 0.0887 | 0.00167 | - | - |
| | | 0.3 - 0.6 | | TP9-S1 | - | 0.00218 | - | 0.00187 | - | 0.0112 | - | - | 0.00954 | - | 0.041 | 0.00314 | - | - | 0.00991 | - | 1.06 | 0.0035 | - | - |
| | | | | TP9-S2 | - | 0.00305 | - | 0.00427 | - | 0.0172 | - | - | 0.017 | - | 0.129 | 0.00472 | - | - | 0.021 | - | 0.422 | 0.000726 | - | - |

- Standards / Guidelines Descriptions:**
- FSQG (Eco) for PFOS (IL, coarse): Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Coarse grained soil), February 2017
 - FSQG (Eco) for PFOS (IL, fine): Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Fine grained soil), February 2017

- Notes:**
- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- PFAS - per- and polyfluoroalkylated substances
 PFOS - perfluorooctane sulfonate
 PFOA - perfluorooctanoate

TABLE 10: SOIL -
PER- AND POLYFLUOROALKYL SUBSTANCES

PFAS

| | perfluorodecanoate [PFDA] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoate [PFUnDA] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoate [PFDoA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTriDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 fluorotelomer sulfonic acid [8:2 FTS] | n-ethyl perfluorooctanesulfonamide [N-Et-FOSA] | n-ethyl perfluorooctanesulfonamide ethanol [N-Et-FOSE] | Methyl-perfluorooctane sulfonamide [N-Me-FOSA] | n-methyl perfluorooctane sulfonamidoacetic acid [N-Me-FOSAA] | n-Ethyl perfluorooctane sulfonamidoacetic acid [N-Et-FOSAA] | 2-n-methyl perfluorooctanesulfonamide ethanol [N-Me-FOSE] | perfluorooctane sulfonamide [PFOSA] | Additive PFOA + PFOS | |
|----------------------------------|---------------------------|-------------------------------|--------------------------------------|-------------------------------|-----------------------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------------------|---|---|--|--|--|--|---|---|-------------------------------------|-----------------------|-----------------------|
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | |
| Reported Detection Limit | | 0.0001 | 0.0001 | | 0.0001 | | 0.0001 | 0.0001 | 0.0001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.0001 | | |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | | | | | | | | | | | | |
| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | |
| FFTA | BH16-11 | 1.2 - 1.5 | 2016-Sep-12 | BH16-11-S3 | <0.0000999 | - | - | <0.0000999 | - | <0.0000999 | - | - | - | - | - | - | - | <0.0000999 | 0.000015338165560222 | |
| | | 2.7 - 3.0 | | BH16-11-S5 | <0.0001 | - | - | <0.0001 | - | <0.000195 | - | - | - | - | - | - | - | - | <0.0001 | 0.0000167562660886059 |
| | | 4.9 - 5.8 | | BH16-11-S6 | <0.0001 | - | - | <0.0001 | - | <0.0001 | - | - | - | - | - | - | - | - | <0.0001 | 0.0000150841349410649 |
| | BH16-12 | 0.6 - 1.0 | 2016-Sep-12 | BH16-12-S1 | <0.0000987 | - | - | <0.0000987 | - | <0.0000987 | - | - | - | - | - | - | - | - | <0.0000987 | 0.000827325565641512 |
| | | | | BH16-12-S2 | <0.0000996 | - | - | <0.0000996 | - | <0.0000996 | - | - | - | - | - | - | - | - | <0.0000996 | 0.000134007587047826 |
| | | 2.4 - 3.0 | 2016-Sep-12 | BH16-DUP-B | <0.0000903 | - | - | <0.0000903 | - | <0.0000903 | - | - | - | - | - | - | - | - | <0.0000903 | 0.000137540983606557 |
| | BH16-13 | 0.8 - 1.9 | 2016-Sep-13 | BH16-13-S2 | <0.0000986 | - | - | <0.0000986 | - | <0.0000986 | - | - | - | - | - | - | - | - | <0.0000986 | 0.00129008941877794 |
| | | | | BH16-13-S3 | <0.0001 | - | - | <0.0001 | - | <0.0001 | - | - | - | - | - | - | - | - | <0.0001 | 0.0000212152824820485 |
| | | 2.4 - 3.0 | 2016-Sep-13 | BH16-13-S5 | <0.0001 | - | - | <0.0001 | - | <0.0001 | - | - | - | - | - | - | - | - | <0.0001 | 0.0000148546267443436 |
| | BH16-14 | 0.0 - 0.3 | 2016-Sep-14 | BH16-14-S1 | <0.0001 | - | - | <0.0001 | - | <0.0001 | - | - | - | - | - | - | - | - | <0.0001 | 0.000447662918303753 |
| BH16-14-S2 | | | | <0.0000996 | - | - | <0.0000996 | - | <0.0000996 | - | - | - | - | - | - | - | - | <0.0000996 | 0.0000183297656144154 | |
| 1.7 - 2.2 | | 2016-Sep-13 | BH16-16-S1 | 0.000138 | - | - | <0.000101 | - | <0.000101 | - | - | - | - | - | - | - | - | 0.000121 | 0.000471245088741363 | |
| BH16-16 | 0.3 - 0.5 | 2016-Sep-13 | BH16-16-S2 | 0.000232 | - | - | <0.0000996 | - | <0.0000996 | - | - | - | - | - | - | - | - | <0.0000996 | 0.000546 | |
| | | | BH16-DUP-D | 0.000237 | - | - | <0.000091 | - | <0.000091 | - | - | - | - | - | - | - | - | <0.000091 | 0.000392 | |
| | 0.6 - 1.2 | 2016-Sep-13 | BH16-16-S4 | <0.0000992 | - | - | <0.0000992 | - | <0.0000992 | - | - | - | - | - | - | - | - | <0.0000992 | 0.0000272475274353069 | |
| BH16-17 | 0.5 - 0.8 | 2016-Sep-14 | BH16-17-S2 | <0.0000981 | - | - | <0.0000981 | - | <0.0000981 | - | - | - | - | - | - | - | - | <0.0000981 | 0.0000145336675247256 | |
| | | | BH16-17-S4 | <0.0000976 | - | - | <0.0000976 | - | <0.0000976 | - | - | - | - | - | - | - | - | <0.0000976 | 0.0000144595583254302 | |
| | 2.4 - 3.0 | 2016-Sep-14 | BH16-19-S1 | <0.0000995 | - | - | <0.0000995 | - | <0.0000995 | - | - | - | - | - | - | - | - | <0.0000995 | 0.000101986180734318 | |
| BH16-19 | 0.0 - 0.6 | 2016-Sep-14 | BH16-19-S2 | <0.000092 | - | - | <0.000092 | - | <0.000092 | - | - | - | - | - | - | - | - | <0.000092 | 0.0000136360926703699 | |
| | | | BH16-19-S5 | <0.0000912 | - | - | <0.0000912 | - | <0.0000912 | - | - | - | - | - | - | - | - | <0.0000912 | 0.000013635507383823 | |
| | 4.9 - 5.8 | 2016-Sep-14 | BH16-DUP-F | <0.0000902 | - | - | <0.0000902 | - | <0.0000902 | - | - | - | - | - | - | - | - | <0.0000902 | 0.0000133561847988078 | |
| BH16-20 | 0.0 - 0.3 | 2016-Sep-14 | BH16-19-S9 | <0.0000918 | - | - | <0.0000918 | - | <0.0000918 | - | - | - | - | - | - | - | - | <0.0000918 | 0.00001361956374475 | |
| | | | BH16-20-S1 | <0.0000971 | - | - | <0.0000971 | - | <0.0000971 | - | - | - | - | - | - | - | - | <0.0000971 | 0.000467302533532042 | |
| | 1.2 - 1.5 | 2016-Sep-12 | BH16-20-S3 | <0.000096 | - | - | <0.000096 | - | <0.000096 | - | - | - | - | - | - | - | - | <0.000096 | 0.0000176092670369869 | |
| BH18-21 | 5.5 - 6.1 | 2018-Dec-11 | BH16-20-S6 | <0.0000934 | - | - | <0.0000934 | - | <0.0000934 | - | - | - | - | - | - | - | - | <0.0000934 | 0.0000138501558054464 | |
| | | | BH18-21-04 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| | 0.2 - 0.4 | 2018-Dec-10 | BH18-21-01 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| BH18-22 | 0.6 - 0.9 | 2018-Dec-11 | BH18-21-02 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| | | | 0.2 - 0.3 | UY4428-BH18-22-01 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| | 0.6 - 0.8 | UY4429-BH18-22-02 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| BH18-23 | 1.2 - 1.4 | 2018-Dec-11 | UY4430-BH18-22-03 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| | | | 0.0 - 0.3 | UY4431-BH18-23-01 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| | 0.8 - 0.9 | UY4432-BH18-23-02 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| BH18-27 | 1.4 - 1.5 | 2018-Dec-12 | UY4433-BH18-23-03 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| | | | 2.3 - 2.6 | UZ0283-BH18-23-04 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| | 0.0 - 0.3 | 2018-Dec-11 | BH18-27-01 | - | <0.001 | <0.001 | - | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - |
| 0.6 - 0.9 | 2018-Dec-11 | BH18-27-02 | - | <0.002 | <0.002 | - | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | |

TABLE 10: SOIL - PER- AND POLYFLUOROALKYL SUBSTANCES

| | | PFAS | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|---------------------------|-------------------------------|--------------------------------------|-------------------------------|-----------------------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------------------|---|---|--|--|--|--|---|---|-------------------------------------|----------------------|--|
| | | perfluorodecanoate [PFDA] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoate [PFUnDA] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoate [PFDoA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTriDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 fluorotelomer sulfonic acid [8:2 FTS] | n-ethyl perfluorooctanesulfonamide [N-Et-FOSA] | n-ethyl perfluorooctanesulfonamide ethanol [N-Et-FOSE] | Methyl-perfluorooctane sulfonamide [N-Me-FOSA] | n-methyl perfluorooctane sulfonamidoacetic acid [N-Me-FOSAA] | n-Ethyl perfluorooctane sulfonamidoacetic acid [N-Et-FOSAA] | 2-n-methyl perfluorooctanesulfonamide ethanol [N-Me-FOSE] | perfluorooctane sulfonamide [PFOSA] | Additive PFOA + PFOS | |
| | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | |
| Reported Detection Limit | | | 0.0001 | 0.0001 | | 0.0001 | | 0.0001 | 0.0001 | 0.0001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.0001 | | |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | | | | | | | | | | | | | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|--------------------|-------------------|----------------------|-------------------|---------|------------|------------|------------|------------|----------|----------|----------|---------|---|---------|----------|----------|---|------------|-----------------------|----------------------|
| FFTA | TH15-03 | 0.0 - 0.3 | 2015-Jan-20 | LO4098\TH15-03 S1 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 3.3 - 3.7 | 2015-Jan-20 | LO4101\TH15-03 S5 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | | | LO4126\TH15-100 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 5.8 - 6.1 | 2015-Jan-20 | LO4102\TH15-03 S8 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | TH15-04 | 0.9 - 1.5 | 2015-Jan-21 | LO4103\TH15-04 S2 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 2.6 - 2.9 | | LO4105\TH15-04 S5 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 3.9 - 4.6 | | LO4106\TH15-04 S7 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | TH15-05 | 0.8 - 1.0 | 2015-Jan-21 | LO4108\TH15-05 S2 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.00065 | - |
| | | 3.0 - 3.3 | 2015-Jan-21 | LO4127\TH15 101 S100 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | | 2015-Jan-22 | LO4136\TH15-05 S5 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | 4.9 - 5.2 | 2015-Jan-21 | LO4109\TH15-05 S7 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - | |
| | TH15-06 | 0.6 - 0.9 | 2015-Jan-21 | LO4110\TH15-06 S2 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 1.5 - 1.8 | | LO4111\TH15-06 S4 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 5.8 - 6.1 | | LO4112\TH15-06 S9 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | TH15-07 | 0.0 - 0.3 | 2015-Jan-21 | LO4113\TH15-07 S1 | - | 0.00024 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.00015 | - |
| | | 4.2 - 4.6 | | LO4114\TH15-07 S6 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 4.9 - 5.2 | | LO4115\TH15-07 S7 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | TH15-08 | 0.0 - 0.6 | 2015-Jan-20 | LO4116\TH15-08 S1 | - | 0.0055 | 0.019 | - | <0.005 | - | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | 0.2 | - |
| | | 0.6 - 1.1 | 2015-Jan-22 | LO4117\TH15-08 S2 | - | 0.0002 | 0.0021 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.038 | - |
| | | | 2015-Jan-22 | LO4129\TH15 103 | - | 0.00016 | 0.0011 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.06 | - |
| | TH15-09 | 0.5 - 0.6 | 2015-Jan-22 | LO4120\TH15-09 S2 | - | <0.0001 | 0.00013 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.0082 | - |
| | | 1.8 - 2.1 | | LO4121\TH15-09 S4 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | 0.00064 | - |
| | | | | 4.3 - 4.6 | LO4122\TH15-09 S7 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 |
| | TH15-10 | 0.3 - 0.6 | 2015-Jan-22 | LO4123\TH15-10 S1 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 1.5 - 1.8 | | LO4124\TH15-10 S3 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | | 3.3 - 3.6 | | LO4125\TH15-10 S5 | - | <0.0001 | <0.0001 | - | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | - | - | - | - | - | - | - | <0.0001 | - |
| | TP1 | 0.0 - 0.6 | 2016-Sep-15 | TP1-S1 | 0.00135 | - | - | 0.00145 | - | 0.000138 | - | - | - | - | - | - | - | - | - | - | 0.00244 | 0.00618595041322314 |
| | | 0.6 - 1.1 | | TP1-S2 | 0.000244 | - | - | <0.0000951 | - | <0.0000951 | - | - | - | - | - | - | - | - | - | - | 0.000839 | 0.0280486790407804 |
| | TP10 | 0.0 - 0.3 | 2016-Sep-15 | TP10-S1 | 0.000455 | - | - | <0.0000956 | - | <0.0000956 | - | - | - | - | - | - | - | - | - | - | 0.00016 | 0.00102391274895001 |
| | | 0.6 - 1.1 | | TP10-S3 | <0.000091 | - | - | <0.000091 | - | <0.000091 | - | - | - | - | - | - | - | - | - | - | 0.000206 | 0.000124182360113806 |
| | TP19-01 | 0.2 - 0.4 | 2019-Sep-9 | TP19-01 | - | 0.00033 | - | - | <0.00029 | - | <0.00029 | <0.00029 | <0.00029 | - | - | - | <0.00059 | <0.00059 | - | - | - | - |
| | TP19-02 | 0.1 - 0.3 | 2019-Sep-9 | TP19-02 | - | <0.0026 | - | - | <0.0026 | - | <0.0026 | <0.0026 | <0.0026 | - | - | - | <0.0053 | 0.00677 | - | - | - | - |
| | TP19-03 | 0.2 - 0.4 | 2019-Sep-9 | TP19-03 | - | 0.00562 | - | - | <0.0029 | - | <0.0029 | <0.0029 | <0.0029 | - | - | - | <0.0058 | <0.0058 | - | - | - | - |
| | TP19-04 | 0.2 - 0.3 | 2019-Sep-9 | TP19-04 | - | <0.0025 | - | - | <0.0025 | - | <0.0025 | <0.0025 | <0.0025 | - | - | - | <0.0051 | <0.0051 | - | - | - | - |
| TP19-05 | 0.1 - 0.3 | 2019-Sep-9 | TP19-05 | - | 0.00629 | - | - | <0.0026 | - | <0.0026 | <0.0026 | <0.0026 | - | - | - | <0.0052 | <0.0052 | - | - | - | - | |
| TP2 | 0.0 - 0.5 | 2016-Sep-15 | TP2-S1 | 0.0064 | - | - | 0.00149 | - | 0.00189 | - | - | - | - | - | - | - | - | - | - | 0.44 | 0.0612533532041729 | |
| | 0.5 - 1.0 | | TP2-S2 | <0.000124 | - | - | <0.0000955 | - | <0.0000955 | - | - | - | - | - | - | - | - | - | - | 0.0461 | 0.0412808562525403 | |
| TP3 | 0.0 - 0.2 | 2016-Sep-15 | TP3-S1 | 0.000147 | - | - | 0.000114 | - | <0.0000925 | - | - | - | - | - | - | - | - | - | - | <0.0000925 | 0.000998036851375152 | |
| | 0.4 - 0.6 | | TP3-S4 | <0.0000864 | - | - | <0.0000864 | - | <0.0000864 | - | - | - | - | - | - | - | - | - | - | <0.0000864 | 0.0000263208237366211 | |

**TABLE 10: SOIL -
PER- AND POLYFLUOROALKYL SUBSTANCES**

| PFAS | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---------------------------|-------------------------------|--------------------------------------|-------------------------------|-----------------------------------|------------------------------|----------------------------------|------------------------------------|--------------------------------------|---|---|--|--|--|--|---|---|-------------------------------------|----------------------|------|--|--|
| | perfluorodecanoate [PFDA] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoate [PFUnDA] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoate [PFDoA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTrDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 fluorotelomer sulfonic acid [8:2 FTS] | n-ethyl perfluorooctanesulfonamide [N-Et-FOSA] | n-ethyl perfluorooctanesulfonamide ethanol [N-Et-FOSE] | Methyl-perfluorooctane sulfonamide [N-Me-FOSA] | n-methyl perfluorooctane sulfonamidoacetic acid [N-Me-FOSAA] | n-Ethyl perfluorooctane sulfonamidoacetic acid [N-Et-FOSAA] | 2-n-methyl perfluorooctanesulfonamide ethanol [N-Me-FOSE] | perfluorooctane sulfonamide [PFOSA] | Additive PFOA + PFOS | | | |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | | |
| Reported Detection Limit | | 0.0001 | 0.0001 | | 0.0001 | | 0.0001 | 0.0001 | 0.0001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.0001 | | | | |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | | | | | | | | | | | | | | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|--------------------|-------------|-----------|-----------|---|---|-----------|---|-----------|---|---|---|---|---|---|---|---|---|---|-----------|-----------------------|
| FFTA | TP4 | 0.0 - 0.3 | 2016-Sep-15 | TP4-S1 | 0.000975 | - | - | 0.000163 | - | 0.000261 | - | - | - | - | - | - | - | - | - | - | 0.012 | 0.00571396829697873 |
| | | 1.0 - 1.5 | 2016-Sep-15 | TP4-S3 | <0.000954 | - | - | <0.000954 | - | <0.000954 | - | - | - | - | - | - | - | - | - | - | 0.000474 | 0.00601110960574448 |
| | | | | TP-DUP-A | <0.000971 | - | - | <0.000971 | - | <0.000971 | - | - | - | - | - | - | - | - | - | - | 0.000384 | 0.00459246714537326 |
| | TP5 | 0.0 - 0.6 | 2016-Sep-15 | TP5-S1 | 0.000198 | - | - | <0.000857 | - | <0.000857 | - | - | - | - | - | - | - | - | - | - | 0.0107 | 0.0229307681885923 |
| | | 0.6 - 0.9 | | TP5-S2 | <0.000958 | - | - | <0.000958 | - | <0.000958 | - | - | - | - | - | - | - | - | - | - | 0.000135 | 0.0128830104321908 |
| | TP6 | 0.0 - 0.3 | 2016-Sep-15 | TP6-S1 | <0.000943 | - | - | <0.000943 | - | <0.000943 | - | - | - | - | - | - | - | - | - | - | <0.000943 | 0.00569923858555751 |
| | | 0.3 - 0.6 | | TP6-S2 | <0.000938 | - | - | <0.000938 | - | <0.000938 | - | - | - | - | - | - | - | - | - | - | <0.000938 | 0.0000408773878878201 |
| | TP7 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S1 | <0.000934 | - | - | <0.000934 | - | <0.000934 | - | - | - | - | - | - | - | - | - | - | <0.000934 | 0.000348834846226799 |
| | | 0.3 - 0.9 | | TP-DUP-F | <0.000951 | - | - | <0.000951 | - | <0.000951 | - | - | - | - | - | - | - | - | - | - | <0.000951 | 0.000374953258366075 |
| | TP8 | 0.0 - 0.3 | 2016-Sep-15 | TP7-S2 | <0.000962 | - | - | <0.000962 | - | <0.000962 | - | - | - | - | - | - | - | - | - | - | <0.000962 | 0.0000148684460100257 |
| | | 0.3 - 0.9 | | TP8-S1 | 0.000381 | - | - | 0.000133 | - | <0.000995 | - | - | - | - | - | - | - | - | - | - | <0.000995 | 0.00387575802736757 |
| | TP9 | 0.0 - 0.3 | 2016-Sep-15 | TP8-S2 | 0.000208 | - | - | <0.000991 | - | <0.000991 | - | - | - | - | - | - | - | - | - | - | <0.000991 | 0.00296770085354288 |
| | | 0.3 - 0.6 | | TP9-S1 | 0.00244 | - | - | 0.00109 | - | 0.00213 | - | - | - | - | - | - | - | - | - | - | 0.0283 | 0.0355731066251185 |
| | | | | TP9-S2 | <0.000136 | - | - | <0.000108 | - | <0.000091 | - | - | - | - | - | - | - | - | - | - | 0.00198 | 0.0155716027638531 |

- Standards / Guidelines Descriptions:**
- FSQG (Eco) for PFOS (IL, coarse): Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Coarse grained soil), February 2017
 - FSQG (Eco) for PFOS (IL, fine): Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Fine grained soil), February 2017

- Notes:**
- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- PFAS - per- and polyfluoroalkylated substances
PFOS - perfluorooctane sulfonate
PFOA - perfluorooctanoate

**TABLE 11: SOIL -
 POLYCHLORINATED BIPHENYLS**

| | PCBs | | | | | | | | | |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------------------|
| | aroclor 1016 | aroclor 1221 | aroclor 1232 | aroclor 1242 | aroclor 1248 | aroclor 1254 | aroclor 1260 | aroclor 1262 | aroclor 1268 | PCBs (BC CSR aroclor total) |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Reported Detection Limit | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| CCME SoilQG Tier 1 IL (Coarse Soil) | | | | | | | | | | 33 |
| CCME SoilQG Tier 1 IL (Fine Soil) | | | | | | | | | | 33 |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | |
|-----------|-----------------|--------------------|-------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FFTA | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | BH19-59-03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 2.6 - 3.0 | | BH19-59-04 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 3.7 - 4.0 | | BH19-59-07 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | BH19-67-02 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | | 2.3 - 2.6 | | BH19-67-04 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 3.7 - 3.8 | | BH19-67-06 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | BH20-01 | 0.9 - 1.2 | 2020-Jun-30 | BH20-01_0.9-1.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | | 1.5 - 1.7 | | BH20-01_1.5-1.7 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 2.0 - 2.2 | | BH20-01_2.0-2.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 3.0 - 3.2 | | BH20-01_3.0-3.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | BH20-02 | 3.8 - 4.1 | 2020-Jun-30 | BH20-01_3.8-4.1 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | | 0.7 - 1.0 | | BH20-02_0.7-1.0 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 1.7 - 1.9 | | BH20-02_1.7-1.9 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 2.2 - 2.4 | | BH20-02_2.2-2.4 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | | 3.1 - 3.3 | | BH20-02_3.1-3.3 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| | 4.1 - 4.3 | BH20-02_4.1-4.3 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | | |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 IL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Coarse Soil)
- CCME SoilQG Tier 1 IL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Industrial (Fine Soil)

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

CCME - Canadian Council of Ministers of the Environment

PCBs - polychlorinated biphenyls

- PCB (total) represents sum of concentrations of Arochlor 1016, 1221, 1242, 1254, 1262 and 1268

**TABLE 12: SOIL -
 HERBICIDES**

| Herbicides | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|--------------------------|---------|----------|----------|------------|------------|---|---|--------------------|---|-----------|---------|-----------------|---------|------------|----------------|------------|----------|----------|-----------|-----------|----------|----------|--------|---|-----------|--|
| | 3,5-Dichlorobenzoic acid | ametryn | atrazine | bentazon | bromoxynil | chloramben | acetic acid, 2-methyl-4-chlorophenoxy- [MCPA] | dichlorophenoxy butyric acid, 2,4- [2,4-DB] | dichloroprop, 2,4- | dichlorophenoxy acetic acid, 2,4- [2,4-D] | cyanazinc | dicamba | diclofop-methyl | dinoseb | glyphosate | mecoprop [MCP] | metribuzin | picloram | prometon | prometryn | propazine | simazine | simetryn | silvex | trichlorophenoxyacetic acid, 2,4,5- [2,4,5-T] | terbutryn | |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | |
| Reported Detection Limit | 0.004 | 0.25 | 0.1 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.25 | 0.004 | 0.004 | 0.004 | 1 | 0.004 | 0.1 | 0.004 | 0.05 | 0.25 | 0.25 | 0.25 | 0.05 | 0.004 | 0.004 | 0.05 | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | 3,5-Dichlorobenzoic acid | ametryn | atrazine | bentazon | bromoxynil | chloramben | acetic acid, 2-methyl-4-chlorophenoxy- [MCPA] | dichlorophenoxy butyric acid, 2,4- [2,4-DB] | dichloroprop, 2,4- | dichlorophenoxy acetic acid, 2,4- [2,4-D] | cyanazinc | dicamba | diclofop-methyl | dinoseb | glyphosate | mecoprop [MCP] | metribuzin | picloram | prometon | prometryn | propazine | simazine | simetryn | silvex | trichlorophenoxyacetic acid, 2,4,5- [2,4,5-T] | terbutryn | | |
|-----------|-----------------|--------------------|-------------|-------------------|--------------------------|---------|----------|----------|------------|------------|---|---|--------------------|---|-----------|---------|-----------------|---------|------------|----------------|------------|----------|----------|-----------|-----------|----------|----------|--------|---|-----------|--------|------|
| FFTA | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | BH19-59-03 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | - | <0.004 | <0.004 | - | |
| | | | 2019-Mar-7 | VI7590-BH19-59-03 | - | <0.5 | <0.2 | - | - | - | - | - | - | - | - | - | <0.5 | - | - | - | <1 | - | <0.2 | - | <0.1 | <0.5 | <0.5 | <0.5 | <0.1 | - | - | <0.1 |
| | | 2.6 - 3.0 | 2019-Mar-7 | BH19-59-04 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | - | <0.004 | <0.004 | - |
| | | | 2019-Mar-7 | VI7621-BH19-59-04 | - | <0.5 | <0.2 | - | - | - | - | - | - | - | - | <0.5 | - | - | - | <1 | - | <0.2 | - | <0.1 | <0.5 | <0.5 | <0.5 | <0.1 | - | - | <0.1 | |
| | | 3.7 - 4.0 | 2019-Mar-7 | BH19-59-07 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | - | <0.004 | <0.004 | - |
| | | | 2019-Mar-7 | VI7624-BH19-59-07 | - | <0.25 | <0.1 | - | - | - | - | - | - | - | - | <0.25 | - | - | - | <1 | - | <0.1 | - | <0.05 | <0.25 | <0.25 | <0.25 | <0.05 | - | - | <0.05 | |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | BH19-67-02 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | <0.004 | <0.004 | - | |
| | | | 2019-Mar-8 | VI7670-BH19-67-02 | - | <0.5 | <0.2 | - | - | - | - | - | - | - | - | <0.5 | - | - | - | <1 | - | <0.2 | - | <0.1 | <0.5 | <0.5 | <0.5 | <0.1 | - | - | <0.1 | |
| | | 2.3 - 2.6 | 2019-Mar-8 | BH19-67-04 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | <0.004 | <0.004 | - | |
| | | | 2019-Mar-8 | VI7672-BH19-67-04 | - | <0.5 | <0.2 | - | - | - | - | - | - | - | - | <0.5 | - | - | - | <1 | - | <0.2 | - | <0.1 | <0.5 | <0.5 | <0.5 | <0.1 | - | - | <0.1 | |
| | | 3.7 - 3.8 | 2019-Mar-8 | BH19-67-06 | <0.004 | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | <0.004 | <0.004 | <0.004 | - | <0.004 | - | <0.004 | - | - | - | - | - | <0.004 | <0.004 | - | |
| | | | 2019-Mar-8 | VI7674-BH19-67-06 | - | <0.25 | <0.1 | - | - | - | - | - | - | - | - | <0.25 | - | - | - | <1 | - | <0.1 | - | <0.05 | <0.25 | <0.25 | <0.25 | <0.05 | - | - | <0.05 | |

- Notes:**
 m - metres
 mbg - metres below grade
 < - less than reported detection limit
 '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

**TABLE 13: SOIL -
 EXPLOSIVES**

| | | Explosives | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------|----------------------|-------------------------|------------------------------|------------------|-------------------------|----------------------|----------------------|------------------------------|------------------|--|--------------|---------------|------------------|---|--------|------|----|----|
| | | dinitrobenzene, 1,3- | trinitrobenzene, 1,3,5- | dinitrotoluene, 2-amino-4,6- | nitrotoluene, 2- | trinitrotoluene, 2,4,6- | dinitrotoluene, 2,4- | dinitrotoluene, 2,6- | dinitrotoluene, 4-amino-2,6- | nitrotoluene, 4- | octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine [HMX] | nitrobenzene | nitroglycerin | nitrotoluene, 3- | hexahydro-1,3,5-trinitro-1,3,5-triazine [RDX] | tetryl | | | |
| | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | | | |
| Reported Detection Limit | | 0.5 | 0.5 | 2 | 2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 0.5 | 2 | 0.5 | 1 | 1 | | | |
| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| FFTA | BH19-59 | 1.7 - 2.0 | 2019-Mar-7 | VI7590-BH19-59-03 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| | | 2.6 - 3.0 | 2019-Mar-7 | VI7621-BH19-59-04 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| | | 3.7 - 4.0 | 2019-Mar-7 | VI7624-BH19-59-07 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| | BH19-67 | 0.9 - 1.2 | 2019-Mar-8 | VI7670-BH19-67-02 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| | | 2.3 - 2.6 | 2019-Mar-8 | VI7672-BH19-67-04 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |
| | | 3.7 - 3.8 | 2019-Mar-8 | VI7674-BH19-67-06 | <0.5 | <0.5 | <2 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2 | <0.5 | <1 | <1 |

Notes:

m - metres

mbg - metres below grade

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures



GROUNDWATER ANALYTICAL TABLES

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

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TABLE 14: GROUNDWATER OBSERVATIONS

| Monitoring Zone | Monitoring Well ID | Well Screen Interval (mbg) | TOC Elevation (m) | Ground Elevation (m) | Monitoring Date | HSVL (ppmv) | Depth to Water below TOC (m) | Depth to Water (mbg) | Groundwater Elevation (m) |
|-----------------|--------------------|----------------------------|-------------------|----------------------|-----------------|-------------|---------------------------------|----------------------|---------------------------|
| FFTA | FFTA-1 | 0.9 - 4.3 | 18.72 | 18.74 | 2016-Feb-18 | LTDL | 0.56 | 0.59 | 18.16 |
| | | | | | 2016-Sep-22 | 15 | 1.95 | 1.97 | 16.77 |
| | | | | | 2017-Jan-11 | 70 | 0.38 | 0.40 | 18.34 |
| | | | | | 2017-Oct-19 | 10 | 0.38 | 0.40 | 18.34 |
| | | | | | 2018-Jan-10 | n.m | 0.34 | 0.37 | 18.37 |
| | | | | | 2018-Sep-5 | 35 | 1.47 * | 1.50 | 17.25 |
| | | | | | 2018-Sep-10 | n.m | 1.17 | 1.19 | 17.55 |
| | 2019-Jan-11 | 30 | 0.35 | 0.38 | 18.36 | | | | |
| | FFTA-2 | 0.9 - 4.6 | 19.08 | 19.15 | 2016-Feb-18 | LTDL | 0.11 | 0.18 | 18.97 |
| | | | | | 2016-Sep-22 | LTDL | 1.76 | 1.83 | 17.32 |
| | | | | | 2017-Jan-11 | LTDL | 0.38 | 0.44 | 18.70 |
| | | | | | 2018-Jan-10 | 5 | 0.19 | 0.26 | 18.89 |
| | | | | | 2018-Sep-5 | LTDL | 1.735 * | 1.80 | 17.34 |
| | | | | | 2018-Sep-10 | n.m | 1.76 | 1.83 | 17.32 |
| | 2019-Jan-11 | 140 | 0.36 | 0.43 | 18.71 | | | | |
| | FFTA-3 | 0.9 - 4.6 | 19.64 | 19.72 | 2016-Feb-18 | LTDL | -0.06 | 0.03 | 19.69 |
| | | | | | 2016-Sep-22 | 30 | 1.40 | 1.48 | 18.24 |
| | | | | | 2017-Jan-11 | LTDL | -0.03 | 0.06 | 19.66 |
| | | | | | 2018-Sep-10 | n.m | 1.5 * | 1.59 | 18.14 |
| | MW15-01 | 2.0-5.0 | 17.96 | 18.03 | 2016-Feb-18 | 220 | 3.08 | 3.14 | 14.88 |
| | | | | | 2016-Sep-22 | LTDL | 2.40 | 2.47 | 15.56 |
| | | | | | 2017-Jan-11 | LTDL | 1.48 | 1.54 | 16.48 |
| | | | | | 2017-Oct-19 | 5 | 2.45 | 2.51 | 15.51 |
| | | | | | 2018-Jan-10 | 70 | 0.03 | 0.09 | 17.93 |
| | | | | | 2018-Sep-5 | 30 | 1.79 * | 1.86 | 16.17 |
| | | | | | 2018-Sep-10 | n.m | 1.94 | 2.00 | 16.02 |
| | 2019-Jan-11 | 5 | 1.18 | 1.25 | 16.77 | | | | |
| | MW15-02 | 0.9 - 4 | 19.55 | 19.66 | 2016-Feb-18 | 30 | 0.22 | 0.33 | 19.33 |
| | | | | | 2016-Sep-22 | 5 | 2.19 | 2.30 | 17.37 |
| | | | | | 2017-Jan-11 | LTDL | 0.64 | 0.75 | 18.91 |
| | | | | | 2018-Sep-10 | n.m | 2.24 | 2.35 | 17.32 |
| | MW15-03 | 1.5 - 4.6 | 17.04 | 17.10 | 2016-Feb-18 | LTDL | 0.04 | 0.10 | 17.00 |
| | | | | | 2016-Sep-22 | LTDL | 2.88 | 2.94 | 14.16 |
| | | | | | 2017-Jan-11 | LTDL | 0.08 | 0.14 | 16.96 |
| | | | | | 2017-Oct-19 | LTDL | 2.39 | 2.45 | 14.65 |
| | | | | | 2018-Jan-10 | LTDL | 0.03 | 0.09 | 17.01 |
| | MW15-04 | 3.1 - 6.1 | 17.63 | 17.63 | 2016-Feb-18 | LTDL | 0.19 | 0.19 | 17.44 |
| | | | | | 2016-Sep-22 | LTDL | 2.23 | 2.23 | 15.40 |
| | | | | | 2017-Jan-11 | LTDL | 0.28 | 0.28 | 17.35 |
| | | | | | 2017-Oct-17 | LTDL | 2.30 | 2.30 | 15.33 |
| | | | | | 2018-Jan-9 | LTDL | 0.11 | 0.11 | 17.52 |
| | MW15-05 | 0.6 - 5.2 | 18.32 | 18.37 | 2018-Feb-14 | LTDL | 0.27 | 0.27 | 17.36 |
| | | | | | 2018-Sep-5 | 30 | 2.04 * | 2.04 | 15.59 |
| | | | | | 2018-Sep-10 | n.m | 2.09 | 2.09 | 15.54 |
| | | | | | 2019-Jan-11 | 55 | 0.17 | 0.17 | 17.46 |
| | | | | | 2016-Feb-18 | LTDL | 0.23 | 0.27 | 18.09 |
| | | | | | 2016-Sep-22 | LTDL | 1.18 | 1.23 | 17.14 |
| | | | | | 2017-Jan-11 | LTDL | 0.46 | 0.50 | 17.86 |
| | MW15-06 | 0.6 - 5.2 | 18.81 | 18.92 | 2017-Oct-19 | LTDL | 0.41 | 0.46 | 17.91 |
| | | | | | 2018-Jan-9 | LTDL | 1.14 | 1.18 | 17.18 |
| | | | | | 2018-Sep-5 | LTDL | 2.84 * | 2.89 | 15.48 |
| | | | | | 2018-Sep-10 | n.m | 1.16 | 1.21 | 17.16 |
| | | | | | 2019-Jan-11 | 140 | 1.44 | 1.48 | 16.88 |
| | | | | | 2016-Feb-18 | LTDL | 0.02 | 0.13 | 18.80 |
| | MW15-07 | 1.5 - 4.6 | 17.84 | 17.93 | 2016-Sep-22 | LTDL | 2.60 | 2.71 | 16.22 |
| | | | | | 2017-Jan-11 | LTDL | 0.09 | 0.20 | 18.73 |
| | | | | | 2017-Oct-19 | LTDL | 2.61 | 2.72 | 16.20 |
| | | | | | 2018-Sep-10 | n.m | 2.78 | 2.89 | 16.04 |
| | | | | | 2019-Jan-11 | 500 | 0.08 | 0.19 | 18.73 |
| | | | | | 2016-Feb-18 | 35 | 0.07 | 0.16 | 17.78 |
| | | | | | 2016-Sep-22 | LTDL | 2.42 | 2.51 | 15.42 |
| | MW15-08 | 0.6 - 1.5 | 18.74 | 18.73 | 2017-Jan-11 | LTDL | 0.15 | 0.24 | 17.70 |
| | | | | | 2017-Oct-16 | 35 | 2.63 | 2.72 | 15.21 |
| | | | | | 2018-Jan-10 | 30 | 0.11 | 0.20 | 17.74 |
| | | | | | 2018-Sep-5 | LTDL | 2.32 * | 2.41 | 15.52 |
| | | | | | 2018-Sep-10 | n.m | 2.40 | 2.49 | 15.45 |
| | | | | | 2019-Jan-11 | LTDL | 1.23 | 1.32 | 16.61 |
| | MW15-09 | 1.5 - 6.1 | 18.39 | 18.47 | 2016-Feb-18 | LTDL | -0.02 | -0.02 | 18.76 |
| | | | | | 2016-Sep-22 | LTDL | dry | dry | dry |
| | | | | | 2017-Jan-11 | LTDL | 0.05 | 0.04 | 18.69 |
| | | | | | 2017-Oct-19 | LTDL | dry | dry | dry |
| | | | | | 2018-Sep-10 | n.m | dry | dry | dry |
| | MW15-10 | 1.5 - 4.6 | 18.06 | 18.15 | 2019-Jan-11 | LTDL | 0.92 | 0.92 | 17.81 |
| | | | | | 2016-Feb-18 | 40 | -0.04 | 0.05 | 18.42 |
| | | | | | 2016-Sep-22 | LTDL | 2.70 | 2.78 | 15.69 |
| | | | | | 2017-Jan-11 | LTDL | 0.09 | 0.17 | 18.30 |
| | | | | | 2018-Sep-5 | LTDL | 2.681 * | 2.76 | 15.71 |
| | | | | | 2018-Sep-10 | n.m | 2.76 | 2.84 | 15.63 |
| | MW16-11 | 0.8 - 2.3 | 18.28 | 18.38 | 2019-Jan-11 | LTDL | 0.01 | 0.10 | 18.38 |
| | | | | | 2016-Feb-18 | LTDL | 0.09 | 0.18 | 17.97 |
| | | | | | 2016-Sep-22 | LTDL | 2.22 | 2.31 | 15.84 |
| | | | | | 2017-Jan-11 | LTDL | 0.15 | 0.24 | 17.91 |
| | | | | | 2018-Sep-10 | n.m | 2.24 | 2.33 | 15.82 |
| | MW16-11 | 0.8 - 2.3 | 18.28 | 18.38 | 2019-Jan-11 | >11,100 | 0.06 | 0.16 | 18.00 |
| | | | | | 2016-Sep-22 | LTDL | 2.23 | 2.34 | 16.05 |
| | | | | | 2017-Jan-11 | LTDL | Could not access, ice and snow. | | |
| | | | | | 2017-Jan-24 | LTDL | Could not access, below water. | | |
| | | | | | 2017-Oct-19 | LTDL | 2.17 | 2.28 | 16.11 |
| | | | | | 2018-Jan-8 | LTDL | 0.10 | 0.21 | 18.18 |
| | | | | | 2018-Sep-4 | 20 | dry | dry | dry |
| | 2018-Sep-10 | n.m | dry | dry | dry | | | | |
| | 2019-Jan-11 | 85 | 0.61 | 0.71 | 17.67 | | | | |

TABLE 14: GROUNDWATER OBSERVATIONS

| Monitoring Zone | Monitoring Well ID | Well Screen Interval (mbg) | TOC Elevation (m) | Ground Elevation (m) | Monitoring Date | HSVL (ppmv) | Depth to Water below TOC (m) | Depth to Water (mbg) | Groundwater Elevation (m) |
|-----------------|--------------------|----------------------------|-------------------|----------------------|-----------------|-------------|------------------------------|----------------------|---------------------------|
| FFTA | MW16-12 | 0.8 - 2 | 19.97 | 20.08 | 2016-Sep-22 | LTDL | 1.93 | 2.04 | 18.04 |
| | | | | | 2017-Jan-11 | LTDL | -0.01 | 0.10 | 19.98 |
| | | | | | 2017-Oct-19 | 5 | 1.97 | 2.08 | 18.00 |
| | | | | | 2018-Jan-9 | LTDL | 0.07 | 0.18 | 19.90 |
| | | | | | 2018-Sep-4 | LTDL | dry | dry | dry |
| | | | | | 2018-Sep-10 | n.m | 1.93 | 2.05 | 18.04 |
| | MW16-13 | 0.8 - 2.3 | 19.31 | 19.43 | 2019-Jan-11 | 5 | 0.44 | 0.56 | 19.53 |
| | | | | | 2016-Sep-22 | LTDL | 1.52 | 1.64 | 17.80 |
| | | | | | 2017-Jan-9 | LTDL | 0.01 | 0.13 | 19.31 |
| | | | | | 2017-Jan-11 | LTDL | 0.40 | 0.52 | 18.92 |
| | | | | | 2017-Oct-19 | LTDL | 0.01 | 0.13 | 19.31 |
| | | | | | 2018-Sep-5 | LTDL | 1.99 * | 2.11 | 17.33 |
| | MW16-14 | 0.8 - 2.3 | 17.60 | 17.72 | 2018-Sep-10 | n.m | 0.45 | 0.57 | 18.86 |
| | | | | | 2019-Jan-11 | LTDL | 0.06 | 0.18 | 19.26 |
| | | | | | 2016-Sep-22 | LTDL | 2.28 | 2.39 | 15.33 |
| | | | | | 2017-Jan-11 | LTDL | 0.53 | 0.64 | 17.07 |
| | | | | | 2017-Oct-19 | 30 | 2.00 | 2.11 | 15.61 |
| | | | | | 2018-Jan-9 | LTDL | 0.02 | 0.14 | 17.58 |
| | MW16-15 | 0.8 - 2.3 | 17.42 | 17.50 | 2018-Sep-5 | 30 | 1.911 * | 2.03 | 15.69 |
| | | | | | 2018-Sep-10 | n.m | 2.03 | 2.15 | 15.57 |
| | | | | | 2019-Jan-11 | 15 | 0.20 | 0.31 | 17.40 |
| | | | | | 2016-Sep-22 | LTDL | 1.83 | 1.91 | 15.59 |
| | | | | | 2017-Jan-11 | LTDL | 0.46 | 0.53 | 16.97 |
| | | | | | 2017-Oct-19 | LTDL | 0.22 | 0.29 | 17.20 |
| | MW16-16 | 4.6 - 6.1 | 17.47 | 17.54 | 2018-Jan-9 | LTDL | 0.02 | 0.09 | 17.41 |
| | | | | | 2018-Sep-4 | LTDL | 2.262 * | 2.34 | 15.16 |
| | | | | | 2018-Sep-10 | n.m | 2.01 | 2.08 | 15.42 |
| | | | | | 2019-Jan-11 | 30 | 0.38 | 0.46 | 17.04 |
| | | | | | 2016-Sep-22 | LTDL | 4.88 | 4.94 | 12.60 |
| | | | | | 2017-Jan-11 | LTDL | 2.61 | 2.68 | 14.86 |
| | MW16-17 | 0.8 - 2.3 | 15.10 | 15.20 | 2017-Oct-19 | LTDL | 2.29 | 2.35 | 15.19 |
| | | | | | 2018-Jan-9 | LTDL | 0.56 | 0.63 | 16.91 |
| | | | | | 2018-Sep-4 | 30 | 1.805 * | 1.87 | 15.67 |
| | | | | | 2018-Sep-10 | n.m | 2.30 | 2.37 | 15.17 |
| | | | | | 2019-Jan-11 | 55 | 2.02 | 2.08 | 15.46 |
| | | | | | 2016-Sep-22 | LTDL | dry | dry | dry |
| | MW16-18 | 0.8 - 2.3 | 14.09 | 14.15 | 2017-Jan-11 | LTDL | 0.20 | 0.30 | 14.91 |
| | | | | | 2017-Oct-19 | LTDL | dry | dry | dry |
| | | | | | 2018-Jan-9 | LTDL | 0.02 | 0.12 | 15.09 |
| | | | | | 2018-Sep-4 | LTDL | dry | dry | dry |
| | | | | | 2018-Sep-10 | n.m | dry | dry | dry |
| | | | | | 2019-Jan-11 | LTDL | 0.04 | 0.14 | 15.06 |
| | MW16-19 | 4.7 - 6.2 | 14.05 | 14.14 | 2016-Sep-22 | LTDL | 2.40 | 2.46 | 11.69 |
| | | | | | 2017-Jan-11 | LTDL | 0.43 | 0.49 | 13.66 |
| | | | | | 2017-Oct-19 | 10 | 0.96 | 1.02 | 13.13 |
| | | | | | 2018-Jan-8 | LTDL | 0.15 | 0.22 | 13.93 |
| | | | | | 2018-Feb-14 | LTDL | 0.46 | 0.52 | 13.63 |
| | | | | | 2018-Sep-4 | 5 | 2.11 * | 2.18 | 11.98 |
| | MW16-20 | 0.8 - 2.3 | 16.35 | 16.46 | 2018-Sep-10 | n.m | 2.34 | 2.40 | 11.75 |
| | | | | | 2019-Jan-11 | LTDL | 0.37 | 0.43 | 13.72 |
| | | | | | 2016-Sep-22 | LTDL | 3.03 | 3.12 | 11.02 |
| | | | | | 2017-Jan-11 | LTDL | 0.69 | 0.77 | 13.36 |
| | | | | | 2017-Oct-18 | 30 | 3.18 | 3.27 | 10.87 |
| | | | | | 2018-Jan-8 | 35 | 0.90 | 0.99 | 13.15 |
| | P17-1 | 1.1 - 1.5 | 15.00 | 14.13 | 2018-Feb-14 | LTDL | 0.90 | 0.98 | 13.15 |
| | | | | | 2018-Sep-4 | LTDL | 2.73 * | 2.82 | 11.32 |
| | | | | | 2018-Sep-10 | n.m | 2.81 | 2.90 | 11.24 |
| | | | | | 2019-Jan-11 | LTDL | 0.57 | 0.66 | 13.48 |
| 2016-Sep-22 | | | | | LTDL | 2.27 | 2.38 | 14.08 | |
| P17-2 | 2.4 - 2.7 | 14.52 | 13.65 | 2017-Jan-11 | LTDL | 0.11 | 0.22 | 16.24 | |
| | | | | 2017-Oct-19 | LTDL | 2.21 | 2.32 | 14.14 | |
| | | | | 2018-Jan-8 | LTDL | 0.05 | 0.16 | 16.30 | |
| | | | | 2018-Sep-10 | n.m | dry | dry | dry | |
| | | | | 2019-Jan-11 | LTDL | 0.38 | 0.48 | 15.98 | |
| P17-3S | 0.5 - 0.9 | 16.71 | 15.80 | 2017-Oct-18 | LTDL | 1.59 | 0.72 | 13.41 | |
| | | | | 2018-Jan-8 | LTDL | 0.95 | 0.08 | 14.05 | |
| | | | | 2018-Sep-4 | LTDL | dry | dry | dry | |
| | | | | 2018-Sep-10 | n.m | 1.91 | 1.04 | 13.09 | |
| | | | | 2019-Jan-11 | LTDL | 0.97 | 0.10 | 14.03 | |
| P17-3D | 1.5 - 1.8 | 16.71 | 15.79 | 2017-Oct-13 | LTDL | dry | dry | dry | |
| | | | | 2017-Oct-17 | LTDL | dry | dry | dry | |
| | | | | 2018-Jan-8 | LTDL | 0.84 | -0.03 | 13.68 | |
| | | | | 2018-Feb-14 | LTDL | 0.92 | 0.05 | 13.60 | |
| | | | | 2018-Sep-4 | 20 | 2.91 * | 2.05 | 11.61 | |
| P17-4 | 0.5 - 0.9 | 18.48 | 17.57 | 2018-Sep-10 | n.m | 3.05 | 2.18 | 11.47 | |
| | | | | 2019-Jan-11 | LTDL | 1.59 | 0.72 | 12.93 | |
| | | | | 2017-Oct-18 | LTDL | 1.78 | 0.87 | 14.93 | |
| | | | | 2018-Jan-8 | 10 | 0.92 | 0.01 | 15.79 | |
| | | | | 2018-Sep-4 | 55 | dry | dry | dry | |
| P17-5 | 0.9 - 1.4 | 19.33 | 18.47 | 2018-Sep-10 | n.m. | 1.80 | 0.89 | 14.91 | |
| | | | | 2019-Jan-11 | LTDL | 0.94 | 0.04 | 15.76 | |
| | | | | 2017-Oct-13 | LTDL | dry | dry | dry | |
| | | | | 2017-Oct-18 | LTDL | 2.70 | 1.78 | 14.01 | |
| | | | | 2018-Jan-8 | 15 | 0.98 | 0.06 | 15.73 | |
| P17-5 | 0.9 - 1.4 | 19.33 | 18.47 | 2018-Sep-4 | 30 | dry | dry | dry | |
| | | | | 2018-Sep-10 | n.m. | 2.71 | 1.78 | 14.01 | |
| | | | | 2019-Jan-11 | LTDL | 1.03 | 0.11 | 15.68 | |
| | | | | 2017-Oct-13 | LTDL | dry | dry | dry | |
| | | | | 2017-Oct-16 | LTDL | dry | dry | dry | |
| | | | | 2018-Jan-9 | LTDL | 0.97 | 0.06 | 17.51 | |
| P17-5 | 0.9 - 1.4 | 19.33 | 18.47 | 2018-Feb-14 | n.m | 1.12 | 0.21 | 17.36 | |
| | | | | 2018-Mar-5 | n.m | 1.14 | 0.23 | 17.34 | |
| | | | | 2018-Sep-5 | LTDL | dry | dry | dry | |
| | | | | 2018-Sep-10 | n.m | dry | dry | dry | |
| | | | | 2019-Jan-11 | LTDL | 1.03 | 0.12 | 17.45 | |
| | | | | 2017-Oct-17 | n.m | 1.81 | 0.95 | 17.52 | |
| P17-5 | 0.9 - 1.4 | 19.33 | 18.47 | 2018-Jan-9 | LTDL | 1.46 | 0.60 | 17.87 | |
| | | | | 2018-Sep-5 | LTDL | 1.937 * | 1.08 | 17.39 | |
| | | | | 2018-Sep-10 | n.m | 1.78 | 0.92 | 17.56 | |
| | | | | 2019-Jan-11 | 5 | 1.44 | 0.58 | 17.89 | |

TABLE 14: GROUNDWATER OBSERVATIONS

| Monitoring Zone | Monitoring Well ID | Well Screen Interval (mbg) | TOC Elevation (m) | Ground Elevation (m) | Monitoring Date | HSVL (ppmv) | Depth to Water below TOC (m) | Depth to Water (mbg) | Groundwater Elevation (m) | | | | | |
|-----------------|--------------------|----------------------------|-------------------|----------------------|-----------------|-------------|------------------------------|----------------------|---------------------------|-------------|------|-------|--------|--------|
| FFTA | P17-6S | 0.6 - 1.1 | 18.05 | 17.02 | 2017-Oct-16 | n.m | 1.97 | 0.94 | 16.08 | | | | | |
| | | | | | 2018-Jan-8 | LTDL | 1.08 | 0.05 | 16.97 | | | | | |
| | | | | | 2018-Sep-5 | LTDL | dry | dry | dry | | | | | |
| | | | | | 2018-Sep-10 | n.m. | dry | dry | dry | | | | | |
| | | | | | 2019-Jan-11 | LTDL | 1.11 | 0.08 | 16.94 | | | | | |
| | P17-6D | 1.5 - 2 | 17.95 | 17.03 | 2017-Oct-16 | LTDL | 1.94 | 1.01 | 16.02 | | | | | |
| | | | | | 2018-Jan-9 | 10 | 0.93 | 0.00 | 17.03 | | | | | |
| | | | | | 2018-Sep-5 | LTDL | 2.228 * | 1.31 | 15.72 | | | | | |
| | | | | | 2018-Sep-10 | n.m | dry | dry | dry | | | | | |
| | | | | | 2019-Jan-11 | 35 | 0.97 | 0.05 | 16.98 | | | | | |
| | P17-7S | 0.6 - 1.1 | 17.87 | 16.77 | 2017-Oct-16 | LTDL | dry | dry | dry | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 1.25 | 0.15 | 16.62 | | | | | |
| | | | | | 2018-Feb-14 | n.m | 1.46 | 0.36 | 16.41 | | | | | |
| | | | | | 2018-Sep-4 | 70 | dry | dry | dry | | | | | |
| | | | | | 2018-Sep-10 | n.m | 2.02 | 0.93 | 15.85 | | | | | |
| | P17-7D | 1.7 - 2 | 17.75 | 16.72 | 2019-Jan-11 | 25 | 1.33 | 0.23 | 16.54 | | | | | |
| | | | | | 2017-Oct-16 | LTDL | dry | dry | dry | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 1.20 | 0.17 | 16.55 | | | | | |
| | | | | | 2018-Feb-14 | n.m | 1.39 | 0.36 | 16.36 | | | | | |
| | | | | | 2018-Sep-4 | 40 | 2.645 * | 1.62 | 15.10 | | | | | |
| | P17-7-INSTREAM | 1 - 1.3 | 16.61 | 14.75 | 2018-Sep-10 | n.m | 2.75 | 1.72 | 15.00 | | | | | |
| | | | | | 2019-Jan-11 | LTDL | 1.34 | 0.32 | 16.41 | | | | | |
| | | | | | 2017-Feb-14 | LTDL | 1.49 | -0.37 | 15.12 | | | | | |
| | | | | | 2017-Oct-16 | LTDL | 1.25 | -0.61 | 15.36 | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 0.97 | -0.90 | 15.65 | | | | | |
| | P17-8S | 0.9-1.2 | 14.60 | 13.80 | 2018-Sep-10 | LTDL | 1.73 | -0.14 | 14.89 | | | | | |
| | | | | | 2019-Jan-11 | LTDL | 0.584 | -1.279 | 16.029 | | | | | |
| | | | | | 2017-Oct-16 | LTDL | dry | dry | dry | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 1.15 | 0.35 | 13.45 | | | | | |
| | | | | | 2018-Sep-4 | 30 | dry | dry | dry | | | | | |
| | P17-8D | 1.5 - 2 | 14.58 | 13.75 | 2018-Sep-10 | n.m. | 1.78 | 0.98 | 12.82 | | | | | |
| | | | | | 2019-Jan-11 | 10 | 1.22 | 0.42 | 13.38 | | | | | |
| | | | | | 2017-Oct-16 | LTDL | 2.78 | 1.94 | 11.81 | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 1.19 | 0.36 | 13.39 | | | | | |
| | | | | | 2018-Sep-4 | 80 | 2.18 * | 1.35 | 12.40 | | | | | |
| | P17-8-INSTREAM | 1.0 - 1.3 | 13.92 | 12.68 | 2018-Sep-10 | n.m. | 2.25 | 1.42 | 12.33 | | | | | |
| | | | | | 2019-Jan-11 | LTDL | 1.46 | 0.63 | 13.12 | | | | | |
| | | | | | 2017-Oct-16 | LTDL | 1.570 | 0.335 | 12.348 | | | | | |
| | | | | | 2018-Jan-9 | LTDL | 1.230 | -0.005 | 12.688 | | | | | |
| | | | | | | | | | | 2018-Sep-10 | LTDL | 1.080 | -0.155 | 12.838 |
| | | | | | | | | | | 2019-Jan-11 | LTDL | 0.916 | -0.319 | 13.002 |

Notes:

- m - metre
- mbg- metres below grade
- HSVL - headspace vapour level (ppmv)
- ppmv - parts per million volumetric
- TOC - top of well casing
- masl - metres above mean sea level;
- n.m. - not measured.
- LTDL - less than detection limit of the instrument.
- * - water levels taken the same day of sampling (post sampling), and data was not used to support hydrogeological interpretations.

Additional groundwater observation data is available in the 2019 SNC-Lavalin Inc. Supplementary Detailed Site Investigation report, included in Annex E.

**TABLE 15: GROUNDWATER -
 FIELD MEASUREMENTS**

| Field | | | | | |
|--------------|------------|------------|---------------------------------------|------------|-----------|
| temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
| oC | pH_Units | µS/cm | mV | mg/L | NTU |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
|------------|-----------------|-------------------------|-------------|-------------|--------------|------------|------------|---------------------------------------|------------|-----------|
| FFTA | FFTA-1 | 0.90 - 4.30 | 2016-Feb-18 | FFTA-1 | 9.01 | 7.1 | 506 | - | 0.92 | - |
| | | | 2016-Sep-20 | FFTA-1 | 15.95 | 6.56 | 1050 | - | 8.85 | 2.9 |
| | | | 2016-Sep-22 | FFTA-1 | 15.95 | 6.56 | 1050 | - | 8.85 | 2.9 |
| | | | 2017-Jan-10 | FFTA-1 | 3.28 | 7.2 | 1.07 | - | 1.99 | 16.9 |
| | | | 2017-Jan-11 | FFTA-1 | 3.28 | 7.2 | 1070 | - | 1.99 | 16.9 |
| | | | 2017-Oct-19 | FFTA-1 | 12.83 | 7.37 | 412 | 43 | 6.27 | 14.3 |
| | | | 2018-Jan-10 | FFTA-1 | 6.31 | 6.91 | 953 | 198 | 1.89 | 3.9 |
| | | | 2018-Sep-5 | FFTA18-DUPD | 18.1 | 7.21 | 939 | -101.5 | 0.49 | 9.36 |
| | | | | FFTA-1 | 18.1 | 7.21 | 939 | -101.5 | 0.49 | 9.36 |
| | | | 2019-Jan-10 | FFTA-1 | 9.9 | 7.29 | 805 | 119 | 0.41 | 0 |
| | FFTA-2 | 0.90 - 4.60 | 2016-Feb-18 | FFTA-2 | 8.67 | 7.15 | 254 | - | 0.55 | - |
| | | | 2016-Sep-20 | FFTA-2 | 16.05 | 6.45 | 939 | - | 8 | 3 |
| | | | 2016-Sep-22 | FFTA-2 | 16.05 | 6.45 | 939 | - | 8 | 3 |
| | | | 2017-Jan-10 | FFTA-2 | 2.87 | 7.21 | 0.623 | - | 1.67 | 38.9 |
| | | | 2017-Jan-11 | FFTA-2 | 2.87 | 7.21 | 623 | - | 1.67 | 38.9 |
| | | | 2018-Jan-10 | FFTA-2 | 5.79 | 6.98 | 361 | 12 | 0.31 | 5.5 |
| | | | 2018-Sep-5 | FFTA18-DUPE | 16.2 | 7.05 | 727 | -80.6 | 0.43 | 3.12 |
| | | | | FFTA-2 | 9.79 | 7.26 | 509 | -68 | 0 | 0 |
| | FFTA-3 | 0.90 - 4.60 | 2016-Feb-18 | FFTA-3 | 8.62 | 6.24 | 198 | - | 0.32 | - |
| | | | 2016-Sep-20 | FFTA-3 | 18.1 | 6.1 | 410 | - | 1.5 | 26.5 |
| | | | 2016-Sep-22 | FFTA-3 | 18.1 | 6.1 | 410 | - | 1.5 | 26.5 |
| | | | 2017-Jan-10 | FFTA-3 | 1.85 | 6.38 | 0.418 | -60 | 1.31 | 11.1 |
| | | | 2017-Jan-11 | FFTA-3 | 1.85 | 6.38 | 418 | -60 | 1.31 | 11.1 |
| | | | 2018-Sep-10 | FFTA-3 | 17.6 | 6.47 | 276 | 109 | 0.83 | 9.9 |
| | | | 2019-Jan-9 | FFTA-3 | 9.77 | 6.14 | 295 | 9 | 0 | 0 |
| | MW15-01 | 2.00 - 5.00 | 2016-Feb-18 | MW15-01 | 10.32 | 7.28 | 869 | - | 0.42 | - |
| | | | 2016-Sep-21 | MW15-01 | 15.05 | 7.07 | 1.51 | - | 0.19 | 70.1 |
| | | | 2016-Sep-22 | MW15-01 | 15.05 | 7.07 | 1510 | - | 0.19 | 70.1 |
| | | | 2017-Jan-10 | MW15-01 | 1.9 | 7.14 | 1.35 | - | 2.16 | 18.9 |
| | | | 2017-Jan-11 | MW15-01 | 1.9 | 7.14 | 1350 | - | 2.16 | 18.9 |
| | | | 2017-Oct-19 | MW15-01 | 11.9 | 8.01 | 1530 | 229 | 1.81 | 10 |
| | | | 2018-Jan-10 | MW15-01 | 7.18 | 6.99 | 1590 | -11 | 2.92 | 8 |
| | | | 2018-Sep-5 | MW15-01 | 16.3 | 7.08 | 1380 | -107.1 | 0.39 | 9.89 |
| | | | 2019-Jan-9 | MW15-01 | 8.98 | 7.24 | 1370 | -109 | 0.17 | 0 |
| | MW15-02 | 0.90 - 4.00 | 2016-Feb-18 | MW15-02 | 8.98 | 6.66 | 469 | - | 0.93 | - |
| | | | 2016-Sep-20 | MW15-02 | 19.08 | 6.45 | 757 | - | 0.53 | 145 |
| | | | 2016-Sep-22 | MW15-02 | 19.08 | 6.45 | 757 | - | 0.53 | 145 |
| | | | 2017-Jan-10 | MW15-02 | 1.78 | 7.17 | 0.79 | - | 2.65 | 394 |
| | | | 2017-Jan-11 | MW15-02 | 1.78 | 7.17 | 790 | - | 2.65 | 394 |
| | MW15-03 | 1.50 - 4.60 | 2016-Feb-18 | MW15-03 | 9.43 | 7.44 | 547 | - | 3.75 | - |
| | | | 2016-Sep-21 | MW15-03 | 15.75 | 7.47 | 823 | - | 1.38 | 328 |
| | | | 2016-Sep-22 | MW15-03 | 15.75 | 7.47 | 823 | - | 1.38 | 328 |
| | | | 2017-Jan-10 | MW15-03 | 1.58 | 7.09 | 0.946 | 151 | 3.89 | 8.1 |
| | | | 2017-Jan-11 | MW15-03 | 1.58 | 7.09 | 946 | 151 | 3.89 | 8.1 |
| | | | 2017-Oct-19 | MW15-03 | 11.37 | 8.01 | 801 | 47 | 4.11 | 5.91 |
| | | | 2018-Jan-10 | MW15-03 | 7.22 | 7.31 | 752 | 171 | 3.56 | 1.4 |
| | | | MW15-04 | 3.10 - 6.10 | 2016-Feb-18 | MW15-04 | 10.82 | 7.58 | 500 | - |
| | 2016-Sep-21 | MW15-04 | | | 15.7 | 7.49 | 652 | - | 1.16 | 3.5 |
| | 2016-Sep-22 | MW15-04 | | | 15.7 | 7.49 | 652 | - | 1.16 | 3.5 |
| | 2017-Jan-10 | MW15-04 | | | 1.7 | 7.02 | 0.722 | - | 4 | 3.2 |
| | 2017-Jan-11 | MW15-04 | | | 1.7 | 7.02 | 722 | - | 4 | 3.2 |
| | 2017-Oct-17 | MW15-04 | | | 10.37 | 8.01 | 739 | 133 | 1.41 | 16.1 |
| | 2018-Jan-9 | MW15-04 | | | 8.15 | 7.44 | 718 | -16 | 1.07 | 3.1 |
| | 2018-Feb-14 | MW15-04 | | | 8.8 | 7.7 | 558 | - | - | - |
| | | MW15-04 | | | 8.8 | 7.7 | 558 | - | - | - |
| | 2018-Sep-5 | MW15-04 | | | 15.1 | 7.59 | 588 | -55.4 | 0.45 | 1.03 |
| 2019-Jan-9 | MW15-04 | 7.63 | 7.78 | 361 | - | 1.85 | - | | | |

**TABLE 15: GROUNDWATER -
 FIELD MEASUREMENTS**

| Field | | | | | |
|--------------|------------|------------|---------------------------------------|------------|-----------|
| temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
| oC | pH_Units | µS/cm | mV | mg/L | NTU |

| Site Area | Sample Location | Well Screen Depth | | Sample Date | Sample ID | Field | | | | | | |
|-----------|-----------------|-------------------|-------------|-------------|------------------|--------------|------------|------------|---------------------------------------|------------|-----------|------|
| | | (mbg) | | | | temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity | |
| FFTA | MW15-05 | 0.60 - 5.20 | | 2016-Feb-18 | MW15-05 | 8.51 | 6.78 | 311 | - | 0.33 | - | |
| | | | | 2016-Sep-21 | MW15-05 | 14.56 | 6.55 | 503 | - | 0.1 | 23 | |
| | | | | 2016-Sep-22 | MW15-05 | 14.56 | 6.55 | 503 | - | 0.1 | 23 | |
| | | | | 2017-Jan-9 | MW15-05 | 3.38 | 7.17 | 0.643 | 57 | 1.63 | 12.5 | |
| | | | | 2017-Jan-11 | MW15-05 | 3.38 | 7.17 | 643 | 57 | 1.63 | 12.5 | |
| | | | | 2017-Oct-19 | MW15-05 | 10.18 | 7.36 | 701 | -70 | 1.55 | 24.8 | |
| | | | | 2018-Jan-9 | MW15-05 | 9.5 | 6.7 | 527 | 18 | 1.45 | 24.1 | |
| | | | | 2018-Sep-5 | FFTA18-DUPB | 15.8 | 7.14 | 549 | -99.2 | 0.36 | 28.29 | |
| | | | | 2018-Sep-5 | MW15-05 | 15.8 | 7.14 | 549 | -99.2 | 0.36 | 28.29 | |
| | | | | 2019-Jan-9 | FFTA-190109-DUPA | 8.12 | 7.19 | 249 | 14 | 4.12 | 0 | |
| | | 2019-Jan-9 | MW15-05 | 8.12 | 7.19 | 249 | 14 | 4.12 | 0 | | | |
| | | MW15-06 | 0.60 - 5.20 | | 2016-Feb-18 | MW15-06 | 7.24 | 6.77 | 149 | - | 0.69 | - |
| | | | | 2016-Sep-21 | MW15-06 | 11.38 | 8.5 | 0.86 | - | 1.52 | 11.4 | |
| | | | | 2016-Sep-22 | MW15-06 | 11.38 | 8.5 | 860 | - | 1.52 | 11.4 | |
| | | | | 2017-Jan-9 | MW15-06 | 4.05 | 6.99 | 0.508 | - | 1.79 | 38.1 | |
| | | | | 2017-Jan-11 | MW15-06 | 4.05 | 6.99 | 508 | - | 1.79 | 38.1 | |
| | | MW15-07 | 1.50 - 4.60 | | 2016-Feb-18 | MW15-07 | 10.14 | 7.2 | 657 | - | 2.75 | - |
| | | | | 2016-Sep-21 | MW15-07 | 16.85 | 7.15 | 0.92 | - | 2.75 | 47.5 | |
| | | | | 2016-Sep-22 | MW15-07 | 16.85 | 7.15 | 920 | - | 2.75 | 47.5 | |
| | | | | 2017-Jan-10 | MW15-07 | 4.76 | 7.04 | 1.08 | - | 1.57 | 34.6 | |
| | | | | 2017-Jan-11 | MW15-07 | 4.76 | 7.04 | 1080 | - | 1.57 | 34.6 | |
| | | | | 2017-Oct-16 | MW15-07 | 12.09 | 7.07 | 960 | 116 | 2.15 | 0.5 | |
| | | | | 2018-Jan-10 | MW15-07 | 6.31 | 6.91 | 953 | 198 | 1.89 | 3.9 | |
| | | | | 2018-Sep-5 | FFTA18-DUPC | 18 | 7.17 | 825 | 14.4 | 1.69 | 9.96 | |
| | | 2018-Sep-5 | MW15-07 | 18 | 7.17 | 825 | 14.4 | 1.69 | 9.96 | | | |
| | | MW15-08 | 0.60 - 1.50 | | 2016-Feb-18 | MW15-08 | 7.8 | 6.88 | 386 | - | 3.97 | - |
| | | | | 2017-Jan-11 | MW15-08 | 1.92 | 7.05 | 1130 | - | 3.01 | 89 | |
| | | MW15-09 | 1.50 - 6.10 | | 2016-Feb-18 | MW15-09 | 7.8 | 7.13 | 433 | - | 0.55 | - |
| | | | | 2016-Sep-21 | MW15-09 | 12.66 | 7 | 1.19 | - | 0.13 | 45 | |
| | | | | 2016-Sep-22 | MW15-09 | 12.66 | 7 | 1190 | - | 0.13 | 45 | |
| | | | | 2017-Jan-11 | MW15-09 | 3.97 | 6.72 | 989 | 69 | 1.9 | 20.9 | |
| | | | | | MW15-09 | 3.97 | 6.72 | 0.989 | 69 | 1.9 | 20.9 | |
| | | | | 2018-Sep-5 | MW15-09 | 13.89 | 6.63 | 702 | - | 1.5 | 98.1 | |
| | | 2019-Jan-9 | MW15-09 | 7.06 | 7.04 | 858 | 62 | 0.9 | 0 | | | |
| | | MW15-10 | 1.50 - 4.60 | | 2016-Feb-18 | MW15-10 | 8.34 | 7.31 | 250 | - | 3.42 | - |
| | | | | 2016-Sep-21 | MW15-10 | 13.39 | 7.56 | 0.56 | - | 0.67 | 615 | |
| | | | | 2016-Sep-22 | MW15-10 | 13.39 | 7.56 | 560 | - | 0.67 | 615 | |
| | | | | 2017-Jan-11 | MW15-10 | 6.83 | 7.2 | 405 | 94 | 3.38 | 116 | |
| | | | | | MW15-10 | 6.83 | 7.2 | 0.405 | 94 | 3.38 | 116 | |
| | | MW16-11 | 0.80 - 2.30 | | 2018-Jan-8 | MW16-11 | 7.01 | 7.2 | 1080 | 270 | 0.979 | 5.4 |
| | | | | 2019-Jan-8 | MW16-11 | 7.62 | 7.5 | 596 | 253 | 6.48 | 0 | |
| | | MW16-12 | 0.80 - 2.00 | | 2017-Jan-9 | MW16-12 | 7.62 | 6.96 | 0.855 | 200 | 3.55 | 5.4 |
| | | | | 2017-Jan-11 | MW16-12 | 2.79 | 7.18 | 667 | 69 | 2.73 | 36 | |
| | | | | 2018-Jan-9 | MW16-12 | 7.62 | 6.96 | 855 | 200 | 3.55 | 5.4 | |
| | | | | 2019-Jan-9 | MW16-12 | 7.23 | 7.21 | 726 | 67 | 0.21 | 0 | |
| | | MW16-13 | 0.80 - 2.30 | | 2016-Sep-22 | MW16-13 | 14.61 | 7.69 | 625 | - | 1.69 | 39.1 |
| | | | | 2016-Sep-22 | MW16-13 | 14.61 | 7.69 | 625 | - | 1.69 | 39.1 | |
| | | | | 2017-Jan-9 | MW16-13 | 8.36 | 7.61 | 301 | 257 | 2.61 | 72.2 | |
| | | | | | MW16-13 | 2.5 | 7.28 | 0.537 | 140 | 1.05 | 50 | |
| | | | | 2017-Jan-11 | MW16-13 | 2.5 | 7.28 | 537 | 140 | 1.05 | 50 | |
| | | | | 2017-Oct-19 | MW16-13 | 11.5 | 7.4 | 335 | 276 | 4.8 | 3.9 | |
| | | | | 2018-Sep-11 | MW16-13 | 17.3 | 7.12 | 376 | 74.1 | 5.94 | 6.6 | |
| | | 2019-Jan-9 | MW16-13 | 7.03 | 7.55 | 313 | 56 | 0.26 | 0 | | | |

**TABLE 15: GROUNDWATER -
 FIELD MEASUREMENTS**

| Field | | | | | |
|--------------|------------|------------|---------------------------------------|------------|-----------|
| temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
| oC | pH_Units | µS/cm | mV | mg/L | NTU |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity | |
|-------------|-----------------|-------------------------|------------------|------------------|--------------|------------|------------|---------------------------------------|------------|-----------|------|
| FFTA | MW16-14 | 0.80 - 2.30 | 2017-Jan-10 | MW16-14 | 7.13 | 6.88 | 0.706 | 201 | 3.75 | 4.9 | |
| | | | 2017-Jan-11 | MW16-14 | 2.01 | 6.86 | 853 | 102 | 1.99 | 6.4 | |
| | | | 2017-Jan-24 | MW16-14 | 2.01 | 6.86 | 0.853 | 102 | 1.99 | 6.4 | |
| | | | 2017-Oct-19 | MW16-14 | 11.84 | 7.3 | 974 | 14 | 1.26 | 2 | |
| | | | 2018-Jan-9 | MW16-14 | 7.13 | 6.88 | 706 | 201 | 3.75 | 4.9 | |
| | | | 2018-Sep-5 | FFTA18-DUPA | 14.89 | 6.69 | 643 | - | 4.52 | 7.73 | |
| | | | | MW16-14 | 14.89 | 6.69 | 643 | - | 4.52 | 7.73 | |
| | 2019-Jan-8 | MW16-14 | 6.48 | 6.95 | 609 | 82 | 1.45 | 0 | | | |
| | MW16-15 | 0.80 - 2.30 | 2016-Sep-22 | MW16-15 | 15.16 | 7.09 | 986 | - | 0.46 | 29.8 | |
| | | | | MW16-15 | 15.16 | 7.09 | 986 | - | 0.46 | 29.8 | |
| | | | 2017-Jan-9 | MW16-15 | 2.79 | 7.29 | 0.324 | 127 | 2.62 | 69.5 | |
| | | | 2017-Jan-11 | MW16-15 | 2.79 | 7.29 | 324 | 127 | 2.62 | 69.5 | |
| | | | 2017-Oct-19 | MW16-15 | 11.05 | 6.79 | 182 | 130 | 3.22 | 12.5 | |
| | | | 2018-Jan-9 | MW16-15 | 7.43 | 7 | 160 | 247 | 0.1 | 12.4 | |
| | | | 2018-Sep-4 | MW16-15 | 14.9 | 7.74 | 631 | 11.5 | 0.75 | 9.87 | |
| | | | 2019-Jan-8 | FFTA-190108-DUPD | 4.34 | 8.01 | 281 | -15 | 1.79 | 0 | |
| | 2019-Jan-8 | MW16-15 | 4.34 | 8.01 | 281 | -15 | 1.79 | 0 | | | |
| | MW16-16 | 4.60 - 6.10 | 2016-Sep-21 | MW16-16 | 15.35 | 8.1 | 509 | - | 9.23 | 34.5 | |
| | | | 2016-Sep-22 | MW16-16 | 15.35 | 8.1 | 509 | - | 9.23 | 34.5 | |
| | | | 2017-Jan-9 | MW16-16 | 5.2 | 7.03 | 0.78 | - | 2.98 | 38.1 | |
| | | | 2017-Jan-11 | MW16-16 | 5.2 | 7.03 | 780 | - | 2.98 | 38.1 | |
| | | | 2017-Oct-19 | MW16-16 | 11.54 | 8.53 | 743 | 135 | 7.28 | 18.2 | |
| | | | 2018-Jan-9 | MW16-16 | 7.81 | 6.99 | 398 | 296 | 0.61 | 2.2 | |
| | | | 2018-Sep-4 | MW16-16 | 14.9 | 7.74 | 631 | 11.5 | 0.75 | 9.87 | |
| | | | 2019-Jan-8 | FFTA-190108-DUPC | 5.88 | 7.9 | 524 | -46 | 0.19 | 0 | |
| | 2019-Jan-8 | MW16-16 | 5.88 | 7.9 | 524 | -46 | 0.19 | 0 | | | |
| | MW16-17 | 0.80 - 2.30 | 2017-Jan-10 | MW16-17 | 5.19 | 7.47 | 0.777 | 150 | 3.98 | 6.3 | |
| | | | 2017-Jan-11 | MW16-17 | 5.19 | 7.47 | 777 | 150 | 3.98 | 6.3 | |
| | | | 2018-Jan-9 | MW16-17 | 13.71 | 7.02 | 559 | 202 | 1.52 | 4.6 | |
| | | | 2019-Jan-8 | MW16-17 | 7.22 | 6.94 | 896 | -89 | 0.53 | 0 | |
| | MW16-18 | 0.80 - 2.30 | 2017-Jan-9 | MW16-18 | 8.92 | 7.26 | 0.678 | 196 | 2.61 | 2.3 | |
| | | | 2017-Jan-11 | MW16-18 | 8.92 | 7.26 | 678 | 196 | 2.61 | 2.3 | |
| | | | 2017-Oct-19 | MW16-18 | 13.46 | 7.83 | 428 | 28 | 9.24 | 19 | |
| | | | 2018-Jan-8 | MW16-18 | 8.1 | 7.17 | 591 | 281 | 0.51 | 2.5 | |
| | | | 2018-Feb-14 | MW16-18 | 9.4 | 7.7 | 423 | - | - | - | |
| | | MW16-18 | | 9.4 | 7.7 | 423 | - | - | - | | |
| | | 2018-Sep-4 | MW16-18 | 17.76 | 6.76 | 550 | - | 3.21 | 29.4 | | |
| | | 2019-Jan-8 | MW16-18 | 3.46 | 7.44 | 441 | 158 | 0.2 | 0 | | |
| | | MW16-19 | 4.70 - 6.20 | 2016-Sep-21 | MW16-19 | 17.33 | 8.05 | 599 | - | 3.51 | 45.3 |
| | | | | 2016-Sep-22 | MW16-19 | 17.33 | 8.05 | 599 | - | 3.51 | 45.3 |
| | 2017-Jan-9 | | | MW16-19 | 11.43 | 7.63 | 0.411 | 165 | 2.73 | 1.9 | |
| | 2017-Jan-11 | | | MW16-19 | 11.43 | 7.63 | 411 | 165 | 2.73 | 1.9 | |
| | 2017-Oct-18 | | | MW16-19 | 9.75 | 7.17 | 353 | 145 | 1.79 | 3.4 | |
| | 2018-Jan-8 | | | MW16-19 | 8.51 | 7.29 | 479 | 272 | 3.89 | 0.8 | |
| | 2018-Feb-14 | | | MW16-19 | 10 | 7.6 | 371 | - | - | - | |
| | | | | MW16-19 | 10 | 7.6 | 371 | - | - | - | |
| | 2018-Sep-4 | | | MW16-19 | 16.8 | 7.61 | 355 | 33.1 | 0.67 | 2.87 | |
| | 2019-Jan-8 | | | FFTA-190108-DUPB | 7.6 | 7.14 | 316 | 156 | 3.18 | 1.2 | |
| | 2019-Jan-8 | MW16-19 | 7.6 | 7.14 | 316 | 156 | 3.18 | 1.2 | | | |
| | MW16-20 | 0.80 - 2.30 | 2017-Jan-9 | MW16-20 | 6.12 | 6.89 | 0.773 | 170 | 2.69 | 170 | |
| 2017-Jan-11 | | | MW16-20 | 6.12 | 6.89 | 773 | 170 | 2.69 | 170 | | |
| 2018-Jan-8 | | | MW16-20 | 6.92 | 7.11 | 763 | 256 | 2.37 | 2.5 | | |
| 2019-Jan-8 | | | FFTA-190108-DUPA | 2 | 10.18 | - | 253 | 6.48 | 0 | | |
| 2019-Jan-8 | | | MW16-20 | 2 | 10.18 | - | 253 | 6.48 | 0 | | |

**TABLE 15: GROUNDWATER -
 FIELD MEASUREMENTS**

| Field | | | | | |
|--------------|------------|------------|---------------------------------------|------------|-----------|
| temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
| oC | pH_Units | µS/cm | mV | mg/L | NTU |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | temp (field) | pH (field) | EC (field) | Oxidation-Reduction Potential (field) | DO (field) | turbidity |
|----------------|-----------------|-------------------------|----------------|----------------|--------------|------------|------------|---------------------------------------|------------|-----------|
| FFTA | P17-1 | 1.10 - 1.50 | 2017-Oct-18 | P17-1 | 7.76 | 7.59 | 294 | 205 | 7.69 | 425 |
| | | | 2018-Jan-8 | P17-1 | 6.41 | 7.23 | 249 | 254 | 5.74 | 5.3 |
| | | | 2019-Jan-8 | P17-1 | 5.78 | 7.91 | 211 | 215 | 7.2 | 0 |
| | P17-2 | 2.40 - 2.70 | 2018-Jan-8 | P17-2 | 7.04 | 7.43 | 630 | 241 | 3.31 | 5.7 |
| | | | 2018-Feb-14 | P17-2 | 7.8 | 7.63 | 437 | - | - | - |
| | | | | PIEZO17-2 | 7.8 | 7.63 | 437 | - | - | - |
| | | | 2018-Sep-4 | P17-2 | 18 | 8.08 | 233 | - | 5.61 | - |
| | P17-3D | 1.50 - 1.80 | 2018-Jan-8 | P17-3D | 6.24 | 7.34 | 594 | 216 | 3.31 | 2.5 |
| | | | 2019-Jan-9 | P17-3D | 4.74 | 7.9 | 423 | 1.29 | 5.28 | 3.8 |
| | P17-3S | 0.50 - 0.90 | 2018-Jan-8 | P17-3S | 6.23 | 7.05 | 660 | 52 | 0.57 | 3.5 |
| | | | 2019-Jan-9 | P17-3S | 3.77 | 7.95 | 437 | 138 | 7.53 | 0 |
| | P17-4 | 0.50 - 0.90 | 2018-Jan-9 | P17-4 | 7.41 | 7.42 | 461 | -125 | 0.69 | 60.6 |
| | | | 2018-Feb-14 | P17-4 | 5.7 | 7.4 | 255 | - | - | - |
| | | | | PIEZO17-4 | 5.7 | 7.4 | 255 | - | - | - |
| | | | 2018-Mar-5 | P17-4 | 5.8 | 7.4 | 255 | - | - | - |
| | P17-5 | 0.90 - 1.40 | 2018-Jan-9 | P17-5 | 7.53 | 6.64 | 762 | 161 | 1.63 | 33.8 |
| | | | 2019-Jan-9 | P17-5 | 9.45 | 8 | 415 | 110 | 2.61 | 10 |
| | P17-6D | 1.50 - 2.00 | 2017-Oct-16 | P17-6D | 12.34 | 7.13 | 903 | 190 | 10.41 | 2.1 |
| | | | 2018-Jan-9 | P17-6D | 7.26 | 7.02 | 525 | 150 | 4.12 | 8 |
| | | | 2018-Sep-5 | P17-6D | 15 | 7.13 | 551 | -36.8 | 3.51 | 3.01 |
| | | | 2019-Jan-8 | P17-6D | 5.08 | 7.25 | 509 | 68 | 3.2 | 0 |
| | P17-6S | 0.60 - 1.10 | 2018-Jan-8 | P17-6S | 6.95 | 7.19 | 813 | 258 | 1.39 | 27 |
| | | | 2019-Jan-8 | P17-6S | 5.87 | 7.12 | 463 | 97 | 5.99 | 0 |
| | P17-7D | 1.70 - 2.00 | 2018-Jan-9 | P17-7D | 6.38 | 7 | 726 | 235 | 1.74 | 19.2 |
| | | | 2018-Feb-14 | P17-7D | 6.7 | 7.4 | 566 | - | - | - |
| | | | 2018-Feb-14 | PIEZO17-7D | 6.7 | 7.4 | 566 | - | - | - |
| | | | 2018-Sep-4 | P17-7D | 18.61 | 6.86 | 584 | - | 3.1 | 9.9 |
| | P17-7-INSTREAM | 1.00 - 1.30 | 2017-Oct-16 | P17-7-INSTREAM | 9.96 | 9.93 | 1 | - | 12.99 | 96.5 |
| | | | 2018-Sep-6 | P17-7-INSTREAM | 18.1 | 8.1 | 204 | 29.9 | 2.31 | 1.13 |
| | P17-7S | 0.60 - 1.10 | 2018-Jan-9 | P17-7S | 4.81 | 8.05 | 736 | 91 | 12.71 | 10.4 |
| 2018-Feb-14 | | | P17-7S | 6 | 8 | 388 | - | - | - | |
| | | | PIEZO17-7S | 6 | 8 | 388 | - | - | - | |
| 2019-Jan-8 | P17-7S | 7.22 | 7.7 | 424 | 133 | 5.36 | 0 | | | |
| P17-8D | 1.50 - 2.00 | 2018-Sep-4 | P17-8D | 14.72 | 6.95 | 557 | -50 | 1.78 | 9.3 | |
| | | 2019-Jan-8 | P17-8D | 5.39 | 7.18 | 582 | -50 | 15.35 | 0 | |
| P17-8-INSTREAM | 1.00 - 1.30 | 2017-Oct-16 | P17-8-INSTREAM | 12.14 | 7.34 | - | 362 | 12.14 | 83.5 | |
| P17-8S | 1.10 - 1.50 | 2018-Jan-9 | P17-8S | 4.88 | 6.96 | 522 | 173 | 2.98 | 2.1 | |
| | | 2019-Jan-8 | P17-8S | 5.5 | 6.99 | 501 | -35 | 0.63 | 0 | |

Notes:

- mbg - metres below grade
- µg/L - micrograms per litre
- mg/L - milligrams per litre
- ns, ng - no standard or guideline listed
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs

**TABLE 16: GROUNDWATER -
 TOTAL ORGANIC CARBON**

| | | | | | Carbon |
|--------------------------|--|--|--|--|-------------------------------------|
| | | | | | Dissolved Organic Carbon (Filtered) |
| | | | | | mg/L |
| Reported Detection Limit | | | | | 0.5 |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | | |
|-----------|-----------------|-------------------------|-------------|-------------|--------------|------|
| FFTA | MW16-11 | 0.80 - 2.30 | 2017-Jan-24 | MW16-11 | 7.4 | |
| | MW16-12 | 0.80 - 2.00 | 2017-Jan-24 | MW16-12 | 3.48 | |
| | MW16-13 | 0.80 - 2.30 | 2016-Sep-22 | MW16-13 | 15.4 | |
| | MW16-14 | 0.80 - 2.30 | 2017-Jan-24 | MW16-14 | 6.18 | |
| | MW16-15 | 0.80 - 2.30 | 2016-Sep-22 | MW16-15 | 8.44 | |
| | MW16-16 | | 4.60 - 6.10 | 2016-Sep-21 | FFTA16-DUP-C | 3.57 |
| | | | | 2016-Sep-21 | MW16-16 | 4.5 |
| | MW16-17 | | 0.80 - 2.30 | 2017-Jan-24 | MW16-17 | 2.17 |
| | MW16-18 | | 0.80 - 2.30 | 2017-Jan-24 | MW16-18 | 3.3 |
| | MW16-19 | | 4.70 - 6.20 | 2016-Sep-21 | MW16-19 | 2.35 |
| | MW16-20 | | 0.80 - 2.30 | 2017-Jan-24 | MW16-20 | 4.08 |

Notes:

mbg - metres below grade

µg/L - micrograms per litre

mg/L - milligrams per litre

ns, ng - no standard or guideline listed

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs

**TABLE 17: GROUNDWATER -
PETROLEUM HYDROCARBONS**

| | Petroleum Hydrocarbons | | | | | | | | | | | | |
|--------------------------|------------------------|-------------|--------------|---------------|------------|--------------------------------|--------------|-------------|-----------------------|-------------|--------------|--------------|--------------|
| | benzene | toluene | ethylbenzene | total xylenes | styrene | methyl tert-butyl ether [MTBE] | VHw | VPHw | F1 (C6-C10 less BTEX) | F1 (C6-C10) | F2 (C10-C16) | F3 (C16-C34) | F4 (C34-C50) |
| Reported Detection Limit | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 4 | 300 | 300 | 300 | 300 | 150 | 200 | 200 |
| BC CSR DW | 5 | 60 | 140 | 90 | 800 | 95 | 15000 | | | | | | |
| BC CSR AWF | 400 | 5 | 2000 | 300 | 720 | 34000 | 15000 | 1500 | | | | | |
| BC CSR AWM | 1000 | 2000 | 2500 | 300 | 720 | 4400 | 15000 | 1500 | | | | | |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | benzene | toluene | ethylbenzene | total xylenes | styrene | MTBE | VHw | VPHw | F1 (C6-C10 less BTEX) | F1 (C6-C10) | F2 (C10-C16) | F3 (C16-C34) | F4 (C34-C50) |
|-----------|-----------------|-------------------------|-------------|--------------|---------|---------|--------------|---------------|---------|------|------|------|-----------------------|-------------|--------------|--------------|--------------|
| FFTA | FFTA-1 | 0.90 - 4.30 | 2016-Sep-20 | FFTA-1 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | FFTA-2 | 0.90 - 4.60 | 2016-Sep-20 | FFTA-2 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | FFTA-3 | 0.90 - 4.60 | 2016-Sep-20 | FFTA16-DUP-A | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2016-Sep-20 | FFTA-3 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-01 | 2.00 - 5.00 | 2016-Sep-21 | MW15-01 | 3.4 | <0.4 | 4.9 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2018-Sep-5 | MW15-01 | 2.4 | <0.4 | 1.8 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | - | - | - |
| | | | 2019-Jan-9 | MW15-01 | 3.3 | <0.4 | 1.7 | <0.4 | <0.5 | <4 | - | - | - | - | - | - | - |
| | MW15-02 | 0.90 - 4.00 | 2016-Sep-20 | MW15-02 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-03 | 1.50 - 4.60 | 2016-Sep-21 | MW15-03 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-04 | 3.10 - 6.10 | 2016-Sep-21 | MW15-04 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-05 | 0.60 - 5.20 | 2016-Sep-21 | MW15-05 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-06 | 0.60 - 5.20 | 2016-Sep-21 | MW15-06 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-07 | 1.50 - 4.60 | 2016-Sep-21 | MW15-07 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-09 | 1.50 - 6.10 | 2016-Sep-21 | MW15-09 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW15-10 | 1.50 - 4.60 | 2016-Sep-21 | MW15-10 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-11 | 0.80 - 2.30 | 2017-Jan-24 | MW16-11 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-12 | 0.80 - 2.00 | 2017-Jan-9 | MW16-12 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-13 | 0.80 - 2.30 | 2016-Sep-22 | MW16-13 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2017-Jan-9 | MW16-13 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-14 | 0.80 - 2.30 | 2017-Jan-10 | MW16-14 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | 1100 |
| | MW16-15 | 0.80 - 2.30 | 2016-Sep-22 | MW16-15 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2017-Jan-9 | MW16-15 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-16 | 4.60 - 6.10 | 2016-Sep-21 | FFTA16-DUP-C | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2016-Sep-21 | MW16-16 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2017-Jan-9 | MW16-16 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-17 | 0.80 - 2.30 | 2017-Jan-10 | FFTA17-DUP-A | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2017-Jan-10 | MW16-17 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-18 | 0.80 - 2.30 | 2017-Jan-9 | MW16-18 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-19 | 4.70 - 6.20 | 2016-Sep-21 | MW16-19 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | | | 2017-Jan-9 | MW16-19 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |
| | MW16-20 | 0.80 - 2.30 | 2017-Jan-9 | MW16-20 | <0.4 | <0.4 | <0.4 | <0.4 | <0.5 | <4 | <300 | <300 | <300 | <300 | <150 | <200 | <200 |

Standards / Guidelines Descriptions:

- BC CSR DW:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Notes:

- mbg - metres below grade
 - µg/L - micrograms per litre
 - mg/L - milligrams per litre
 - ns, ng - no standard or guideline listed
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected at the same location and date are blind field duplicate / parent pairs
- BTEX - benzene, toluene, ethylbenzene, xylenes
MTBE - methyl tert-butyl ether
VHw6-10 – volatile hydrocarbons in water (C6-C10)
VPHw – volatile petroleum hydrocarbons in water: VHw6-10 minus BTEX and styrene

TABLE 20: GROUNDWATER - DISSOLVED METALS

| | Metals | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|-------------------|------------------------------|----------|----------|---------------------|----------|---------------------|---------|--------------------|--------|-------------------|-----------|----------------------|---------|--------------------|-------|------------------|-----------|--------------------|---------|--------------------|-------------------|------------------------------|
| | hardness as CaCO3 | hardness as CaCO3 (Filtered) | pH (lab) | aluminum | aluminum (Filtered) | antimony | antimony (Filtered) | arsenic | arsenic (Filtered) | barium | barium (Filtered) | beryllium | beryllium (Filtered) | bismuth | bismuth (Filtered) | boron | boron (Filtered) | cadmium | cadmium (Filtered) | calcium | calcium (Filtered) | chromium (III+VI) | chromium (III+VI) (Filtered) |
| Reported Detection Limit | mg/L | mg/L | pH Units | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | mg/L | mg/L | µg/L | µg/L |
| BC CSR DW | | | | 9500 | 9500 | 6 | 6 | 10 | 10 | 1000 | 1000 | 8 | 8 | | | 5000 | 5000 | 5 | 5 | 0.05 | 0.05 | 50 | 50 |
| BC CSR AWF | | | | | | 90 | 90 | 50 | 50 | 10000 | 10000 | 1.5 | 1.5 | | | 12000 | 12000 | 0.5 - 4 * | 0.5 - 4 * | | | 10 | 10 |
| BC CSR AWM | | | | | | 2500 | 2500 | 125 | 125 | 5000 | 5000 | 1000 | 1000 | | | 12000 | 12000 | 15 | 15 | | | 15 | 15 |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | Metals | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|-------------------------|-------------|--------------------|-------------------|------------------------------|----------|----------|---------------------|----------|---------------------|---------|--------------------|--------|-------------------|-----------|----------------------|---------|--------------------|-------|------------------|---------|--------------------|---------|--------------------|-------------------|------------------------------|
| | | | | | hardness as CaCO3 | hardness as CaCO3 (Filtered) | pH (lab) | aluminum | aluminum (Filtered) | antimony | antimony (Filtered) | arsenic | arsenic (Filtered) | barium | barium (Filtered) | beryllium | beryllium (Filtered) | bismuth | bismuth (Filtered) | boron | boron (Filtered) | cadmium | cadmium (Filtered) | calcium | calcium (Filtered) | chromium (III+VI) | chromium (III+VI) (Filtered) |
| FFTA | MW18-44M | 1.40 - 1.90 | 2019-Jan-15 | MW18-44M-190115 | - | 140 | - | - | 5.7 | - | <0.5 | - | 0.67 | - | 32.1 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 38.7 | - | <1 |
| | | | 2019-Jan-15 | MW19-B-190115 | - | 138 | - | - | 4.7 | - | <0.5 | - | 0.65 | - | 32.7 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 38 | - | <1 |
| | MW18-44S | 0.60 - 1.10 | 2019-Jan-15 | MW18-44S-190115 | - | 177 | - | - | 12.7 | - | <0.5 | - | 0.42 | - | 46.4 | - | <0.1 | - | <1 | - | <50 | - | 0.02 | - | 56 | - | <1 |
| | | | 2019-Jan-17 | MW18-46D-190117 | - | 101 | - | - | 13.5 | - | <0.5 | - | 0.26 | - | 3 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 20.6 | - | <1 |
| | MW18-47D | 2.40 - 2.80 | 2019-Jan-16 | MW18-47D-190116 | - | 99.2 | - | - | 9.8 | - | <0.5 | - | 0.37 | - | 2.3 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 26.8 | - | <1 |
| | | | 2019-Jan-16 | MW18-47M-190116 | - | 35.2 | - | - | <3 | - | <0.5 | - | <0.1 | - | <1 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 7.09 | - | <1 |
| | MW18-47S | 0.40 - 0.80 | 2019-Jan-16 | MW18-47S-190116 | - | 7.98 | - | - | 76.3 | - | <0.5 | - | 1.07 | - | 2.4 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 2.11 | - | <1 |
| | | | 2018-Feb-14 | PIEZO17-2 | - | 143 | 8.26 | - | 77.1 | - | <0.5 | - | 3.6 | - | 31.9 | - | <0.1 | - | <1 | - | <50 | - | 0.011 | - | 35.5 | - | <1 |
| | P17-4 | 0.50 - 0.90 | 2018-Feb-14 | PIEZO17-4 | - | 138 | 7.96 | - | 22.3 | - | <0.5 | - | 0.68 | - | 24 | - | <0.1 | - | <1 | - | <50 | - | 0.011 | - | 42.2 | - | <1 |
| | | | 2018-Feb-14 | PIEZO17-4-SWALE | - | 58.2 | 7.86 | - | 25.7 | - | <0.5 | - | 0.2 | - | 1.9 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 15.8 | - | <1 |
| | P17-6D | 1.50 - 2.00 | 2018-Sep-5 | P17-6D | 275 | 256 | - | 72.4 | 6.4 | <0.5 | <0.5 | 1.89 | 1.83 | 82.2 | 75.8 | <0.1 | <0.1 | <1 | <1 | 71 | 64 | 0.031 | <0.01 | 73.6 | 65.1 | <1 | <1 |
| | | | 2018-Feb-14 | FFTA-DUPA | - | 256 | 8.26 | - | 21.4 | - | <0.5 | - | 1.41 | - | 29.8 | - | <0.1 | - | <1 | - | 58 | - | <0.01 | - | 67.9 | - | <1 |
| | P17-7D | 1.70 - 2.00 | 2018-Feb-14 | PIEZO17-7D | - | 253 | 8.24 | - | 22.8 | - | <0.5 | - | 1.3 | - | 30.7 | - | <0.1 | - | <1 | - | 58 | - | <0.01 | - | 67.4 | - | <1 |
| | | | 2018-Feb-14 | PIEZO17-7-INSTREAM | - | 104 | 8.68 | - | 3.8 | - | <0.5 | - | 0.22 | - | 52.9 | - | <0.1 | - | <1 | - | 100 | - | <0.01 | - | 22.4 | - | <1 |
| P17-7S | 0.60 - 1.10 | 2018-Feb-14 | PIEZO17-7S | - | 92.3 | 7.99 | - | 22 | - | <0.5 | - | 5.1 | - | 18.1 | - | <0.1 | - | <1 | - | <50 | - | <0.01 | - | 27.4 | - | <1 | |
| | | 2018-Sep-4 | P17-8D | 196 | 191 | - | 204 | 11.1 | <0.5 | <0.5 | 2.95 | 2.38 | 45.2 | 49.7 | <0.1 | <0.1 | <1 | <1 | 146 | 141 | 0.032 | <0.01 | 52.4 | 49.8 | <1 | <1 | |

Standards / Guidelines Descriptions:

- BC CSR DW:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Standards / Guidelines Comments:

- #1:Interim background groundwater concentration estimate
- #2:results with hardness >500 mg/L should be evaluated on a site by site basis; refer to BC Protocol 10

Notes:

- mbg - metres below grade
- µg/L - micrograms per litre
- mg/L - milligrams per litre
- ns, ng - no standard or guideline listed
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs
- most stringent of chromium (III) and (VI) standards applied to chromium (total)
- * - range of hardness-dependent standards; value is compared to standard derived from hardness of individual sample
- H - hardness in mg/L of calcium carbonate (CaCO₃)
- metals with hardness-dependent standards:
 - Cd - cadmium, Cu - copper, Pb - lead, Ni - nickel, Ag - silver, Zn - zinc

*** BC CSR Hardness-Dependent Standards**

| Cd - AWF | Cd - AWF |
|-----------------|-----------------|
| 0.5 @ H < 30 | 0.5 @ H < 30 |
| 1.5 @ H 30<90 | 1.5 @ H 30<90 |
| 2.5 @ H 90<150 | 2.5 @ H 90<150 |
| 3.5 @ H 150<210 | 3.5 @ H 150<210 |
| 5 @ H ≥ 210 | 5 @ H ≥ 210 |

TABLE 20: GROUNDWATER - DISSOLVED METALS

| Metals | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|------------------|-------------------|-----------|-------------------|------|-----------------|------------|-----------------|---------|--------------------|-----------|----------------------|-----------|----------------------|---------|--------------------|------------|-----------------------|--------------|-------------------|--|--|
| | cobalt | cobalt (Filtered) | copper | copper (Filtered) | iron | iron (Filtered) | lead | lead (Filtered) | lithium | lithium (Filtered) | magnesium | magnesium (Filtered) | manganese | manganese (Filtered) | mercury | mercury (Filtered) | molybdenum | molybdenum (Filtered) | nickel | nickel (Filtered) | | |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | mg/L | mg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | | |
| Reported Detection Limit | 0.2 | 0.2 | 0.5 | 0.2 | 10 | 5 | 0.2 | 0.2 | 2 | 2 | 0.05 | 0.05 | 1 | 1 | 0.002 | 0.002 | 1 | 1 | 1 | 1 | | |
| BC CSR DW | 20 ^{#1} | 20 ^{#1} | 1500 | 1500 | 6500 | 6500 | 10 | 10 | 8 | 8 | | | 1500 | 1500 | 1 | 1 | 250 | 250 | 80 | 80 | | |
| BC CSR AWF | 40 | 40 | 20 - 90 * | 20 - 90 * | | | 40 - 160 * | 40 - 160 * | | | | | | | 0.25 | 0.25 | 10000 | 10000 | 250 - 1500 * | 250 - 1500 * | | |
| BC CSR AWM | 40 | 40 | 20 | 20 | | | 20 | 20 | | | | | | | 0.25 | 0.25 | 10000 | 10000 | 83 | 83 | | |

| Site Area | Sample Location | Well Screen | | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | |
|-------------|-----------------|-------------|---------------|--------------------|-----------|------|------|------|-----|------|------|------|-----|------|------|-------|-----|--------|--------|--------|-----|------|-----|-----|--|
| | | Depth (mbg) | Depth (mbg) | | | | | | | | | | | | | | | | | | | | | | |
| FFTA | MW18-44M | 1.40 - 1.90 | 2019-Jan-15 | MW18-44M-190115 | - | <0.2 | - | 0.73 | - | <5 | - | <0.2 | - | 5.3 | - | 10.6 | - | 7.8 | - | <0.002 | - | 2.5 | - | <1 | |
| | | 2019-Jan-15 | MW19-B-190115 | - | <0.2 | - | 0.75 | - | <5 | - | <0.2 | - | 5.1 | - | 10.6 | - | 8.7 | - | <0.002 | - | 2.7 | - | <1 | | |
| | MW18-44S | 0.60 - 1.10 | 2019-Jan-15 | MW18-44S-190115 | - | 0.27 | - | 1.09 | - | 11.3 | - | <0.2 | - | <2 | - | 8.96 | - | 141 | - | <0.002 | - | <1 | - | 1.3 | |
| | | 2.70 - 3.40 | 2019-Jan-17 | MW18-46D-190117 | - | 0.34 | - | 1.01 | - | 7.7 | - | <0.2 | - | <2 | - | 12.1 | - | 375 | - | <0.002 | - | 1.6 | - | <1 | |
| | MW18-47D | 2.40 - 2.80 | 2019-Jan-16 | MW18-47D-190116 | - | 0.33 | - | <0.2 | - | 24.3 | - | <0.2 | - | <2 | - | 7.84 | - | 215 | - | <0.002 | - | 3 | - | 1.1 | |
| | | 1.20 - 1.50 | 2019-Jan-16 | MW18-47M-190116 | - | 0.23 | - | 0.27 | - | <5 | - | <0.2 | - | <2 | - | 4.26 | - | 40.2 | - | <0.002 | - | 1.3 | - | 2.5 | |
| | MW18-47S | 0.40 - 0.80 | 2019-Jan-16 | MW18-47S-190116 | - | 0.29 | - | 1.23 | - | 10.9 | - | <0.2 | - | <2 | - | 0.657 | - | 11.2 | - | 0.0022 | - | 3.2 | - | <1 | |
| | | 2.40 - 2.70 | 2018-Feb-14 | PIEZO17-2 | - | <0.2 | - | 1.61 | - | <5 | - | <0.2 | - | 6.1 | - | 13.3 | - | 1.8 | - | - | - | 18.8 | - | 1.4 | |
| | P17-4 | 0.50 - 0.90 | 2018-Feb-14 | PIEZO17-4 | - | 0.44 | - | 0.65 | - | 14.5 | - | <0.2 | - | <2 | - | 7.89 | - | 397 | - | - | - | <1 | - | <1 | |
| | | 0.00 - 0.00 | 2018-Feb-14 | PIEZO17-4-SWALE | - | 0.41 | - | 1.38 | - | 144 | - | <0.2 | - | <2 | - | 4.53 | - | 497 | - | - | - | <1 | - | <1 | |
| | P17-6D | 1.50 - 2.00 | 2018-Sep-5 | P17-6D | 1.19 | 1.48 | 0.58 | 0.29 | 742 | 881 | <0.2 | <0.2 | 2.4 | 2 | 22 | 22.7 | 989 | 1040 | <0.002 | <0.002 | 1.1 | 1.2 | 2.6 | 2.6 | |
| | | 1.70 - 2.00 | 2018-Feb-14 | FFTA-DUPA | - | 0.8 | - | 1.2 | - | 92.7 | - | <0.2 | - | 2.6 | - | 21 | - | 513 | - | - | - | 2.8 | - | 2.6 | |
| | P17-7D | 1.50 - 2.00 | 2018-Feb-14 | PIEZO17-7D | - | 0.76 | - | 0.22 | - | 92.1 | - | <0.2 | - | 2.6 | - | 20.6 | - | 499 | - | - | - | 3 | - | 2.6 | |
| | | 1.00 - 1.30 | 2018-Feb-14 | PIEZO17-7-INSTREAM | - | <0.2 | - | 4.18 | - | 1220 | - | 0.3 | - | <2 | - | 11.8 | - | 205 | - | - | - | 4 | - | 1.2 | |
| | P17-7S | 0.60 - 1.10 | 2018-Feb-14 | PIEZO17-7S | - | 0.45 | - | 0.78 | - | 81.9 | - | <0.2 | - | <2 | - | 5.78 | - | 243 | - | - | - | 21.7 | - | 1.2 | |
| 1.50 - 2.00 | | 2018-Sep-4 | P17-8D | 0.65 | 0.51 | 0.95 | 0.34 | 778 | 303 | 0.26 | <0.2 | 4.2 | 3.9 | 15.8 | 16.2 | 618 | 559 | <0.002 | <0.002 | 3.3 | 3.7 | 2.6 | 2.1 | | |

Standards / Guidelines Descriptions:

- BC CSR DW:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Standards / Guidelines Comments:

- #1:Interim background groundwater concentration estimate
- #2:results with hardness >500 mg/L should be evaluated on a site by site basis; refer to BC Protocol 10

Notes:

- mbg - metres below grade
- µg/L - micrograms per litre
- mg/L - milligrams per litre
- ns, ng - no standard or guideline listed
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs
- most stringent of chromium (III) and (VI) standards applied to chromium (total)
- * - range of hardness-dependent standards; value is compared to standard derived from hardness of individual sample
- H - hardness in mg/L of calcium carbonate (CaCO₃)
- metals with hardness-dependent standards:
 - Cd - cadmium, Cu - copper, Pb - lead, Ni - nickel, Ag - silver, Zn - zinc

| | |
|-----------------|-----------------|
| Cu - AWF | Cu - AWF |
| 20 @ H < 50 | 20 @ H < 50 |
| 30 @ H 50<75 | 30 @ H 50<75 |
| 40 @ H 75<100 | 40 @ H 75<100 |
| 50 @ H 100<125 | 50 @ H 100<125 |
| 60 @ H 125<150 | 60 @ H 125<150 |
| 70 @ H 150<175 | 70 @ H 150<175 |
| 80 @ H 175<200 | 80 @ H 175<200 |
| 90 @ H ≥ 200 | 90 @ H ≥ 200 |

| | |
|-----------------|-----------------|
| Pb - AWF | Pb - AWF |
| 40 @ H < 50 | 40 @ H < 50 |
| 50 @ H 50<100 | 50 @ H 50<100 |
| 60 @ H 100<200 | 60 @ H 100<200 |
| 110 @ H 200<300 | 110 @ H 200<300 |
| 160 @ H ≥ 300 | 160 @ H ≥ 300 |

| | |
|-------------------|-------------------|
| Ni - AWF | Ni - AWF |
| 250 @ H < 60 | 250 @ H < 60 |
| 650 @ H 60<120 | 650 @ H 60<120 |
| 1,100 @ H 120<180 | 1,100 @ H 120<180 |
| 1,500 @ H ≥ 180 | 1,500 @ H ≥ 180 |

TABLE 20: GROUNDWATER - DISSOLVED METALS

| Metals | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|-----------|----------------------|----------|---------------------|------------|-------------------|--------|-------------------|-----------|----------------------|----------|---------------------|------|----------------|----------|---------------------|---------|--------------------|----------|---------------------|---|---|-----------|----------------------|
| | potassium | potassium (Filtered) | selenium | selenium (Filtered) | silver | silver (Filtered) | sodium | sodium (Filtered) | strontium | strontium (Filtered) | thallium | thallium (Filtered) | tin | tin (Filtered) | titanium | titanium (Filtered) | uranium | uranium (Filtered) | vanadium | vanadium (Filtered) | zinc | zinc (Filtered) | zirconium | zirconium (Filtered) |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| Reported Detection Limit | 50 | 50 | 0.1 | 0.1 | 0.02 | 0.02 | 50 | 50 | 1 | 1 | 0.01 | 0.01 | 5 | 5 | 5 | 5 | 0.1 | 0.1 | 5 | 5 | 5 | 1 | 0.1 | 0.1 |
| BC CSR DW | | | 10 | 10 | 20 | 20 | 200000 | 200000 | 2500 | 2500 | | | 2500 | 2500 | | | 20 | 20 | 20 | 20 | 3000 | 3000 | | |
| BC CSR AWF | | | 20 | 20 | 0.5 - 15 * | 0.5 - 15 * | | | | | 3 | 3 | | | 1000 | 1000 | 85 | 85 | | | 75 ^{#2} - 3150 ^{#2} * | 75 ^{#2} - 3150 ^{#2} * | | |
| BC CSR AWM | | | 20 | 20 | 15 | 15 | | | | | 3 | 3 | | | 1000 | 1000 | 85 | 85 | | | 100 | 100 | | |

| Site Area | Sample Location | Well Screen | | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|-------------|-------------|--------------------|-----------|------|------|------|-------|-------|--------|--------|-----|------|-------|-------|----|----|----|----|------|------|----|----|----|------|------|------|------|--|
| | | Depth (mbg) | Depth (mbg) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FFTA | MW18-44M | 1.40 - 1.90 | 2019-Jan-15 | MW18-44M-190115 | - | 1500 | - | 1.07 | - | <0.02 | - | 43,500 | - | 138 | - | 0.01 | - | <5 | - | <5 | - | 2.03 | - | <5 | - | 1.5 | - | <0.1 | | |
| | | | 2019-Jan-15 | MW19-B-190115 | - | 1500 | - | 1.1 | - | <0.02 | - | 44,700 | - | 141 | - | <0.01 | - | <5 | - | <5 | - | 2.05 | - | <5 | - | <1 | - | <0.1 | | |
| | MW18-44S | 0.60 - 1.10 | 2019-Jan-15 | MW18-44S-190115 | - | 1280 | - | 0.13 | - | <0.02 | - | 30,200 | - | 112 | - | 0.01 | - | <5 | - | <5 | - | 0.89 | - | <5 | - | 2.2 | - | 0.15 | | |
| | | | 2019-Jan-17 | MW18-46D-190117 | - | 471 | - | <0.1 | - | <0.02 | - | 19,300 | - | 57.9 | - | <0.01 | - | <5 | - | <5 | - | <0.1 | - | <5 | - | 2.3 | - | <0.1 | | |
| | MW18-47D | 2.40 - 2.80 | 2019-Jan-16 | MW18-47D-190116 | - | 514 | - | <0.1 | - | <0.02 | - | 13,800 | - | 99.5 | - | <0.01 | - | <5 | - | <5 | - | 0.15 | - | <5 | - | 2 | - | <0.1 | | |
| | | | 2019-Jan-16 | MW18-47M-190116 | - | 79 | - | 0.23 | - | <0.02 | - | 10,300 | - | 22 | - | <0.01 | - | <5 | - | <5 | - | <0.1 | - | <5 | - | 1 | - | <0.1 | | |
| | MW18-47S | 0.40 - 0.80 | 2019-Jan-16 | MW18-47S-190116 | - | 313 | - | 0.29 | - | <0.02 | - | 45,700 | - | 20.7 | - | <0.01 | - | <5 | - | <5 | - | 3.25 | - | 7 | - | 1.8 | - | 0.29 | | |
| | | | 2018-Feb-14 | PIEZO17-2 | - | 2500 | - | 2.49 | - | <0.02 | - | 57,000 | - | 114 | - | 0.011 | - | <5 | - | <5 | - | 6.21 | - | <5 | - | <5 | - | <0.1 | | |
| | P17-4 | 0.50 - 0.90 | 2018-Feb-14 | PIEZO17-4 | - | 785 | - | 0.12 | - | <0.02 | - | 12,100 | - | 109 | - | 0.024 | - | <5 | - | <5 | - | 0.49 | - | <5 | - | <5 | - | <0.1 | | |
| | | | 2018-Feb-14 | PIEZO17-4-SWALE | - | 1050 | - | <0.1 | - | <0.02 | - | 8980 | - | 49 | - | <0.01 | - | <5 | - | <5 | - | <0.1 | - | <5 | - | 45.4 | - | 0.12 | | |
| | P17-6D | 1.50 - 2.00 | 2018-Sep-5 | P17-6D | 1370 | 1340 | 0.13 | 0.11 | <0.02 | <0.02 | 43,300 | 44,900 | 212 | 192 | 0.023 | 0.013 | <5 | <5 | <5 | <5 | 1.82 | 1.72 | <5 | <5 | <5 | <5 | 0.12 | 0.12 | | |
| | | | 2018-Feb-14 | FFTA-DUPA | - | 1960 | - | 0.32 | - | <0.02 | - | 45,200 | - | 187 | - | 0.013 | - | <5 | - | <5 | - | 3.52 | - | <5 | - | 8.4 | - | 0.12 | | |
| | P17-7D | 1.70 - 2.00 | 2018-Feb-14 | PIEZO17-7D | - | 1850 | - | 0.38 | - | <0.02 | - | 43,900 | - | 192 | - | <0.01 | - | <5 | - | <5 | - | 3.59 | - | <5 | - | 6.7 | - | 0.12 | | |
| | | | 2018-Feb-14 | PIEZO17-7-INSTREAM | - | 1620 | - | <0.1 | - | <0.02 | - | 42,300 | - | 102 | - | <0.01 | - | <5 | - | <5 | - | <0.1 | - | <5 | - | <5 | - | <0.1 | | |
| | P17-7S | 0.60 - 1.10 | 2018-Feb-14 | PIEZO17-7S | - | 773 | - | 0.23 | - | <0.02 | - | 58,200 | - | 83.9 | - | <0.01 | - | <5 | - | <5 | - | 13.1 | - | <5 | - | <5 | - | 0.26 | | |
| | | | 2018-Sep-4 | P17-8D | 2580 | 2610 | 0.17 | 0.1 | <0.02 | <0.02 | 86,100 | 84,700 | 210 | 209 | <0.01 | <0.01 | <5 | <5 | <5 | <5 | 2.64 | 2.7 | <5 | <5 | <5 | <5 | 6.6 | 0.41 | <0.1 | |

Standards / Guidelines Descriptions:

- BC CSR DW:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Standards / Guidelines Comments:

- #1:Interim background groundwater concentration estimate
- #2:results with hardness >500 mg/L should be evaluated on a site by site basis; refer to BC Protocol 10

Notes:

- mbg - metres below grade
- µg/L - micrograms per litre
- mg/L - milligrams per litre
- ns, ng - no standard or guideline listed
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs
- most stringent of chromium (III) and (VI) standards applied to chromium (total)
- * - range of hardness-dependent standards; value is compared to standard derived from hardness of individual sample
- H - hardness in mg/L of calcium carbonate (CaCO₃)
- metals with hardness-dependent standards:
 - Cd - cadmium, Cu - copper, Pb - lead, Ni - nickel, Ag - silver, Zn - zinc

Ag - AWF
0.5 @ H ≤ 100
15 @ H > 100

Ag - AWF
0.5 @ H ≤ 100
15 @ H > 100

Zn - AWF
75 @ H < 90
150 @ H 90<100
900 @ H 100<200
1,650 @ H 200<300
2,400 @ H 300<400

Zn - AWF
75 @ H < 90
150 @ H 90<100
900 @ H 100<200
1,650 @ H 200<300
2,400 @ H 300<400

TABLE 21: GROUNDWATER - INORGANICS

| | | Inorganics | | | | | | | | | | | | | |
|--------------------------|--|-------------|-----------|-------------------------|-----------|----------------|--------------------------------|----------------|----------------------------|------------|---------------------|--------------------|--------------------|--------------|-------------------------|
| | | bicarbonate | carbonate | chloride ion (Filtered) | hydroxide | nitrate (as N) | nitrate (as NO ₃ -) | nitrite (as N) | nitrate and nitrite (as N) | phosphorus | silicon | silicon (Filtered) | sulfate (Filtered) | sulphur as S | sulphur as S (Filtered) |
| Reported Detection Limit | | mg/L | mg/L | µg/L | mg/L | µg/L | mg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | mg/L | mg/L |
| BC CSR DW | | 1 | 1 | 1000 | 1 | 20 | 0.02 | 5 | 20 | 10 | 100 | 100 | 500 | 3 | 3 |
| BC CSR AWF | | 250000 | | | 10000 | | 1000 | | 10000 | | 500000 | | | | |
| BC CSR AWM | | 1500000 | | | 400000 | | 200 - 2000 * | | 400000 | | 1280000 - 4290000 * | | | | |
| | | 400000 | | | 400000 | | 400000 | | | | | | | | |

| Site Area | Sample Location | 2 | Sample Date | Sample ID | | | | | | | | | | | | |
|------------|-----------------|-------------|-------------|--------------------|------|-----|--------|----|---|---|------|------|--------|--------|--------|------|
| FFTA | MW18-44M | 1.40 - 1.90 | 2019-Jan-15 | MW18-44M-190115 | - | - | - | - | - | - | - | - | 10,800 | - | - | 4.8 |
| | | | 2019-Jan-15 | MW19-B-190115 | - | - | - | - | - | - | - | - | - | 10,700 | - | - |
| | MW18-44S | 0.60 - 1.10 | 2019-Jan-15 | MW18-44S-190115 | - | - | - | - | - | - | - | - | 7170 | - | - | <3 |
| | | | 2019-Jan-17 | MW18-46D-190117 | - | - | - | - | - | - | - | - | 6870 | - | - | <3 |
| | MW18-47D | 2.40 - 2.80 | 2019-Jan-16 | MW18-47D-190116 | - | - | - | - | - | - | - | - | 12,900 | 7900 | - | <3 |
| | | | 2019-Jan-16 | MW18-47M-190116 | - | - | - | - | - | - | - | - | 12,200 | 9700 | - | <3 |
| | MW18-47S | 0.40 - 0.80 | 2019-Jan-16 | MW18-47S-190116 | - | - | - | - | - | - | - | - | 4280 | 24,600 | - | 11.6 |
| | | | 2018-Feb-14 | PIEZO17-2 | 259 | <1 | 15,000 | <1 | - | - | - | - | - | 9910 | 38,400 | - |
| | P17-4 | 0.50 - 0.90 | 2018-Feb-14 | PIEZO17-4 | 179 | <1 | 8900 | <1 | - | - | - | - | 2430 | 4300 | - | <3 |
| | | | 2018-Feb-14 | PIEZO17-4-SWALE | 78.7 | <1 | 9000 | <1 | - | - | - | - | 4400 | 1400 | - | <3 |
| | P17-6D | 1.50 - 2.00 | 2018-Sep-5 | P17-6D | - | - | - | - | - | - | - | 9370 | 9310 | - | 8.2 | 8 |
| | | | 2018-Feb-14 | FFTA-DUPA | 322 | <1 | 12,000 | <1 | - | - | - | - | 8360 | 75,400 | - | 27.5 |
| | P17-7D | 1.70 - 2.00 | 2018-Feb-14 | PIEZO17-7D | 322 | <1 | 11,000 | <1 | - | - | - | - | 8290 | 76,700 | - | 26.6 |
| | | | 2018-Feb-14 | PIEZO17-7-INSTREAM | 140 | 4.7 | 20,000 | <1 | - | - | - | - | 2030 | 2400 | - | <3 |
| | P17-7S | 0.60 - 1.10 | 2018-Feb-14 | PIEZO17-7S | 200 | <1 | 7600 | <1 | - | - | - | - | 7070 | 12,600 | - | 5.5 |
| 2018-Sep-4 | | | P17-8D | - | - | - | - | - | - | - | 8330 | 8690 | - | 20.1 | 20.1 | |

- Standards / Guidelines Descriptions:**
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 - BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
 - BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

- Notes:**
- mbg - metres below grade
 - µg/L - micrograms per litre
 - mg/L - milligrams per litre
 - ns, ng - no standard or guideline listed
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected at the same location and date are blind field duplicate / parent pairs
 - H - hardness in mg/L of calcium carbonate (CaCO₃)
 - ammonia (NH₃) guideline dependent on pH and temperature
 - nitrate and nitrite measured in mg/L of N
 - fluoride (F) and sulphate(SO₄) guidelines dependent on hardness (as CaCO₃)
 - nitrate standards dependent on chloride concentration
 - nitrite (NO₂) guidelines dependent on chloride (Cl)
 - ammonia standards dependent on pH
 - verify exceedances of pH-/temperature-/hardness-dependent guidelines against root formulas or matrices
 - pH- and temperature-dependent guidelines compared to field measured pH values

- NO₂ - AWM**
- 200 @ Cl < 2
 - 400 @ Cl 2<4
 - 600 @ Cl 4<6
 - 800 @ Cl 6<8
 - 1,000 @ Cl 8<10
 - 2,000 @ Cl ≥ 10

- SO₄ - AWF**
- 1,280 mg/L @ H ≤ 30
 - 2,180 mg/L @ H 31-75
 - 3,090 mg/L @ H 76-180
 - 4,290 mg/L @ H > 180

**TABLE 22: GROUNDWATER -
PER- AND POLYFLUOROALKYL SUBSTANCES**

Table with 24 columns for various PFAS compounds and 1 row for 'Reported Detection Limit'. The table lists concentrations for compounds like MeFOSE, PFBA, PFBS, PFPeA, PFHxA, PFHxS, PFHpA, PFHPS, PFOA, PFOS, PFNA, PFDA, PFDS, PFUnDA, PFDaA, PFTrDA, PFTeDA, 6:2 FTSL, 8:2 FTSL, N-Et-FOSE, N-Et-FOSE, Me-FOSE, Me-FOSE, n-Me-FOSE, n-Et-FOSE, 2-n-methyl perfluorooctanesulfonamide ethanol, PFOSA, and Additive PFOA + PFOS.

Table with columns: Site Area, Sample Location, Well Screen Depth (mbg), Sample Date, Sample ID, and 24 PFAS columns. It provides detailed data for samples from sites like FFTA-1, FFTA-2, FFTA-3, MW15-01, MW15-02, and MW15-03 across various dates and depths.

**TABLE 22: GROUNDWATER -
 PER- AND POLYFLUOROALKYL SUBSTANCES**

| | PFAS | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|--------|-------------------------------|--------------------------------------|---------------------------------|--------------------------------|---------------------------------------|---------------------------------|--|-------------------------------|--------------------------------------|-------------------------------|-------------------------------|--------------------------------------|-----------------------------------|----------------------------------|-------------------------------------|--------------------------------------|---|---|--|--|--|--|---|---|-------------------------------------|----------------------|
| | MeFOSE | perfluorobutanoic acid [PFBA] | perfluorobutane sulfonic acid [PFBS] | perfluoropentanoic acid [PFPeA] | perfluorohexanoic acid [PFHxA] | perfluorohexane sulfonic acid [PFHxS] | perfluoroheptanoic acid [PFHpA] | perfluoroheptane sulfonic acid [PFHpS] | perfluorooctanoic acid [PFOA] | perfluorooctane sulfonic acid [PFOS] | perfluorononanoic acid [PFNA] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTriDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 fluorotelomer sulfonic acid [8:2 FTS] | n-ethyl perfluorooctanesulfonamide [N-Et-FOSA] | n-ethyl perfluorooctanesulfonamide ethanol [N-Et-FOSE] | Methyl-perfluorooctane sulfonamide [N-Me-FOSA] | n-methyl perfluorooctane sulfonamidoacetic acid [N-MeFOAA] | n-Ethyl perfluorooctane sulfonamidoacetic acid [N-EtFOAA] | 2-n-methyl perfluorooctanesulfonamide ethanol [N-Me-FOSE] | perfluorooctane sulfonamide [PFOSA] | Additive PFOA + PFOS |
| Reported Detection Limit | 0.02 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.004 | 0.004 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.004 | N/A |
| Health Canada DW SV for other PFAS | 30 | 15 | 0.2 | 0.2 | 0.6 | 0.2 | 0.2 | 0.2 | 0.6 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Health Canada GCDWQ for PFOS and PFOA | | | | | | | | 0.2 | 0.6 | | | | | | | | | 0.2 | 0.2 | | | | | | | | 1 ^{#1} |
| ECCC FEQG for PFOS | | | | | | | | | 6.8 | | | | | | | | | | | | | | | | | | |
| FGQG (Eco) for PFOS (coarse) | | | | | | | | | 6.8 | | | | | | | | | | | | | | | | | | |
| FGQG (Eco) for PFOS (fine) | | | | | | | | | 6.8 | | | | | | | | | | | | | | | | | | |
| BC CSR DW | | | 80 | | | | | | 0.2 | 0.3 | | | | | | | | | | | | | | | | | |
| BC CSR AWF | | | | | | | | | | 60 | | | | | | | | | | | | | | | | | |
| BC CSR AWM | | | | | | | | | | 60 | | | | | | | | | | | | | | | | | |

| Site Area | Sample Location | Well Screen Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|-------------------------|-------------|------------|---|--------|---------|-------|--------|-------|--------|--------|--------|-------|--------|----------|--------|----------|------------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|------|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FFTA | P17-8D | 1.50 - 2.00 | 2018-Jan-9 | PIEZO17-8D | - | 0.0592 | 0.00584 | 0.124 | 0.0606 | 0.105 | 0.0413 | - | 0.0504 | 0.227 | 0.0184 | 0.00111 | - | 0.000124 | <0.0000814 | - | - | - | - | - | - | - | - | 0.000545 | 0.63 | | |
| | | | 2018-Sep-4 | P17-8D | - | 0.039 | 0.0053 | 0.082 | 0.043 | 0.09 | 0.025 | 0.005 | 0.036 | 0.23 | 0.014 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.004 | <0.004 | <0.004 | <0.004 | 0.18 | |
| | P17-8S | 1.10 - 1.50 | 2019-Jan-8 | P17-8D | - | 0.018 | 0.0047 | 0.075 | 0.05 | 0.1 | 0.027 | 0.0049 | 0.036 | 0.18 | 0.014 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | 0.18 | | |
| | | | 2018-Jan-9 | PIEZO17-8S | - | 0.0605 | 0.00893 | 0.199 | 0.097 | 0.218 | 0.0633 | - | 0.0902 | 0.391 | 0.0291 | 0.000661 | - | 0.000116 | <0.0000896 | - | - | - | - | - | - | - | - | <0.000427 | 1.103 | | |
| | | | 2019-Jan-8 | P17-8S | - | 0.051 | 0.0073 | 0.16 | 0.074 | 0.21 | 0.042 | 0.013 | 0.065 | 0.37 | 0.022 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.004 | <0.004 | - | - | <0.004 | 0.325 | | | |

Standards / Guidelines Descriptions:

- ECCC FEQG for PFOS: Environment and Climate Change Canada Federal Environmental Quality Guidelines for PFOS, Surface Water (June 2018)
- Health Canada DW SV for other PFAS: Health Canada's Water Talk - Perfluoroalkylated substances in drinking water (April 2019), Drinking Water Screening Values
- Health Canada GCDWQ for PFOS and PFOA: Health Canada's Water Talk Guidelines for Canadian Drinking Water Quality for PFOS and PFOA (2018)
- FGQG (Eco) for PFOS (coarse): Federal Groundwater Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Coarse grained soil, June 2018
- FGQG (Eco) for PFOS (fine): Federal Groundwater Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Fine grained soil, June 2018
- BC CSR DW: BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF: BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM: BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Standards / Guidelines Comments:

#1: As outlined in Health Canada (2018)

Notes:

- mbg - metres below grade
- µg/L - micrograms per litre
- mg/L - milligrams per litre
- ns, ng - no standard or guideline listed
- < - less than reported detection limit
- - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs

PFAS - per- and polyfluoroalkylated substances

PFOS - perfluorooctane sulfonate

PFOA - perfluorooctanoate

a - As outlined in Health Canada (2018), the health effects of PFOS and PFOA are similar and well documented. Consequently, Health Canada has advised that where PFOS and PFOA are found together in drinking water, the ratios of the monitoring results for PFOS and PFOA to their respective drinking water quality guidelines should be summed. Per Health Canada (2018), if the result is below or equal to one, then the water is considered safe for drinking. Science currently does not justify the use of this approach for other PFAS. This was done using the formula below:

$$\frac{\text{PFOA}}{\text{PFOA Guideline}} + \frac{\text{PFOS}}{\text{PFOS Guideline}} \leq 1$$

CONCRETE ANALYTICAL TABLES

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

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Table 23: Concrete - Per- and Polyfluoroalkyl Substances

Table 24: Concrete Rinsate - Per- and Polyfluoroalkyl Substances

**TABLE 23: CONCRETE -
PER- AND POLYFLUOROALKYL SUBSTANCES**

| PFAS | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------|--------------------------------------|---------------------------------|--|--------------------------------|---------------------------------------|---------------------------------|--|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-----------------------------------|----------------------------------|-----------------------------------|--------------------------------------|---|---|--|---|------------------------------------|--|
| | perfluorobutanoic acid [PFBA] | perfluorobutane sulfonic acid [PFBS] | perfluoropentanoic acid [PFPeA] | perfluoropentane sulfonic acid [PFPeS] | perfluorohexanoic acid [PFHxA] | perfluorohexane sulfonic acid [PFHxS] | perfluoroheptanoic acid [PFHpA] | perfluoroheptane sulfonic acid [PFHpS] | perfluorooctanoic acid [PFOA] | perfluorooctane sulfonic acid [PFOS] | perfluorononanoic acid [PFNA] | perfluorononane sulfonic acid [PFNS] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 Fluorotelomer sulfonic acid [8:2 FTS] | n-ethyl perfluorooctanesulfonamide [N-Et-FOSA] | Methyl- perfluorooctane sulfonamide [N-Me-FOSA] | perfluorooctane sulfonamide [PFOA] | |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | |
| FSQG (Eco) for PFOS (AL) | | | | | | | | | | 0.01 | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (RL/PL) | | | | | | | | | | 0.01 | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | | 0.14 | | | | | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | | 0.21 | | | | | | | | | | | | | | |
| Health Canada SSV for PFAS (IL) | 1630 | 872 | 11.41 | 11.41 | 33 | 11.41 | 9.94 | 30.5 | 1.2 | | | | | | | | | | 11.41 | 11.41 | | | | |
| Health Canada SSV for PFAS (AL, RL, PL) | 114 | 61 | 0.8 | 0.8 | 2.3 | 0.8 | 0.7 | 2.1 | 0.08 | | | | | | | | | | 0.8 | 0.8 | | | | |
| BC CSR RLId h | | 300 | | | | | | | | | | | | | | | | | | | | | | |
| BC CSR RLId dw | | | | | | | | | 0.35 | | | | | | | | | | | | | | | |
| BC CSR RLId fw | | | | | | | | | 9 | | | | | | | | | | | | | | | |
| BC CSR RLId i | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| BC CSR RLId m | | | | | | | | | 9 | | | | | | | | | | | | | | | |
| BC CSR RLId t | | | | | | | | | 70 | | | | | | | | | | | | | | | |

| Site Area | Sample Location | Sample Depth (mbg) | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|--------------------|-------------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| FFTA | BH20-01 | 0.0-0.1 | 2020-Aug-11 | BH20-01-CONCRETE | <0.001 | <0.001 | 0.0012 | <0.001 | 0.0025 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.0054 | <0.001 | <0.001 | <0.001 |
| | BH20-02 | 0.0-0.1 | 2020-Aug-11 | BH20-02-CONCRETE | 0.0021 | 0.0031 | 0.0021 | 0.0018 | 0.008 | 0.0036 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.14 | <0.001 | <0.001 | <0.001 |

Standards / Guidelines Descriptions:

- FSQG (Eco) for PFOS (AL):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Agricultural, February 2017
- FSQG (Eco) for PFOS (RL/PL):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Residential/Parkland, February 2017
- FSQG (Eco) for PFOS (IL, coarse):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Coarse grained soil), February 2017
- FSQG (Eco) for PFOS (IL, fine):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Fine grained soil), February 2017
- Health Canada SSV for PFAS (AL, RL, PL):Health Canada Soil Screening Values for Perfluoroalkylated Substances (PFAS) - Agricultural/Residential/Parkland Land Use, May 2019
- Health Canada SSV for PFAS (IL):Health Canada Soil Screening Values for Perfluoroalkylated Substances (PFAS) - Industrial Land Use, May 2019
- BC CSR RLId h:BC Contaminated Sites Regulation, Schedule 3.1 Part 2 Generic Numerical Soil Standards to Protect Human Health, Residential (Low Density)
- BC CSR RLId dw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater used for drinking water - Residential (Low Density)
- BC CSR RLId fw:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Freshwater) - Residential (Low Density)
- BC CSR RLId i:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Intake of Contaminated Soil - Residential (Low Density)
- BC CSR RLId m:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Groundwater flow to surface water used by aquatic life (Marine) - Residential (Low Density)
- BC CSR RLId t:BC Contaminated Sites Regulation, Schedule 3.1 Part 1 Numerical Soil Standards, Toxicity to soil invertebrates and plants - Residential (Low Density)

Notes:

- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment
PFAS - per- and polyfluoroalkylated substances
PFOS - perfluorooctane sulfonate
PFOA - perfluorooctanoate

**TABLE 24: CONCRETE RINSATE -
 PER- AND POLYFLUOROALKYL SUBSTANCES**

| | PFAS | | | | | | | | | | | | | | | | | | | |
|--|-------------------------------|--------------------------------------|---------------------------------|--|--------------------------------|---------------------------------------|---------------------------------|--|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-------------------------------|--------------------------------------|-----------------------------------|----------------------------------|------------------------------------|--------------------------------------|-------------------------------------|--|
| | perfluorobutanoic acid [PFBA] | perfluorobutane sulfonic acid [PFBS] | perfluoropentanoic acid [PFPeA] | perfluoropentane sulfonic acid [PFPeS] | perfluorohexanoic acid [PFHxA] | perfluorohexane sulfonic acid [PFHxS] | perfluoroheptanoic acid [PFHpA] | perfluoroheptane sulfonic acid [PFHpS] | perfluorooctanoic acid [PFOA] | perfluorooctane sulfonic acid [PFOS] | perfluorononanoic acid [PFNA] | perfluorononane sulfonic acid [PFNS] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTrDA] | perfluorotetradecanoic acid [PFTeDA] | perfluorooctane sulfonamide [PFOSA] | |
| | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | |
| ECCC FEQG for PFOS | | | | | | | | | | 6.8 | | | | | | | | | | |
| Health Canada DW SV for other PFAS | 30 | 15 | 0.2 | 0.2 | 0.6 | 0.2 | 0.2 | 0.2 | 0.2 | 0.02 | | | | | | | | | | |
| Health Canada GCDWQ for PFOS and PFOA | | | | | | | | | 0.2 | 0.6 | | | | | | | | | | |
| FGQG (Eco) for PFOS (coarse) | | | | | | | | | | 6.8 | | | | | | | | | | |
| FGQG (Eco) for PFOS (fine) | | | | | | | | | | 6.8 | | | | | | | | | | |
| BC CSR DW | | 80 | | | | | | | 0.2 | 0.3 | | | | | | | | | | |
| BC CSR AWF | | | | | | | | | | 60 | | | | | | | | | | |
| BC CSR AWM | | | | | | | | | | 60 | | | | | | | | | | |

| Site Area | Sample Location | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | |
|-----------|------------------|-------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FFTA | CONCRETE-RINSATE | 2020-Aug-11 | CONCRETE-RINSATE | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |

Standard/Guideline Descriptions

- ECCC FEQG for PFOS:Environment and Climate Change Canada Federal Environmental Quality Guidelines for PFOS, Surface Water (June 2018)
- Health Canada DW SV for other PFAS:Health Canada's Water Talk - Perfluoroalkylated substances in drinking water (April 2019), Drinking Water Screening Values
- Health Canada GCDWQ for PFOS and PFOA:Health Canada's Water Talk Guidelines for Canadian Drinking Water Quality for PFOS and PFOA (2018)
- FGQG (Eco) for PFOS (coarse):Federal Groundwater Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Coarse grained soil, June 2018
- FGQG (Eco) for PFOS (fine):Federal Groundwater Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Fine grained soil, June 2018
- BC CSR DW:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Drinking Water
- BC CSR AWF:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Freshwater Aquatic Life
- BC CSR AWM:BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards, Marine Aquatic Life

Notes:

mbg - metres below grade

µg/L - micrograms per litre

mg/L - milligrams per litre

ns, ng - no standard or guideline listed

< - less than reported detection limit

'-' - sample not analyzed for parameter indicated

- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected at the same location and date are blind field duplicate / parent pairs

CCME - Canadian Council of Ministers of the Environment

PFAS - per- and polyfluoroalkylated substances

PFOS - perfluorooctane sulfonate

PFOA - perfluorooctanoate

a - As outlined in Health Canada (2018), the health effects of PFOS and PFOA are similar and well documented. Consequently, Health Canada has advised that where PFOS and PFOA are found together in drinking water, the ratios of the monitoring results for PFOS and PFOA to their respective drinking water quality guidelines should be summed. Per Health Canada (2018), if the result is below or equal to one, then the water is considered safe for drinking. Science currently does not justify the use of this approach for other PFAS. This was done using the formula below:

$$\{PFOA\} / \{PFOA\ Guideline\} + \{PFOS\} / \{PFOS\ Guideline\} \leq 1$$

SPENT GRANULATED ACTIVATED CARBON ANALYTICAL TABLES

CFB Comox FFTA Source Control Project

PSPC

CFB Comox, Lazo, BC

Requisition No.: R.111173.004

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Table 25: Spent Granulated Activated Carbon - Petroleum Hydrocarbons

Table 26: Spent Granulated Activated Carbon - Polycyclic Aromatic Hydrocarbons

Table 27: Spent Granulated Activated Carbon - Volatile Organic Compounds

Table 28: Spent Granulated Activated Carbon – Metals

Table 29: Spent Granulated Activated Carbon – Per- and Polyfluoroalkyl Substances

**TABLE 25: SPENT GRANULATED
 ACTIVATED CARBON -
 PETROLEUM HYDROCARBONS**

| | Petroleum Hydrocarbons | | | | | | | | | | | |
|-------------------------------------|------------------------|--------------------|---------------------|-------------------|---------|--------------------------------|---------|------|-----------|-------|-----------|-------|
| | benzene | toluene | ethylbenzene | total xylenes | styrene | methyl tert-butyl ether [MTBE] | VHs6-10 | VPHs | EPHs10-19 | LEPHs | EPHs19-32 | HEPHs |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Reported Detection Limit | 0.013 | 0.13 | 0.025 | 0.04 | 0.075 | 0.25 | 25 | 25 | 100 | 100 | 100 | 100 |
| CCME SoilQG Tier 1 CL (Coarse Soil) | 0.03 ^{#1} | 0.37 ^{#1} | 0.082 ^{#1} | 11 ^{#1} | 50 | | | | | | | |
| CCME SoilQG Tier 1 CL (Fine Soil) | 0.0068 ^{#2} | 0.08 ^{#2} | 0.018 ^{#2} | 2.4 ^{#2} | 50 | | | | | | | |

| Site Area | Sample Location | Sample Date | Sample ID | benzene | toluene | ethylbenzene | total xylenes | styrene | methyl tert-butyl ether [MTBE] | VHs6-10 | VPHs | EPHs10-19 | LEPHs | EPHs19-32 | HEPHs |
|-----------|-----------------|-------------|---------------------|---------|---------|--------------|---------------|---------|--------------------------------|---------|------|-----------|-------|-----------|-------|
| FFTA | FFTA-GAC | 2020-Aug-20 | FFTA-GAC-20-08-2020 | <0.013 | <0.13 | <0.025 | <0.04 | <0.075 | <0.25 | <25 | <25 | <100 | <100 | <100 | <100 |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 CL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Coarse Soil)
- CCME SoilQG Tier 1 CL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Fine Soil)

Standards / Guidelines Comments:

- #1:Value for coarse soil and ILCR 1 in 100,000. Lower value for fine soil.
- #2:Value for fine soil and ILCR of 1 in 100,000. Higher value for coarse soil.

Notes:

- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment
 BTEX - benzene, toluene, ethylbenzene, xylenes
 HSVL - headspace vapour level
 MTBE - methyl tert-butyl ether
 ppmv - parts per million by volume
 F1 (C6-C10) - petroleum hydrocarbon fraction 1 (C₆-C₁₀)
 F2 (C10-C16) - petroleum hydrocarbon fraction 2 (C₁₀-C₁₆)
 F3 (C16-C32) - petroleum hydrocarbon fraction 3 (C₁₆-C₃₂)
 F4 (C32-C50) - petroleum hydrocarbon fraction 4 (C₃₂-C₅₀)

SLR

**TABLE 26: SPENT GRANULATED
 ACTIVATED CARBON -
 POLYCYCLIC AROMATIC HYDROCARBONS**

| | PAHs | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-------------------|--------------------|------------------|-------------------|----------------------|-------------------------|----------------------|----------------------|------------------|----------|-----------------------|-------------------|--------------------|------------------------|-----------------------|---------------------|---------------------|-------------------|-----------------------------|-----------------------------|---------------------|
| | acenaphthylene | acenaphthene | anthracene | benz(a)anthracene | benzo(b)fluoranthene | benzo(b+i)fluoranthenes | benzo(g,h,i)perylene | benzo(k)fluoranthene | benzo(a)pyrene | chrysene | dibenz(a,h)anthracene | fluoranthene | fluorene | indeno(1,2,3-cd)pyrene | methylnaphthalene, 2- | naphthalene | phenanthrene | pyrene | light molecular weight PAHs | heavy molecular weight PAHs | PAHs (sum of total) |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Reported Detection Limit | 0.005 | 0.005 | 0.004 | 0.02 | 0.02 | 0.02 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.05 | 0.05 | 0.05 |
| CCME SoilQG Tier 1 CL (Coarse Soil) | 320 ^{#1} | 0.28 ^{#1} | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | | | 10 ^{#3} | 72 ^{#2} | | 10 ^{#3} | 180 ^{#2} | 0.25 ^{#1} | 10 ^{#3} | | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | |
| CCME SoilQG Tier 1 CL (Fine Soil) | 320 ^{#1} | 0.28 ^{#1} | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | | | 10 ^{#3} | 72 ^{#2} | | 10 ^{#3} | 180 ^{#2} | 0.25 ^{#1} | 10 ^{#3} | | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | |
| CCME SoilQG PAHs Table 1 - CL | | | 32 ^{#2} | 10 ^{#3} | 10 ^{#3} | | | 10 ^{#3} | 72 ^{#2} | | 10 ^{#3} | 180 ^{#2} | | 10 ^{#3} | | 0.013 ^{#4} | 0.046 ^{#4} | 100 ^{#3} | | | |

| Site Area | Sample | | | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 |
|-----------|----------|-------------|---------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Location | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | |
| FFTA | FFTA-GAC | 2020-Aug-20 | FFTA-GAC-20-08-2020 | <0.005 | <0.005 | <0.004 | <0.02 | <0.02 | <0.02 | <0.05 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | <0.02 | <0.05 | <0.05 | <0.05 |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 CL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Coarse Soil)
- CCME SoilQG Tier 1 CL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Fine Soil)
- CCME SoilQG PAHs Table 1 - CL:CCME PAHs Soil Quality Guidelines for the Protection of Environment and Human Health (Table 1), Commercial

Standards / Guidelines Comments:

- #1:No SQGe listed. Provisional value based on the protection of freshwater aquatic life. If impact to surface water is not a concern, see PAH Fact Sheet.
- #2:Ecological receptors only, based on non-carcinogenic effects of PAHs.
- #3:Ecological receptors only, based on non-carcinogenic effects of PAHs. Value based on Interim Soil Quality Criteria (CCME 1991)
- #4:Ecological receptors only (freshwater aquatic life), based on non-carcinogenic effects of PAHs. If impact to surface water is not a concern, revert to 1997 provisional SQGe (see Table 2 in PAH Fact Sheet).

Notes:

- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment
 PAH - polycyclic aromatic hydrocarbons
 IACR (CCME Lab) - Index of Additive Cancer Risk
 B[a]P TPE (Lab) - Benzo[a]pyrene Total Potency Equivalents

**TABLE 27: SPENT GRANULATED
 ACTIVATED CARBON -
 VOLATILE ORGANIC COMPOUNDS**

| | VOCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|----------------------|-----------|--------------|----------------------|---------------|--------------|------------|---------------|-----------------------------|---------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------------|------------------------------|-----------------|-----------------------|---------------------------|-----------------------------|---------------------|-----------------------------|-----------------------------|---------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------|------------------------|----------------|--|
| | bromodichloromethane | bromoform | bromomethane | carbon tetrachloride | chlorobenzene | chloroethane | chloroform | chloromethane | dibromochloromethane [DBCM] | dibromoethane, 1,2- | dichlorobenzene, 1,2- | dichlorobenzene, 1,3 | dichlorobenzene, 1,4 | dichloroethane, 1,1- | dichloroethane, 1,2- | dichloroethylene, 1,1- | dichloroethylene, 1,2-cis- | dichloroethylene, 1,2-trans- | dichloromethane | dichloropropane, 1,2- | dichloropropene, cis-1,3- | dichloropropene, trans-1,3- | hexachlorobutadiene | tetrachloroethane, 1,1,1,2- | tetrachloroethane, 1,1,2,2- | tetrachloroethylene | trichlorobenzene, 1,2,3- | trichlorobenzene, 1,2,4- | trichloroethane, 1,1,1- | trichloroethane, 1,1,2- | trichloroethylene | trichlorofluoromethane | vinyl chloride | |
| Reported Detection Limit | 0.13 | 0.13 | 0.75 | 0.05 | 0.05 | 0.25 | 0.05 | 0.13 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.063 | 0.05 | 0.063 | 0.075 | 0.075 | 0.2 | 0.05 | 0.05 | 0.05 | 0.5 | 0.05 | 0.05 | 0.025 | 0.075 | 0.075 | 0.05 | 0.05 | 0.009 | 0.5 | 0.1 | |
| CCME SoilQG Tier 1 CL (Coarse Soil) | | | | 50 | 10 | | 50 | | | | 10 | 10 | 10 | 50 | 50 | 50 | | | | 50 | 50 | | | | | 50 | 0.5 | 10 | 10 | 50 | 50 | 0.01 | | |
| CCME SoilQG Tier 1 CL (Fine Soil) | | | | 50 | 10 | | 50 | | | | 10 | 10 | 10 | 50 | 50 | 50 | | | | 50 | 50 | | | | | 50 | 0.5 | 10 | 10 | 50 | 50 | 0.01 | | |

| Site Area | Sample Location | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|-------------|---------------------|-------|-------|-------|------|-------|-------|-------|---|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| FFTA | FFTA-GAC | 2020-Aug-20 | FFTA-GAC-20-08-2020 | <0.13 | <0.13 | <0.75 | 0.84 | <0.05 | <0.25 | <0.05 | 1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.063 | <0.05 | <0.063 | <0.075 | <0.075 | <0.2 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.1 |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 CL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Coarse Soil)
- CCME SoilQG Tier 1 CL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Fine Soil)

Notes:

- m - metres
 - mbg - metres below grade
 - < - less than reported detection limit
 - '-' - sample not analyzed for parameter indicated
 - formatting of cells indicates exceedances of like-formatted standards
 - where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
 - samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
 - laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment
 VOCs - volatile organic compounds

**TABLE 28: SPENT GRANULATED
 ACTIVATED CARBON -
 METALS**

| | Metals | | | | | | | | | | | | | | | | | | | | | | | | | | | | Inorganics | | | | |
|-------------------------------------|----------|----------|----------|---------|--------|-----------|---------|---------|---------|------------------|--------|--------|------|------|---------|-----------|-----------|---------|------------|--------|-----------|----------|--------|--------|-----------|----------|------|----------|------------|----------|------|-----------|------------|
| | pH (lab) | aluminum | antimony | arsenic | barium | beryllium | bismuth | cadmium | calcium | chromium (II+VI) | cobalt | copper | iron | lead | lithium | magnesium | manganese | mercury | molybdenum | nickel | potassium | selenium | silver | sodium | strontium | thallium | tin | titanium | uranium | vanadium | zinc | zirconium | phosphorus |
| Reported Detection Limit | pH Units | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| CCME SoilQG Tier 1 CL (Coarse Soil) | 6-8 | 100 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.05 | 100 | 0.5 | 0.1 | 0.5 | 100 | 0.1 | 0.5 | 100 | 0.2 | 0.05 | 0.1 | 0.5 | 100 | 0.5 | 0.05 | 100 | 0.1 | 0.05 | 0.1 | 1 | 0.05 | 1 | 1 | 0.5 | 10 |
| CCME SoilQG Tier 1 CL (Fine Soil) | 6-8 | 100 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.05 | 100 | 0.5 | 0.1 | 0.5 | 100 | 0.1 | 0.5 | 100 | 0.2 | 0.05 | 0.1 | 0.5 | 100 | 0.5 | 0.05 | 100 | 0.1 | 0.05 | 0.1 | 1 | 0.05 | 1 | 1 | 0.5 | 10 |

| Site Area | Sample Location | Sample Date | Sample ID | pH | aluminum | antimony | arsenic | barium | beryllium | bismuth | cadmium | calcium | chromium (II+VI) | cobalt | copper | iron | lead | lithium | magnesium | manganese | mercury | molybdenum | nickel | potassium | selenium | silver | sodium | strontium | thallium | tin | titanium | uranium | vanadium | zinc | zirconium | phosphorus |
|-----------|-----------------|-------------|---------------------|------|----------|----------|---------|--------|-----------|---------|---------|---------|------------------|--------|--------|------|------|---------|-----------|-----------|---------|------------|--------|-----------|----------|--------|--------|-----------|----------|------|----------|---------|----------|------|-----------|------------|
| FFTA | FFTA-GAC | 2020-Aug-20 | FFTA-GAC-20-08-2020 | 7.11 | 161 | <0.1 | <0.2 | 11.5 | <0.2 | <0.1 | <0.05 | 967 | <0.5 | 0.27 | 5.4 | 236 | <0.1 | <0.5 | 244 | 21.1 | <0.05 | <0.1 | 1.12 | 366 | <0.5 | <0.05 | <100 | 8.5 | <0.05 | <0.1 | 12.4 | <0.05 | 1.2 | 6.1 | <0.5 | 120 |

Standards / Guidelines Descriptions:

- CCME SoilQG Tier 1 CL (Coarse Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Coarse Soil)
- CCME SoilQG Tier 1 CL (Fine Soil):CCME Soil Quality Guidelines for the Protection of Environment and Human Health, Commercial (Fine Soil)

Notes:

- m - metres
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- '-' - sample not analyzed for parameter indicated
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- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
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- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures
- CCME - Canadian Council of Ministers of the Environment

**TABLE 29: SPENT GRANULATED
 ACTIVATED CARBON -
 PER- AND POLYFLUOROALKYL SUBSTANCES**

| PFAS | | | | | | | | | | | | | | | | | | | |
|----------------------------------|-------------------------------|--------------------------------------|---------------------------------|--------------------------------|---------------------------------------|---------------------------------|--|-------------------------------|--------------------------------------|-------------------------------|-------------------------------|--------------------------------------|-----------------------------------|----------------------------------|-------------------------------------|--------------------------------------|---|---|-------------------------------------|
| | perfluorobutanoic acid [PFBA] | perfluorobutane sulfonic acid [PFBS] | perfluoropentanoic acid [PFPeA] | perfluorohexanoic acid [PFHxA] | perfluorohexane sulfonic acid [PFHxS] | perfluoroheptanoic acid [PFHpA] | perfluoroheptane sulfonic acid [PFHpS] | perfluorooctanoic acid [PFOA] | perfluorooctane sulfonic acid [PFOS] | perfluorononanoic acid [PFNA] | perfluorodecanoic acid [PFDA] | perfluorodecane sulfonic acid [PFDS] | perfluoroundecanoic acid [PFUnDA] | perfluorododecanoic acid [PFDoA] | perfluorotridecanoic acid [PFTriDA] | perfluorotetradecanoic acid [PFTeDA] | 6:2 Fluorotelomer sulfonic acid [6:2 FTS] | 8:2 fluorotelomer sulfonic acid [8:2 FTS] | perfluorooctane sulfonamide [PFOSA] |
| | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Reported Detection Limit | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| FSQG (Eco) for PFOS (IL, coarse) | | | | | | | | | 0.14 | | | | | | | | | | |
| FSQG (Eco) for PFOS (IL, fine) | | | | | | | | | 0.21 | | | | | | | | | | |

| Site Area | Sample Location | Sample Date | Sample ID | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------|-------------|-----------------------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| FFTA | FFTA-GAC | 9/23/2020 | GAC_PAD-SPENT | 0.071 | 0.037 | 0.094 | 0.16 | 0.33 | 0.051 | <0.02 | 0.069 | 0.14 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.86 | 0.19 | <0.02 |
| FFTA | FFTA-GAC | 9/23/2020 | GAC_PAD-SPENT Lab-Dup | 0.069 | <0.02 | 0.09 | 0.13 | 0.081 | 0.048 | <0.02 | 0.06 | 0.11 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.81 | 0.22 | <0.02 |

Standards / Guidelines Descriptions:

- FSQG (Eco) for PFOS (IL, coarse):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Coarse grained soil), February 2017
- FSQG (Eco) for PFOS (IL, fine):Federal Soil Quality Guideline for Perfluorooctane Sulfonate (PFOS) - Industrial (Fine grained soil), February 2017

Notes:

- m - metres
- mbg - metres below grade
- < - less than reported detection limit
- '-' - sample not analyzed for parameter indicated
- formatting of cells indicates exceedances of like-formatted standards
- where many exceedance formats are used, highlighted results reflect the least stringent standard/guideline exceeded
- samples collected from the same location, date and depth interval are blind field duplicate / parent sample pairs
- laboratory analytical reports detail detection limits, testing protocols and QA/QC procedures

PFAS - per- and polyfluoroalkylated substances

PFOS - perfluorooctane sulfonate

PFOA - perfluorooctanoate