

# **Silver Range Resources**

## **SNAP and HAMMER CLAIMS**

### **Baseline Water Quality / Hydrology Survey**

#### **Environmental Data Update**

*October, 2014*

*J.Gibson Env. Consulting*

*Whitehorse, Yukon*

#### ***SNAP and HAMMER Claims October 2014***

Silver Range Resources baseline water quality / hydrology surveys of the SNAP and HAMMER Claims surface waters continued in October, 2014.  
Baseline surveys of the REBEL Claims were discontinued in July 2014.

Water quality / hydrology surveys of the SNAP and HAMMER Claims were started in October 2012.

The sites are located in the Anvil Range approximately 30 kilometers north of Faro, Yukon and 15 kilometers north of the former Faro Mine.

The SNAP Claims are located on tributaries to Blind Creek.

The HAMMER Claims are located on tributaries to Rose Creek.

All surface waters are tributaries to the Pelly River.

All survey sites were accessed by helicopter.

The baseline survey consisted of water quality samples for routine chemistry, total metals, dissolved metals, total organic carbon, total cyanide with field measurements for pH, water temperature and flow volume.

#### **Sample Locations**

Four sites were established on each of the SNAP and HAMMER Claims in October 2012.

All sites are on the attached location map.

All HAMMER sites were accessed on October 20 and 3 of 4 SNAP sites. SNAP #3 was not accessible due to weather.



# Silver Range Resources

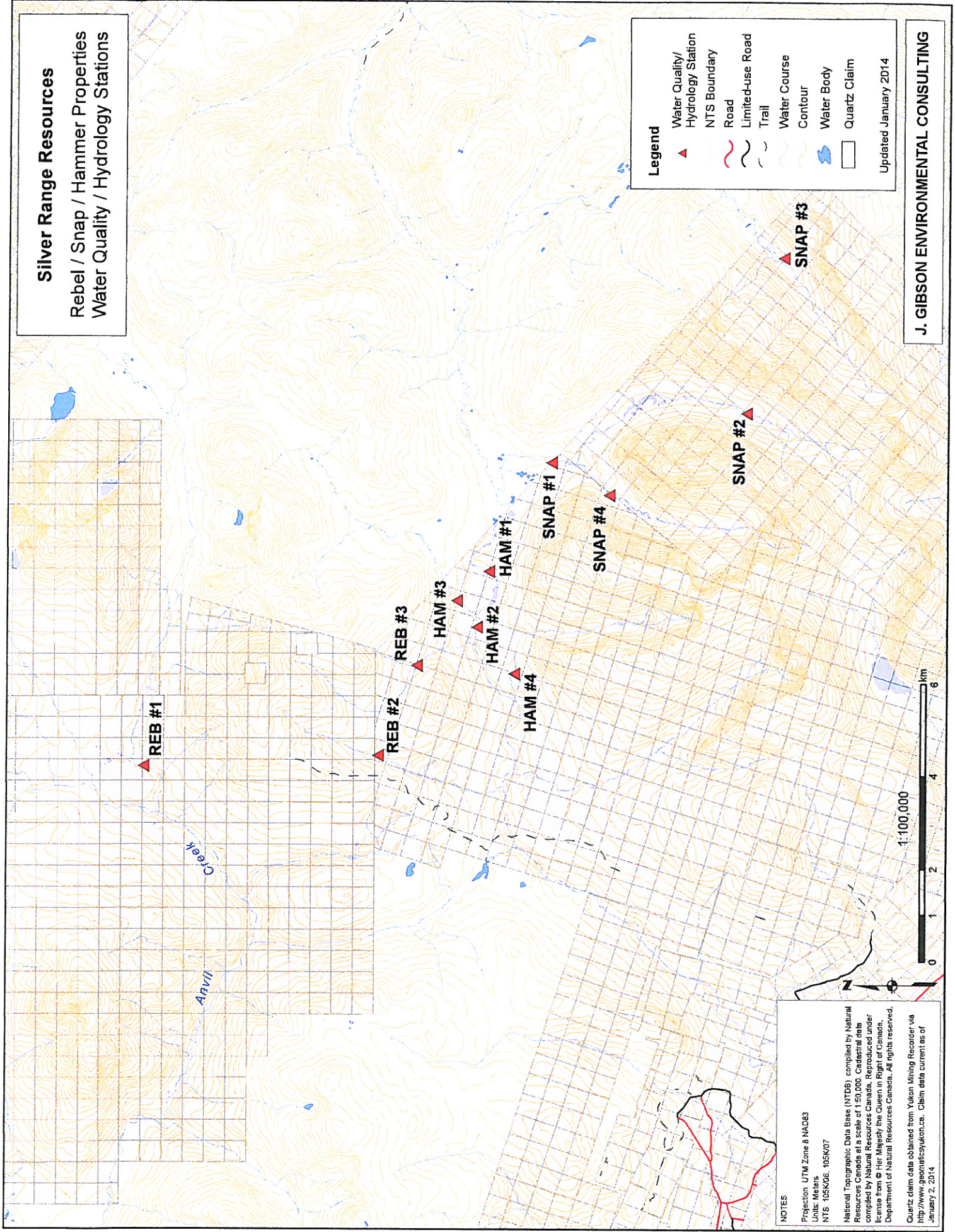
Rebel / Snap / Hammer Properties  
Water Quality / Hydrology Stations

## Legend

- ▲ Water Quality/  
Hydrology Station
- NTS Boundary
- Road
- Limited-use Road
- Trail
- Water Course
- Contour
- Water Body
- Quartz Claim

Updated January 2014

J. GIBSON ENVIRONMENTAL CONSULTING



## NOTES

Projection UTM Zone 8 NAD83  
Unit: Meters  
NTS: 1:50,000  
National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastre data compiled by Natural Resources Canada. Reproduced under license from Her Majesty the Queen in Right of Canada, Department of Natural Resources Canada. All rights reserved.  
Quartz claim data obtained from Yukon Mining Recorder via <http://www.geomatics.yukon.ca>. Claim data current as of January 2, 2014.



#### *SNAP and HAMMER Claims October 2014*

SNAP Claims station designations and coordinates are:

| Station # | Lat/Long Coordinates                           | Elevation(m) |
|-----------|--|--------------|
| SNAP #1   | 62 22 52.6N / 133 6 13W                        |              |
| SNAP #2   | 62 20 34.9N / 133 5 5.4 W                      |              |
| SNAP #3   | 62 20 7 N / 133 1 17.1 W                       |              |
| SNAP #4   | 62 22 21.1N / 133 06 90.6W <b>NEW LOCATION</b> |              |

HAMMER Claims station designations and coordinates are:

| Station # | Lat/Long Coordinates       | Elevation(m) |
|-----------|----------------------------|--------------|
| HAM#1     | 62 23 37.9N / 133 8 53.9W  |              |
| HAM #2    | 62 23 47.3N / 133 10 16.9W |              |
| HAM #3    | 62 24 0.7N / 133 9 36.6W   |              |
| HAM #4    | 62 23 22.1N / 133 11 28.1W |              |

Station SNAP#4 was relocated from the right fork (looking downstream) among the beaver dams to the left fork approximately 1 km upstream of the fork's confluence. The original site was unsuitable for flow measurements as the beaver activity was modifying channels and the left fork stream channel behind the HAMMER required coverage. The site map was modified for the January 2014 report.

#### **Sample Analysis Parameters**

All SNAP and HAMMER Stations were sampled for total metals, dissolved metals and routine chemistry, total organic carbon and total cyanide.

Dissolved metals samples were filtered onsite using disposable 60 ml syringes and 0.45 micron filters. New syringes and filters were used for each station.

Total and dissolved metal samples were preserved with nitric acid immediately after sampling.



#### ***SNAP and HAMMER Claims October 2014***

All samples were stored in coolers, kept at 4 Celsius and shipped by air cargo to the Exova Canada Inc. laboratory in Surrey B.C. for analysis within recommended holding times.

Field measurements for pH, conductivity, total dissolved solids were taken with an Oakton PCS TestR 35, water temperatures with a digital thermometer.

#### **Sample Frequency**

All SNAP and HAMMER stations are on a quarterly sample frequency.

#### **Flow Volume Measurements**

Flow volume measurements taken in October 2014 reflect early freeze up volumes with some snowmelt input.

SNAP Stations #1 and #2 range from 37 to 91% of volumes measured in July 2014 and 27 to 37% of volumes measured in September 2013.

HAMMER Stations #2, #3 and #4 range from 27 to 111% of July 2014 volumes and 18 to 102% of September 2013 volumes.

Ice coverage varied from fully open to 50% surface coverage. There was no anchor or slush ice encountered.

#### **Analysis Results**

Laboratory analysis and field measurement results are listed in the following tables:

**Table 1.**SNAP Stations October 2014 Routine Chemistry – laboratory and field

**Table 2.**SNAP Stations October 2014 Total Metals ICP–MS laboratory analysis

**Table 3.**SNAP Stations October 2014 Dissolved Metals ICP-MS laboratory analysis

**Table 4.** REBEL/SNAP/HAMMER Stations Flow Volume Summary 2010- 2014.

**Table 5.**HAMMER Stations October 2014 Routine Chemistry – laboratory and field

**Table 6.**HAMMER Stations October 2014 Total Metals ICP–MS laboratory analysis

**Table 7.**HAMMER Stations October 2014 Dissolved Metals ICP-MS laboratory analysis



**Table 1 . Silver Range Resources - SNAP Claims, October 2014.**  
**Routine Chemistry and Field Measurement Results**

| Parameter             | Unit  | STATIONS |        |        |        |                 |                      |
|-----------------------|-------|----------|--------|--------|--------|-----------------|----------------------|
|                       |       | SNAP#1   | SNAP#2 | SNAP#3 | SNAP#4 | DWQ*<br>G.lines | Aquatic**<br>G.lines |
| pH (field)            | ru    | 7.88     | 7.07   |        | 7.11   |                 |                      |
| pH (lab)              | ru    | 7.3      | 6.83   | no     | 7.47   | 6.5-8.5         | 6.5-9                |
| Conductivity (lab)    | uS/cm | 174      | 173    | sample | 191    |                 |                      |
| Water temperature     | C     | -0.1     | 1.2    |        | 0.9    |                 |                      |
| Flow Volume(field)    | cms   | 0.4042   | 0.0638 |        | nr     |                 |                      |
| Organic Carbon-Total  | mg/L  | 1.2      | 0.6    |        | 1.3    |                 |                      |
| Cyanide - Total       | mg/L  | <0.002   | <0.002 |        | <0.002 | 0.2             | 0.005                |
| Phosphorus (T)        | mg/L  | <0.003   | <0.003 |        | <0.003 |                 |                      |
| Ammonia -N            | mg/L  | 0.02     | 0.02   |        | 0.03   |                 | 1.37-2.2             |
| Nitrate - N           | mg/L  | 0.07     | 0.14   |        | 0.06   | 10              |                      |
| Nitrite - N           | mg/L  | <0.01    | <0.01  |        | <0.01  | 1               | 0.06                 |
| Alkalinity (as CaCO3) | mg/L  | 33       | 11     |        | 44     |                 |                      |
| Chloride              | mg/L  | 0.07     | 0.1    |        | 0.06   | <250            |                      |
| Sulphate (SO4)        | mg/L  | 47.9     | 60.1   |        | 46.9   |                 |                      |
| Hardness (as CaCO3)   | mg/L  | 74       | 68     |        | 85     | <500            |                      |
| T.Suspended Solids    | mg/L  | <3       | <3     |        | <3     |                 |                      |
| T.Dissolved Solids    | mg/L  | 128      | 116    |        | 140    | 500             |                      |

*All results and limits in mg/L unless noted otherwise. Nr = no sample/reading*

*DWQ\* Guidelines are Maximum Acceptable Concentrations according to*

*Canadian Drinking Water Quality*

*Aquatic\*\* Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L*

*Canadian Water Quality Guidelines*

**equal or exceeds Guideline limit**



**Table 2. Silver Range Resources - SNAP Claims October, 2014**

**Total Metals Analysis Results.**

| Parameter  | Units | SNAP#1   | SNAP#2   | SNAP#3 | SNAP#4   | DWQ*<br>G.Lines | Aquatic**<br>G.Lines |
|------------|-------|----------|----------|--------|----------|-----------------|----------------------|
| Calcium    | mg/L  | 25.8     | 23.2     |        | 33       |                 |                      |
| Iron       | mg/L  | 0.181    | 0.021    |        | 0.164    | 0.3             | 0.3                  |
| Magnesium  | mg/L  | 4.64     | 4.99     |        | 3.28     |                 |                      |
| Manganese  | mg/L  | 0.0398   | 0.0402   |        | 0.0148   | 0.05            |                      |
| Potassium  | mg/L  | 0.7      | 0.7      |        | 0.7      |                 |                      |
| Silicon    | mg/L  | 4.16     | 4.12     |        | 4.02     |                 |                      |
| Sodium     | mg/L  | 1.9      | 2        |        | 1.6      | <200            |                      |
| Titanium   | mg/L  | <0.0005  | <0.0005  |        | <0.0005  |                 |                      |
| Aluminum   | mg/L  | 0.024    | 0.1      |        | 0.011    |                 | 0.1                  |
| Antimony   | mg/L  | <0.0001  | <0.0001  |        | 0.0001   | 0.006           |                      |
| Arsenic    | mg/L  | 0.00055  | 0.00037  |        | 0.00026  | 0.01            |                      |
| Barium     | mg/L  | 0.026    | 0.024    |        | 0.0206   | 1               |                      |
| Beryllium  | mg/L  | 0.0001   | 0.00061  |        | <0.00005 |                 |                      |
| Bismuth    | mg/L  | <0.0001  | <0.0001  |        | <0.0001  |                 |                      |
| Boron      | mg/L  | <0.002   | <0.002   |        | <0.002   | 5               |                      |
| Cadmium    | mg/L  | 0.00091  | 0.00287  |        | 0.00002  | 0.005           | 0.0018               |
| Chromium   | mg/L  | <0.0005  | <0.0005  |        | <0.0005  | 0.05            | 0.002                |
| Cobalt     | mg/L  | <0.0001  | 0.0003   |        | <0.0001  |                 |                      |
| Copper     | mg/L  | 0.0013   | 0.0019   |        | 0.0016   | 1               | 0.004                |
| Lead       | mg/L  | 0.0003   | 0.0011   |        | <0.0001  | 0.01            | 0.007                |
| Lithium    | mg/L  | 0.0024   | 0.0035   |        | 0.0013   |                 |                      |
| Molybdenum | mg/L  | 0.00019  | 0.00007  |        | 0.00039  |                 |                      |
| Nickel     | mg/L  | 0.0133   | 0.0442   |        | 0.0006   |                 | 0.15                 |
| Selenium   | mg/L  | 0.0001   | 0.0002   |        | 0.0003   | 0.01            | 0.001                |
| Silver     | mg/L  | <0.00005 | <0.00005 |        | <0.00005 |                 | 0.0001               |
| Strontium  | mg/L  | 0.12     | 0.139    |        | 0.13     |                 |                      |
| Thallium   | mg/L  | <0.00001 | <0.00001 |        | <0.00001 |                 |                      |
| Thorium    | mg/L  | <0.00001 | <0.00001 |        | <0.00001 |                 |                      |
| Tin        | mg/L  | <0.0001  | <0.0001  |        | <0.0001  |                 |                      |
| Uranium    | mg/L  | 0.00104  | 0.00019  |        | 0.00278  | 0.02            |                      |
| Vanadium   | mg/L  | 0.0001   | <0.0001  |        | 0.0001   |                 |                      |
| Zinc       | mg/L  | 0.198    | 0.423    |        | 0.0013   | <5              | 0.03                 |
| Zirconium  | mg/L  | <0.0005  | <0.0005  |        | <0.0005  |                 |                      |
| Mercury    | mg/L  | nr       | nr       |        | nr       | 0.001           | 0.1                  |

nr=no sample or analysis done  
equal or exceeds Guideline limit



**Table 3. Silver Range Resources - SNAP Claims October 2014.**

**Dissolved Metals Analysis Results**

| Parameter  | Units | SNAP#1   | SNAP#2   | SNAP#3 | SNAP#4   |
|------------|-------|----------|----------|--------|----------|
| Calcium    | mg/L  | 22.6     | 19.8     |        | 28.9     |
| Iron       | mg/L  | 0.056    | <0.005   |        | 0.047    |
| Magnesium  | mg/L  | 4.39     | 4.59     |        | 3.12     |
| Manganese  | mg/L  | 0.035    | 0.036    |        | 0.012    |
| Potassium  | mg/L  | 0.7      | 0.6      |        | 0.7      |
| Silicon    | mg/L  | 3.93     | 3.82     |        | 3.83     |
| Sodium     | mg/L  | 1.8      | 1.9      |        | 1.5      |
| Sulfur     | mg/L  | 17.1     | 21.7     |        | 17.1     |
| Titanium   | mg/L  | <0.010   | <0.010   |        | <0.010   |
| Aluminum   | mg/L  | 0.008    | 0.053    |        | <0.005   |
| Antimony   | mg/L  | <0.0002  | <0.0002  |        | <0.0002  |
| Arsenic    | mg/L  | 0.0005   | 0.0003   |        | 0.0003   |
| Barium     | mg/L  | 0.024    | 0.023    |        | 0.019    |
| Beryllium  | mg/L  | 0.00006  | 0.00043  |        | <0.00004 |
| Bismuth    | mg/L  | <0.001   | <0.001   |        | <0.001   |
| Boron      | mg/L  | 0.012    | 0.01     |        | 0.01     |
| Cadmium    | mg/L  | 0.00085  | 0.00298  |        | 0.00006  |
| Chromium   | mg/L  | <0.0004  | <0.0004  |        | <0.0004  |
| Cobalt     | mg/L  | 0.0001   | 0.00024  |        | 0.00009  |
| Copper     | mg/L  | <0.001   | 0.001    |        | <0.001   |
| Lead       | mg/L  | 0.0002   | 0.0009   |        | <0.0001  |
| Lithium    | mg/L  | 0.003    | 0.004    |        | 0.001    |
| Molybdenum | mg/L  | 0.00022  | <0.00010 |        | 0.00038  |
| Nickel     | mg/L  | 0.013    | 0.042    |        | <0.001   |
| Selenium   | mg/L  | <0.0006  | <0.0006  |        | <0.0006  |
| Silver     | mg/L  | <0.00001 | <0.00001 |        | <0.00001 |
| Strontium  | mg/L  | 0.117    | 0.134    |        | 0.129    |
| Thallium   | mg/L  | <0.00001 | <0.00001 |        | <0.00001 |
| Thorium    | mg/L  | <0.0004  | <0.0004  |        | <0.0004  |
| Tin        | mg/L  | <0.0001  | <0.0001  |        | <0.0001  |
| Uranium    | mg/L  | 0.0011   | <0.0004  |        | 0.0026   |
| Vanadium   | mg/L  | <0.00010 | <0.00010 |        | <0.00010 |
| Zinc       | mg/L  | 0.206    | 0.428    |        | 0.001    |
| Zirconium  | mg/L  | <0.00010 | <0.00010 |        | <0.00010 |

**Table 4. Silver Range Resources - Summary of REB/SNAP/HAMMER Flow Volumes 2010 - 2014**  
(Cubic meters per second)

| Station | Date   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|         | Aug-10 | Oct-10 | Mar-11 | Jun-11 | Sep-11 | Mar-12 | May-12 | Jul-12 | Oct-12 | Mar-13 | Jun-13 | Sep-13 | Apr-14 | Jul-14 | Oct-14 |
| REB #1  | 0.403  | 0.311  | 0.068  | 1.252  | 0.776  | 0.055  | 0.218  | nr     | 0.314  | 0.1024 | 1.476  | 0.9404 | 0.1129 | nr     | nr     |
| REB #2  | 0.015  | 0.028  | Dry    | 0.054  | 0.034  | Dry    | Dry    | nr     | 0.018  | nr     | 0.0553 | 0.0679 | nr     | nr     | nr     |
| REB #3  | 0.024  | 0.047  | 0.0015 | 0.639  | 0.040  | 0.002  | 0.1021 | nr     | 0.106  | nr     | 0.097  | nr     | nr     | nr     | nr     |
| SNAP#1  |        |        |        |        |        |        |        |        | 0.0695 | nr     | 1.526  | 1.0857 | nr     | 0.4444 | 0.4042 |
| SNAP#2  |        |        |        |        |        |        |        |        | 0.0935 | 0.0079 | 0.635  | 0.2386 | 0.0012 | 0.1746 | 0.0638 |
| SNAP#3  |        |        |        |        |        |        |        |        | 0.0573 | nr     | 0.277  | nr     | nr     | 0.0924 | nr     |
| SNAP#4  |        |        |        |        |        |        |        |        | nr     | nr     | nr     | nr     | nr     | 0.1437 | nr     |
| HAM#1   |        |        |        |        |        |        |        |        | nr     | nr     | nr     | nr     | nr     | nr     | nr     |
| HAM#2   |        |        |        |        |        |        |        |        | nr     | nr     | 0.4957 | 0.3734 | nr     | 0.2863 | 0.132  |
| HAM#3   |        |        |        |        |        |        |        |        | 0.0474 | 0.0332 | 0.5034 | 0.2287 | 0.0315 | 0.2095 | 0.2321 |
| HAM#4   |        |        |        |        |        |        |        |        | 0.0469 | nr     | 0.3118 | 0.2233 | nr     | 0.1471 | 0.0401 |



**Table 5. Silver Range Resources - HAMMER Claims, October, 2014.**  
**Routine Chemistry and Field Measurement Results**

| Parameter             | Unit  | STATIONS |        |        |        |  | DWQ*<br>G.lines | Aquatic**<br>G.lines |
|-----------------------|-------|----------|--------|--------|--------|--|-----------------|----------------------|
|                       |       | HAM#1    | HAM#2  | HAM#3  | HAM#4  |  |                 |                      |
| pH (field)            | ru    | 7.97     | 8.11   | 8.03   | 8.4    |  |                 |                      |
| pH (lab)              | ru    | 7.34     | 7.77   | 7.95   | 7.25   |  | 6.5-8.5         | 6.5-9                |
| Conductivity (lab)    | uS/cm | 239      | 238    | 242    | 49     |  |                 |                      |
| Water temperature     | C     | 0.9      | 1.1    | 1.1    | 0.3    |  |                 |                      |
| Flow Volume(field)    | cms   | nr       | 0.132  | 0.232  | 0.04   |  |                 |                      |
| Organic Carbon-Total  | mg/L  | 2.6      | 1.5    | 1      | 1.9    |  |                 |                      |
| Cyanide - Total       | mg/L  | <0.002   | <0.002 | <0.002 | <0.002 |  | 0.2             | 0.005                |
| Phosphorus (T)        | mg/L  | 0.029    | 0.007  | 0.005  | 0.007  |  |                 |                      |
| Ammonia -N            | mg/L  | 0.03     | 0.02   | 0.03   | 0.02   |  |                 | 1.37-2.2             |
| Nitrate - N           | mg/L  | 0.03     | 0.12   | 0.12   | 0.1    |  | 10              |                      |
| Nitrite - N           | mg/L  | <0.01    | <0.01  | <0.01  | <0.01  |  | 1               | 0.06                 |
| Alkalinity (as CaCO3) | mg/L  | 138      | 126    | 126    | 23     |  |                 |                      |
| Chloride              | mg/L  | 0.16     | 0.06   | 0.11   | 0.14   |  | <250            |                      |
| Sulphate (S04)        | mg/L  | 7.11     | 15.3   | 17.2   | 3.42   |  |                 |                      |
| Hardness (as CaCO3)   | mg/L  | 123      | 124    | 127    | 20     |  | <500            |                      |
| T.Suspended Solids    | mg/L  | <3       | <3     | <3     | <3     |  |                 |                      |
| T.Dissolved Solids    | mg/L  | 158      | 156    | 156    | 48     |  | 500             |                      |

**All results and limits in mg/L unless noted otherwise. Nr = no sample/reading**

**DWQ\* Guidelines are Maximum Acceptable Concentrations according to**

**Canadian Drinking Water Quality**

**Aquatic\*\* Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L**

**Canadian Water Quality Guidelines**

**equal or exceeds Guideline limit**

**Table 6. Silver Range Resources - HAMMER Claims October, 2014**

**Total Metals Analysis Results.**

| Parameter  | Units | HAM#1    | HAM#2    | HAM#3    | HAM#4    | DWQ*<br>G.Lines | Aquatic**<br>G.Lines |
|------------|-------|----------|----------|----------|----------|-----------------|----------------------|
| Calcium    | mg/L  | 39.5     | 38.3     | 37       | 7.28     |                 |                      |
| Iron       | mg/L  | 0.823    | 0.208    | 0.157    | 0.156    | 0.3             | 0.3                  |
| Magnesium  | mg/L  | 8.94     | 11.1     | 11.4     | 1.12     |                 |                      |
| Manganese  | mg/L  | 0.234    | 0.017    | 0.0187   | 0.0088   | 0.05            |                      |
| Potassium  | mg/L  | 0.8      | 0.4      | 0.3      | 0.3      |                 |                      |
| Silicon    | mg/L  | 5.34     | 4.08     | 3.87     | 4.62     |                 |                      |
| Sodium     | mg/L  | 2.4      | 1.3      | 1.1      | 1.6      | <200            |                      |
| Titanium   | mg/L  | <0.0005  | <0.0005  | 0.0016   | 0.0018   |                 |                      |
| Aluminum   | mg/L  | 0.007    | 0.017    | 0.051    | 0.063    |                 | 0.1                  |
| Antimony   | mg/L  | <0.0001  | <0.0001  | <0.0001  | <0.0001  | 0.006           |                      |
| Arsenic    | mg/L  | 0.00722  | 0.00066  | 0.00027  | 0.00035  | 0.01            |                      |
| Barium     | mg/L  | 0.151    | 0.0718   | 0.0604   | 0.0205   | 1               |                      |
| Beryllium  | mg/L  | <0.00005 | <0.00005 | <0.00005 | <0.00005 |                 |                      |
| Bismuth    | mg/L  | <0.0001  | <0.0001  | <0.0001  | <0.0001  |                 |                      |
| Boron      | mg/L  | 0.002    | <0.002   | <0.002   | <0.002   | 5               |                      |
| Cadmium    | mg/L  | 0.00006  | <0.00001 | 0.00003  | 0.00001  | 0.005           | 0.0018               |
| Chromium   | mg/L  | <0.0005  | <0.0005  | <0.0005  | <0.0005  | 0.05            | 0.002                |
| Cobalt     | mg/L  | 0.0001   | <0.0001  | <0.0001  | <0.0001  |                 |                      |
| Copper     | mg/L  | 0.0047   | 0.0016   | 0.0009   | 0.0006   | 1               | 0.004                |
| Lead       | mg/L  | <0.0001  | <0.0001  | 0.0001   | 0.0001   | 0.01            | 0.007                |
| Lithium    | mg/L  | 0.0035   | 0.0016   | 0.0013   | 0.0009   |                 |                      |
| Molybdenum | mg/L  | 0.0012   | 0.00065  | 0.00068  | 0.00013  |                 |                      |
| Nickel     | mg/L  | 0.0003   | 0.0005   | 0.0005   | 0.0002   |                 | 0.15                 |
| Selenium   | mg/L  | 0.0005   | 0.0007   | 0.0007   | <0.0001  | 0.01            | 0.001                |
| Silver     | mg/L  | <0.00005 | <0.00005 | <0.00005 | <0.00005 |                 | 0.0001               |
| Strontium  | mg/L  | 0.159    | 0.104    | 0.0973   | 0.0324   |                 |                      |
| Thallium   | mg/L  | <0.00001 | <0.00001 | <0.00001 | <0.00001 |                 |                      |
| Thorium    | mg/L  | 0.00004  | 0.00002  | 0.00002  | 0.00002  |                 |                      |
| Tin        | mg/L  | <0.0001  | <0.0001  | 0.0001   | <0.0001  |                 |                      |
| Uranium    | mg/L  | 0.00183  | 0.00106  | 0.00108  | 0.00032  | 0.02            |                      |
| Vanadium   | mg/L  | <0.0001  | 0.0001   | 0.0003   | 0.0003   |                 |                      |
| Zinc       | mg/L  | 0.0018   | 0.0015   | 0.0018   | 0.0017   | <5              | 0.03                 |
| Zirconium  | mg/L  | <0.0005  | <0.0005  | <0.0005  | <0.0005  |                 |                      |
| Mercury    | mg/L  | nr       | nr       | nr       | nr       | 0.001           | 0.1                  |

**equal or exceeds Guideline limit**

**nr=no sample or analysis done**



**Table 7. Silver Range Resources - HAMMER Claims October, 2014.**

**Dissolved Metals Analysis Results**

| <b>Parameter</b> | <b>Units</b> | <b>HAM#1</b> | <b>HAM#2</b> | <b>HAM#3</b> | <b>HAM#4</b> |
|------------------|--------------|--------------|--------------|--------------|--------------|
| Calcium          | mg/L         | 35.1         | 33           | 32.9         | 6.38         |
| Iron             | mg/L         | 0.403        | 0.059        | <0.005       | 0.021        |
| Magnesium        | mg/L         | 8.57         | 10.2         | 10.9         | 1.06         |
| Manganese        | mg/L         | 0.217        | 0.012        | 0.005        | 0.005        |
| Potassium        | mg/L         | 0.7          | 0.3          | 0.3          | 0.2          |
| Silicon          | mg/L         | 5.22         | 3.86         | 3.71         | 4.34         |
| Sodium           | mg/L         | 2.3          | 1.2          | 1            | 1.5          |
| Sulfur           | mg/L         | 2.7          | 5.6          | 6.2          | 1.3          |
| Titanium         | mg/L         | <0.010       | <0.010       | <0.010       | <0.010       |
| Aluminum         | mg/L         | <0.005       | <0.005       | <0.005       | 0.016        |
| Antimony         | mg/L         | <0.0002      | <0.0002      | <0.0002      | <0.0002      |
| Arsenic          | mg/L         | 0.0061       | 0.0004       | 0.0002       | 0.0003       |
| Barium           | mg/L         | 0.143        | 0.067        | 0.056        | 0.019        |
| Beryllium        | mg/L         | <0.00004     | <0.00004     | <0.00004     | <0.00004     |
| Bismuth          | mg/L         | <0.001       | <0.001       | <0.001       | <0.001       |
| Boron            | mg/L         | 0.031        | 0.023        | 0.018        | 0.014        |
| Cadmium          | mg/L         | 0.00005      | 0.00001      | 0.00003      | <0.00001     |
| Chromium         | mg/L         | <0.0004      | <0.0004      | <0.0004      | <0.0004      |
| Cobalt           | mg/L         | 0.00014      | 0.00006      | 0.00006      | 0.00006      |
| Copper           | mg/L         | <0.001       | <0.001       | 0.005        | <0.001       |
| Lead             | mg/L         | <0.0001      | <0.0001      | <0.0001      | <0.0001      |
| Lithium          | mg/L         | 0.004        | 0.002        | 0.001        | 0.001        |
| Molybdenum       | mg/L         | 0.00116      | 0.00066      | 0.00068      | 0.00014      |
| Nickel           | mg/L         | <0.001       | <0.001       | 0.003        | <0.001       |
| Selenium         | mg/L         | 0.0007       | <0.0006      | 0.0009       | <0.0006      |
| Silver           | mg/L         | <0.00001     | <0.00001     | <0.00001     | <0.00001     |
| Strontium        | mg/L         | 0.158        | 0.102        | 0.099        | 0.032        |
| Thallium         | mg/L         | <0.00001     | <0.00001     | <0.00001     | <0.00001     |
| Thorium          | mg/L         | <0.0004      | <0.0004      | <0.0004      | <0.0004      |
| Tin              | mg/L         | <0.0001      | <0.0001      | <0.0001      | <0.0001      |
| Uranium          | mg/L         | 0.0019       | 0.001        | 0.0011       | <0.0004      |
| Vanadium         | mg/L         | <0.00010     | <0.00010     | <0.00010     | <0.00010     |
| Zinc             | mg/L         | 0.001        | 0.001        | <0.001       | <0.001       |
| Zirconium        | mg/L         | <0.00010     | <0.00010     | <0.00010     | <0.00010     |

#### ***SNAP and HAMMER Claims October 2014***

As a guide for reviewing site water quality, the Maximum Acceptable Concentration (MAC) according to ***Canadian Drinking Water Quality*** are listed along with the Aquatic Guidelines for the protection of aquatic life in water with a pH of > 6.5 and a total hardness as CaCO<sub>3</sub> > 180 mg/L according to ***CCME – Canadian Water Quality Guidelines***.

All water quality ***Guideline*** concentrations are based on total metal values.

All laboratory analysis was done by Exova Canada Inc of Surrey B.C.

Laboratory Analytical Reports are attached in Appendix 1.

Data Summaries for SNAP and HAMMER stations are on the attached disc.

#### **Quality Control**

No Quality Control samples were taken in October 2014.

#### **Discussion**

##### **Hydrology**

All water quality / hydrology stations were in early winter flow conditions. Flow measurements were taken at stations SNAP #1 and #2, HAMMER #2, #3, #4.

##### **Laboratory Analytical Results**

Parameters that equal or exceed either ***Drinking Water or Aquatic Guidelines*** are highlighted in yellow in the data reporting tables.

##### ***SNAP Stations***

Station SNAP#1 results exceed ***Aquatic Guidelines*** for zinc.

Station SNAP #2 results exceed the ***Aquatic Guidelines*** for aluminum, cadmium and zinc.



***SNAP and HAMMER Claims October 2014***

**Station SNAP#3** was not accessed.

**Station SNAP #4** results met all *Aquatic Guidelines* and *Drinking Water MAC's*.

***HAMMER Stations***

**Station HAM#1** results exceed *Aquatic Guidelines* for iron and copper; and *Drinking Water MAC* for iron and manganese.

**Stations HAM#2, HAM#3 and HAM#4** met all *Guideline* limits.

Total cyanide concentrations were below the lab detection limit of 0.002 mg/L at all stations.

**KEG Stations**

KEG stations #1 and #11 were accessed by helicopter on October 20 to remove the water level and barometric pressure data loggers. Site hardware was left onsite at Bench Mark #1.

Sites were level surveyed and flow measurements were done.

The KEG weather station was downloaded and dismantled October 20<sup>th</sup>.

A 2014 Stream Flow Discharge Report and a 2014 Weather Data Report will be submitted at a later date.

# **A P P E N D I X 1**

## **LABORATORY ANALYTICAL REPORTS**

### **SNAP and HAMMER Claims**

**October 2014**



## Report Transmission Cover Page

|             |                        |            |                   |                 |                |
|-------------|------------------------|------------|-------------------|-----------------|----------------|
| Bill To:    | J. Gibson & Associates | Project:   |                   | Lot ID:         | <b>1035194</b> |
| Report To:  | J. Gibson & Associates | ID:        | Silver Range Res. | Control Number: | C0041404       |
|             | Box 20913              | Name:      |                   | Date Received:  | Oct 23, 2014   |
|             | Whitehorse, YT, Canada | Location:  | Snap Project      | Date Reported:  | Oct 29, 2014   |
|             | Y1A 6P2                | LSD:       |                   | Report Number:  | 1961664        |
| Attn:       | John Gibson            | P.O.:      |                   |                 |                |
| Sampled By: | J. Gibson              | Acct code: |                   |                 |                |
| Company:    |                        |            |                   |                 |                |

| Contact & Affiliation  | Address   | Delivery Commitments                                  |
|------------------------|---|---|
| John Gibson            | , Box 20913   | On [Lot Verification] send                            |
| J. Gibson & Associates | Whitehorse, Yukon Territory Y1A 6P2   | (COA) by Email - Single Report                        |
|                        | Phone: (867) 633-4522   | On [Report Approval] send                             |
|                        | Fax: (867) 668-6895   | (COC, Test Report) by Email - Merge Reports           |
|                        | Email: <a href="mailto:ludditegibson@gmail.com">ludditegibson@gmail.com</a> | On [Report Approval] send                             |
|                        |   | (Test Report) by Email - Single Report                |
|                        |   | On [Lot Approval and Final Test Report Approval] send |
|                        |   | (Invoice) by Email - Single Report                    |
|                        |   | On [Lot Creation] send                                |
|                        |   | (COR) by Email - Single Report                        |

### Notes To Clients:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection

## Analytical Report

Bill To: J. Gibson & Associates  
Report To: J. Gibson & Associates  
Box 20913  
Whitehorse, YT, Canada  
Y1A 6P2  
Attn: John Gibson  
Sampled By: J. Gibson  
Company:

Project:  
ID: Silver Range Res.  
Name:  
Location: Snap Project  
LSD:  
P.O.:  
Acct code:

Lot ID: **1035194**  
Control Number: C0041404  
Date Received: Oct 23, 2014  
Date Reported: Oct 29, 2014  
Report Number: 1961664

|   |                    | Reference Number   | 1035194-1        | 1035194-2        | 1035194-3        |                         |
|---|--------------------|--------------------|------------------|------------------|------------------|-------------------------|
|   |                    | Sample Date        | Oct 20, 2014     | Oct 20, 2014     | Oct 20, 2014     |                         |
|   |                    | Sample Time        | NA               | NA               | NA               |                         |
|   |                    | Sample Location    | Surface          | Surface          | Surface          |                         |
|   |                    | Sample Description | Snap 1 / Surface | Snap 2 / Surface | Snap 4 / Surface |                         |
|   |                    | Matrix             | Water            | Water            | Water            |                         |
| Analyte                                 |                    | Units              | Results          | Results          | Results          | Nominal Detection Limit |
| <b>Inorganic Nonmetallic Parameters</b> |                    |                    |                  |                  |                  |                         |
| Organic Carbon                          | Total Nonpurgeable | mg/L               | 1.2              | 0.6              | 1.3              | 0.5                     |
| Cyanide                                 | Total              | mg/L               | <0.002           | <0.002           | <0.002           | 0.002                   |
| Ammonia - N                             |                    | mg/L               | 0.02             | 0.02             | 0.03             | .01                     |
| Phosphorus                              | Total              | mg/L               | <0.003           | <0.003           | <0.003           | 0.003                   |
| <b>Metals Dissolved</b>                 |                    |                    |                  |                  |                  |                         |
| Sulfur                                  | Dissolved          | mg/L               | 17.1             | 21.7             | 17.1             | 0.2                     |
| Titanium                                | Dissolved          | mg/L               | <0.010           | <0.010           | <0.010           | 0.01                    |
| Digestion                               |                    |                    | Field Filtered   | Field Filtered   | Field Filtered   |                         |
| Aluminum                                | Dissolved          | mg/L               | 0.008            | 0.053            | <0.005           | 0.005                   |
| Antimony                                | Dissolved          | mg/L               | <0.0002          | <0.0002          | <0.0002          | 0.0002                  |
| Arsenic                                 | Dissolved          | mg/L               | 0.0005           | 0.0003           | 0.0003           | 0.0002                  |
| Barium                                  | Dissolved          | mg/L               | 0.024            | 0.023            | 0.019            | 0.001                   |
| Beryllium                               | Dissolved          | mg/L               | 0.00006          | 0.00043          | <0.00004         | 0.00004                 |
| Bismuth                                 | Dissolved          | mg/L               | <0.001           | <0.001           | <0.001           | 0.001                   |
| Boron                                   | Dissolved          | mg/L               | 0.012            | 0.010            | 0.01             | 0.004                   |
| Cadmium                                 | Dissolved          | mg/L               | 0.00085          | 0.00298          | 0.00006          | 0.00001                 |
| Chromium                                | Dissolved          | mg/L               | <0.0004          | <0.0004          | <0.0004          | 0.0004                  |
| Cobalt                                  | Dissolved          | mg/L               | 0.00010          | 0.00024          | 0.00009          | 0.00002                 |
| Copper                                  | Dissolved          | mg/L               | <0.001           | 0.001            | <0.001           | 0.001                   |
| Lead                                    | Dissolved          | mg/L               | 0.0002           | 0.0009           | <0.0001          | 0.0001                  |
| Lithium                                 | Dissolved          | mg/L               | 0.003            | 0.004            | 0.001            | 0.001                   |
| Molybdenum                              | Dissolved          | mg/L               | 0.00022          | <0.00010         | 0.00038          | 0.0001                  |
| Nickel                                  | Dissolved          | mg/L               | 0.013            | 0.042            | <0.001           | 0.001                   |
| Selenium                                | Dissolved          | mg/L               | <0.0006          | <0.0006          | <0.0006          | 0.0006                  |
| Silver                                  | Dissolved          | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Strontium                               | Dissolved          | mg/L               | 0.117            | 0.134            | 0.129            | 0.001                   |
| Tellurium                               | Dissolved          | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Thallium                                | Dissolved          | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Thorium                                 | Dissolved          | mg/L               | <0.0004          | <0.0004          | <0.0004          | 0.0004                  |
| Tin                                     | Dissolved          | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Uranium                                 | Dissolved          | mg/L               | 0.0011           | <0.0004          | 0.0026           | 0.0004                  |
| Vanadium                                | Dissolved          | mg/L               | <0.00010         | <0.00010         | <0.00010         | 0.0001                  |
| Zinc                                    | Dissolved          | mg/L               | 0.206            | 0.428            | 0.001            | 0.001                   |
| Zirconium                               | Dissolved          | mg/L               | <0.00010         | <0.00010         | <0.00010         | 0.0001                  |
| <b>Metals Total</b>                     |                    |                    |                  |                  |                  |                         |
| Aluminum                                | Total              | mg/L               | 0.024            | 0.100            | 0.011            | 0.005                   |

## Analytical Report

Bill To: J. Gibson & Associates  
 Report To: J. Gibson & Associates  
 Box 20913  
 Whitehorse, YT, Canada  
 Y1A 6P2  
 Attn: John Gibson  
 Sampled By: J. Gibson  
 Company:

Project:  
 ID: Silver Range Res.  
 Name:  
 Location: Snap Project  
 LSD:  
 P.O.:  
 Acct code:

Lot ID: **1035194**  
 Control Number: C0041404  
 Date Received: Oct 23, 2014  
 Date Reported: Oct 29, 2014  
 Report Number: 1961664

|  |                 | Reference Number   | 1035194-1        | 1035194-2        | 1035194-3        |                         |
|--|-----------------|--------------------|------------------|------------------|------------------|-------------------------|
|  |                 | Sample Date        | Oct 20, 2014     | Oct 20, 2014     | Oct 20, 2014     |                         |
|  |                 | Sample Time        | NA               | NA               | NA               |                         |
|  |                 | Sample Location    | Surface          | Surface          | Surface          |                         |
|  |                 | Sample Description | Snap 1 / Surface | Snap 2 / Surface | Snap 4 / Surface |                         |
|  |                 | Matrix             | Water            | Water            | Water            |                         |
| Analyte                                  |                 | Units              | Results          | Results          | Results          | Nominal Detection Limit |
| <b>Metals Total - Continued</b>          |                 |                    |                  |                  |                  |                         |
| Antimony                                 | Total           | mg/L               | <0.0001          | <0.0001          | 0.0001           | 0.0001                  |
| Arsenic                                  | Total           | mg/L               | 0.00055          | 0.00037          | 0.00026          | 0.00005                 |
| Barium                                   | Total           | mg/L               | 0.0260           | 0.0240           | 0.0206           | 0.00005                 |
| Beryllium                                | Total           | mg/L               | 0.00010          | 0.00061          | <0.00005         | 0.00005                 |
| Bismuth                                  | Total           | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Boron                                    | Total           | mg/L               | <0.002           | <0.002           | <0.002           | 0.002                   |
| Cadmium                                  | Total           | mg/L               | 0.00091          | 0.00287          | 0.00002          | 0.00001                 |
| Calcium                                  | Total           | mg/L               | 25.8             | 23.2             | 33.0             | 0.05                    |
| Chromium                                 | Total           | mg/L               | <0.0005          | <0.0005          | <0.0005          | 0.0005                  |
| Cobalt                                   | Total           | mg/L               | <0.0001          | 0.0003           | <0.0001          | 0.0001                  |
| Copper                                   | Total           | mg/L               | 0.0013           | 0.0019           | 0.0016           | 0.0001                  |
| Iron                                     | Total           | mg/L               | 0.181            | 0.021            | 0.164            | 0.002                   |
| Lead                                     | Total           | mg/L               | 0.0003           | 0.0011           | <0.0001          | 0.0001                  |
| Lithium                                  | Total           | mg/L               | 0.0024           | 0.0035           | 0.0013           | 0.0005                  |
| Magnesium                                | Total           | mg/L               | 4.64             | 4.99             | 3.28             | 0.04                    |
| Manganese                                | Total           | mg/L               | 0.0398           | 0.0402           | 0.0148           | 0.001                   |
| Molybdenum                               | Total           | mg/L               | 0.00019          | 0.00007          | 0.00039          | 0.00005                 |
| Nickel                                   | Total           | mg/L               | 0.0133           | 0.0442           | 0.0006           | 0.0002                  |
| Potassium                                | Total           | mg/L               | 0.7              | 0.7              | 0.7              | 0.1                     |
| Selenium                                 | Total           | mg/L               | 0.0001           | 0.0002           | 0.0003           | 0.0001                  |
| Silicon                                  | Total           | mg/L               | 4.16             | 4.12             | 4.02             | 0.02                    |
| Silver                                   | Total           | mg/L               | <0.00005         | <0.00005         | <0.00005         | 0.00005                 |
| Sodium                                   | Total           | mg/L               | 1.9              | 2.0              | 1.6              | 0.1                     |
| Strontium                                | Total           | mg/L               | 0.120            | 0.139            | 0.130            | 0.0001                  |
| Thallium                                 | Total           | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Thorium                                  | Total           | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Tin                                      | Total           | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Titanium                                 | Total           | mg/L               | <0.0005          | <0.0005          | <0.0005          | 0.0005                  |
| Uranium                                  | Total           | mg/L               | 0.00104          | 0.00019          | 0.00278          | 0.00001                 |
| Vanadium                                 | Total           | mg/L               | 0.0001           | <0.0001          | 0.0001           | 0.0001                  |
| Zinc                                     | Total           | mg/L               | 0.198            | 0.423            | 0.0013           | 0.0005                  |
| Zirconium                                | Total           | mg/L               | <0.0005          | <0.0005          | <0.0005          | 0.0005                  |
| Hardness                                 | as CaCO3        | mg/L               | 84               | 79               | 96               | 1                       |
| <b>Physical and Aggregate Properties</b> |                 |                    |                  |                  |                  |                         |
| Solids                                   | Total Suspended | mg/L               | <3               | <3               | <3               | 1                       |
| Solids                                   | Total Dissolved | mg/L               | 128              | 116              | 140              | 5                       |

## Analytical Report

|                                   |                        |                             |
|-----------------------------------|------------------------|-----------------------------|
| Bill To: J. Gibson & Associates   | Project:               | Lot ID: <b>1035194</b>      |
| Report To: J. Gibson & Associates | ID: Silver Range Res.  | Control Number: C0041404    |
| Box 20913                         | Name:                  | Date Received: Oct 23, 2014 |
| Whitehorse, YT, Canada            | Location: Snap Project | Date Reported: Oct 29, 2014 |
| Y1A 6P2                           | LSD:                   | Report Number: 1961664      |
| Attn: John Gibson                 | P.O.:                  |                             |
| Sampled By: J. Gibson             | Accl code:             |                             |
| Company:                          |                        |                             |

|                         |           | Reference Number   | 1035194-1        | 1035194-2        | 1035194-3        |                         |
|-------------------------|-----------|--------------------|------------------|------------------|------------------|-------------------------|
|                         |           | Sample Date        | Oct 20, 2014     | Oct 20, 2014     | Oct 20, 2014     |                         |
|                         |           | Sample Time        | NA               | NA               | NA               |                         |
|                         |           | Sample Location    | Surface          | Surface          | Surface          |                         |
|                         |           | Sample Description | Snap 1 / Surface | Snap 2 / Surface | Snap 4 / Surface |                         |
|                         |           | Matrix             | Water            | Water            | Water            |                         |
| Analyte                 |           | Units              | Results          | Results          | Results          | Nominal Detection Limit |
| Routine Water           |           |                    |                  |                  |                  |                         |
| pH                      | at 25 °C  |                    | 7.30             | 6.83             | 7.47             |                         |
| Electrical Conductivity |           | µS/cm at 25 C      | 174              | 173              | 191              | 1                       |
| Calcium                 | Dissolved | mg/L               | 22.6             | 19.8             | 28.9             | 0.1                     |
| Iron                    | Dissolved | mg/L               | 0.056            | <0.005           | 0.047            | 0.005                   |
| Magnesium               | Dissolved | mg/L               | 4.39             | 4.59             | 3.12             | 0.1                     |
| Manganese               | Dissolved | mg/L               | 0.035            | 0.036            | 0.012            | 0.001                   |
| Potassium               | Dissolved | mg/L               | 0.7              | 0.6              | 0.7              | 0.1                     |
| Silicon                 | Dissolved | mg/L               | 3.93             | 3.82             | 3.83             | 0.05                    |
| Sodium                  | Dissolved | mg/L               | 1.8              | 1.9              | 1.5              | 0.1                     |
| Bicarbonate             |           | mg/L               | 40               | 14               | 54               | 5                       |
| Carbonate               |           | mg/L               | <6               | <6               | <6               | 6                       |
| Hydroxide               |           | mg/L               | <5               | <5               | <5               | 5                       |
| P-Alkalinity            | as CaCO3  | mg/L               | <5               | <5               | <5               | 5                       |
| T-Alkalinity            | as CaCO3  | mg/L               | 33               | 11               | 44               | 5                       |
| Chloride                | Dissolved | mg/L               | 0.07             | 0.10             | 0.06             | 0.05                    |
| Nitrate - N             | Dissolved | mg/L               | 0.07             | 0.14             | 0.06             | 0.01                    |
| Nitrite - N             | Dissolved | mg/L               | <0.01            | <0.01            | <0.01            | 0.01                    |
| Sulfate (SO4)           | Dissolved | mg/L               | 47.9             | 60.1             | 46.9             | 0.5                     |
| Hardness                | as CaCO3  | mg/L               | 74               | 68               | 85               | 5                       |

Approved by:   
 Mathieu Simoneau  
 Operations Manager



## Methodology and Notes

|                                   |                        |                             |
|-----------------------------------|------------------------|-----------------------------|
| Bill To: J. Gibson & Associates   | Project:               | Lot ID: <b>1035194</b>      |
| Report To: J. Gibson & Associates | ID: Silver Range Res.  | Control Number: C0041404    |
| Box 20913                         | Name:                  | Date Received: Oct 23, 2014 |
| Whitehorse, YT, Canada            | Location: Snap Project | Date Reported: Oct 29, 2014 |
| Y1A 6P2                           | LSD:                   | Report Number: 1961664      |
| Attn: John Gibson                 | P.O.:                  |                             |
| Sampled By: J. Gibson             | Acct code:             |                             |
| Company:                          |                        |                             |

## Method of Analysis

| Method Name   | Reference | Method  | Date Analysis Started | Location       |
|---|-----------|---|-----------------------|----------------|
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * Alkalinity - Titration Method, 2320 B                                   | 24-Oct-14             | Exova Surrey   |
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * Conductivity, 2510 B  | 24-Oct-14             | Exova Surrey   |
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * pH - Electrometric Method, 4500-H+ B                                    | 24-Oct-14             | Exova Surrey   |
| Ammonia-N in Water (Surrey)                           | APHA      | * Flow Injection Analysis, 4500-NH3 H                                     | 24-Oct-14             | Exova Surrey   |
| Anions by IEC in water (Surrey)                       | APHA      | * Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B    | 24-Oct-14             | Exova Surrey   |
| BC ICP-MS Total Metals in Water                       | US EPA    | * Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8   | 27-Oct-14             | Exova Edmonton |
| BC Trace Total Metals in Water                        | APHA      | * Inductively Coupled Plasma (ICP) Method, 3120 B                         | 27-Oct-14             | Exova Edmonton |
| Carbon Organic (Total) in water (TOC)                 | APHA      | High-Temperature Combustion Method, 5310 B                                | 27-Oct-14             | Exova Edmonton |
| Cyanide (Total) in water                              | US EPA    | * US EPA method, 335.3  | 28-Oct-14             | Exova Edmonton |
| Metals SemiTrace (Dissolved) in water (Surrey)        | US EPA    | * Metals & Trace Elements by ICP-AES, 6010C                               | 27-Oct-14             | Exova Surrey   |
| Phosphorus - total by Smartchem (Surrey)              | APHA      | * Preliminary Acid Hydrolysis, Ascorbic Acid Reduction Method, 4500-P B,E | 27-Oct-14             | Exova Surrey   |
| Solids Dissolved (Total, Fixed and Volatile) - Surrey | APHA      | * Total Dissolved Solids Dried at 180 C, 2540 C                           | 27-Oct-14             | Exova Surrey   |
| Solids Suspended (Total, Fixed and Volatile)          | APHA      | * Total Suspended Solids Dried at 103-105°C, 2540 D                       | 27-Oct-14             | Exova Surrey   |
| Trace Metals (dissolved) in Water (Surrey)            | US EPA    | * Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8   | 27-Oct-14             | Exova Surrey   |
| Trace Metals (dissolved) in Water (Surrey)            | US EPA    | * Metals & Trace Elements by ICP-AES, 6010C                               | 27-Oct-14             | Exova Surrey   |

\* Reference Method Modified

## References

|        |  |
|--------|--|
| APHA   | Standard Methods for the Examination of Water and Wastewater |
| US EPA | US Environmental Protection Agency Test Methods              |

## Methodology and Notes

|             |                        |            |                   |                 |                |
|-------------|------------------------|------------|-------------------|-----------------|----------------|
| Bill To:    | J. Gibson & Associates | Project:   |                   | Lot ID:         | <b>1035194</b> |
| Report To:  | J. Gibson & Associates | ID:        | Silver Range Res. | Control Number: | C0041404       |
|             | Box 20913              | Name:      |                   | Date Received:  | Oct 23, 2014   |
|             | Whitehorse, YT, Canada | Location:  | Snap Project      | Date Reported:  | Oct 29, 2014   |
|             | Y1A 6P2                | LSD:       |                   | Report Number:  | 1961664        |
| Attn:       | John Gibson            | P.O.:      |                   |                 |                |
| Sampled By: | J. Gibson              | Accl code: |                   |                 |                |
| Company:    |                        |            |                   |                 |                |

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## Comments:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

## Project Information

Project ID: **SURGE RANGE RES**  
 Project Name: **SNAP PROJECT**  
 Project Location: **SNAP PROJECT**  
 Legal Location: **SNAP PROJECT**  
 PO/A/E#: **SNAP PROJECT**  
 Proj. Accl. Code: **SNAP PROJECT**  
 Quote #

## Invoice to:

Company: **J. Gibson & Associates**  
 Address: **Whitehorse, YT Y1A 6P2**  
 Attention: **John Gibson**  
 Phone: **(867) 633-4522**  
 Cell: **(867) 633-4522**  
 Fax: **(867) 633-4522**  
 E-mail: **jgibson@exova.com**  
 Agreement ID: **6646**  
 Copy of report:

## Report to:

Company: **J. Gibson & Associates**  
 Address: **Whitehorse, YT Y1A 6P2**  
 Attention: **John Gibson**  
 Phone: **(867) 633-4522**  
 Cell: **(867) 633-4522**  
 Fax: **(867) 633-4522**  
 E-mail 1: **jgibson@exova.com**  
 E-mail 2:

## RUSH Priority

Emergency (contact lab for turnaround and pricing)  
 Priority 1-2 working days (100% surcharge)  
 Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: **10 TAT**

Signature:

Special Instructions/Comments (please include contact information including ph. # if different from above).

**PLATON = PH, EC, TP, N, N3, TALK, C, 504, HAWDT, TSS, TDS.**

| Site I.D. | Sample Description | Depth<br>start<br>end<br>in<br>cm<br>m | Date/Time Sampled | Matrix | Sampling<br>Method | Number of Containers | Enter tests above<br>(✓ relevant samples below) | Indicate in the space allotted any<br>deficiencies by the corresponding<br>number. |
|-----------|--------------------|--|-------------------|--------|--------------------|----------------------|---|--|
| 1         |                    |  |                   |        |                    |                      |   |  |
| 2         | SNAP 1             |  | 09/20/14          | H2O    | GAAB               | 6                    | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓                                 | 1. Indicate any samples that were not packaged well                                |
| 3         |                    |  |                   |        |                    |                      |   | 2. Indicate any samples not received in Exova supplies                             |
| 4         | SNAP 2             |  | "                 | "      | "                  | 6                    | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓                                 | 3. Indicate any samples that were not clearly labeled                              |
| 5         |                    |  |                   |        |                    |                      |   | 4. Indicate any samples not received within the required hold time or temp.        |
| 6         | SNAP 4             |  | "                 | "      | "                  | 6                    | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓                                 | 5. Indicate any missing or extra samples   |
| 7         |                    |  |                   |        |                    |                      |   | 6. Indicate any samples that were received broken                                  |
| 8         |                    |  |                   |        |                    |                      |   | 7. Indicate any samples where sufficient volume was not received                   |
| 9         |                    |  |                   |        |                    |                      |   | 8. Indicate any samples received in an inappropriate container                     |
| 10        |                    |  |                   |        |                    |                      |   |  |
| 11        |                    |  |                   |        |                    |                      |   |  |
| 12        |                    |  |                   |        |                    |                      |   |  |
| 13        |                    |  |                   |        |                    |                      |   |  |
| 14        |                    |  |                   |        |                    |                      |   |  |
| 15        |                    |  |                   |        |                    |                      |   |  |

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (<http://www.exova.com/about/terms-and-conditions/>)

Please indicate any potentially hazardous samples

Page **1** of **1**

Control # **C0041404**

Indicate lot # or affix barcode here

LOT: 1035194

COC



## Report Results Regulatory Requirement

E-Mail: **HCDWQG**  
 Mail: **Ab Tier 1**  
 Online: **SPIGEC**  
 Fax: **BCOSR**  
 PDF: **Other (list below)**  
 Excel: **Other (list below)**  
 QA/QC: **Other (list below)**

Sample Custody (please print)

Sampled by: **Y6555**

Company:

This section for Lab use only

Date/Time stamp:

**RECEIVED**

**OCT 23 2014**

Shipping: **8C**

COD Y/ N

Temp. received:

Delivery Method:

Received by:

Waybill:

## Report Transmission Cover Page

|             |                        |            |                   |                 |                |
|-------------|------------------------|------------|-------------------|-----------------|----------------|
| Bill To:    | J. Gibson & Associates | Project:   |                   | Lot ID:         | <b>1035149</b> |
| Report To:  | J. Gibson & Associates | ID:        | Silver Range Res. | Control Number: | C0041403       |
|             | Box 20913              | Name:      |                   | Date Received:  | Oct 23, 2014   |
|             | Whitehorse, YT, Canada | Location:  | Hammer Project    | Date Reported:  | Oct 29, 2014   |
|             | Y1A 6P2                | LSD:       |                   | Report Number:  | 1961607        |
| Attn:       | John Gibson            | P.O.:      |                   |                 |                |
| Sampled By: | J. Gibson              | Acct code: |                   |                 |                |
| Company:    |                        |            |                   |                 |                |

| Contact & Affiliation  | Address   | Delivery Commitments                                  |
|------------------------|---|---|
| John Gibson            | , Box 20913   | On [Lot Verification] send                            |
| J. Gibson & Associates | Whitehorse, Yukon Territory Y1A 6P2   | (COA) by Email - Single Report                        |
|                        | Phone: (867) 633-4522   | On [Report Approval] send                             |
|                        | Fax: (867) 668-6895   | (COC, Test Report) by Email - Merge Reports           |
|                        | Email: <a href="mailto:ludditegibson@gmail.com">ludditegibson@gmail.com</a> | On [Report Approval] send                             |
|                        |   | (Test Report) by Email - Single Report                |
|                        |   | On [Lot Approval and Final Test Report Approval] send |
|                        |   | (Invoice) by Email - Single Report                    |
|                        |   | On [Lot Creation] send                                |
|                        |   | (COR) by Email - Single Report                        |

### Notes To Clients:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection



## Analytical Report

|                                   |                          |                             |
|-----------------------------------|--------------------------|-----------------------------|
| Bill To: J. Gibson & Associates   | Project:                 | Lot ID: <b>1035149</b>      |
| Report To: J. Gibson & Associates | ID: Silver Range Res.    | Control Number: C0041403    |
| Box 20913                         | Name:                    | Date Received: Oct 23, 2014 |
| Whitehorse, YT, Canada            | Location: Hammer Project | Date Reported: Oct 29, 2014 |
| Y1A 6P2                           | LSD:                     | Report Number: 1961607      |
| Attn: John Gibson                 | P.O.:                    |                             |
| Sampled By: J. Gibson             | Accl code:               |                             |
| Company:                          |                          |                             |

|   |                    | Reference Number   | 1035149-1        | 1035149-2        | 1035149-3        |                         |
|---|--------------------|--------------------|------------------|------------------|------------------|-------------------------|
|   |                    | Sample Date        | Oct 20, 2014     | Oct 20, 2014     | Oct 20, 2014     |                         |
|   |                    | Sample Time        | NA               | NA               | NA               |                         |
|   |                    | Sample Location    | Surface          | Surface          | Surface          |                         |
|   |                    | Sample Description | Ham #1 / Surface | Ham #2 / Surface | Ham #3 / Surface |                         |
|   |                    | Matrix             | Water            | Water            | Water            |                         |
| Analyte                                 |                    | Units              | Results          | Results          | Results          | Nominal Detection Limit |
| <b>Inorganic Nonmetallic Parameters</b> |                    |                    |                  |                  |                  |                         |
| Organic Carbon                          | Total Nonpurgeable | mg/L               | 2.6              | 1.5              | 1                | 0.5                     |
| Cyanide                                 | Total              | mg/L               | <0.002           | <0.002           | <0.002           | 0.002                   |
| Ammonia - N                             |                    | mg/L               | 0.03             | 0.02             | 0.03             | .01                     |
| Phosphorus                              | Total              | mg/L               | 0.029            | 0.007            | 0.005            | 0.003                   |
| <b>Metals Dissolved</b>                 |                    |                    |                  |                  |                  |                         |
| Sulfur                                  | Dissolved          | mg/L               | 2.7              | 5.6              | 6.2              | 0.2                     |
| Titanium                                | Dissolved          | mg/L               | <0.010           | <0.010           | <0.010           | 0.01                    |
| Digestion                               |                    |                    | Field Filtered   | Field Filtered   | Field Filtered   |                         |
| Aluminum                                | Dissolved          | mg/L               | <0.005           | <0.005           | <0.005           | 0.005                   |
| Antimony                                | Dissolved          | mg/L               | <0.0002          | <0.0002          | <0.0002          | 0.0002                  |
| Arsenic                                 | Dissolved          | mg/L               | 0.0061           | 0.0004           | 0.0002           | 0.0002                  |
| Barium                                  | Dissolved          | mg/L               | 0.143            | 0.067            | 0.056            | 0.001                   |
| Beryllium                               | Dissolved          | mg/L               | <0.00004         | <0.00004         | <0.00004         | 0.00004                 |
| Bismuth                                 | Dissolved          | mg/L               | <0.001           | <0.001           | <0.001           | 0.001                   |
| Boron                                   | Dissolved          | mg/L               | 0.031            | 0.023            | 0.018            | 0.004                   |
| Cadmium                                 | Dissolved          | mg/L               | 0.00005          | 0.00001          | 0.00003          | 0.00001                 |
| Chromium                                | Dissolved          | mg/L               | <0.0004          | <0.0004          | <0.0004          | 0.0004                  |
| Cobalt                                  | Dissolved          | mg/L               | 0.00014          | 0.00006          | 0.00006          | 0.00002                 |
| Copper                                  | Dissolved          | mg/L               | <0.001           | <0.001           | 0.005            | 0.001                   |
| Lead                                    | Dissolved          | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Lithium                                 | Dissolved          | mg/L               | 0.004            | 0.002            | 0.001            | 0.001                   |
| Molybdenum                              | Dissolved          | mg/L               | 0.00116          | 0.00066          | 0.00068          | 0.0001                  |
| Nickel                                  | Dissolved          | mg/L               | <0.001           | <0.001           | 0.003            | 0.001                   |
| Selenium                                | Dissolved          | mg/L               | 0.0007           | <0.0006          | 0.0009           | 0.0006                  |
| Silver                                  | Dissolved          | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Strontium                               | Dissolved          | mg/L               | 0.158            | 0.102            | 0.099            | 0.001                   |
| Tellurium                               | Dissolved          | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Thallium                                | Dissolved          | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Thorium                                 | Dissolved          | mg/L               | <0.0004          | <0.0004          | <0.0004          | 0.0004                  |
| Tin                                     | Dissolved          | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Uranium                                 | Dissolved          | mg/L               | 0.0019           | 0.0010           | 0.0011           | 0.0004                  |
| Vanadium                                | Dissolved          | mg/L               | <0.00010         | <0.00010         | <0.00010         | 0.0001                  |
| Zinc                                    | Dissolved          | mg/L               | 0.001            | 0.001            | <0.001           | 0.001                   |
| Zirconium                               | Dissolved          | mg/L               | <0.00010         | <0.00010         | <0.00010         | 0.0001                  |
| <b>Metals Total</b>                     |                    |                    |                  |                  |                  |                         |
| Aluminum                                | Total              | mg/L               | 0.007            | 0.017            | 0.051            | 0.005                   |

## Analytical Report

Bill To: J. Gibson & Associates  
 Report To: J. Gibson & Associates  
 Box 20913  
 Whitehorse, YT, Canada  
 Y1A 6P2  
 Attn: John Gibson  
 Sampled By: J. Gibson  
 Company:

Project:  
 ID: Silver Range Res.  
 Name:  
 Location: Hammer Project  
 LSD:  
 P.O.:  
 Accl code:

Lot ID: **1035149**  
 Control Number: C0041403  
 Date Received: Oct 23, 2014  
 Date Reported: Oct 29, 2014  
 Report Number: 1961607

|  |                 | Reference Number   | 1035149-1        | 1035149-2        | 1035149-3        |                         |
|--|-----------------|--------------------|------------------|------------------|------------------|-------------------------|
|  |                 | Sample Date        | Oct 20, 2014     | Oct 20, 2014     | Oct 20, 2014     |                         |
|  |                 | Sample Time        | NA               | NA               | NA               |                         |
|  |                 | Sample Location    | Surface          | Surface          | Surface          |                         |
|  |                 | Sample Description | Ham #1 / Surface | Ham #2 / Surface | Ham #3 / Surface |                         |
|  |                 | Matrix             | Water            | Water            | Water            |                         |
| Analyte                                  |                 | Units              | Results          | Results          | Results          | Nominal Detection Limit |
| <b>Metals Total - Continued</b>          |                 |                    |                  |                  |                  |                         |
| Antimony                                 | Total           | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Arsenic                                  | Total           | mg/L               | 0.00722          | 0.00066          | 0.00027          | 0.00005                 |
| Barium                                   | Total           | mg/L               | 0.151            | 0.0718           | 0.0604           | 0.00005                 |
| Beryllium                                | Total           | mg/L               | <0.00005         | <0.00005         | <0.00005         | 0.00005                 |
| Bismuth                                  | Total           | mg/L               | <0.0001          | <0.0001          | <0.0001          | 0.0001                  |
| Boron                                    | Total           | mg/L               | 0.002            | <0.002           | <0.002           | 0.002                   |
| Cadmium                                  | Total           | mg/L               | 0.00006          | <0.00001         | 0.00003          | 0.00001                 |
| Calcium                                  | Total           | mg/L               | 39.5             | 38.3             | 37.0             | 0.05                    |
| Chromium                                 | Total           | mg/L               | <0.0005          | <0.0005          | <0.0005          | 0.0005                  |
| Cobalt                                   | Total           | mg/L               | 0.0001           | <0.0001          | <0.0001          | 0.0001                  |
| Copper                                   | Total           | mg/L               | 0.0047           | 0.0016           | 0.0009           | 0.0001                  |
| Iron                                     | Total           | mg/L               | 0.823            | 0.208            | 0.157            | 0.002                   |
| Lead                                     | Total           | mg/L               | <0.0001          | <0.0001          | 0.0001           | 0.0001                  |
| Lithium                                  | Total           | mg/L               | 0.0035           | 0.0016           | 0.0013           | 0.0005                  |
| Magnesium                                | Total           | mg/L               | 8.94             | 11.1             | 11.4             | 0.04                    |
| Manganese                                | Total           | mg/L               | 0.234            | 0.0170           | 0.0187           | 0.001                   |
| Molybdenum                               | Total           | mg/L               | 0.00120          | 0.00065          | 0.00068          | 0.00005                 |
| Nickel                                   | Total           | mg/L               | 0.0003           | 0.0005           | 0.0005           | 0.0002                  |
| Potassium                                | Total           | mg/L               | 0.8              | 0.4              | 0.3              | 0.1                     |
| Selenium                                 | Total           | mg/L               | 0.0005           | 0.0007           | 0.0007           | 0.0001                  |
| Silicon                                  | Total           | mg/L               | 5.34             | 4.08             | 3.87             | 0.02                    |
| Silver                                   | Total           | mg/L               | <0.00005         | <0.00005         | <0.00005         | 0.00005                 |
| Sodium                                   | Total           | mg/L               | 2.4              | 1.3              | 1.1              | 0.1                     |
| Strontium                                | Total           | mg/L               | 0.159            | 0.104            | 0.0973           | 0.0001                  |
| Thallium                                 | Total           | mg/L               | <0.00001         | <0.00001         | <0.00001         | 0.00001                 |
| Thorium                                  | Total           | mg/L               | 0.00004          | 0.00002          | 0.00002          | 0.00001                 |
| Tin                                      | Total           | mg/L               | <0.0001          | <0.0001          | 0.0001           | 0.0001                  |
| Titanium                                 | Total           | mg/L               | <0.0005          | <0.0005          | 0.0016           | 0.0005                  |
| Uranium                                  | Total           | mg/L               | 0.00183          | 0.00106          | 0.00108          | 0.00001                 |
| Vanadium                                 | Total           | mg/L               | <0.0001          | 0.0001           | 0.0003           | 0.0001                  |
| Zinc                                     | Total           | mg/L               | 0.0018           | 0.0015           | 0.0018           | 0.0005                  |
| Zirconium                                | Total           | mg/L               | <0.0005          | <0.0005          | <0.0005          | 0.0005                  |
| Hardness                                 | as CaCO3        | mg/L               | 136              | 141              | 139              | 1                       |
| <b>Physical and Aggregate Properties</b> |                 |                    |                  |                  |                  |                         |
| Solids                                   | Total Suspended | mg/L               | <3               | <3               | <3               | 1                       |
| Solids                                   | Total Dissolved | mg/L               | 158              | 156              | 156              | 5                       |

## Analytical Report

Bill To: J. Gibson & Associates  
 Report To: J. Gibson & Associates  
 Box 20913  
 Whitehorse, YT, Canada  
 Y1A 6P2  
 Attn: John Gibson  
 Sampled By: J. Gibson  
 Company:

Project:  
 ID: Silver Range Res.  
 Name:  
 Location: Hammer Project  
 LSD:  
 P.O.:  
 Accl code:

Lot ID: **1035149**  
 Control Number: C0041403  
 Date Received: Oct 23, 2014  
 Date Reported: Oct 29, 2014  
 Report Number: 1961607

Reference Number 1035149-4  
 Sample Date Oct 20, 2014  
 Sample Time NA  
 Sample Location Surface  
 Sample Description Ham #4 / Surface  
 Matrix Water

| Analyte                                 |                    | Units | Results        | Results | Results | Nominal Detection Limit |
|---|--------------------|-------|----------------|---------|---------|-------------------------|
| <b>Inorganic Nonmetallic Parameters</b> |                    |       |                |         |         |                         |
| Organic Carbon                          | Total Nonpurgeable | mg/L  | 1.9            |         |         | 0.5                     |
| Cyanide                                 | Total              | mg/L  | <0.002         |         |         | 0.002                   |
| Ammonia - N                             |                    | mg/L  | 0.02           |         |         | .01                     |
| Phosphorus                              | Total              | mg/L  | 0.007          |         |         | 0.003                   |
| <b>Metals Dissolved</b>                 |                    |       |                |         |         |                         |
| Sulfur                                  | Dissolved          | mg/L  | 1.3            |         |         | 0.2                     |
| Titanium                                | Dissolved          | mg/L  | <0.010         |         |         | 0.01                    |
| Digestion                               |                    |       | Field Filtered |         |         |                         |
| Aluminum                                | Dissolved          | mg/L  | 0.016          |         |         | 0.005                   |
| Antimony                                | Dissolved          | mg/L  | <0.0002        |         |         | 0.0002                  |
| Arsenic                                 | Dissolved          | mg/L  | 0.0003         |         |         | 0.0002                  |
| Barium                                  | Dissolved          | mg/L  | 0.019          |         |         | 0.001                   |
| Beryllium                               | Dissolved          | mg/L  | <0.00004       |         |         | 0.00004                 |
| Bismuth                                 | Dissolved          | mg/L  | <0.001         |         |         | 0.001                   |
| Boron                                   | Dissolved          | mg/L  | 0.014          |         |         | 0.004                   |
| Cadmium                                 | Dissolved          | mg/L  | <0.00001       |         |         | 0.00001                 |
| Chromium                                | Dissolved          | mg/L  | <0.0004        |         |         | 0.0004                  |
| Cobalt                                  | Dissolved          | mg/L  | 0.00006        |         |         | 0.00002                 |
| Copper                                  | Dissolved          | mg/L  | <0.001         |         |         | 0.001                   |
| Lead                                    | Dissolved          | mg/L  | <0.0001        |         |         | 0.0001                  |
| Lithium                                 | Dissolved          | mg/L  | 0.001          |         |         | 0.001                   |
| Molybdenum                              | Dissolved          | mg/L  | 0.00014        |         |         | 0.0001                  |
| Nickel                                  | Dissolved          | mg/L  | <0.001         |         |         | 0.001                   |
| Selenium                                | Dissolved          | mg/L  | <0.0006        |         |         | 0.0006                  |
| Silver                                  | Dissolved          | mg/L  | <0.00001       |         |         | 0.00001                 |
| Strontium                               | Dissolved          | mg/L  | 0.032          |         |         | 0.001                   |
| Tellurium                               | Dissolved          | mg/L  | <0.0001        |         |         | 0.0001                  |
| Thallium                                | Dissolved          | mg/L  | <0.00001       |         |         | 0.00001                 |
| Thorium                                 | Dissolved          | mg/L  | <0.0004        |         |         | 0.0004                  |
| Tin                                     | Dissolved          | mg/L  | <0.0001        |         |         | 0.0001                  |
| Uranium                                 | Dissolved          | mg/L  | <0.0004        |         |         | 0.0004                  |
| Vanadium                                | Dissolved          | mg/L  | <0.00010       |         |         | 0.0001                  |
| Zinc                                    | Dissolved          | mg/L  | <0.001         |         |         | 0.001                   |
| Zirconium                               | Dissolved          | mg/L  | <0.00010       |         |         | 0.0001                  |
| <b>Metals Total</b>                     |                    |       |                |         |         |                         |
| Aluminum                                | Total              | mg/L  | 0.063          |         |         | 0.005                   |

## Analytical Report

Bill To: J. Gibson & Associates  
 Report To: J. Gibson & Associates  
 Box 20913  
 Whitehorse, YT, Canada  
 Y1A 6P2  
 Attn: John Gibson  
 Sampled By: J. Gibson  
 Company:

Project:  
 ID: Silver Range Res.  
 Name:  
 Location: Hammer Project  
 LSD:  
 P.O.:  
 Accl code:

Lot ID: **1035149**  
 Control Number: C0041403  
 Date Received: Oct 23, 2014  
 Date Reported: Oct 29, 2014  
 Report Number: 1961607

Reference Number 1035149-4  
 Sample Date Oct 20, 2014  
 Sample Time NA  
 Sample Location Surface  
 Sample Description Ham #4 / Surface  
 Matrix Water

| Analyte                                  |                 | Units | Results  | Results | Results | Nominal Detection Limit |
|--|-----------------|-------|----------|---------|---------|-------------------------|
| <b>Metals Total - Continued</b>          |                 |       |          |         |         |                         |
| Antimony                                 | Total           | mg/L  | <0.0001  |         |         | 0.0001                  |
| Arsenic                                  | Total           | mg/L  | 0.00035  |         |         | 0.00005                 |
| Barium                                   | Total           | mg/L  | 0.0205   |         |         | 0.00005                 |
| Beryllium                                | Total           | mg/L  | <0.00005 |         |         | 0.00005                 |
| Bismuth                                  | Total           | mg/L  | <0.0001  |         |         | 0.0001                  |
| Boron                                    | Total           | mg/L  | <0.002   |         |         | 0.002                   |
| Cadmium                                  | Total           | mg/L  | 0.00001  |         |         | 0.00001                 |
| Calcium                                  | Total           | mg/L  | 7.28     |         |         | 0.05                    |
| Chromium                                 | Total           | mg/L  | <0.0005  |         |         | 0.0005                  |
| Cobalt                                   | Total           | mg/L  | <0.0001  |         |         | 0.0001                  |
| Copper                                   | Total           | mg/L  | 0.0006   |         |         | 0.0001                  |
| Iron                                     | Total           | mg/L  | 0.156    |         |         | 0.002                   |
| Lead                                     | Total           | mg/L  | 0.0001   |         |         | 0.0001                  |
| Lithium                                  | Total           | mg/L  | 0.0009   |         |         | 0.0005                  |
| Magnesium                                | Total           | mg/L  | 1.12     |         |         | 0.04                    |
| Manganese                                | Total           | mg/L  | 0.0088   |         |         | 0.001                   |
| Molybdenum                               | Total           | mg/L  | 0.00013  |         |         | 0.00005                 |
| Nickel                                   | Total           | mg/L  | 0.0002   |         |         | 0.0002                  |
| Potassium                                | Total           | mg/L  | 0.3      |         |         | 0.1                     |
| Selenium                                 | Total           | mg/L  | <0.0001  |         |         | 0.0001                  |
| Silicon                                  | Total           | mg/L  | 4.62     |         |         | 0.02                    |
| Silver                                   | Total           | mg/L  | <0.00005 |         |         | 0.00005                 |
| Sodium                                   | Total           | mg/L  | 1.6      |         |         | 0.1                     |
| Strontium                                | Total           | mg/L  | 0.0324   |         |         | 0.0001                  |
| Thallium                                 | Total           | mg/L  | <0.00001 |         |         | 0.00001                 |
| Thorium                                  | Total           | mg/L  | 0.00002  |         |         | 0.00001                 |
| Tin                                      | Total           | mg/L  | <0.0001  |         |         | 0.0001                  |
| Titanium                                 | Total           | mg/L  | 0.0018   |         |         | 0.0005                  |
| Uranium                                  | Total           | mg/L  | 0.00032  |         |         | 0.00001                 |
| Vanadium                                 | Total           | mg/L  | 0.0003   |         |         | 0.0001                  |
| Zinc                                     | Total           | mg/L  | 0.0017   |         |         | 0.0005                  |
| Zirconium                                | Total           | mg/L  | <0.0005  |         |         | 0.0005                  |
| Hardness                                 | as CaCO3        | mg/L  | 23       |         |         | 1                       |
| <b>Physical and Aggregate Properties</b> |                 |       |          |         |         |                         |
| Solids                                   | Total Suspended | mg/L  | <3       |         |         | 1                       |
| Solids                                   | Total Dissolved | mg/L  | 48       |         |         | 5                       |



## Analytical Report

Bill To: J. Gibson & Associates  
 Report To: J. Gibson & Associates  
 Box 20913  
 Whitehorse, YT, Canada  
 Y1A 6P2  
 Attn: John Gibson  
 Sampled By: J. Gibson  
 Company:

Project:  
 ID: Silver Range Res.  
 Name:  
 Location: Hammer Project  
 LSD:  
 P.O.:  
 Accl code:

Lot ID: **1035149**  
 Control Number: C0041403  
 Date Received: Oct 23, 2014  
 Date Reported: Oct 29, 2014  
 Report Number: 1961607

Reference Number 1035149-4  
 Sample Date Oct 20, 2014  
 Sample Time NA  
 Sample Location Surface  
 Sample Description Ham #4 / Surface  
 Matrix Water

| Analyte                 |           | Units         | Results | Results | Results | Nominal Detection Limit |
|-------------------------|-----------|---------------|---------|---------|---------|-------------------------|
| <b>Routine Water</b>    |           |               |         |         |         |                         |
| pH                      | at 25 °C  |               | 7.25    |         |         |                         |
| Electrical Conductivity |           | µS/cm at 25 C | 49      |         |         | 1                       |
| Calcium                 | Dissolved | mg/L          | 6.38    |         |         | 0.1                     |
| Iron                    | Dissolved | mg/L          | 0.021   |         |         | 0.005                   |
| Magnesium               | Dissolved | mg/L          | 1.06    |         |         | 0.1                     |
| Manganese               | Dissolved | mg/L          | 0.005   |         |         | 0.001                   |
| Potassium               | Dissolved | mg/L          | 0.2     |         |         | 0.1                     |
| Silicon                 | Dissolved | mg/L          | 4.34    |         |         | 0.05                    |
| Sodium                  | Dissolved | mg/L          | 1.5     |         |         | 0.1                     |
| Bicarbonate             |           | mg/L          | 28      |         |         | 5                       |
| Carbonate               |           | mg/L          | <6      |         |         | 6                       |
| Hydroxide               |           | mg/L          | <5      |         |         | 5                       |
| P-Alkalinity            | as CaCO3  | mg/L          | <5      |         |         | 5                       |
| T-Alkalinity            | as CaCO3  | mg/L          | 23      |         |         | 5                       |
| Chloride                | Dissolved | mg/L          | 0.14    |         |         | 0.05                    |
| Nitrate - N             | Dissolved | mg/L          | 0.10    |         |         | 0.01                    |
| Nitrite - N             | Dissolved | mg/L          | <0.01   |         |         | 0.01                    |
| Sulfate (SO4)           | Dissolved | mg/L          | 3.42    |         |         | 0.5                     |
| Hardness                | as CaCO3  | mg/L          | 20      |         |         | 5                       |

Approved by:   
 Mathieu Simoneau  
 Operations Manager

Data have been validated by Analytical Quality Control and Exova's Integrated Data Validation System (IDVS).  
 Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

## Methodology and Notes

|                                   |                          |                             |
|-----------------------------------|--------------------------|-----------------------------|
| Bill To: J. Gibson & Associates   | Project:                 | Lot ID: <b>1035149</b>      |
| Report To: J. Gibson & Associates | ID: Silver Range Res.    | Control Number: C0041403    |
| Box 20913                         | Name:                    | Date Received: Oct 23, 2014 |
| Whitehorse, YT, Canada            | Location: Hammer Project | Date Reported: Oct 29, 2014 |
| Y1A 6P2                           | LSD:                     | Report Number: 1961607      |
| Attn: John Gibson                 | P.O.:                    |                             |
| Sampled By: J. Gibson             | Accl code:               |                             |
| Company:                          |                          |                             |

## Method of Analysis

| Method Name   | Reference | Method  | Date Analysis Started | Location       |
|---|-----------|---|-----------------------|----------------|
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * Alkalinity - Titration Method, 2320 B                                   | 24-Oct-14             | Exova Surrey   |
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * Conductivity, 2510 B  | 24-Oct-14             | Exova Surrey   |
| Alk, pH, EC, Turb in water (Surrey)                   | APHA      | * pH - Electrometric Method, 4500-H+ B                                    | 24-Oct-14             | Exova Surrey   |
| Ammonia-N in Water (Surrey)                           | APHA      | * Flow Injection Analysis, 4500-NH3 H                                     | 24-Oct-14             | Exova Surrey   |
| Anions by IEC in water (Surrey)                       | APHA      | * Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B    | 24-Oct-14             | Exova Surrey   |
| BC ICP-MS Total Metals in Water                       | US EPA    | * Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8   | 27-Oct-14             | Exova Edmonton |
| BC Trace Total Metals in Water                        | APHA      | * Inductively Coupled Plasma (ICP) Method, 3120 B                         | 27-Oct-14             | Exova Edmonton |
| Carbon Organic (Total) in water (TOC)                 | APHA      | High-Temperature Combustion Method, 5310 B                                | 27-Oct-14             | Exova Edmonton |
| Cyanide (Total) in water                              | US EPA    | * US EPA method, 335.3  | 28-Oct-14             | Exova Edmonton |
| Metals SemiTrace (Dissolved) in water (Surrey)        | US EPA    | * Metals & Trace Elements by ICP-AES, 6010C                               | 27-Oct-14             | Exova Surrey   |
| Phosphorus - total by Smartchem (Surrey)              | APHA      | * Preliminary Acid Hydrolysis, Ascorbic Acid Reduction Method, 4500-P B,E | 27-Oct-14             | Exova Surrey   |
| Solids Dissolved (Total, Fixed and Volatile) - Surrey | APHA      | * Total Dissolved Solids Dried at 180 C, 2540 C                           | 27-Oct-14             | Exova Surrey   |
| Solids Suspended (Total, Fixed and Volatile)          | APHA      | * Total Suspended Solids Dried at 103-105°C, 2540 D                       | 27-Oct-14             | Exova Surrey   |
| Trace Metals (dissolved) in Water (Surrey)            | US EPA    | * Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8   | 27-Oct-14             | Exova Surrey   |
| Trace Metals (dissolved) in Water (Surrey)            | US EPA    | * Metals & Trace Elements by ICP-AES, 6010C                               | 27-Oct-14             | Exova Surrey   |

\* Reference Method Modified

## References

|        |  |
|--------|--|
| APHA   | Standard Methods for the Examination of Water and Wastewater |
| US EPA | US Environmental Protection Agency Test Methods              |

## Methodology and Notes

|             |                        |            |                   |                 |                |
|-------------|------------------------|------------|-------------------|-----------------|----------------|
| Bill To:    | J. Gibson & Associates | Project:   |                   | Lot ID:         | <b>1035149</b> |
| Report To:  | J. Gibson & Associates | ID:        | Silver Range Res. | Control Number: | C0041403       |
|             | Box 20913              | Name:      |                   | Date Received:  | Oct 23, 2014   |
|             | Whitehorse, YT, Canada | Location:  | Hammer Project    | Date Reported:  | Oct 29, 2014   |
|             | Y1A 6P2                | LSD:       |                   | Report Number:  | 1961607        |
| Attn:       | John Gibson            | P.O.:      |                   |                 |                |
| Sampled By: | J. Gibson              | Accl code: |                   |                 |                |
| Company:    |                        |            |                   |                 |                |

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## Comments:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.





## **APPENDIX 2**

### **Flow Volume Calculations**

**KEG, SNAP and HAMMER October 2014**

### Stage Discharge Calculations

**Project:** Silver Range -HAMMER Claims

**Date:** 20-Oct-14

**Site:** HAM#2

| <b>Point<br/>(m)</b> | <b>Depth<br/>(meters)</b> | <b>Width<br/>(meters)</b> | <b>Velocity<br/>(m/sec)</b> | <b>Area<br/>(m sq)</b> | <b>Volume<br/>(cms)</b> |
|----------------------|---------------------------|---------------------------|-----------------------------|------------------------|-------------------------|
| 1.4                  | 0                         | 0.05                      | 0                           | 0                      | 0.000                   |
| 1.5                  | 0.04                      | 0.1                       | 0.231                       | 0.004                  | 0.001                   |
| 1.6                  | 0.48                      | 0.1                       | 0.564                       | 0.048                  | 0.027                   |
| 1.7                  | 0.51                      | 0.1                       | 0.629                       | 0.051                  | 0.032                   |
| 1.8                  | 0.36                      | 0.1                       | 0.462                       | 0.036                  | 0.017                   |
| 1.9                  | 0.34                      | 0.1                       | 0.472                       | 0.034                  | 0.016                   |
| 2                    | 0.32                      | 0.1                       | 0.508                       | 0.032                  | 0.016                   |
| 2.1                  | 0.4                       | 0.1                       | 0.432                       | 0.04                   | 0.017                   |
| 2.2                  | 0.4                       | 0.065                     | 0.221                       | 0.026                  | 0.006                   |
| 2.23                 | 0                         | 0.015                     | 0                           | 0                      | 0.000                   |

0.83

0.83

**0.1320**

All velocity readings at 0.6 depth

No Staff Gauge

**Data logger reading:** No logger

**Channel under ice?** No ice

**Method:** Price Velocity meter#1/ TS Wading Rod

**Measurement By:** R.Gibson

### Stage Discharge Calculations

Project: Silver Range - Hammer Claims

Date: 20-Oct-14

Site: HAM #3

| Point<br>(m) | Depth<br>(meters) | Width<br>(meters) | Velocity<br>(m/sec) | Area<br>(m sq) | Volume<br>(cms) |
|--------------|-------------------|-------------------|---------------------|----------------|-----------------|
| 0.91         | 0                 | 0.145             | 0                   | 0              | 0.0000          |
| 1.2          | 0.17              | 0.245             | 0.196               | 0.04165        | 0.0082          |
| 1.4          | 0.23              | 0.2               | 0.508               | 0.046          | 0.0234          |
| 1.6          | 0.32              | 0.2               | 0.541               | 0.064          | 0.0346          |
| 1.8          | 0.34              | 0.2               | 0.308               | 0.068          | 0.0209          |
| 2            | 0.31              | 0.2               | 0.383               | 0.062          | 0.0237          |
| 2.2          | 0.3               | 0.2               | 0.423               | 0.06           | 0.0254          |
| 2.4          | 0.34              | 0.2               | 0.483               | 0.068          | 0.0328          |
| 2.6          | 0.35              | 0.2               | 0.472               | 0.07           | 0.0330          |
| 2.8          | 0.31              | 0.2               | 0.248               | 0.062          | 0.0154          |
| 3            | 0.31              | 0.2               | 0.2                 | 0.062          | 0.0124          |
| 3.2          | 0.3               | 0.17              | 0.043               | 0.051          | 0.0022          |
| 3.34         | 0                 | 0.07              | 0                   | 0              | 0.0000          |

2.43                      2.43                      **0.2321**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? no ice

Method: Price Velocity meter#1/ TS Wading Rod

Measurement By: J.Gibson

### Stage Discharge Calculations

Project: Silver Range - HAMMER Claims

Date: 20-Oct-14

Site: HAM#4

| Point<br>(m) | Depth<br>(meters) | Width<br>(meters) | Velocity<br>(m/sec) | Area<br>(m sq) | Volume<br>(cms) |
|--------------|-------------------|-------------------|---------------------|----------------|-----------------|
| 2.42         | 0                 | 0.04              | 0                   | 0              | 0.0000          |
| 2.5          | 0.19              | 0.09              | 0                   | 0.0171         | 0.0000          |
| 2.6          | 0.18              | 0.1               | 0.027               | 0.018          | 0.0005          |
| 2.7          | 0.27              | 0.1               | 0.035               | 0.027          | 0.0009          |
| 2.8          | 0.28              | 0.1               | 0.221               | 0.028          | 0.0062          |
| 2.9          | 0.3               | 0.1               | 0.472               | 0.03           | 0.0142          |
| 3            | 0.25              | 0.1               | 0.248               | 0.025          | 0.0062          |
| 3.1          | 0.32              | 0.1               | 0.133               | 0.032          | 0.0043          |
| 3.2          | 0.35              | 0.095             | 0.237               | 0.03325        | 0.0079          |
| 3.29         | 0                 | 0.045             | 0                   | 0              | 0.0000          |

0.87

0.87

**0.0401**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? No Ice

Method: Price Velocity meter#1/ TS Wading Rod

Measurement By: J.Gibson



### Stage Discharge Calculations

**Project:** Silver Range - SNAP Claims

**Date:** 20-Oct-14

**Site:** SNAP#1

| <b>Point<br/>(m)</b> | <b>Depth<br/>(meters)</b> | <b>Width<br/>(meters)</b> | <b>Velocity<br/>(m/sec)</b> | <b>Area<br/>(m sq)</b> | <b>Volume<br/>(cms)</b> |
|----------------------|---------------------------|---------------------------|-----------------------------|------------------------|-------------------------|
| 2.15                 | 0                         | 0.075                     | 0                           | 0                      | 0.000                   |
| 2.3                  | 0.28                      | 0.225                     | 0.462                       | 0.063                  | 0.029                   |
| 2.6                  | 0.24                      | 0.3                       | 0.088                       | 0.072                  | 0.006                   |
| 2.9                  | 0.19                      | 0.4                       | 0.266                       | 0.076                  | 0.020                   |
| 3.4                  | 0.09                      | 0.5                       | 0.155                       | 0.045                  | 0.007                   |
| 3.9                  | 0.13                      | 0.5                       | 0.166                       | 0.065                  | 0.011                   |
| 4.4                  | 0.17                      | 0.5                       | 0.073                       | 0.085                  | 0.006                   |
| 4.9                  | 0.15                      | 0.75                      | 0.029                       | 0.1125                 | 0.003                   |
| 5.9                  | 0.12                      | 1                         | 0.07                        | 0.12                   | 0.008                   |
| 6.9                  | 0.11                      | 0.75                      | 0.122                       | 0.0825                 | 0.010                   |
| 7.4                  | 0.12                      | 0.5                       | 0.406                       | 0.06                   | 0.024                   |
| 7.9                  | 0.22                      | 0.5                       | 0.541                       | 0.11                   | 0.060                   |
| 8.4                  | 0.25                      | 0.5                       | 0.451                       | 0.125                  | 0.056                   |
| 8.9                  | 0.24                      | 0.5                       | 0.615                       | 0.12                   | 0.074                   |
| 9.4                  | 0.14                      | 0.5                       | 0.495                       | 0.07                   | 0.035                   |
| 9.9                  | 0.11                      | 0.5                       | 0.462                       | 0.055                  | 0.025                   |
| 10.4                 | 0.09                      | 0.5                       | 0.331                       | 0.045                  | 0.015                   |
| 10.9                 | 0.09                      | 0.5                       | 0.308                       | 0.045                  | 0.014                   |
| 11.4                 | 0                         | 0.25                      | 0                           | 0                      | 0.000                   |

9.25

9.25

**0.4042**

All velocity readings at 0.6 depth

No Staff Gauge

**Data logger reading:** No logger

**Channel under ice?** 50% coverage thin surface ice

**Method:** Price Velocity meter#1/ TS Wading Rod

**Measurement By:** J.Gibson

### Stage Discharge Calculations

Project: Silver Range - SNAP Claims      Date: 20-Oct-14

Site: SNAP#2

| Point<br>(m) | Depth<br>(meters) | Width<br>(meters) | Velocity<br>(m/sec) | Area<br>(m sq) | Volume<br>(cms) |
|--------------|-------------------|-------------------|---------------------|----------------|-----------------|
| 0.7          | 0                 | 0.025             | 0                   | 0              | 0.0000          |
| 0.75         | 0.21              | 0.125             | 0                   | 0.026          | 0.0000          |
| 0.95         | 0.2               | 0.2               | 0.07                | 0.040          | 0.0028          |
| 1.15         | 0.17              | 0.2               | 0.108               | 0.034          | 0.0037          |
| 1.35         | 0.17              | 0.2               | 0.099               | 0.034          | 0.0034          |
| 1.55         | 0.21              | 0.2               | 0.17                | 0.042          | 0.0071          |
| 1.75         | 0.23              | 0.2               | 0.2                 | 0.046          | 0.0092          |
| 1.95         | 0.23              | 0.2               | 0.17                | 0.046          | 0.0078          |
| 2.15         | 0.21              | 0.2               | 0.192               | 0.042          | 0.0081          |
| 2.35         | 0.22              | 0.2               | 0.158               | 0.044          | 0.0070          |
| 2.55         | 0.21              | 0.2               | 0.17                | 0.042          | 0.0071          |
| 2.75         | 0.23              | 0.2               | 0.166               | 0.046          | 0.0076          |
| 2.95         | 0.27              | 0.2               | 0.155               | 0.054          | 0.0084          |
| 3.15         | 0.27              | 0.2               | 0.162               | 0.054          | 0.0087          |
| 3.35         | 0.26              | 0.2               | 0.17                | 0.052          | 0.0088          |
| 3.55         | 0.25              | 0.2               | 0.192               | 0.05           | 0.0096          |
| 3.75         | 0.21              | 0.15              | 0.189               | 0.032          | 0.0060          |
| 3.85         | 0                 | 0.05              | 0                   | 0              | 0.0000          |
| 3.15         |                   | 3.15              |                     |                | <b>0.0638</b>   |

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? No ice cover

Method: Price Velocity meter#1/ TS Wading Rod

Measurement By: R.Gibson