ALS Canada Ltd.

2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: **XSTRATA ZINC CANADA**
**8801 TRANS CANADA HWY**
**SUITE 400**
**SAINT-LAURENT QC H4S 1Z6**


**Finalized Date: 8-APR-2011**
**Account: XSZNEX**

# CERTIFICATE TB11043962

Project: STURGEON LAKE

P.O. No.:

This report is for 14 Drill Core samples submitted to our lab in Thunder Bay, ON, Canada on 17-MAR-2011.

The following have access to data associated with this certificate:

| | | |
|---|---|---|
| LUCY POTTER | | |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| CRU-31 | Fine crushing - 70% <2mm |
| SPL-21 | Split sample - riffle splitter |
| CRU-QC | Crushing QC Test |
| PUL-32 | Pulverize 1000g to 85% < 75 um |
| BAG-01 | Bulk Master for Storage |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME-ICP06 | Whole Rock Package - ICP-AES | ICP-AES |
| OA-GRA05 | Loss on Ignition at 1000C | WST-SEQ |
| ME-MS81 | 38 element fusion ICP-MS | ICP-MS |
| TOT-ICP06 | Total Calculation for ICP06 | ICP-AES |

To: **XSTRATA ZINC CANADA**
**ATTN: LUCY POTTER**
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**
Colin Ramshaw, Vancouver Laboratory Manager

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# CERTIFICATE OF ANALYSIS TB11043962

| Sample Description | Method / Analyte / Units / LOR | WEI-21 Recvd Wt. kg 0.02 | ME-MS81 Ag ppm 1 | ME-MS81 Ba ppm 0.5 | ME-MS81 Ce ppm 0.5 | ME-MS81 Co ppm 0.5 | ME-MS81 Cr ppm 10 | ME-MS81 Cs ppm 0.01 | ME-MS81 Cu ppm 5 | ME-MS81 Dy ppm 0.05 | ME-MS81 Er ppm 0.03 | ME-MS81 Eu ppm 0.03 | ME-MS81 Ga ppm 0.1 | ME-MS81 Gd ppm 0.05 | ME-MS81 Hf ppm 0.2 | ME-MS81 Ho ppm 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J531826 | | 0.69 | <1 | 278 | 39.8 | 11.8 | 20 | 1.55 | 46 | 2.88 | 1.50 | 0.97 | 19.7 | 3.17 | 4.6 | 0.56 |
| J531827 | | 0.86 | <1 | 343 | 30.4 | 24.9 | 60 | 1.27 | 213 | 2.99 | 1.78 | 0.97 | 16.7 | 3.17 | 3.1 | 0.61 |
| J531828 | | 0.82 | <1 | 83.3 | 29.6 | 13.5 | 20 | 0.63 | 154 | 1.96 | 1.15 | 0.66 | 18.6 | 2.37 | 4.1 | 0.39 |
| J531829 | | 0.87 | <1 | 271 | 34.7 | 14.5 | 10 | 1.30 | 13 | 1.99 | 1.22 | 0.76 | 17.6 | 2.23 | 3.1 | 0.40 |
| J531830 | | 0.88 | <1 | 279 | 34.8 | 2.6 | 10 | 1.48 | <5 | 2.46 | 1.47 | 0.79 | 18.6 | 2.59 | 3.1 | 0.50 |
| J531831 | | 0.86 | <1 | 272 | 45.8 | <0.5 | 10 | 1.06 | <5 | 5.44 | 3.40 | 1.24 | 18.2 | 4.82 | 8.5 | 1.13 |
| J531832 | | 0.86 | <1 | 186.5 | 28.4 | 6.2 | 20 | 0.92 | <5 | 1.75 | 1.06 | 0.53 | 19.4 | 1.81 | 3.5 | 0.34 |
| J531833 | | 0.89 | <1 | 95.5 | 29.4 | 14.2 | 10 | 0.99 | <5 | 2.20 | 1.33 | 0.73 | 20.6 | 2.28 | 3.4 | 0.46 |
| J531834 | | 0.87 | <1 | 140.0 | 68.1 | 4.9 | 10 | 0.44 | <5 | 8.63 | 5.22 | 1.31 | 13.6 | 7.96 | 6.8 | 1.74 |
| J531835 | | 0.77 | <1 | 81.6 | 58.8 | <0.5 | <10 | 0.43 | <5 | 3.82 | 2.13 | 1.28 | 12.9 | 4.44 | 5.1 | 0.76 |
| J531836 | | 0.90 | <1 | 320 | 113.0 | 23.5 | 70 | 0.91 | 35 | 3.32 | 1.41 | 2.94 | 18.7 | 6.35 | 4.1 | 0.56 |
| J531837 | | 0.83 | <1 | 203 | 94.2 | 2.9 | <10 | 0.31 | <5 | 8.08 | 4.65 | 1.29 | 18.7 | 8.87 | 10.6 | 1.61 |
| J531838 | | 0.87 | <1 | 482 | 99.9 | 4.1 | <10 | 0.52 | 95 | 9.57 | 5.92 | 1.20 | 20.1 | 9.43 | 10.9 | 1.95 |
| J531839 | | 0.88 | <1 | 796 | 52.5 | 28.7 | 20 | 0.58 | 122 | 4.65 | 2.86 | 1.01 | 21.9 | 5.21 | 5.1 | 0.96 |

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Project: STURGEON LAKE

# CERTIFICATE OF ANALYSIS TB11043962

| Sample Description | Method | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | La | Lu | Mo | Nb | Nd | Ni | Pb | Pr | Rb | Sm | Sn | Sr | Ta | Tb | Th |
| | Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| | LOR | 0.5 | 0.01 | 2 | 0.2 | 0.1 | 5 | 5 | 0.03 | 0.2 | 0.03 | 1 | 0.1 | 0.1 | 0.01 | 0.05 |
| J531826 | | 20.6 | 0.23 | <2 | 8.3 | 17.2 | 31 | 13 | 4.47 | 51.8 | 3.58 | 2 | 181.5 | 0.6 | 0.50 | 3.78 |
| J531827 | | 14.1 | 0.26 | <2 | 5.5 | 16.1 | 50 | 12 | 3.67 | 48.6 | 3.34 | 1 | 197.0 | 0.4 | 0.49 | 2.30 |
| J531828 | | 15.4 | 0.16 | 3 | 5.9 | 13.4 | 8 | 8 | 3.29 | 13.6 | 2.67 | 1 | 77.1 | 0.5 | 0.34 | 2.71 |
| J531829 | | 19.1 | 0.18 | <2 | 3.7 | 14.1 | 12 | 9 | 3.63 | 57.9 | 2.62 | 1 | 93.0 | 0.4 | 0.32 | 4.25 |
| J531830 | | 18.8 | 0.22 | <2 | 3.9 | 14.3 | 12 | 12 | 3.65 | 57.2 | 2.68 | 1 | 146.0 | 0.4 | 0.39 | 4.60 |
| J531831 | | 20.8 | 0.49 | <2 | 15.1 | 24.5 | <5 | 10 | 5.59 | 56.6 | 5.08 | 2 | 83.6 | 1.1 | 0.79 | 5.45 |
| J531832 | | 15.4 | 0.18 | <2 | 4.1 | 11.6 | 9 | 11 | 3.01 | 42.9 | 2.14 | 1 | 110.5 | 0.5 | 0.27 | 4.56 |
| J531833 | | 16.6 | 0.22 | <2 | 4.1 | 12.0 | 13 | 10 | 3.06 | 24.3 | 2.28 | 2 | 81.8 | 0.5 | 0.36 | 4.50 |
| J531834 | | 32.4 | 0.75 | 3 | 12.8 | 34.3 | 8 | 11 | 8.07 | 26.3 | 7.52 | 2 | 57.1 | 1.1 | 1.33 | 6.25 |
| J531835 | | 27.7 | 0.29 | <2 | 14.1 | 27.9 | <5 | 22 | 6.83 | 16.1 | 5.35 | 3 | 35.4 | 1.1 | 0.62 | 5.38 |
| J531836 | | 54.2 | 0.17 | <2 | 6.3 | 56.3 | 57 | 35 | 13.25 | 70.5 | 9.70 | 4 | 209 | 0.5 | 0.70 | 9.05 |
| J531837 | | 43.0 | 0.66 | <2 | 21.8 | 48.8 | <5 | <5 | 11.55 | 26.2 | 9.96 | 1 | 22.1 | 1.5 | 1.31 | 7.89 |
| J531838 | | 45.8 | 0.86 | 2 | 22.1 | 51.1 | <5 | 6 | 12.10 | 52.5 | 10.45 | 3 | 29.6 | 1.6 | 1.48 | 7.93 |
| J531839 | | 23.7 | 0.43 | <2 | 10.0 | 27.3 | 25 | 7 | 6.35 | 58.3 | 5.65 | 3 | 37.8 | 0.7 | 0.76 | 4.04 |

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# CERTIFICATE OF ANALYSIS TB11043962

| Sample Description | Method | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Tl | Tm | U | V | W | Y | Yb | Zn | Zr | SiO2 | Al2O3 | Fe2O3 | CaO | MgO | Na2O |
| | Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | % | % | % | % | % |
| | LOR | 0.5 | 0.01 | 0.05 | 5 | 1 | 0.5 | 0.03 | 5 | 2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| J531826 | | <0.5 | 0.24 | 0.88 | 39 | 1 | 15.1 | 1.55 | 80 | 190 | 64.2 | 15.00 | 3.45 | 3.73 | 1.31 | 1.60 |
| J531827 | | 0.6 | 0.26 | 0.60 | 137 | <1 | 17.4 | 1.71 | 86 | 110 | 52.9 | 14.75 | 7.81 | 6.67 | 2.01 | 1.26 |
| J531828 | | <0.5 | 0.16 | 1.08 | 39 | <1 | 11.7 | 1.06 | 102 | 150 | 71.1 | 14.05 | 6.55 | 0.56 | 1.48 | 0.74 |
| J531829 | | 0.7 | 0.18 | 0.93 | 63 | <1 | 11.6 | 1.21 | 43 | 100 | 61.4 | 14.10 | 4.98 | 4.79 | 2.24 | 0.69 |
| J531830 | | 0.5 | 0.22 | 0.77 | 67 | 1 | 14.5 | 1.43 | 48 | 99 | 64.1 | 15.50 | 3.86 | 3.64 | 2.03 | 0.96 |
| J531831 | | 0.8 | 0.50 | 1.99 | 30 | 1 | 32.2 | 3.32 | 7 | 324 | 78.3 | 11.40 | 0.60 | 0.36 | 0.08 | 0.48 |
| J531832 | | 1.0 | 0.16 | 0.84 | 46 | 1 | 9.9 | 1.13 | 58 | 110 | 72.4 | 15.80 | 3.46 | 0.69 | 0.68 | 0.48 |
| J531833 | | 0.8 | 0.19 | 0.96 | 73 | 1 | 12.9 | 1.36 | 123 | 107 | 68.2 | 16.25 | 5.66 | 1.95 | 1.98 | 0.36 |
| J531834 | | 2.3 | 0.76 | 1.32 | 12 | 1 | 48.5 | 4.92 | 66 | 231 | 72.5 | 9.70 | 5.24 | 3.65 | 2.08 | 0.17 |
| J531835 | | 9.9 | 0.30 | 0.75 | <5 | 1 | 20.3 | 1.95 | 24 | 142 | 88.2 | 8.03 | 1.24 | 0.86 | 0.38 | 0.26 |
| J531836 | | 9.5 | 0.19 | 2.03 | 112 | 1 | 15.8 | 1.23 | 222 | 146 | 51.0 | 15.35 | 6.25 | 6.54 | 4.46 | 0.50 |
| J531837 | | <0.5 | 0.66 | 1.80 | <5 | 1 | 42.8 | 4.38 | 245 | 382 | 67.6 | 11.55 | 5.14 | 1.18 | 5.90 | 0.15 |
| J531838 | | <0.5 | 0.87 | 1.87 | <5 | 1 | 56.3 | 5.76 | 104 | 398 | 73.5 | 12.25 | 3.07 | 0.07 | 1.98 | 0.22 |
| J531839 | | <0.5 | 0.40 | 0.94 | 172 | 1 | 26.4 | 2.70 | 356 | 177 | 56.5 | 16.75 | 7.93 | 0.76 | 5.06 | 0.23 |

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| Sample Description | Method | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | OA-GRA05 | TOT-ICP06 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | K2O | Cr2O3 | TiO2 | MnO | P2O5 | SrO | BaO | LOI | Total |
| | Units | % | % | % | % | % | % | % | % | % |
| | LOR | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| J531826 | | 1.70 | <0.01 | 0.39 | 0.06 | 0.09 | 0.02 | 0.03 | 6.67 | 98.3 |
| J531827 | | 1.64 | 0.01 | 0.86 | 0.12 | 0.15 | 0.03 | 0.04 | 11.10 | 99.4 |
| J531828 | | 0.48 | <0.01 | 0.40 | 0.05 | 0.09 | 0.01 | 0.01 | 2.88 | 98.4 |
| J531829 | | 1.93 | <0.01 | 0.43 | 0.10 | 0.05 | 0.01 | 0.03 | 8.68 | 99.4 |
| J531830 | | 1.93 | <0.01 | 0.49 | 0.07 | 0.07 | 0.02 | 0.03 | 7.08 | 99.8 |
| J531831 | | 1.91 | <0.01 | 0.46 | <0.01 | 0.08 | 0.01 | 0.03 | 1.46 | 95.2 |
| J531832 | | 1.47 | <0.01 | 0.49 | 0.03 | 0.05 | 0.01 | 0.02 | 2.50 | 98.1 |
| J531833 | | 0.82 | <0.01 | 0.50 | 0.06 | 0.09 | 0.01 | 0.02 | 3.70 | 99.6 |
| J531834 | | 0.93 | <0.01 | 0.20 | 0.16 | 0.03 | 0.01 | 0.02 | 6.67 | 101.5 |
| J531835 | | 0.58 | <0.01 | 0.16 | 0.02 | <0.01 | <0.01 | 0.01 | 1.19 | 101.0 |
| J531836 | | 3.00 | 0.01 | 0.65 | 0.17 | 0.36 | 0.03 | 0.04 | 11.60 | 100.0 |
| J531837 | | 1.19 | <0.01 | 0.22 | 0.05 | 0.01 | <0.01 | 0.02 | 5.57 | 98.6 |
| J531838 | | 2.46 | <0.01 | 0.26 | 0.02 | 0.03 | 0.01 | 0.06 | 2.69 | 96.6 |
| J531839 | | 2.57 | <0.01 | 1.08 | 0.09 | 0.14 | 0.01 | 0.09 | 5.39 | 96.6 |