



Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

ATT-7  
Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 4 of 12

### Inorganic Nonmetallic Parameters

| Blanks         | Units                 | Measured | Target  | Lower Limit | Upper Limit | Passed QC |
|----------------|-----------------------|----------|---------|-------------|-------------|-----------|
| Cyanide        | mg/L                  | <0.001   | 0.00000 | -0.00100    | 0.00100     | ✓         |
| Material Used: | Edmonton Method Blank |          |         |             |             |           |
| Date Acquired: | Jul 25, 2002          |          |         |             |             |           |
| Acquired By:   |                       |          |         |             |             |           |

| Replicates     | Units              | Replicate1 | Replicate2 | % RSD Criteria | Absolute Criteria | Passed QC |
|----------------|--------------------|------------|------------|----------------|-------------------|-----------|
| Ammonium - N   | mg/L               | 0.08       | 0.08       | 10.00          | 0.10              | ✓         |
| Material Used: | Edmonton Duplicate |            |            |                |                   |           |
| Date Acquired: | Jul 24, 2002       |            |            |                |                   |           |
| Acquired By:   |                    |            |            |                |                   |           |

| Control Sample | Units        | Measured | Target | Lower Limit | Upper Limit | Passed QC |
|----------------|--------------|----------|--------|-------------|-------------|-----------|
| Ammonium - N   | mg/L         | 3.11     | 3.00   | 2.70        | 3.30        | ✓         |
| Cyanide        | mg/L         | 0.076    | 0.0750 | 0.0680      | 0.0870      | ✓         |
| Material Used: | Water High   |          |        |             |             |           |
| Date Acquired: | Jul 25, 2002 |          |        |             |             |           |
| Acquired By:   |              |          |        |             |             |           |

|                |              |       |        |        |        |   |
|----------------|--------------|-------|--------|--------|--------|---|
| Ammonium - N   | mg/L         | 0.87  | 0.800  | 0.720  | 0.880  | ✓ |
| Cyanide        | mg/L         | 0.016 | 0.0150 | 0.0135 | 0.0165 | ✓ |
| Material Used: | Water Low    |       |        |        |        |   |
| Date Acquired: | Jul 25, 2002 |       |        |        |        |   |
| Acquired By:   |              |       |        |        |        |   |



Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

**Norwest Labs**  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

**Bill to:** Echo Bay Mines Ltd.  
**Report to:** Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

**Attn:** David Hohnstein  
**Sampled By:** M. Sawyer  
**Company:** Echo Bay Mines Ltd.

**Project**  
**ID:**  
**Name:** Lupin Operation  
**Location:**  
**LSD:**  
**P.O.:**  
**Acct. Code:**

**NWL Lot ID:** 182780  
**Control Number:**  
**Date Received:** Jul 22, 2002  
**Date Reported:** Jul 29, 2002  
**Report Number:** 282700

Page: 5 of 12

### Physical and Aggregate Properties

| Replicates     | Units              | Replicate1 | Replicate2 | % RSD Criteria | Absolute Criteria | Passed QC |
|----------------|--------------------|------------|------------|----------------|-------------------|-----------|
| Solids         | mg/L               | 4          | 4          | 10.0           | 5.0               | ✓         |
| Material Used: | Edmonton Duplicate |            |            |                |                   |           |
| Date Acquired: | Jul 23, 2002       |            |            |                |                   |           |
| Acquired By:   | Iona McCloughan    |            |            |                |                   |           |



Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 6 of 12

### Routine Water

| Replicates   | Units | Replicate1 | Replicate2 | % RSD Criteria | Absolute Criteria | Passed QC |
|--------------|-------|------------|------------|----------------|-------------------|-----------|
| pH           |       | 8.13       | 8.16       | 10.00          | 0.10              | ✓         |
| Conductivity | dS/m  | 1.65       | 1.60       | 10.000         | 0.002             | ✓         |
| Calcium      | mg/L  | 397        | 399        | 10.0           | 0.6               | ✓         |
| Magnesium    | mg/L  | 240        | 240        | 10.00          | 0.15              | ✓         |
| P-Alkalinity | mg/L  | <5         | <5         | 10.0           | 5.0               | ✓         |
| T-Alkalinity | mg/L  | 157        | 159        | 10.0           | 5.0               | ✓         |

Material Used: Edmonton Duplicate  
Date Acquired: Jul 23, 2002  
Acquired By: Matt Cummings



**NORWEST  
LABS**

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 7 of 12

### Routine Water (Continued...)

| Control Sample | Units           | Measured | Target | Lower Limit | Upper Limit | Passed QC |
|----------------|-----------------|----------|--------|-------------|-------------|-----------|
| Calcium        | mg/L            | 10.2     | 10.00  | 9.00        | 11.00       | ✓         |
| Magnesium      | mg/L            | 50.5     | 50.00  | 45.00       | 55.00       | ✓         |
| Material Used: | Metals High     |          |        |             |             |           |
| Date Acquired: | Jul 23, 2002    |          |        |             |             |           |
| Acquired By:   | Darren Crichton |          |        |             |             |           |
| Calcium        | mc/L            | <0.2     | 0.1000 | 0.0800      | 0.1200      | ✓         |
| Magnesium      | mc/L            | 0.49     | 0.500  | 0.400       | 0.600       | ✓         |
| Material Used: | Metals Low      |          |        |             |             |           |
| Date Acquired: | Jul 23, 2002    |          |        |             |             |           |
| Acquired By:   | Darren Crichton |          |        |             |             |           |
| pH             |                 | 9.19     | 9.18   | 8.73        | 9.67        | ✓         |
| Conductivity   | dS/m            | 2.79     | 2.765  | 2.680       | 2.840       | ✓         |
| P-Alkalinity   | mc/L            | 527      |        | 490         | 557         | ✓         |
| T-Alkalinity   | mc/L            | 994      | 1000   | 972         | 1035        | ✓         |
| Material Used: | Water High      |          |        |             |             |           |
| Date Acquired: | Jul 23, 2002    |          |        |             |             |           |
| Acquired By:   | Matt Cummings   |          |        |             |             |           |
| pH             |                 | 6.88     | 6.86   | 6.82        | 6.91        | ✓         |
| Conductivity   | dS/m            | 0.077    | 0.0739 | 0.0740      | 0.0790      | ✓         |
| P-Alkalinity   | mc/L            | 63       |        | 46.8        | 71.0        | ✓         |
| T-Alkalinity   | mc/L            | 125      | 125    | 121         | 133         | ✓         |
| Material Used: | Water Low       |          |        |             |             |           |
| Date Acquired: | Jul 23, 2002    |          |        |             |             |           |
| Acquired By:   |                 |          |        |             |             |           |



**NORWEST  
LABS**

Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 8 of 12

### Metals Total

| Blanks    | Units | Measured | Target   | Lower Limit | Upper Limit | Passed QC |
|-----------|-------|----------|----------|-------------|-------------|-----------|
| Calcium   | mg/L  | <0.2     | 0.0000   | -0.0312     | 0.2000      | ✓         |
| Iron      | mg/L  | <0.003   | 0.0000   | -0.0149     | 0.0290      | ✓         |
| Magnesium | mg/L  | <0.05    | 0.0000   | -0.0305     | 0.0500      | ✓         |
| Manganese | mg/L  | <0.0002  | 0.000000 | -0.000700   | 0.001200    | ✓         |
| Potassium | mg/L  | <0.4     | 0.000    | -0.102      | 0.400       | ✓         |
| Silicon   | mg/L  | 0.019    | 0.0000   | -0.0435     | 0.0933      | ✓         |
| Sodium    | mg/L  | <0.4     | 0.000    | -0.194      | 0.400       | ✓         |
| Sulphur   | mg/L  | <0.008   | 0.0000   | -0.0333     | 0.0447      | ✓         |

Material Used: Edmonton Method Blank  
Date Acquired: Jul 23, 2002  
Acquired By: To Thong

| Replicates | Units | Replicate1 | Replicate2 | % RSD Criteria | Absolute Criteria | Passed QC |
|------------|-------|------------|------------|----------------|-------------------|-----------|
| Calcium    | mg/L  | 64.4       | 65.0       | 10.0           | 0.6               | ✓         |
| Iron       | mg/L  | 0.929      | 0.894      | 10.000         | 0.009             | ✓         |
| Magnesium  | mg/L  | 25.4       | 25.5       | 10.00          | 0.18              | ✓         |
| Manganese  | mg/L  | 0.481      | 0.485      | 10.0000        | 0.0006            | ✓         |
| Potassium  | mg/L  | 8.9        | 8.8        | 10.0           | 1.2               | ✓         |
| Silicon    | mg/L  | 7.31       | 7.42       | 10.000         | 0.012             | ✓         |
| Sodium     | mg/L  | 66.7       | 67.1       | 10.0           | 1.2               | ✓         |
| Sulphur    | mg/L  | 22.9       | 23.3       | 10.000         | 0.027             | ✓         |

Material Used: Edmonton Duplicate  
Date Acquired: Jul 23, 2002  
Acquired By: To Thong



**NORWEST  
LABS**

Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

**Bill to:** Echo Bay Mines Ltd.  
**Report to:** Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

**Project**  
**ID:**  
**Name:** Lupin Operation  
**Location:**  
**LSD:**  
**P.O.:**  
**Acct. Code:**

**NWL Lot ID:** 182780  
**Control Number:**  
**Date Received:** Jul 22, 2002  
**Date Reported:** Jul 29, 2002  
**Report Number:** 282700

Page: 9 of 12

### Metals Total (Continued...)

| Control Sample | Units | Measured | Target | Lower Limit | Upper Limit | Passed QC |
|----------------|-------|----------|--------|-------------|-------------|-----------|
| Calcium        | mg/L  | 1.0      | 1.000  | 0.900       | 1.100       | ✓         |
| Iron           | mg/L  | 0.500    | 0.500  | 0.478       | 0.552       | ✓         |
| Magnesium      | mg/L  | 5.00     | 5.00   | 4.48        | 5.19        | ✓         |
| Manganese      | mg/L  | 0.0500   | 0.0500 | 0.0412      | 0.0539      | ✓         |
| Potassium      | mg/L  | 5.0      | 5.00   | 4.30        | 5.06        | ✓         |
| Silicon        | mg/L  | 2.00     | 2.000  | 1.700       | 2.160       | ✓         |
| Sodium         | mg/L  | 5.0      | 5.00   | 4.08        | 5.25        | ✓         |
| Sulphur        | mg/L  | 2.00     | 2.000  | 1.730       | 2.110       | ✓         |

Material Used: Edmonton Digestion Check  
Date Acquired: Jul 23, 2002  
Acquired By: To Thong

|           |      |       |        |        |        |   |
|-----------|------|-------|--------|--------|--------|---|
| Calcium   | mg/L | 9.5   | 10.00  | 9.00   | 11.00  | ✓ |
| Iron      | mg/L | 5.00  | 5.000  | 4.500  | 5.500  | ✓ |
| Magnesium | mg/L | 50.0  | 50.00  | 45.00  | 55.00  | ✓ |
| Manganese | mg/L | 0.501 | 0.5000 | 0.4500 | 0.5500 | ✓ |
| Potassium | mg/L | 47.4  | 50.0   | 45.0   | 55.0   | ✓ |
| Silicon   | mg/L | 23.2  | 20.000 | 16.000 | 24.000 | ✓ |
| Sodium    | mg/L | 48.7  | 50.0   | 45.0   | 55.0   | ✓ |
| Sulphur   | mg/L | 20.8  | 20.000 | 18.000 | 22.000 | ✓ |

Material Used: Metals High  
Date Acquired: Jul 23, 2002  
Acquired By: Darren Crichton



**NORWEST  
LABS**

Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein  
Sampled By: M. Sawyer  
Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 10 of 12

### Metals Total (Continued...)

| Control Sample | Units | Measured | Target  | Lower Limit | Upper Limit | Passed QC |
|----------------|-------|----------|---------|-------------|-------------|-----------|
| Calcium        | mg/L  | <0.2     | 0.1000  | 0.0800      | 0.1200      | ✓         |
| Iron           | mg/L  | 0.045    | 0.0500  | 0.0400      | 0.0600      | ✓         |
| Magnesium      | mg/L  | 0.49     | 0.500   | 0.400       | 0.600       | ✓         |
| Manganese      | mg/L  | 0.0052   | 0.00500 | 0.00400     | 0.00600     | ✓         |
| Potassium      | mg/L  | <0.4     | 0.500   | 0.400       | 0.600       | ✓         |
| Silicon        | mg/L  | 0.237    | 0.200   | 0.160       | 0.240       | ✓         |
| Sodium         | mg/L  | 0.5      | 0.500   | 0.400       | 0.600       | ✓         |
| Sulphur        | mg/L  | 0.200    | 0.200   | 0.160       | 0.240       | ✓         |
| Aluminum       | ug/L  | 200      | 200     | 180         | 220         | ✓         |
| Antimony       | ug/L  | 49.4     | 50.0    | 45.0        | 55.0        | ✓         |
| Arsenic        | ug/L  | 52.2     | 50.0    | 45.0        | 55.0        | ✓         |
| Barium         | ug/L  | 5        | 5.00    | 4.50        | 5.50        | ✓         |
| Beryllium      | ug/L  | 5.1      | 5.00    | 4.50        | 5.50        | ✓         |
| Bismuth        | ug/L  | 50.4     | 50.0    | 45.0        | 55.0        | ✓         |
| Boron          | ug/L  | 206      | 200     | 180         | 220         | ✓         |
| Cadmium        | ug/L  | 4.95     | 5.00    | 4.50        | 5.50        | ✓         |
| Chromium       | ug/L  | 9.3      | 10.00   | 9.00        | 11.00       | ✓         |
| Cobalt         | ug/L  | 9.7      | 10.00   | 9.00        | 11.00       | ✓         |
| Copper         | ug/L  | 10       | 10.00   | 9.00        | 11.00       | ✓         |
| Lead           | ug/L  | 20.9     | 20.0    | 18.0        | 22.0        | ✓         |
| Lithium        | ug/L  | 5        | 5.00    | 4.50        | 5.50        | ✓         |
| Molybdenum     | ug/L  | 10       | 10.00   | 9.00        | 11.00       | ✓         |
| Nickel         | ug/L  | 10.0     | 10.00   | 9.00        | 11.00       | ✓         |
| Selenium       | ug/L  | 52.8     | 50.0    | 45.0        | 55.0        | ✓         |
| Silver         | ug/L  | 10.0     | 10.00   | 9.00        | 11.00       | ✓         |
| Strontium      | ug/L  | 5        | 5.00    | 4.50        | 5.50        | ✓         |
| Thallium       | ug/L  | 50.3     | 50.00   | 45.00       | 55.00       | ✓         |
| Titanium       | ug/L  | 4.8      | 5.00    | 4.50        | 5.50        | ✓         |
| Uranium        | ug/L  | 504      | 500.0   | 450.0       | 550.0       | ✓         |
| Vanadium       | ug/L  | 9.2      | 10.00   | 9.00        | 11.00       | ✓         |
| Zinc           | ug/L  | 11       | 10.00   | 9.00        | 11.00       | ✓         |
| Zirconium      | ug/L  | 10       | 10.00   | 9.00        | 11.00       | ✓         |

Material Used: Metals Low  
Date Acquired: Jul 23, 2002  
Acquired By: Darren Crichton



Agri-Food & Environmental Group  
Calgary Edmonton Winnipeg Lethbridge Surrey

## Quality Control

Norwest Labs  
9938-67 Avenue  
Edmonton, AB. T6E 0P5  
Phone: (780) 438-5522  
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.  
Report to: Echo Bay Mines Ltd.

9818 International Airport  
Edmonton, AB, Canada  
T5J2T2

Attn: David Hohnstein

Sampled By: M. Sawyer

Company: Echo Bay Mines Ltd.

Project  
ID:  
Name: Lupin Operation  
Location:  
LSD:  
P.O.:  
Acct. Code:

NWL Lot ID: 182780  
Control Number:  
Date Received: Jul 22, 2002  
Date Reported: Jul 29, 2002  
Report Number: 282700

Page: 11 of 12

### Metals Total (Continued...)

| Control Sample | Units | Measured | Target | Lower Limit | Upper Limit | Passed QC |
|----------------|-------|----------|--------|-------------|-------------|-----------|
| Aluminum       | ug/L  | 20       | 20.0   | 18.0        | 22.0        | ✓         |
| Antimony       | ug/L  | 4.6      | 5.00   | 4.50        | 5.50        | ✓         |
| Arsenic        | ug/L  | 5.1      | 5.00   | 4.50        | 5.50        | ✓         |
| Barium         | ug/L  | <1       | 0.500  | 0.450       | 0.550       | ✓         |
| Beryllium      | ug/L  | 0.5      | 0.500  | 0.450       | 0.550       | ✓         |
| Bismuth        | ug/L  | 5.1      | 5.00   | 4.50        | 5.50        | ✓         |
| Boron          | ug/L  | 20       | 20.0   | 18.0        | 22.0        | ✓         |
| Cadmium        | ug/L  | 0.48     | 0.500  | 0.450       | 0.550       | ✓         |
| Chromium       | ug/L  | 1.0      | 1.000  | 0.900       | 1.100       | ✓         |
| Cobalt         | ug/L  | 1.0      | 1.000  | 0.900       | 1.100       | ✓         |
| Copper         | ug/L  | 1        | 1.000  | 0.900       | 1.100       | ✓         |
| Lead           | ug/L  | 2.0      | 2.00   | 1.80        | 2.20        | ✓         |
| Lithium        | ug/L  | <1       | 0.500  | 0.450       | 0.550       | ✓         |
| Molybdenum     | ug/L  | 1        | 1.000  | 0.900       | 1.100       | ✓         |
| Nickel         | ug/L  | 1.0      | 1.000  | 0.900       | 1.100       | ✓         |
| Selenium       | ug/L  | 5.1      | 5.00   | 4.50        | 5.50        | ✓         |
| Silver         | ug/L  | 0.9      | 1.000  | 0.900       | 1.100       | ✓         |
| Strontium      | ug/L  | <1       | 0.500  | 0.450       | 0.550       | ✓         |
| Thallium       | ug/L  | 5.19     | 5.00   | 4.50        | 5.50        | ✓         |
| Titanium       | ug/L  | 0.5      | 0.500  | 0.450       | 0.550       | ✓         |
| Uranium        | ug/L  | 54.8     | 50.0   | 45.0        | 55.0        | ✓         |
| Vanadium       | ug/L  | 0.9      | 1.000  | 0.900       | 1.100       | ✓         |
| Zinc           | ug/L  | <1       | 1.000  | 0.900       | 1.100       | ✓         |
| Zirconium      | ug/L  | <1       | 1.000  | 0.900       | 1.100       | ✓         |

Material Used: Metals Trace  
Date Acquired: Jul 23, 2002  
Acquired By: Darren Crichton