

**Levelton Analytical Services™**

#150 - 12791 Clarke Place  
 Richmond, BC  
 Canada V6V 2H9  
 Tel: (604) 278-1411  
 Fax: (604) 278-1042  
 Internet: www.levelton.com



**LEVELTON**  
 Engineering Solutions

**CERTIFICATE OF ANALYSIS**

<b>CLIENT</b>	<b>Sears Ecological Applications Company, LLC</b> 1914 Black River Blvd. Rome, NY 13440	Tel: 1-8888-4-SEACO Fax: 315-337-0117
<b>ATTENTION</b>	<b>David N. Wood</b>	
<b>DATE RECEIVED</b>	Sep-01-06	<b>WORK ORDER #</b> 0609010
<b>DATE REPORTED</b>	Dec-4-06	<b>PROJECT FILE #</b> 406-0135
		<b>PROJECT NAME</b> Deicer Analysis
		<b>COC #(s)</b> 28558

**General Comments:**

Levelton Analytical Services (LAS) employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; and protocols published by the British Columbia Ministry of Environment (BCMOE).

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done in accordance with recognized professional standards using accepted testing methodologies and quality control efforts except where otherwise agreed to by the client.

The results in this report refer only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Levelton is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

- All solids results are reported on a dry weight basis unless otherwise noted
- Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)  
           mg/L = milligrams per Liter, equivalent to parts per million (ppm)  
           ug/L = micrograms per Liter, equivalent to parts per billion (ppb)
- "RDL" = reported detection limit
- "<" = less than reported detection limit
- "-" = not analyzed

**Levelton Analytical Services™**

**Brent Mussato, B.Sc.**  
 Laboratory Manager

Final Review Per:

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**ANALYSIS REPORT**



**LEVELTON**  
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF  
**Lab No.:** 0609010-01  
**Pacific Northwest Snowfighters Specifications (2004)**

Analyte	RDL	Units	Result	Value	Notes
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**Additional Parameters, as per PNS**

Ammonia as N	2	mg/kg	< 2	n/a	
BOD, 5-day Total	10	"	13000	n/a	
Chemical Oxygen Demand	2000	"	120000	n/a	
Chloride	0.01	% Weight	18.3	n/a	
Cyanide (total)	0.15	mg/kg	< 0.15	0.2	
Magnesium Chloride	0.1	%	25	> 25	
Nitrate+Nitrite as N	5.0	mg/kg	< 5.0	n/a	
pH (1:4 Solution)	0.1	pH Units	6.0	6.0 - 10.0	
Phosphorus, Total	5.00	mg/kg	< 5.00	2500	
Specific Gravity	0.001	g/mL	1.300	n/a	
Total Kjeldahl Nitrogen	50.0	mg/kg	< 50.0	n/a	

**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	< -42	n/a	SUB
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**Aquatic Bioassay Testing**

IC25, 7 Day, Ceriodaphnia		mg/L	563	n/a	SUB
IC25, Selenastrum		"	45	n/a	SUB
IC50, 7 Day, Ceriodaphnia		"	709	n/a	SUB
IC50, Selenastrum		"	178	n/a	SUB
LC50, 7 Day, Ceriodaphnia		"	680	n/a	SUB
LC50, 96hr, Trout		"	35000	n/a	SUB

**Freeze Testing, as per PNS**

Solids Passing Through #10 Sieve	1.0	%	> 99	> 99.0	
Solids, Total Settleable	1.0	"	< 1.0	1.0	

**Total Metals, as per PNS**

Arsenic	0.6	mg/kg	1.1	5	
Barium	0.2	"	0.3	100	
Cadmium	0.04	"	< 0.04	0.2	
Calcium	20	"	190	n/a	
Chromium	0.2	"	0.4	1	
Copper	0.1	"	< 0.1	1	
Lead	0.2	"	< 0.2	1	
Magnesium	20.0	"	63000	n/a	
Mercury	0.05	"	< 0.05	0.05	
Potassium	20	"	924	n/a	
Selenium	1.0	"	4.4	5	
Sodium	20	"	1600	n/a	
Zinc	2.0	"	< 2.0	10	

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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (3%) Pacific Northwest  
Lab No.: 0609010-02 Snowfighters  
Specifications (2004)

Analyte	RDL Units	Result	Value	Notes
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**Corrosion Rate Testing as per PNS**

Effectiveness	-50.0 %	28.6	30	
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (92% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-03

Analyte	RDL	Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	< -42	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (84% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-04

Analyte	RDL	Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	< -42	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (76% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-05

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-40	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (68% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-06

Analyte	RDL	Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	-32	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (60% V/V) **Pacific Northwest  
Snowfighters  
Specifications (2004)**  
**Lab No.:** 0609010-07

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-26	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (52% V/V)

**Pacific Northwest  
Snowfighters  
Specifications (2004)**

**Lab No.:** 0609010-08

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-22	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (44% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-09

Analyte	RDL	Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	-17	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (36% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-10

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-13	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (28% V/V) **Pacific Northwest Snowfighters Specifications (2004)**  
**Lab No.:** 0609010-11

Analyte	RDL	Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42	°C	-9	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (20% V/V) **Pacific Northwest  
Snowfighters  
Specifications (2004)**  
**Lab No.:** 0609010-12

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-5	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (12% V/V) **Pacific Northwest  
Snowfighters  
Specifications (2004)**  
**Lab No.:** 0609010-13

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-3	n/a	SUB
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**WORK ORDER #** 0609010

**DATE REPORTED** Dec-4-06

**Client ID :** Ice B'Gone II HF (4% V/V) **Pacific Northwest  
Snowfighters  
Specifications (2004)**  
**Lab No.:** 0609010-14

Analyte	RDL Units	Result	Value	Notes
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**American Society for Testing and Materials (ASTM) Methods**

Freezing Point	-42 °C	-1	n/a	SUB
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SUB	This analysis was subcontracted.			
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