



North Bay Jack Garland Airport
GLYCOL OPERATIONS MANAGEMENT PLAN

Effective August 01, 2014

Reviewed & Amended [Sept 2024](#)

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1.0 INTRODUCTION

The purpose of this plan is to establish an agreement of processes that will endeavor to reduce the effects that Glycol Operations at North Bay Jack Garland Airport would have on our environment.

The Canadian Environmental Protection Act (CEPA) has established a guideline limiting storm water concentration levels of glycol to 100 mg/l. In order to maintain compliance with the CEPA guideline, the airport has established a Glycol Operations Management Plan. This environmental plan is designed to prevent glycol levels above the 100-mg/l limit from entering the surrounding natural waterways. All parties to this plan will work collaboratively to ensure that all Glycol operations at North Bay Jack Garland Airport are conducted in a responsible manner and within the guidelines established in the Canadian Environmental Protection Act (CEPA) and in accordance to Transport Canada TP14052.

To effect this plan, Airlines and Operators participating in the management plan at North Bay Jack Garland Airport must review the plan with all management and staff directly involved in the deicing operation at the beginning of each deicing season. Once the review with the applicable staff is completed, the airline/deicing operator will provide written confirmation to the North Bay Jack Garland Airport to confirm that all staff are aware of this Glycol Operations Management Plan (GOMP).

2.0 PARTICIPANTS IN THE GOMP

2.1 AIRLINE/S

The following airlines have agreed to participate in the GOMP;

Airline Name:	Bearskin Airlines
Address:	5000 Air Terminal Drive, Room P-107
City, Province:	Garson, Ontario
Postal Code:	P3L 1V4
Local Representative:	Vicki Ginson
Telephone No:	705-693-9199
Email:	vginson@perimeter.ca

Airline Name:	Jazz Aviation LP
Address:	3 Spectacle Lake Drive, Burnside Industrial Park
City, Province:	Dartmouth, Nova Scotia
Postal Code:	B3B 1W8
Local Representative:	Cindy Fleguel, Senior Lead
Telephone No:	705-472-3761
Email:	cindy.fleguel@flyjazz.ca

Airline Name:	Voyageur Aviation Corp
Address:	1500 Airport Road
City, Province:	North Bay, Ontario
Postal Code:	P1B 8G2
Local Representative:	Ole Fisker
Telephone No:	705-476-1750
Email:	Ole.fisker@voyav.com

2.2. DEICING SERVICE PROVIDER/S

The following Deicing Services Providers have agreed to participate in the GOMP;

Company Name:	Executive Aviation Fuels Ltd.
Address:	2485 Aviation Lane
City, Province:	London, Ontario
Postal Code:	N5V 3Z9
Local Representative:	Katherine Delisle
Telephone No:	705-978-1492
Email:	kdelisle@executiveaviation.ca
Providing Services to:	Jazz Aviation LP, Others

Company Name:	Voyageur Aviation Corp
Address:	1500 Airport Road
City, Province:	North Bay, Ontario
Postal Code:	P1B 8G2
Local Representative:	Joey Church
Telephone No:	705-476-1750
Email:	Joey.Church@voyav.com
Providing Services to:	Bearskin Airlines, Others

2.3. GLYCOL EFFLUENT COLLECTION & DISPOSAL SERVICES PROVIDER/S:

The following glycol effluent collection and disposal service provider has agreed to participate in this GOMP;

Agency Name:	<i>WAGGS Petroleum</i>
Address:	145 Ferris Drive
City, Province:	North Bay, Ontario
Postal Code:	P1B 8Z4
Local Representative:	Terry Ablett
Telephone No:	(705) 472-2500
Email:	vreid@waggspetroleum.on.ca

Note: North Bay Jack Garland Airport have arranged for the disposal of spent deicing fluid in support of this GOMP.

3. GLYCOL DISPENSING SEASON:

Start Date:	<i>November 1st</i>
End Date:	<i>April 15th</i>
Total Number of Days:	<i>166</i>
Number of Major Deicing Events:	<i>Approximately 10</i>

3.1. PRE OR POST DISPENSING SEASON

If deicing is required prior or after the season, operators must contact the North Bay Jack Garland Airport and inform them deicing has taken place.

4. INVENTORY CONTROL OF GLYCOL

The following subsections will address quantities used, quantities stored, storage facilities, and handling.

4.1. ESTIMATED VOLUMES OF GLYCOL THAT WILL BE USED

Anticipated quantities of Glycol that will be used for this winter operations season is based on the previous seasons usage, the return of JAZZ Aviation and the scheduled return of Sunwing in January 2023.

(Note: See detailed breakdown formulation of Glycol product in Table 1).

Name of Airline	Glycol Type	Quantity
Bearskin Airlines	Type 1 - Ethylene	9,000 Litres
	Type 1 - Propylene	None
	Type 4 - Propylene	None
	Type 4 - Ethylene	0 Litres

Name of Airline	Glycol Type	Quantity
JAZZ Aviation LP	Type 1 - Ethylene	6,000 Litres
	Type 1 - Propylene	None
	Type 4 - Propylene	None
	Type 4 - Ethylene	3,300 Litres

Name of Airline	Glycol Type	Quantity
Others	Type 1 - Ethylene	3,300 Litres
	Type 1 - Propylene	None
	Type 4 - Propylene	None
	Type 4 - Ethylene	2,000 Litres

Table 1 - Estimated Deicing Fluid Volumes

Type	Glycol Type	Glycol (% volume)	Water (% volume)	Total Estimated (L)
Type 1	Ethylene	46	54	21,000 Litres
Type 1	Propylene	40	60	None
Type 4	Ethylene	35	65	6,000 Litres
Type 4	Propylene	75	25	None

4.2 GLYCOL VENDORS

The suppliers of the Glycol products to be dispensed at the airport are;

4.2.1. ETHYLENE GLYCOL VENDOR/S

Company Name:	Dow Chemicals Company	
Address:	6801 West 68 th Street	
City, Province:	Bedford Park, Illinois	
Postal Code:	60638	
Local Representative:	Bradley Hubbell	
Telephone No:	800-374-6091 ext. 21068	
Email:	BGHubbell@dow.com	
Type of Glycol Supplied:	■ Type 1	■ Type 4

4.2.2. PROPYLENE GLYCOL VENDOR/S - NONE

4.3. GLYCOL TRANSPORTERS

Glycol products are delivered to the airport and or storage facilities by the following transportation service providers;

Company Name:	Katoen Natie Canada (For Voyageur Aviation Corp)	
Address:	1395, rue Marie-Victorin	
City, Province:	Saint-Bruno, QC	
Postal Code:	J3V 6B7	
Local Representative:	Chrsitina Pascari	
Telephone No:	405-653-0445 Ext:2018	
Email:	N/A	
Type of Glycol Transported:	■ Type 1	■ Type 4

Company Name:	Diverse Transportation (For Executive Aviation/JAZZ)	
Address:	2378 Royal Windsor Drive	
City, Province:	Oakville, ON	
Postal Code:	L6J 7Y2	
Local Representative:	Peter Beauchemin	
Telephone No:	1-866-779-7015	
Email:	pbeauchemin@diversetransportation.com	
Type of Glycol Transported:	<input checked="" type="checkbox"/> Type 1	<input type="checkbox"/> Type 4
Company Name:	MRT Martin Roy Transport (For Executive Aviation/JAZZ)	
Address:	760 HWY 17 East	
City, Province:	North Bay , Ontario	
Postal Code:	P1B 8G4	
Local Representative:	Order desk	
Telephone No:	705 495 2620	
Email:	Info@martinroytransport.com	
Type of Glycol Transported:	<input type="checkbox"/> Type 1	<input checked="" type="checkbox"/> Type 4

4.4. GLYCOL PRODUCT STORAGE FACILITIES

Glycol Storage for the operations at the North Bay Jack Garland Airport are provided by the Airline and their representative on site.

Company Name:		JAZZ Aviation LP / Executive Aviation		
Address:		3 Spectacle Lake Drive, Burnside Industrial Park		
City, Province:		Dartmouth, Nova Scotia B3B 1W8		
Local Representative:		Cindy Fleguel/ Carl Whitwell		
Tank Location:		Maintenance Garage South of ESSO fuel farm.		
De-ice Provider & Type (1 or 4)	Storage Type (Tank/Tote)	Tank Volume (Litres)	Tank Material (i.e. steel/ FG / HDPE, fixed or stationary)	Tank Detail Single wall/ double wall AST or UST
■ Type 1	Tote	1,000	HDPE	Single Wall
■ Type 4	Tote	1,000	HDPE	Single Wall

Company Name:		Voyageur Aviation Corp		
Address:		1500 Airport Road		
City, Province:		North Bay, Ontario P1B 8G2		
Local Representative:		Joey Church		
Tank Location:		Hanger #6 on Apron #1		
De-ice Provider & Type (1 or 4)	Storage Type (Tank/Tote)	Tank Volume (Litres)	Tank Material (i.e. steel/ FG / HDPE, fixed or stationary)	Tank Detail Single wall/ double wall AST or UST
■ Type 1	Tote	1,000	HDPE	Single Wall
■ Type 4	Tote	1,000	HDPE	Single Wall

5.0. AIRPORT GLYCOL APPLICATION OPERATIONS

5.1. Training

Training shall be an ongoing, annual process with all crews employed in deicing and post deicing inspection of aircraft. Training records are to be provided to the Airport Manager prior to the start of deicing operations on an annual basis and any time new or additional staff are introduced into the workforce.

5.2. DESIGNATED LOCATIONS

The North Bay Jack Garland Airport's designated deicing location is Apron #2, a well maintained nonporous concrete surface. All pavement joints and cracks are sealed to prevent seepage to subsurface soils. This area is maintained free of snow and accessible to aircraft and deicing equipment conducting the deicing operations. A site plan depicting the designated Glycol application area is provided in Appendix A.

5.2.1. PARKING PLAN

Apron parking will be as outlined in the North Bay Jack Garland Airport's Apron Management Plan.

5.2.2. NORMAL OPERATIONS

During normal operations, on it's designated stands;

- a) Type 1 Glycol will be applied to the aircraft by service provider
- b) Following de-icing operations, the flight crew will request ATC clearance
- c) Crew will start engines and then taxi to designated takeoff runway

5.2.3. SEVERE WEATHER FORECASTED OPERATIONS

Should severe overnight weather be forecasted, the carrier can pre-treat aircraft with Type 4 fluid on it's designated stand. Type 4 fluid will be applied to appropriate aircraft surfaces and the aircraft must then remain in the area for 30 minutes to allow any excess fluid to flow off the treated area of the aircraft.

5.3. QUANTITY USED REPORTING

Individual Air Carriers who are parties to this plan will provide the local North Bay Jack Garland Airport’s Environmental Representative with total and types of glycol’s sprayed, and number of aircraft in a **monthly summary**. This report will originate from the airline’s Deicing Service Provider. Reporting shall be to the person noted below;

North Bay Airport Operations Manager:	Chad Miller
Environmental Contact Telephone No:	705 840-9964
Environmental Contact Email Address:	operations@yyb.ca

Any unique, irregular events will be included as part of the monthly summary. (I.e. equipment failures, including spills, leaks and all subsequent details which should include size of the spill, initial spill response, the subsequent measures taken to clean up the area)

A yearend report will be compiled and shared with the North Bay Jack Garland Airport at a designated meeting after the de-icing season has come to a close.

5.4. DESIGNATED DEICING APPLICATION EQUIPMENT

The following is a list of De-icing Units at North Bay Jack Garland Airport, organized by Operator:

Jazz Aviation LP					
Unit #	Vehicle Make	Equipment No.	De-icing Fluid Capacity	Anti-Icing Fluid Capacity	De-icing Fluid Type(s)
1	GS700	DT-74	2200 Litres	750 Litres	Type 1&4
2					

** (Updated annually before the start of season)

Voyageur Aviation Corp					
Unit #	Vehicle Make	Equipment No.	De-icing Fluid Capacity	Anti-Icing Fluid Capacity	De-icing Fluid Type(s)
1	GSE	DT-59	2200 Litres	1100 Litres	Type 1&4
2					

** (Updated annually before the start of season)

5.4.1 INSPECTIONS

Operators of Deicing Application Equipment must submit **equipment and boom inspection annual reports** to the North Bay Jack Garland Airport prior to commencing deicing operations.

5.5 Designated Deicing Recovery Equipment

The following is a list of De-icing Recovery Units available to North Bay Jack Garland Airport, organized by Operator:

Waggs Petroleum & North Bay Airport					
Unit #	Vehicle Make	Equipment Type	Deicing Fluid Collection Capacity	Number of Crew Required to Operate	Vehicle or MOE Registration No.
1	B600 Mack	VAC Truck	11,000 Litres	1 or 2	3040-4WDGPE
2	Case	Front End Loader	n/a	1	62-2012
3	John Deere	Front End Loader	n/a	1	62-9901
4	John Deere	Front End Loader	n/a	1	62-2001

6.0. JOINT OPERATIONAL MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS OF GLYCOL

6.1. REDUCING QUANTITY OF GLYCOL DISPENSED

Deicing service providers will endeavor to reduce the amount of glycol product dispensed by using the following measures;

- a) Whenever possible, snow accumulations on aircraft surfaces should be manually and delicately removed using approved brooms/squeegees/forced air.
- b) In non active precipitation, all frost de-icing must be performed using reduced flow rate nozzles or reduced flow nozzle settings in order to minimize the amounts of deicing fluid used.
- c) All deicing crews are instructed to use only the amount of glycol required to ensure safety and in doing so, that CARS 602.11 is met in full - clean critical flight control surfaces.

6.2 REDUCING RISK OF ENVIRONMENTAL CONTAMINATION

The following measures shall be implemented to reduce risk of environmental contamination for ;

6.2.1 CONTAINMENT

North Bay Jack Garland Airport has a containment pond located on the South West end of the airport where drainage water from approximately the West half of the airfield including Apron #2 discharges to. Booms are installed during the deicing season and water samples for glycol are taken at the outflow from this pond. The North Bay Jack Garland Airport has set an **internal trigger point of 50 mg/L for glycol sample results which wil initiate further action**. Once this threshold is reached a secondary containment pond will be setup using straw bales at the next set of culverts located down stream and a boom installed. A water sample will be taken immediately and sent for testing. If the test results are below 50 mg/L regular testing will continue at this location until the levels subside. Should the glycol levels continue to be 50 mg/L or above a tertiary containment pond will be set up at the next set of culverts located downstream using straw bales and a boom. A water sample will be taken immediately and sent for testing. If the test results are below 50 mg/L regular testing will continue at this location until the levels subside. Should the glycol levels continue to be 50 mg/L or above glycol recovery will be initiated from Apron #2 catchbasins and containment ponds. (See Appendix B)

6.2.2. RECOVERY

- a) utilizing Glycol Recovery Vehicles the North Bay Jack Garland Airport will perform vacuuming of catchbasins located at Apron #2 and containment ponds as required. (See Appendix B)
- b) When utilizing snow clearing machinery only, Glycol contaminated snow (pink snow) will be collected and stored in a designated area designed to manage its melt and control runoff.

6.2.3 SPILL RESPONSE PLAN

The Glycol Service Providers in collaboration with the North Bay Jack Garland Airport shall have a Spill Response Plan.

- a) Deicing crews shall be instructed in appropriate spill response/reporting procedures and a signature sheet for all staff acknowledging having received this instruction will be provided to the airport prior to start of the deicing season.

6.2.3.1. SPILL RESPONSE

- i. All Deicing Companies must maintain a spill kit on site.
- ii. In the event of a spill, whether **Minor** or **Major** in definition, the de-icing service provider shall follow the North Bay Jack Garland Airport's Emergency Response Plan, Section #9 Hazardous Materials & Environmental Emergency.
- iii. Spilled product that has been collected is to be transferred to a disposal location.
- iv. Leaks or spills occurring on site will be the responsibility of the deicing operator.

6.2.3.2. SPILL REPORTING

Subsequent to an accidental release of Glycol (spill) an Environmental Spill Report must be filled out and submitted to the following;

- i. North Bay Jack Garland Airport
 - a. Environmental Representative of the airport
 - b. Airport Manager
- ii. A copy of this same report must also go to the Environmental Department of the airline involved
- iii. In addition to the North Bay Jack Garland Airport requirements, individual operators may require additional procedure and reporting requirements as dictated by their own Station Emergency Response Procedure
- iv. ENVIRONMENT CANADA:
Spills that exceed reportable criteria must be reported to Environment Canada as per (CEPA) regulations. Reporting will be done by the agency directly experiencing the spill.

6.3. DISPOSAL OF GLYCOL EFFLUENTS

6.3.1. MUNICIPAL SANITATION SYSTEMS

Glycol effluents shall not be disposed of into the local municipal sanitation systems, effluents will be transported to an approved disposal site by the Deicing Recovery service provider.

7.0. MEASUREMENT OF PLAN'S EFFECTIVENESS

7.1. MONITORING & SAMPLING

North Bay Jack Garland Airport shall monitor the environmental effectiveness of this GOMP. The North Bay Jack Garland Airport has in place a surface water testing plan which will measure the presence of ethylene glycol and propylene glycol in surface waters that are adjacent to the airport property.

7.1.1. SAMPLING LOCATION

Apron #2 Airport Drainage System flows westerly to a natural **catchment pool/holding pond with a floating containment boom for glycol**. The boom is installed prior to the deicing season and removed and disposed of after the deicing season ends in the spring. **The sample shall be obtained at the outflow from this holding pond.**

7.1.2. SAMPLING METHOD

Airport staff will obtain a water sample following sample kit instructions and send it by courier to a laboratory capable of testing for glycols.

7.1.3. SAMPLING RESULTS

All sampling results are to be recorded by North Bay Jack Garland Airport and provided to parties of this agreement upon request.

7.1.4. EXCEEDENCES

When it is determined that a sampling result identifies a surface water concentration in **excess of 50 mg/L or greater**, the North Bay Jack Garland Airport will take immediate action (see Appendix B). When a sampling is in **excess of 100 mg/L, the North Bay Jack Garland Airport will report the exceedance to the Department of Environment** in accordance with the Canadian Environmental Protection Act (CEPA). North Bay Jack Garland Airport will immediately notify the parties to this agreement of their reporting to confirm that the reporting has in fact occurred.

7.1.5. CORRECTIVE ACTION TO ADDRESS EXCEEDENCES

Where it is determined an exceedence has occurred, the North Bay Jack Garland Airport will immediately lead a revisiting and reassessment of a this plan with all parties to this plan. The objective of this revisiting and reassessment is to find mutually agreed mitigations that will endeavor to bring the glycol effluent concentration levels to a rate less than 100 mg/L.

7.2. YEAR END REPORT

Each airline will compile a year end usage report that will be shared with the North Bay Jack Garland Airport at a designated meeting after the deicing season has come to a close. (See Appendix C)

8. GLYCOL OPERATIONS MANAGEMENT PLAN SIGNATORY DOCUMENT

This document is to be signed by representatives of the Deicing Service Providers on behalf of their client air carriers, Recovery and Disposal Operators and Airport Authorities who are active participants in this Glycol Operations Management Plan (GOMP).

Signatures to this document are demonstrating their commitment to the Plan. Ad Hoc users (those not listed in the plan) are not required to sign. A sample of this document will be included as part of the GOMP.

8.1. TERMS OF AGREEMENT

Company or Agency agrees to support the GOMP as follows:

- A) Follow procedures established in the GOMP
- B) Conduct de-icing operations only in approved areas
- C) Accurately report de-icing fluid usage to the Airport as described in the GOMP.
- D) Meet financial obligations for service agreements (or ad hoc services) established and **approved** by the GOMP
- E) Meet financial obligations for services provided by the Airport for glycol recovery and disposal (where applicable) in support of the GOMP

8.2. SIGNATURE OF AGREEMENT

Signature below indicates agreement to the GOMP as outlined in this document;

Company or Agency Name:	Bearskin Airlines
Company or Agency Representative's Name:	Vicki Ginson
Signature of Company or Agency Representative:	
Date of Signing:	

Company or Agency Name:	JAZZ Aviation LP
Company or Agency Representative's Name:	Dawn Ryan
Signature of Company or Agency Representative:	
Date of Signing:	

Company or Agency Name:	Voyageur Aviation Corp
Company or Agency Representative's Name:	Ole Fisker VP of Airways Operations Ole.fisker@voyav.com
Signature of Company or Agency Representative:	
Date of Signing:	

Company or Agency Name:	Executive Aviation
Company or Agency Representative's Name:	Nelson Bradshaw, CPA . CA
Signature of Company or Agency Representative:	
Date of Signing:	

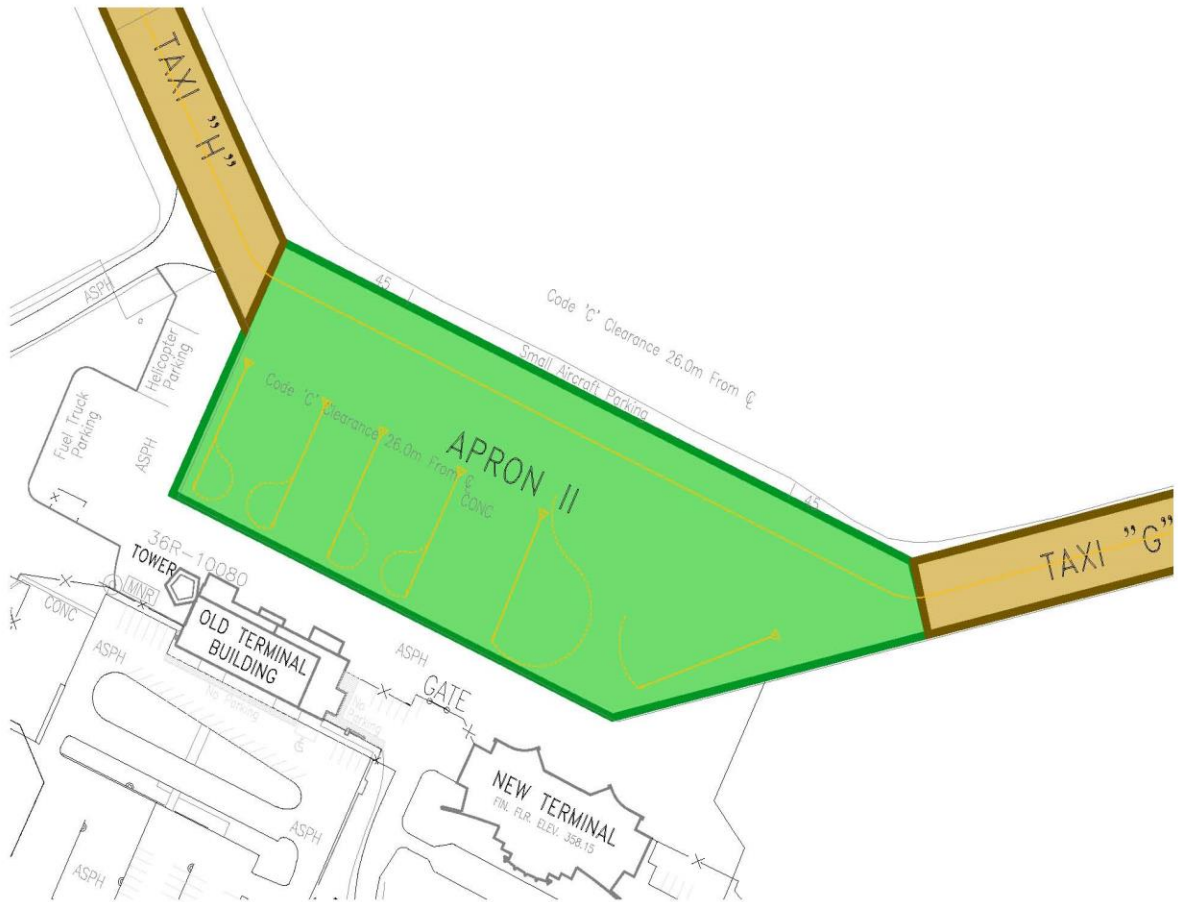
Company or Agency Name:	Voyageur Aviation Corp
Company or Agency Representative's Name:	Joey Church
Signature of Company or Agency Representative:	
Date of Signing:	

8.3. ACKNOWLEDGEMENT OF RECEIPT

The signature below acknowledges the receipt by the Airport Manager of your Company or Agency's agreement to the GOMP;

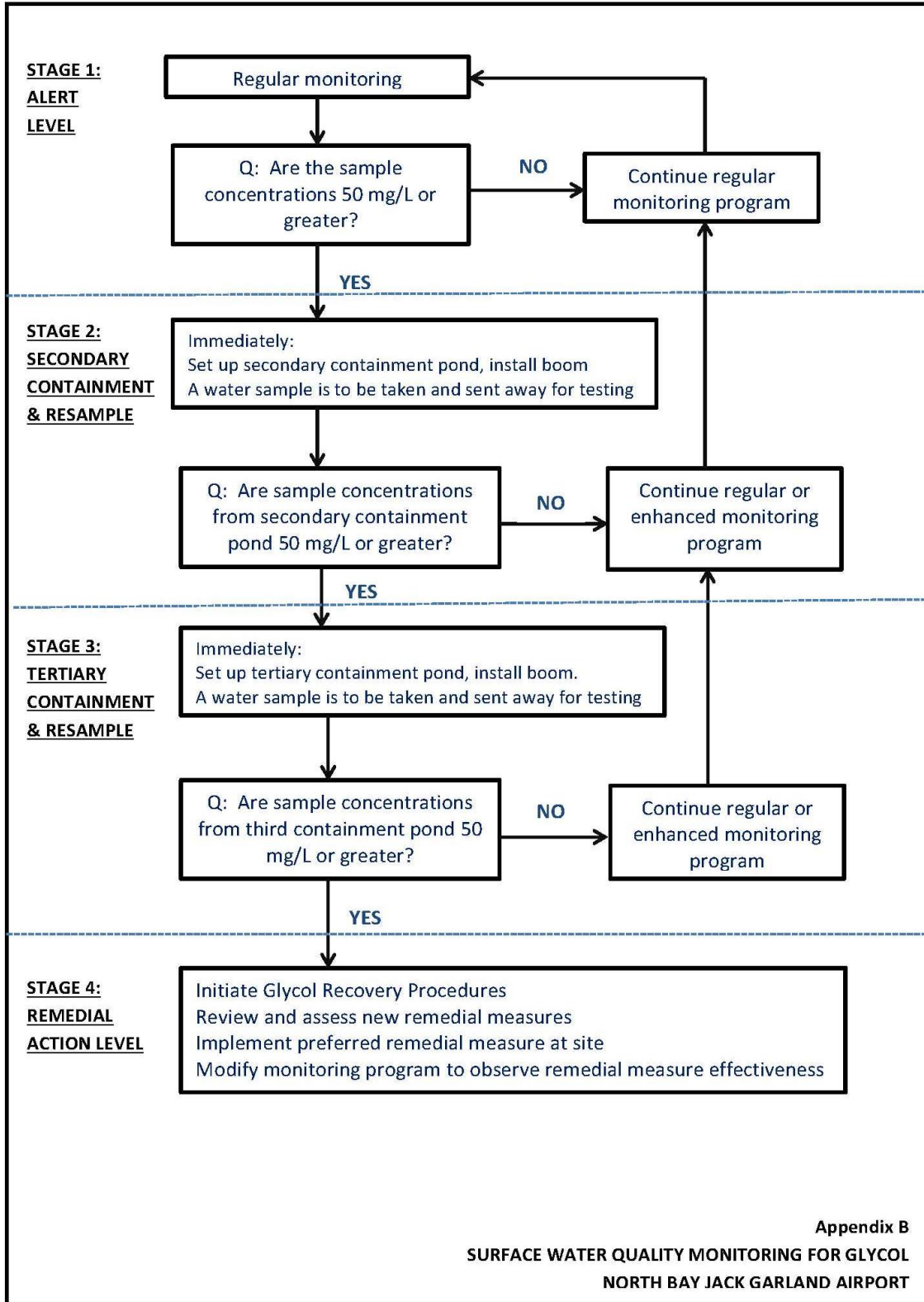
Signature of Airport Manger:	
Date of Receipt:	

APPENDIX A



NOTE: Deicing operations are approved on Apron #2 only.

APPENDIX B



APPENDIX C

NORTH BAY JACK GARLAND AIRPORT YEAR END GLYCOL REPORT

Year: _____

Name of Airline	Glycol Type	Quantity
	Type 1 - Ethylene	
	Type 1 - Propylene	
	Type 4 - Propylene	
	Type 4 - Ethylene	

Name of Airline	Glycol Type	Quantity
	Type 1 - Ethylene	
	Type 1 - Propylene	
	Type 4 - Propylene	
	Type 4 - Ethylene	

Name of Airline	Glycol Type	Quantity
	Type 1 - Ethylene	
	Type 1 - Propylene	
	Type 4 - Propylene	
	Type 4 - Ethylene	

Name of Airline	Glycol Type	Quantity
	Type 1 - Ethylene	
	Type 1 - Propylene	
	Type 4 - Propylene	
	Type 4 - Ethylene	

Information provided by: _____ (Airline / Service Provider)

Signature: _____