

ARCTAS Mission Site Survey Report
Yellowknife and Cold Lake, Canada
4-12 March 2008

Attendees: Mike Gaunce, Sue Tolley, Anne Thompson

Note: Some of the information in this report is a revision or update to information from the October 2007 site survey report. All prices listed are in Canadian dollars (CAD).

Yellowknife – The Yellowknife section is broken into four parts: (1) P-3 transit, (2) NATIVE, (3) B-200 basing and (4) Other.

P-3 Transit.

Hangar. ESPO has made arrangements to hangar the P-3 overnight on March 31st at the Buffalo Airways hangar. The cost is \$1000.00 which includes the use of a “snorkel” lift for aircraft access, towing, and a power unit (we will need to also pay a nominal charge for the power used). They have lav, water, and nitrogen servicing. Buffalo has asked that the P-3 ground crew take a quick safety brief upon arrival to operate in their hangar. Overnight hangar temperature is expected to be in the 10-15 °C range. Flight plans can be filed at the Buffalo operations office.

Fuel. Shell Aviation. Current fuel price is about \$1.56 CAD/liter (about \$5.90 US/gal). Need to specify with or without anti-freeze additive. May be able to get lower price through Multi-Service card.

Immigration and Customs. The Yellowknife customs & immigration will meet the plane on arrival (and departure). Everyone on the plane will be required to fill out an E-311 customs form. ESPO or the P-3 mission manager will need to provide a list of names and dates of birth to immigration in advance. Note: There is no fee for arrival during normal working hours. After 5 pm, there is a \$59.00 charge.

Accommodations. Sue has made arrangements for a block of 23 hotel rooms to be available for the P-3 transit overnight (Monday, March 31). The rooms are at the Super 8 Motel, 308 Old Airport Road. This is a good quality place, close to the airport and with availability.

The price \$136.00 plus 5% tax which comes to \$142.80, just under the per diem lodging rate for Yellowknife. There is complimentary breakfast and wireless in every room. The motel is within walking distance of a grocery store, department store, and restaurants.

To make reservations, call 867-669-8888 and ask for Diane Schmidt, the hotel manager. Reservations must be confirmed by Friday, March 14th.

Sue is also working to confirm bus transportation from the airport to the hotel.

NATIVE.

Sites. Visited several potential basing sites for NATIVE. The two preferred sites are the Yellowknife Geophysical Observatory, located near the golf course, about 2 km west of the airport, and a DND hangar, located on airport property off the south end of runway 33. Both sites are good, accessible, locations with power, phone, and internet available (details for installation of all three of these still need further work).



Yellowknife Geophysical Observatory (YGO) Entrance (view to the west, 0.5 mi from highway) **Proposed NATIVE location at YGO**

Discussed arrival and installation schedule for NATIVE. To start science operations in Yellowknife on June 19th, expected arrival of NATIVE in Yellowknife should be on/around June 12th. Based on this, ESPO recommends shipping from Penn State on/around June 1st.

Gases. Anne is setting up an account to get helium for the balloons. A tank is about \$195.00 with no deposit. Needs to be ordered 8 weeks in advance.

B-200 Basing.

Adlair Aviation. Adlair has a small office building, two small hangars, and sufficient ramp space to support the B-200. Met with Kristian Valing and Paul Laserich, General Manager, to discuss basing the B-200 at Adlair. They have a meeting room available for 6-8 people with internet and telephone, which could be used to house the B-200 operations. They do have

electrical power hook-ups around the perimeter of their ramp, and a small power cart (Fox cart) for shared use. Flight plans can be filed in the Adlair building.



**Adlair FBO Ramp and Hangars
(From October 2007)**



Proposed Office Space (2nd floor, main hangar)

Fuel. See P-3 section above.

Immigration and Customs. Same as P-3 section above. However, we may need a temporary importation permit for the on-board scientific equipment. Would need to provide a list of equipment and valuation to the Yellowknife Border Services Officer.

Gases. Sue is setting up an account to get LN₂. A 230 l dewar is about \$400.00 with a \$50.00 deposit. Note there is high boil-off (50%) on the transit of the dewars from Edmonton to Yellowknife. LN₂ needs to be ordered 8 weeks in advance.

Other.

- Summer Accommodations. Sue made arrangements for a room block for the summer at the Coast Fraser Tower, 5303 52nd St. They have one bedroom units (600 sf) for \$136.00 plus tax (5%), and two bedroom units (900 sf) for \$144.00 plus tax. The rate includes continental breakfast and free internet. They have an ATM in the lobby, and there are meeting rooms and catered dinners available. Reservations will need to be made individually by May 15th.



Fraser Coast Tower – Living Room



Fraser Coast Tower – Kitchen

- Cell Phones. The cell network in Yellowknife is CDMA, so GSM phones will not work. Pre-paid local cell phones are available at Roy's Audiotronic (Ryan MacPhail), Yellowknife Mall Downtown, 867-873-5441. Phones are about \$100.00 CAD.
- Medical Emergencies. Stanton Territorial Hospital, 550 Byrne Road, 867-669-4111 (southeast of downtown, near Super 8 Motel).
- Thompson and Gaunce conducted press interviews with the local Yellowknifer newspaper and CBC North radio.
- Local logistic support contacts.

Internet:

- Northwestel, 867-669-5469, www.nwtel.ca (satellite broadband available).
- SSI Micro, 867-669-7500, www.ssimicro.com.

Cranes: Territorial Crane Service, 867-920-4731 (C: 867-873-1472).

Local Electricity Service: Northwest Territories Power Corporation, 867-669-3300, www.ntpc.com.

Electrical Contractor: Ryfan, Brian Bodnarik, 867-765-8309, Golden Electric, 867-873-4754, or Independent Electrical Services, 867-873-2272.

Local Transportation. There are three major rental car companies in Yellowknife. All have mileage charges (we can negotiate this).

- Hertz, 26 cars, contact Lorraine Jean (867-766-3838).
- National, 60 cars, off airport (867-920-2970).

- Budget (867-920-9209).
- Open: Need to make request to the NWT government for waiving B-200 landing fees and may need site agreement (with nominal lease fees) for NATIVE site.

Cold Lake, Alberta (4 Wing Cold Lake).

Met with Deputy Wing Ops Commander, Logistics Support Group, Telecommunications & Information Services Group, and Wing Accommodations, to discuss detailed deployment support requirements for the ARCTAS mission as a follow-up to our initial October 2007 visit. We conducted a tour of the base, office space, and housing options. The Wing is still very supportive to hosting the NASA mission. They have asked for a formal basing request which ESPO is currently working through the U.S. Embassy in Ottawa.

The wing does need to recoup of portion of its out of pocket expenses, and had originally proposed a charge per square foot of office space required. They are now requesting instead a lift-off or sortie fee per aircraft per take-off. This includes all landing and ramp fees, ground equipment, flight planning, required flight and ground operations, office space, badging and access, and some bus service to/from Edmonton. We would also need to pay for fuel, customs, some internet connection fees, and long distance phone calls. We are still determining how this should be paid.

We conducted a detailed review of the available office looking at room layouts and obtaining floor plans. The IT section would provide a basic network backbone, 2-4 MB/sec nominal bandwidth, and a dynamic network (DHCP). They could provide a very small number of static IPs if required. We would need to bring our own router, switches, and cables (no wireless allowed). We will need to follow-up with more detailed technical discussion on the exact network functionality and configuration. We would plan to have one telephone (land) line per office.



Cold Lake Office Spaces

The price for fuel at the military rate is currently around 83 cents CAD per liter, and is \$1.30/l for the civilian rate. NASA can get the DOD rate if they are in possession of valid DD form 1896 (Jet Fuel Identaplate). Need to verify whether we have and are current on this, as this is a significant cost savings.

To drive equipment on the ramp, ground crew personnel will need an unescorted access pass, and will need to take a ramp class and test.

The wing can accommodate temporary storage of some our equipment coming from Fairbanks, which will be used for the summer deployment phase. For summer truck shipments coming to Canada from the continental US, it was suggested a good location for crossing is at Coutts, Alberta/Sweetgrass, Montana.

Toured on base housing for the summer deployment. Room rates have been reduced to \$25/night, plus 5% tax. We would be housed in Bldg 42. All single rooms have TV and cable, DVD player, double bed, small fridge, towels and soap (note: shampoo is not provided). There is a telephone with local access (long distance access with calling card only). A coin laundry is on each floor. Each room shares a bathroom with the adjoining room, but has an individual sink with mirror. There is currently no internet, but they are trying to get wires installed by the summer, and they might be willing to let us set-up a wireless inside the building.

The dining hall is next door. Breakfast is \$4.50, all-you-can-eat lunch or dinner is \$8.50. Current meal hours are: B, 0600-0900, L, 1100-1400, and D, 1600-1830. We have requested they keep the hall open until 8:00 pm for dinner.

(Note: Our team will have access to on-base facilities, including rec center, golf course, medical/dental clinic, post office, and base exchange. There is also an open enlisted club next to Bldg 42 which has bar snacks, pool tables, etc. for our use.)

The bus service departs Cold Lake each day at 6:30 am each day, arriving at the Edmonton airport at around 11:30 am, then departing Edmonton at 1:30 pm, arriving in Cold Lake about 6:30 pm. Travelers who want to get to Cold Lake by bus will need to request a seat on a specific date (based on their individual arrival) through Mr. John White. There is currently only one bus/day (50 pax). We may be able to request additional bus service if there is sufficient demand.

- Open issues to be worked:
 - Badging paperwork.
 - Airspace access & clearances.
 - Customs agent to process aircraft.

Other.

- Gas contacts.
 - Edmonton or Lloydminster, Praxair, 780-980-1747 or 1-800-225-8247.
 - Bonnyville, Superior Propane, 780-875-8862.
- Rental cars.
 - Budget, 3832 50 Street, 780-594-6400 (Paul McChearen).
- Cell Phones. U.S. GSM phones seem to work OK.

Nav Canada

Met with the Edmonton Center of Nav Canada, the Canadian air navigation service, to provide an overview on the proposed flight plans and airspace requirements for the NASA aircraft for both the spring and summer deployment phases. They expressed some concern regarding our flight operations due to high amount of intercontinental air traffic over their airspace, and the large amount of non-radar airspace at high latitudes (above 65 deg). Their peak traffic times are from 7 am to 8 pm, with much of the traffic above 30,000 ft. They would be interested in having 24-hour advance notice of our proposed flight plans to reserve airspace or re-route traffic, and requested contact information (cell phones, etc.) for the aircraft crews. However, they were interested in our mission and are willing to work with us to get the airspace we need.

Misc

- The Canadian dollar is currently about 1-to-1 to U.S. dollar, but watch out for VERY lousy exchange rates if you try to pay in U.S. dollars.
- Note new per diem rates for Canada as of 3-1-08.
 - Yellowknife: 143/81.
 - Cold Lake: 161/120.