Bathurst Island
The Definition of a Difficult Location

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Introduction

- Mark Yetman
  - Project Manager, Lands & Contaminated Sites
  - Nunavut Regional Office, Aboriginal Affairs and Northern Development Canada
- Nunavut Contaminated Sites Program
  - Responsible for managing contaminated sites located on Federal Crown Lands within Nunavut
  - The majority of these sites are the result of exploration and military activities
Nunavut Contaminated Sites Program

- CSP Database
  - Database contains information on over 300 potentially contaminated sites
  - Phase I and Phase II Environmental Site Assessments (ESAs) have been done on many of these sites
  - Once assessed the sites were scored using the National Classification System for Contaminated Sites (NCSCS) and prioritized for action

Resolution Island
Nunavut Contaminated Sites Program (continued)

• To Date:
  - Completed 120 Phase I/II ESAs
  - Completed 31 Phase III ESAs
  - Completed Remedial Activities at 15 Sites
  - Have 10 Sites in Long-Term Monitoring
  - Have 12 Sites Currently Active
Bathurst Island Project - Introduction

• Originally included 5 individual sites that were grouped together for efficiency and cost effectiveness
  - Bent Horn
  - Ile Vanier
  - Stokes Range
  - Young Inlet
  - Humphries Hill

• Located ~300 kilometres northwest of Resolute Bay, Nunavut
• Contamination is the result of oil and gas exploration and production activities
  - Contaminated soils (PHCs, Metals, PCBs)
  - Contaminated surface water (Metals)
  - Non-hazardous wastes (wood and metal debris)
  - Hazardous wastes (fuels, batteries, compressed gas cylinders)
Bathurst Island Project - 5 Sites
Bathurst Island Project - Definition of a Difficult Location

What makes Bathurst Island a difficult location?

1. Physical Location
2. Scope
3. Stakeholders
4. Logistics
5. Weather
6. Site Conditions
7. Quality of Information
8. Path Forward
Bathurst Island Project – 1. Physical Location

• Located approximately 300 kilometres northwest of the nearest community, Resolute Bay
  – GPS Coordinates of the Bent Horn site: 76°19'31.32"N - 104°4'59.45"W
  – Puts the site in the High Arctic and well north of the Arctic Circle (~66th parallel)
    ▪ Travel time
    ▪ Cost
Bathurst Island Project – 2. Scope

• When preparing for the Phase III Environmental Site Assessment we contacted the National Energy Board to obtain copies of Well Closure Reports for the sites.
Bathurst Island Project - 2. Scope (continued)

• Upon reviewing the locations of these additional well sites, 5 of them were in the vicinity of the Bathurst Island Project and we added them to the scope of work for the project
  - N-12 (Allison R)
  - J-34 (Bathurst Caledonia)
  - K-07 (Robert Harbour)
  - M-21 (Cape Fleetwood)
  - G-07 (Charles Point)
Bathurst Island Project - 10 Sites
Bathurst Island Project - 3. Stakeholders

- As with most of our projects there are a number of stakeholders that influence the development of the project, these include (but are not limited to) the following:
  - Qikiqtani Inuit Association
  - Hamlet of Resolute Bay
  - Residents of Resolute Bay
  - Regulators
    - Nunavut Impact Review Board
    - AANDC Land Administration
    - Nunavut Water Board
    - Other Federal Departments
  - Government of Nunavut
  - Parks Canada
Bathurst Island Project – 3. Stakeholders (continued)

- Parks Canada has proposed to create a National Park (Qausuittuq) encompassing a large portion of the project area
  - The Lands have been withdrawn through an Order in Council
  - Includes 4 of the project sites
    - Ile Vanier
    - Stokes Range
    - Young Inlet
    - Humphries Hill
  - Potential impacts to project plan
Bathurst Island Project – 4. Logistics

- Logistics had a major influence on the project
- Site infrastructure
  - Airstrips at many sites but condition unknown
  - Some sites helicopter access only
    - No locally based helicopters
    - H&S considerations required two helicopters
  - Initially planned to stay at the site mobilizing a camp via a DC-3
    - Airstrips deemed unsuitable
    - Backup plan was to base in Resolute Bay
      - Resulted in lost time (4 hours per day flying)
Bathurst Island Project - 5. Weather

- Weather also had a major impact on the field season
  - Delayed the start of the field season
    - Mobilization planned to start July 13th but due to snow on the airstrip it was delayed until July 29th (2 weeks lost)
  - Ended the field season early
    - Significant snow on the ground on August 22nd forced an end to the field
  - Total: 25 day field season
    - 11 weather days
    - 44% lost time
Bathurst Island Project - 6. Site Conditions

- The conditions encountered at the site increased the difficulty of completing the planned assessment work
  
  - Sampling challenges
    - Permafrost and a small active layer
    - Frozen surface water
Bathurst Island Project – 6. Site Conditions (continued)

- General condition of the site
  - Muddy/wet areas
  - Terrain

Stokes Range

Young Inlet
Bathurst Island Project - 7. Quality of Information

• Challenges included
  – Incomplete information in previous assessments
    ▪ Inadequate assessment of site airstrips
    ▪ One instance where the Phase I/II assessment indicated extremely high PHC levels (basically free product)
  – Inability to complete the full scope of assessment work
    ▪ Incomplete delineation
    ▪ Not able to assess all sites
    ▪ Forced to make some assumptions
Bathurst Island Project - 8. Path Forward

• This location is the most northerly site that the Nunavut Contaminated Sites program has attempted to address
  - Extreme logistical challenges
  - Health and safety concerns
  - High cost
• We have a large number of potentially similar sites and the Bathurst Island Project will likely dictate how we approach them
  - As a result we have taken a step back and are taking additional time to develop remedial options and ultimately a Remediation and Risk Management Plan
Questions?

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