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Ethical Efficient and Economic
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A Presentation on
The Iqaluit Waste Water Treatment Plant
To

The Nunavut Water Board

A. Location
- **Show slides, aerial view, of new WWT plant, existing lagoon and outfall**
- **Show slide of Earth Tech's recommended treatment area for the sludge.**
- **Show slide of all waste dumps throughout Iqaluit and Apex**

B. Existing Operation when Phase 2 is complete
- **Describe operation of the facility showing the route for the two sludge trailers**

C. Volumes
- **Show slide of anticipated sludge production**
- **Site document of waste water volume entering the lagoon (1998)**

D. Anticipated Problems with Plant Operation Phase 2
- **Show slide of sludge transport trailer**
- **Show list of anticipated sludge transport problems**
- **Show slide of mechanical dewatering system**
- **Show anticipated moisture levels in mechanically dewatered sludge**
- **Show estimated energy and maintenance requirements for mechanical dewatering systems: Daily, Yearly, After 10 years**
- **Show volumes of sludge to be landfilled: Daily, Yearly, After 10 years**
- **Show required moisture levels for lechate control in landfills**
- **Show anticipated moisture levels in mechanically dewatered sludge**

E. Suggested Changes (Solutions) for Phase 2
- **Describe operation of Freeze /thaw beds with slides**

- **Describe volume reduction and moisture levels for dewatered sludge from Freeze/thaw beds**
- **Compare volumes between freeze/thaw and mechanically dewatered sludge**
- **Compare benefits (a) Transportation (b)Energy (c) O & M (d) Land use (e)Chemicals (f) Public support**
- **Show slide of plant design before and after beneficial changes.**

F. Summary of Anticipated Benefits

- **Elimination of sludge trailers and associated problems**
- **Reduction/elimination of infrastructure requirements at Area A**
- **Significant reduction of O & M costs for main plant**
- **Potential to dewater lagoon sludge as first step in decommissioning**
- **Sludge disposal transport required yearly rather than daily**

G. Recommendations

- **Study and compare existing design to this new approach through a cost benefit analysis considering all factors**
- **Determine if heat can be transferred from treated effluent to under freeze/thaw beds as a means to assist the seasonal thawing process through a pilot.**