

Nanisivik Mine Waste Disposal Plan



March 2004

Executive Summary

The closure of Nanisivik Mine as with any mine creates a considerable amount of material that requires disposal. The purpose of the waste disposal plan is to identify and classify the waste, which may include derelict equipment, contaminated soil, waste rock, demolition debris, and regulated or hazardous material. The plan will also provide information on how and where the waste will be disposed of.

The objective of the plan is to dispose of all waste in such a manner as to eliminate the pathway by which exposure to humans or the environment is possible. This will be done in two ways:

1. Deposit the material underground, in locations where gravity will prohibit migration of contaminants to surface openings and permafrost aggradation will effectively seal the waste in place.
2. Deposit the material into pits, cover with rock fill and contour to allow for surface drainage and the prevention of pooling. The natural aggradation of permafrost will then effectively isolate the waste.

A simple classification system is used to differentiate the types of waste.

Type of Waste	Criteria	Classification
Abandoned Equipment	1 – Purged of regulated materials prior to storage (free phase liquids, batteries, etc.)	AE1
	2 – Can be stored directly	AE2
Demolition Debris (inert solids)	1 – Can be stored directly or burned (wood debris)	DD1
Soil	1 – Contains Metals above the SQRO ¹	S1
	2 – Contains Hydrocarbons above the SQRO	S2

¹SQRO = Soil Quality Remediation Objective

After the material is classified, an action plan for that particular material is followed and a storage location is selected. The storage location depends on the associated risk with the particular material as well as the volume required to facilitate the disposal.

Waste handling procedures will be recorded and documentation will be kept on site for review during the reclamation and post-closure monitoring periods. Records will include a description of the waste, classification, any decontamination required, storage location and estimated storage volume.

Disposal plans and waste volume estimates for the major component areas of the site are included in the Plan. These include:

- Dock Area: Total volume of 3,750 m³.
- Warehouse Yard: Total volume of 1,500 m³.
- Industrial Complex Area: Total volume of 3,700 m³.
- Town Site: Total volume of 4,600 m³.
- WTDA: Total volume of 1,000 m³.
- Mobile Equipment: Total volume of 4,150 m³.

The grand total of all waste with a 25% contingency added is 23,500 m³.

Demolition debris and abandoned equipment volume will be reduced as much as possible prior to being placed in a storage location. This will minimize the number of trips and will better facilitate the loading of haulage trucks. The large amount of space available underground will make it possible to avoid handling the material more than once. In most cases trucks will dump directly into the allotted storage area and no further handling will be required. In areas where the height is limited, the material will be pushed up so that 60 to 75 percent of the space is utilized.

Several areas in the mine have been identified as potential storage areas. The areas selected for storage are in close proximity to the main haulage roads. A total of 345,000 m³ of space is available for the storage of waste underground. There is clearly far more capacity than is required for the identified solid waste (23,500 m³).

There are three areas available on surface, totaling 120,000 m³, for the deposition of waste material. The East Open Pit and East trench will be filled with waste rock and metal contaminated soil, and the West Open Pit will be filled with a combination of Waste Rock, metal contaminated soil and inert demolition debris.

Demolition debris or abandoned equipment that is scheduled to be deposited in the West Open pit will be cut into pieces of size and shape that will minimize void spaces as fill material is layered over top.

Table of Contents

1	INTRODUCTION	2
2	RISK ASSESSMENT	2
3	CLASSIFICATION SYSTEM.....	2
	Storage Locations.....	3
4	OPERATING PROCEDURES	3
5	DOCUMENTATION	5
	Examples.....	5
6	DISPOSAL PLANS	6
	Dock area at Strathcona Sound	6
	Warehouse Yard.....	7
	Industrial Complex Area.....	8
	Town Site	9
	Other Areas	10
	Mobile Equipment	11
7	PLACEMENT METHODS	12
8	AVAILABLE STORAGE SPACE.....	13
	Underground Mine and Open Pits	13

LIST OF TABLES		PAGE
Table 1	Classification System	3
Table 2	Summary of waste volumes for Dock Area	7
Table 3	Summary of waste volumes for Warehouse Yard	8
Table 4	Summary of Waste volumes for Industrial Complex	9
Table 5	Summary of Waste volumes for the Nanisivik Town Site Area	10
Table 6	Summary of Waste volumes for Other Areas	11
Table 7	Summary of Waste volumes for Mobile Equipment	11
Table 8	Waste Disposal Summary	14

LIST OF FIGURES		PAGE
Figure 1	Operating Procedures Flow Chart	4
Figure 2	Typical Layering of Solid Waste and Waste Rock/Soil in the Open Pit	12
Figure 3	Typical x section of waste deposited in a benched storage area	13
Figure 4	Typical x section of demolition debris deposited in a drift storage area	13
Figure 5	Main Lens & Surface Storage Areas	15
Figure 6	Lower Lens Storage Areas	16

LIST OF APPENDICES	
Appendix 1	A Case History on the Development of a Geotechnical Monitoring System at the Nanisivik Mine, Baffin Island
Appendix 2	Development of an On-line Geotechnical Instrumentation System for Monitoring Over the Internet
Appendix 3	Long-Term Stability Considerations and Engineering Applications for a Decommissioning Mine in Permafrost
Appendix 4	Letter from Nunavut Water Board – January 6, 2004 Subject: Request for further information regarding CanZinco Ltd’s Waste Disposal Plan

1 *Introduction*

The closure of Nanisivik Mine as with any mine creates a considerable amount of material that requires disposal. The purpose of the waste disposal plan ('the Plan') is to identify and classify the "waste" which may include derelict equipment, contaminated soil, waste rock, demolition debris, regulated or hazardous material and to provide information on how and where the waste will be disposed. Details of the reclamation of residual waste rock and open pits have been submitted separately as per item G8 in the Water License.

2 *Risk Assessment*

The objective of risk assessment is to estimate the level of risk to human and environmental health. The presence of a contaminant does not automatically constitute a risk. The conditions that must be met in order for a risk to exist are as follows:

- The presence of a contaminant
- The contaminant must be able to cause toxic or adverse biological effects.
- Pathways must exist by which humans, animals or plants may be exposed to the contaminants.

For the purpose of the plan, all waste will be deposited in such a way as to eliminate the pathway by which exposure to humans or the environment is possible. There are two ways to achieve this.

- a) Deposit the material underground, in locations where gravity will prohibit migration of contaminants to surface openings and permafrost aggradation will effectively seal the waste in place. Surface openings will be subsequently sealed with rock fill.
- b) Deposit the material into pits, cover with an engineered thermal barrier cover of shale, sand and gravel. The natural aggradation of permafrost will then effectively seal the waste in place.

3 *Classification System*

A simple classification system (see table 1) will be used to differentiate the types of waste that are to be disposed of.

Table 1
Classification System

Type of Waste	Criteria	Classification
Abandoned Equipment	1 – Purged of regulated materials prior to storage (free phase liquids, batteries, etc.)	AE1
	2 – Can be stored directly	AE2
Demolition Debris (inert solids)	1 – Can be stored directly or burned (wood debris)	DD1
Soil	1 – Contains Metals above the SQRO ¹	S1
	2 – Contains Hydrocarbons above the SQRO	S2

¹SQRO = Soil Quality Remediation Objectives

After the material is classified, an action plan for that particular material will be followed and a storage location selected. The storage location will depend on the associated risk with the particular material as well as the volume required to facilitate the disposal. Materials posing the greatest risk to humans and the environment (i.e. hydrocarbon contaminated soils) will be stored in the Lower Lens which is the deepest, most inaccessible underground area.

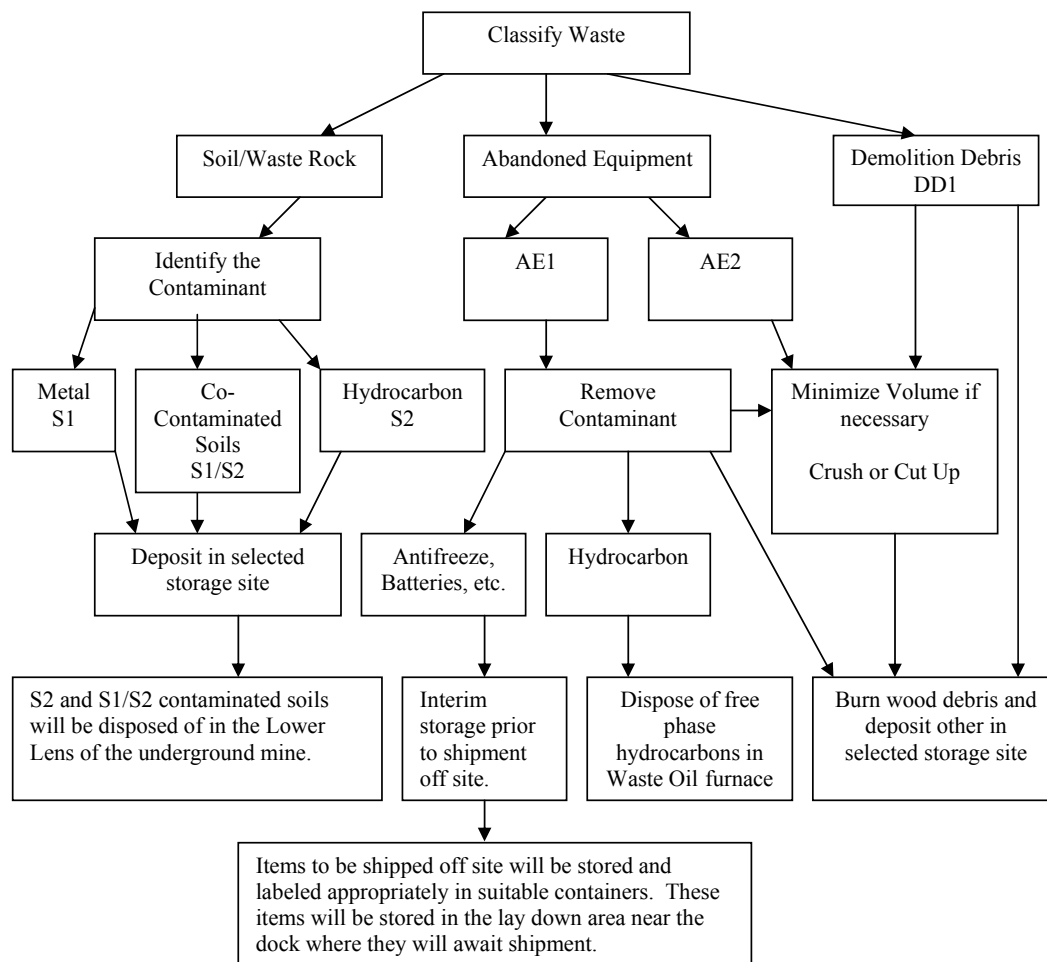
Storage Locations

- Underground Stopes
- West Open Pit
- East Open Pit
- Landfill west of Nanisivik Town site. (The Nanisivik landfill will continue to be used for domestic garbage until the final reclamation on it is complete.)
- West Twin Lake Disposal Area (May be used for metal contaminated soil if necessary to aid in pre cover contouring.)

4 *Operating Procedures*

The general operating procedure will be to classify the waste and then to follow an action plan based on the classification. For hydrocarbon and metal contaminated soils, the action plan will simply be to select a storage area and deposit the material. In the case of demolition debris, further reduction in volume may be necessary for material slated for disposal in the open pits and/or to facilitate handling and haulage. Abandoned equipment will require the removal of contaminants prior to deposition in a selected storage area. The operating procedures are outlined in the following flow chart:

Figure 1
Operating Procedures Flow Chart



(Note: Co-contaminated Soils will be treated as hydrocarbon contaminated soil.)

Storage sites are selected based on the material classification. With regards to underground storage, demolition debris can be stored in areas closer to the portals, where gravity migration of contaminants is not a concern and haulage costs may be reduced. Material that is metal or hydrocarbon contaminated will be stored in locations where gravity migration of contaminants is not possible. The main factor with regards to the underground deposition of material, whether it is soil, demolition debris or abandoned equipment is that all storage areas will be in a constantly frozen environment (-13°C). Stope “x” will provide the same permafrost conditions as stope “y” and so on. As stated later in this document, there is much more space available for storage than is required. This will give us flexibility in case additional material is found that requires disposal during the reclamation process. All material deposited underground will be documented and storage locations will be selected based on the guidelines and criteria outlined in this plan.

5 Documentation

The basic information required for the deposition of waste material will be recorded on a spreadsheet and will be kept on file for review by interested parties. This documentation will include a photographic record. Examples of the information that will be recorded for solid waste from various locations are shown below.

Examples:

Description: Derelict Vehicle – Chevrolet Pickup Truck

Classification: AE1

Action Required: Drain all free phase liquids for disposal in waste oil incinerator; drain all antifreeze for interim storage and shipment off site; remove battery to interim storage and shipment off site.

Storage Location: UG – 64 Block Area

Required Volume – 20 m³

Description: Industrial Complex Demolition Debris – Interior Walls and Floors

Classification – DD1

Action Required: Place material so as to minimize the creation of voids and fill accordingly.

Storage Location: West Pit

Required Volume: 3000 m³

Description: Industrial Clothes Dryer

Classification – AE2

Action Required: Crush

Storage Location: UG West Wing Zone 1

Required Volume: 2 m³

Description: Soil from Oil Storage Area (warehouse Yard)

Classification – S2

Action Required: Excavate contaminated soil for disposal underground and contour area

Storage Location: UG – NZ 9 Area

Required Volume: 2000 m³

Description: Residual material from the mill thickener

Classification – S1

Action Required: Clean out material during mill dismantling operation

Storage Location: West Twin Lake Disposal Area

Required Volume: 100 m³

Description: Domar Duplex (House 309 & 310)

Classification – DD1

Action Required: Bulldoze to adjacent empty lot. Reduce volume via burning. Remove debris to landfill.

Storage Location: 9 South Portal Area

Required Volume: 20 m³

Photographic records will accompany the documentation for all demolition debris and abandoned equipment.

6 *Disposal Plans*

The following disposal plans deal with each area separately, starting at Strathcona Sound and working towards the Twin Lakes.

Dock area at Strathcona Sound

- i. Ship Loader – The ship loader will be dismantled and shipped off site. There will be some demolition debris left over consisting of scrap steel and concrete. The space required to store this debris is estimated to be 500 m³. Some of the soil beneath the transfer points of the structure is contaminated with metals (1000 m³) and this will be deposited in the West Open Pit.
- ii. Concentrate Shed – The concentrate shed will be dismantled and shipped off site. The space required to store the demolition debris from the concentrate shed is estimated to be 3000 m³. The concrete foundation will be swept clean and remain in place. It will then be covered with shale contoured to prevent pooling and to allow for drainage. The dust and dirt removed will be disposed of in the underground mine.
- iii. Propane enclosure – All propane cylinders will be returned to the supplier via ship. The storage compound fencing will create a relatively small amount of solid waste (10m³) and will be disposed of underground.
- iv. Tank Farm and related structures – The tank farm consists of 18 tanks of various sizes, a pump house, electrical shed and associated piping and ladder ways. If the tank farm is not sold to a third party then it will be decommissioned. The free phase liquids will be removed from the tanks for disposal or transfer. The tanks and related structure would then be cut into smaller pieces and hauled underground. The space required for this material is estimated to be 1000 m³. The pumps for the tank farm are housed in a trailer like structure and will generate approximately 20 m³ of debris. The contaminated soil in the vicinity of the tank farm will be hauled underground. Any residual “slops” will be shipped south.
- v. Cook House and Spill Material Shed – These wooden structures will be burned and the leftover debris (estimated 20 m³) will be hauled underground.
- vi. Fuel Pipe Line – There is approximately 4 km of 2 inch pipe that will be gravity drained back into the feed tank. Any remaining free phase liquids collected during dismantling of the line, will be burned in the waste oil furnace and the pipe will be stored underground. The estimated storage space required will be 25 m³.

Comment: As previous, is we can be more specific that might be beneficial (is this to be with a pig or gravity draining?)

Table 2
Summary of waste volumes for Dock Area

Area	Demolition Debris and/or Abandoned Equipment	Soils (Hydrocarbons)	Soils (metals)
Ship Loader	500	1800	1000
Concentrate Shed	3000	1000	8000
Propane Enclosure	10		
Tank Farm & Chemical Storage (Lay down Area)	1000	7500	
Road to dock & pipeline	25		15750
Cook House & Spill Shed	20		
Pump House	20	Included with Tank Farm	
Total	4575	10,300	24,750

Warehouse Yard

- i. Furniture Storage Building – This building will be dismantled and hauled underground. Wood from the interior will be reduced via burning after the dismantling is complete. The space required to store the demolition debris (concrete, metal siding and structural steel) is estimated to be 150 m³. The concrete foundation will remain in place and be covered with shale and contoured to prevent pooling and to allow for drainage.
- ii. Oxygen Acetylene Storage Area – This area is a concrete pad with a 4 foot high concrete dividing wall. The wall will be removed and hauled underground. The space required to store the demolition debris will be 10 m³. The remaining pad will remain in place and be covered with shale and contoured to prevent pooling and to allow for drainage.
- iii. Tire and hose shed - This shed is a wooden structure. The volume will be reduced via burning and the remaining debris (ash, steel fasteners, hinges etc.) will be hauled underground and will require less than 10 m³ of space.
- iv. Tires – All tires that cannot be salvaged will be stored u/g in the west end of the mine. The estimated space required to store the tires is 1250 m³.
- v. Cable – All cable that cannot be salvaged will be stored u/g in the West End of the mine. (Approximately 50 m³)
- vi. General Storage Levels – The material stored in the yard will be classified as demolition debris if not sold and no alternative use is found. The non-salvaged material will be stored u/g in the West end of the mine. (Approx. 1000 m³)
- vii. Oil Storage area – The contaminated soil in this area of the warehouse yard will be hauled underground prior to the contouring. The volume of soil to be excavated has been determined to be approximately 2000 m³ through the phase III ESA.

- viii. After all material from the warehouse yard has been relocated, the entire area will be contoured in order to allow for surface drainage and to prevent pooling.

Table 3
Summary of waste volumes for Warehouse Yard

Area	Demolition Debris and/or Abandoned Equipment	Soils (Hydrocarbons)	Soils (metals)
Furniture Storage Building	150		
Tire Shed	10		
Oxygen /Acetylene Pad	10		
Tires	1250		
Cable	50		
Warehouse Yard	1000	2000	
Total	2470	2000	

Industrial Complex Area

- i. Industrial Complex – The industrial complex has been sold to a third party. After the building is dismantled, the concrete and steel debris from the interior floors and walls will require approximately 7500 m³ of storage space. An additional 31,000 m³ will be required for contaminated soils from areas adjacent to the complex. The concrete foundation will remain in place and be covered with shale and contoured to prevent pooling and to allow for drainage.
- ii. DMS Building – This building and its contents will be dismantled and shipped off site. A volume of 800 m³ will be allotted for the metal and concrete demolition debris. The concrete foundation will remain in place and the area will be covered and contoured.
- iii. Compressor House – The compressor units will likely be sold or transferred to another breakwater operation but if included with the demolition debris then a total of 800 m³ of space will be required.
- iv. Cold and Warm Storage buildings – These buildings will generate approximately 2500 m³ of demolition debris.
- v. ANFO Factory – Demolition debris from this area will require approximately 300 m³ of storage space. The contaminated soil from this area has been included with the estimates for “Day Tanks on Mine Roads”

Table 4
Summary of Waste volumes for Industrial Complex

Area	Demolition Debris and/or Abandoned Equipment	Soils (Hydrocarbons)	Soils (metals)
Interior Walls And Floors	7500		
Compressor House	800	500	750
DMS Building	800		
Cold Storage	1250		
Warm Storage	1250		
Core Shack	200		
ANFO Factory	300		
Miscellaneous cable/pipe etc	500		
Day Tanks on Mine Roads	300	1800	
Waste Oil Tank	10	450	1400
Lower Adit "Yard			1400
North Yard		17000	
West Side			5000
Adjacent Bone yard		4200 (co-contaminated with metals)	
Total	12910	23950	7150

Town Site

- i. Buildings – Useful items such as furniture, appliances, furnaces and boilers within the houses, dome, recreation center and bunkhouses will be offered to the neighboring community of Arctic Bay in a manner yet to be determined. If it is determined that no future use for the houses and related infrastructure within the town site exists then structures will be bulldozed and subsequently burned. Remaining debris and any contaminated soil will be disposed of in the underground stopes of the mine. Most of the structures are made of wood and will create a modest amount of debris after burning. Approximately 6600 m³ of storage space is required. Home heating fuel tanks will be drained and crushed prior to disposal in the underground mine. Drained fluids from these tanks will be disposed of in the waste oil incinerator. Other miscellaneous debris such as buried service lines and pipes that are encountered during remediation will be disposed of in the underground mine.
- ii. Stolport – Demolition debris and abandoned equipment from this area will be hauled underground. There are two small structures and several satellite dishes that will require approximately 100 m³ of storage volume. 2250 m³ of Hydrocarbon contaminated soil will be removed to the underground mine. (North Zone)
- iii. Land Farm - Contaminated Soil from the land farm cell will be relocated underground. Approximately 750 m³ of space will be required in one of the North Zone storage areas for this material.

Table 5
Summary of Waste volumes for the Nanisivik Town Site Area

Area	Demolition Debris and/or Abandoned Equipment	Soils (Hydrocarbons)	Soils (metals)
Houses	2500	1500	450
Dome	500	3000	
Recreation Center	1000		
Pamo building	1000		
Bunk House	500		
Carpenter Shop/Town Warehouse	500	3000	
Stol port	100	2250	450
Land Farm Cell		750	
Miscellaneous	500		
Total	6600	9750	900

Other Areas

- i. Twin Lakes Pipe Line and Pump houses – The tailings line was flushed out with water into the tailings deposition area shortly after production ceased, so this line only needs to be dismantled and hauled underground. There is 6 km of polyethylene tailings pipe and 4 km of polyethylene water pipe. The space required to store the pipe is approximately 1000 m³ plus an additional 200 m³ for the pump houses and non-salvaged equipment.
- ii. Storage Shed - The small wooden shed will be burned and will create very little demolition debris, which will be disposed of underground.
- iii. East Adit Treatment Facility - The pipes, pumps and mixing plant will take up approximately 100 m³ of storage space in the East Lower Lens storage area and the metal contaminated soil will require 600 m³ of space within the East Open Pit.
- iv. K-Baseline – Approximately 7,400 m³ of Hydrocarbon contaminated soil has been identified in this area, which will be stored in one of the east lower lens storage areas.
- v. Area 14 - Approximately 300 m³ of Hydrocarbon contaminated soil has been identified and it will be hauled to one of the North Zone storage areas.
- vi. Waste Rock Piles – The waste rock, as described in the Rock Piles and Open Pits Reclamation Plan submitted per Part G Item 8 of the Water Licence will be used to fill the open pits prior to covering and contouring. It is expected that all of the identified waste rock will fit into the pits, but if there is any excess, then it will be hauled underground. Storage sites for any excess waste rock will be selected based on the proximity of the surface pile to the nearest mine entrance. 60,000 m³ of waste rock has been identified for deposition in the East and West Open Pits. This total includes approximately 36,000 m³ from the east adit area and 24,000 m³ from the 9 south and west adit areas.

Table 6
Summary of Waste volumes for Other Areas

Area	Demolition Debris and/or Abandoned Equipment	Soils (Hydrocarbons)	Soils (metals)
Pipe Lines to Twin Lakes	1000		
Pump Houses	200		
East Adit Treatment Facility	100		600
K-Baseline		7400	
Area 14		300	
East Adit Waste Rock pile			36000
9 South Waste Rock Pile			7600
West Adit Waste Rock Pile			16000
Total	1300	7700	59600

Mobile Equipment

The number of vehicles that will be abandoned has not yet been determined. If no alternate uses for the mine fleet are found, then the vehicles will be disposed of underground. The draining of hazardous fluids in abandoned equipment will take place on surface with the contents either burned or shipped off site in accordance with the NWT Hazardous waste management guidelines. The checklist for vehicle fluids will include antifreeze, engine oil, transmission oil, Hydraulic Oil (both tanks and cylinders), brake lines, power steering fluid grease and the removal of batteries. Batteries and Antifreeze will be stored in sea containers prior to shipment off site. The table below indicates the approximate volumes of the fleet of vehicles currently on site.

Table 7
Summary of Waste volumes for Mobile Equipment

Vehicle	Volume m ³	Quantity	Total m ³
Underground Dump Trucks	95	9	855
Ford 9000 Dump Trucks	60	3	180
966 Loaders	80	5	400
980 Loaders	100	4	240
D-8 Bull Dozers	90	2	180
Scoops	75	1	75
Excavator	100	1	100
D-4 Bull Dozer	50	1	50
Rock Bolters	100	3	300
Jumbo Drills	90	3	270
Utility vehicles	75	6	300
Pick up Trucks	20	20	400
Miscellaneous Vehicles	80	10	800
Total			4150 m³

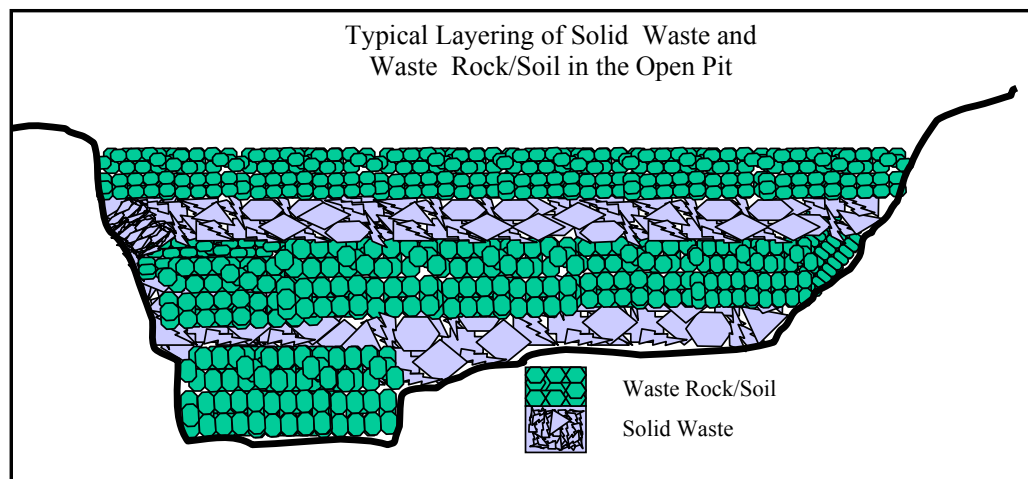
7 *Placement Methods*

Demolition debris and abandoned equipment volume will be reduced as much as possible prior to being placed in a storage location. This will minimize the number of trips and will better facilitate the loading of haulage trucks. The large amount of space available underground (volumes are described in the following section) will make it possible to avoid handling the material more than once. In most cases trucks will dump directly into the allotted storage area and no further handling will be required. In areas where the height is limited, the material can be pushed up so that 60 to 75 percent of the space may be utilized.

Demolition debris or abandoned equipment that is scheduled to be deposited in the West Open pit will be cut into pieces of size and shape that will minimize void spaces as fill material is layered over top. Heavy Equipment may be used to crush debris where practical to achieve this and in some cases oxy-acetylene cutting will be required. Debris placed into the pit will be placed in lifts and covered with waste rock or metal contaminated soil prior to being covered by the next lift of debris. Settling will be minimized by moisture from precipitation and run-off during the summer and will aid in strengthening the fill as it freezes.

Supervision and personnel involved with the deposition of material into the pit will be given instruction on the protocols to be used for this phase of the operation, as well as the closure specifications for the pit. The field supervisor will be responsible to ensure that procedures are followed and that the pit meets the geotechnical specifications for the pit closure. Site personnel will be required to note the type, placement and depth of debris layers to ensure there is an adequate record of the protocol used to place material in the pit. Photographic documentation will be maintained.

Figure 2



Underground Mine and Open Pits

Several areas in the mine have been identified as potential storage areas. (figure 4 and figure 5) The areas selected for storage are in close proximity to the main haulage roads. Approximately 465,000 m³ of space have been identified for the storage of waste. This includes 120,000 m³ in the open pits and 345,000 m³ underground. The identified solid waste (32,000 m³), waste rock (60,000 m³), and contaminated Soils (90,000 m³) will occupy approximately 39 percent of the selected storage areas.

Figure 3

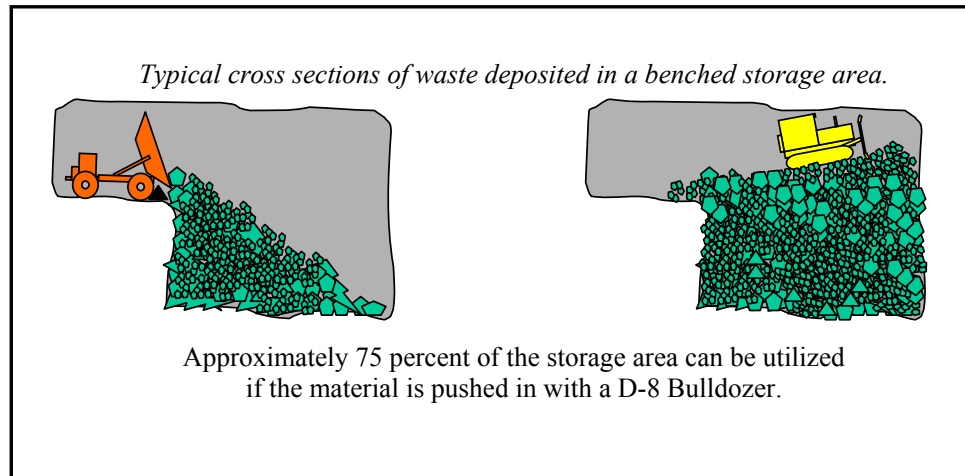


Figure 4

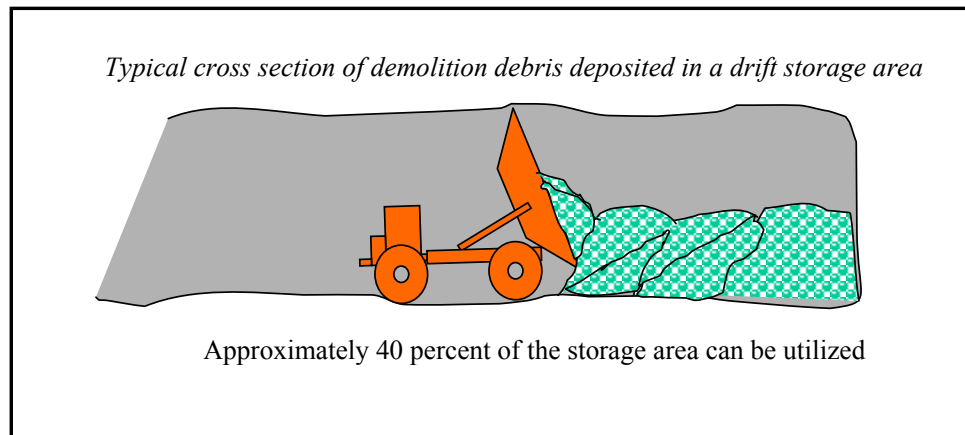


Table 8
Waste Disposal Summary

Origin of Waste	Storage Location		West Open Pit	Vent Fan Area	01 Block Area	West Wing Zone 1	West Wing Zone 2	Ore Pass Area	8 Block Area	9 South Portal Area	10 & 11 Block Area	East Pit	East Pit Trench Area				
	Classification	Block #															
		Capacity	77000	4500	7000	5700	3100	10200	12000	12000	28580	35000	8000				203080
Ship Loader	DD1				500												
Concentrate Shed	DD1				3000												
Below Conveyors in dock area	S1		1000														
Concentrate Shed Area	S1		8000														
Propane Enclosure	DD1			10													
Tank Farm	AE1										1000						
Fuel Pipe Line mill to dock	AE1										25						
Roadway to Dock	S1		15750														
Cook House/Spill Shed	DD1			20													
Pump House	AE1										20						
Furniture Storage Building	DD1			150													
Tire Shed	DD1			10													
Oxy Acetylene Storage Area	DD1			40													
Warehouse Yard	AE2					1000											
Tires	AE2			1250													
Cable	AE2					50											
DMS	DD1			300			500										
Compressor House	DD1						700										
Compressors	AE1										100						
Cold and Warm Storage Bldgs	DD1										2500						
Core Shack	DD1									200							
ANFO Factory	DD1									300							
Industrial Complex	DD1		7500														
Lower Adit Yard	S1		1400														
West Yard	S1		5000														
Misc cable pipe etc.	DD1				500												
Houses	DD1										2500						
Dome	DD1					500											
Rec Centre	DD1					1000											
Pamo Building	DD1					1000											
Bunk house	DD1					500											
Carpenter Shop/Town Warehouse	DD1						500										
Stol Port	DD1						100										
Miscellaneous	DD1										500						
Pipe Line	AE2										1000						
9 South Waste Rock	S1		7600														
West Adit Waste Rock	S1		16000														
East Adit Waste Rock	S1											30000	6000				
Total			62250	1780	4000	4050	1800	0	0	500	7645	30000	6000				118025
Percentage of storage area used			81%	40%	57%	71%	58%	0%	0%	4%	27%	86%	75%				58%
Origin of Waste	Storage Location		NZ9 Area	NZ7 Area	NZ6 Area	NZ 54 Block Area	NZ 55 Block Area	58 Block Area	61 North Block Area	63-13 Block Area	64 Block Area	65 North Block Area	66 North Block Area	ELL Area	68-69 Block Area	73 North Block Area	
	Classification	Block #															
		Capacity	32000	24000	8000	2000	15000	25000	42000	16000	16100	26000	15000	15000	20000	7000	262100
Mobile Equipment	AE1						2000					2150					
Dock Cell	S2			1800													
Tank Farm/lay down area	S2			7500													
Oil Storage Area W/H Yard	S2			2000													
Day Tanks on Mine Roads	AE1					300											
Day Tanks on Mine Roads	S2			1800													
Waste Oil Tank	AE1					10											
Waste Oil Tank Area	S1			1400													
Waste Oil Tank Area	S2			450													
North Yard	S2				17000												
Adjacent Boneyard	S1/S2			4200				1250									
Compressor Ht House	S1/S2																
Houses	S1/S2			1950													
Dome	S2			3000													
Carpenter Shop/Town Warehouse	S2				3000												
Stol Port	S1							450									
Stol Port	S2							2250									
Land Farm	S2							750									
East Adit Treatment Facility	AE2														100		
East Adit Treatment Facility	S1														600		
K-Baseline	S2														7400		
Area 14	S2							300									
Total			24100	20000	0	310	3250	3750	0	0	2150	0	0	8100	0	0	61660
Percentage of storage area used			75%	83%	0%	16%	22%	15%	0%	0%	13%	0%	0%	54%	0%	0%	24%
Grand Total Used																	179685
Total Available																	465180
Percentage used																	39%

Figure 5

Nanisivik Mine Main Lens Storage Areas

Figure 6

Nanisivik Mine Lower Lenses Storage Areas

Appendix 1

**A Case History on the Development of a Geotechnical Monitoring System
at the Nanisivik Mine, Baffin Island**

Appendix 2

Development of an On-line Geotechnical Instrumentation System for Monitoring Over the Internet

Appendix 3

Long-Term Stability Considerations and Engineering Applications for a Decommissioning Mine in Permafrost

Appendix 4

Letter from Nunavut Water Board – January 6, 2004

Subject: Request for further information regarding CanZinco's Waste Disposal Plan