

APPENDIX 10

RECORD OF DEBRIS PLACED INTO THE RECLAMATION LANDFILL

POLARIS MINE
RECLAMATION LANDFILL
RECORD OF DISPOSAL

Prepared by: B. Donald, Teck Cominco Limited
September 30, 2003



RECLAMATION LANDFILL

OVERVIEW OF DOCUMENT

The purpose of this report is to document the use of the Reclamation Landfill (aka Subsidence Landfill) at the Polaris Mine. This landfill was initiated in 1997 with two goals in mind:

- To initiate clean up of the mine site by disposing of obsolete equipment, and non-hazardous materials and supplies, and
- To make use of the fill being placed into the ‘subsidence area’ of the mine to provide a thick cover over the debris.

The Reclamation Landfill is located directly over some of the original underground stopes that were initially mined after the mine opened. The location of the Reclamation Landfill is indicated on the site plan provided in Appendix 1.

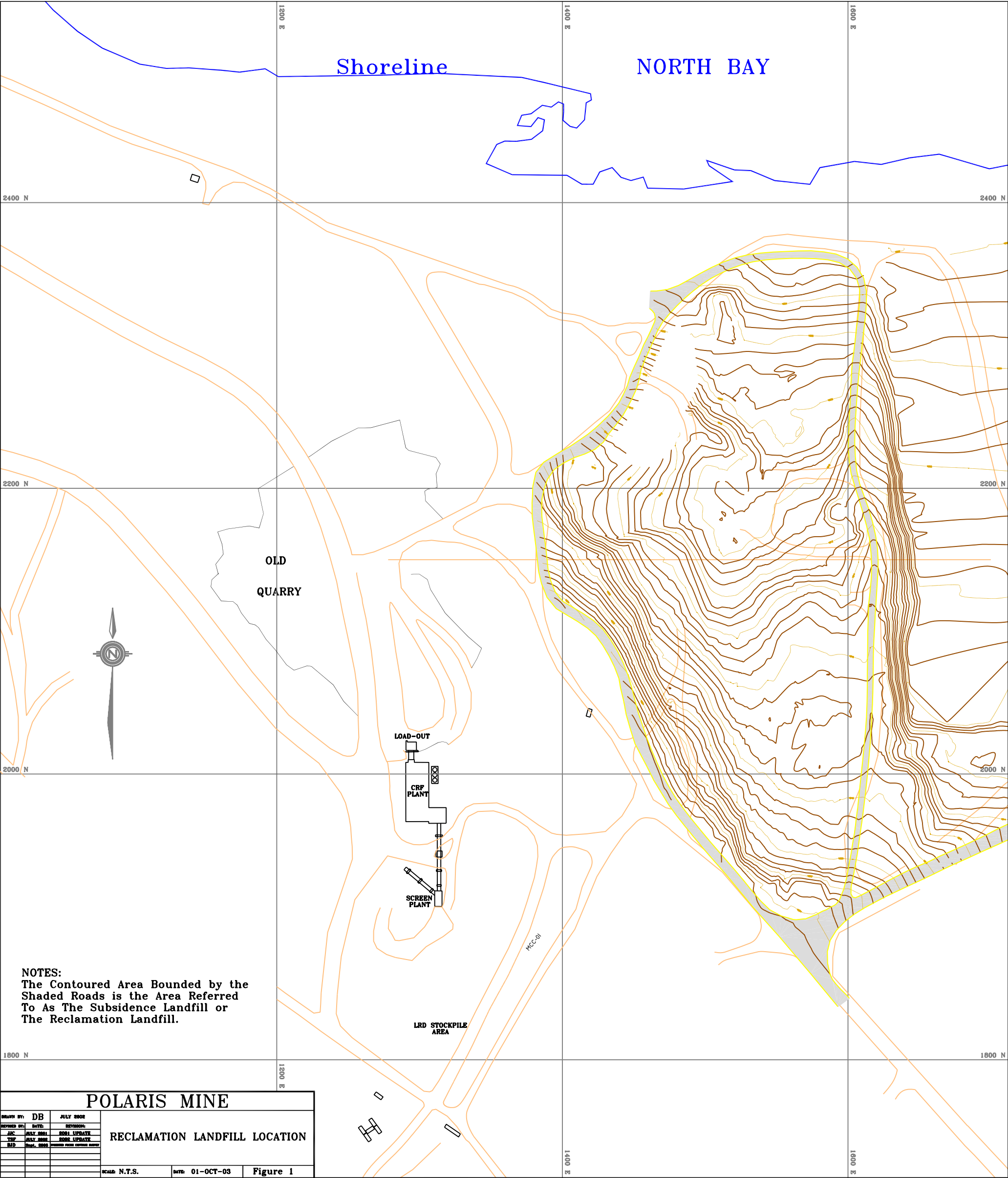
A number of areas around the site had obsolete equipment stored along with other types of obsolete materials and supplies. Cleanup of these areas once it was confirmed that the equipment/materials had no further useful life is consistent with responsible site management practices and with the concept of progressive reclamation. In 1997, an Operating Superintendent at the site was assigned the responsibility to manage the cleanup. When operating personnel could be spared from their regular operating duties, they were assigned the task of site cleanup. To ensure the Reclamation Landfill was only used for disposal of benign materials, procedures were established directing that no hazardous or special waste materials were deposited in the landfill, and that equipment designated for disposal was properly prepared first. The equipment was prepared by removing their batteries (to be shipped south for proper disposal) and all oils, greases and fuels were removed (refer to email from J. Knapp attached in Appendix 2). Once the equipment was ready for disposal, the mechanic completing work signed a form confirming that the equipment had been properly prepared. Copies of the completed forms (electronically scanned) are included in Appendix 3.

Photographs were taken on a regular basis through the process of placing materials in the Reclamation Landfill. These photographs are included in Appendix 3 and are grouped by month and/or year.

Initially after closure of the mine, it was believed that the information collected had been inadvertently lost during the demolition of the administration offices. However, it was later discovered that these records had been removed and placed into temporary storage and have now been retrieved. The records have been digitized and this document is the result to ensure there are electronic copies for safe keeping.

APPENDIX 1

LOCATION PLAN OF RECLAMATION LANDFILL



APPENDIX 2

NOTE FROM

J. KNAPP, MANAGER POLARIS OPERATIONS

REGARDING

THE DISPOSAL OF MATERIAL IN THE

RECLAMATION LANDFILL

SIMMS PAUL (P.) POL
From: KNAPP JOHN (J.B.) POL
Sent: Friday, February 09, 2001 10:46 AM
To: 'edenholm@gartnerlee.com'
Cc: SIMMS PAUL (P.) POL
Subject: RE: Closure Plan

Hello Eric,

Sorry it has taken forever to respond but I have a multitude of excuses. Regardless, we don't have a documented procedure that will help very much.

We use a checklist for all disposed mobile equipment. The checklist records the equipment number and description (ie 692 Toyota) and then the following check:

Drain all oils/fluids/fuel

Remove All Filters

Remove all residual oil/grease

It is signed by the tradesman doing the work, and then endorsed by his supervisor.

This record is then maintained in a binder which is also used to keep photographic documentation of materials that are placed in the sinkhole.

No hazardous materials are to be disposed of in any landfill

The Surface Supervisor is involved in the placement of material, as their crew is responsible for moving scrap to the sinkhole. The Operating Superintendent, who has overall responsibility for the Surface Crew and Mill Crew is involved in maintained the records and photographic log.

Let me know of any other questions and I'll try to be more timely.

Best regards,

John

-----Original Message-----

From: Eric Denholm [SMTP:edenholm@ssimicro.com]
Sent: Friday, January 19, 2001 10:08 AM
To: john.knapp@cominco.com
Subject: Closure Plan

Hi John:

We have been working on the changes to the landfill design as discussed at the meeting in Calgary. When we get a design thickness of the single layer cover that incorporates effects of pore water salinity, we will give you a call.

Regarding the reclamation landfill in the subsidence area, we have a question for you. I understand from Tony that you have a documented procedure for approving and inventorying all materials placed in this landfill. We suspect that this information may be necessary to back up the intended bulk fill (non-engineered) cover planned for this landfill.

Is this info. in a format that you could send to me so that we are up-to-date on your procedures should the question arise? We discussed making such info. an appendix to the landfill report.

I never gave you my card when we were in Calgary and some programs have trouble opening the attacehd card file ...

Eric Denholm
Geological / Environmental Engineering
P.O. Box 98
4909-50th Ave.
Yellowknife, NT X1A 2N1
ph (867) 873-5808
fax (867) 873-4453
home (867) 669-7855
cell (867) 444-1256

Thanks,

Eric D. << File: Card for Eric Denholm >>

APPENDIX 3

MOBILE EQUIPMENT PREPARATION RECORDS

LIST OF ITEMS BURIED IN THE SINKHOLE

**ROYARY BATH DRUM,GEARS AND GUARDS.
ELECTRICAL CABLE TRAYS.**

JUMBO BOOM.

SCALFING.

USED GRIZZLY.

WOODEN PALLETS.

WAREHOUSE SCALFING.

SEVERAL PUMP BOXES.

DUMP TRUCK BOXES.

SCOOP BUCKETS,CANOPY,and MAIN FRAME.

FLOTATION ROTORS.

STEEL PUMP CASINGS.

20 AND 40 FOOT CONTAINRES

STEEL PLATES DIFF SIZES,THICKNESS

VENT TUBING

SPLIT SETS

SULLAIR COMPRESSORS

COVERTS

JEEP PARTS

PIPE RACKES

OLD GANG PLANK

FLOTATION LAUNDER

TIRES DIFF SIZES,JEEP ,LOADERS SCOOPS

RIMS,DIFFERENT SIZES

DIFFERENT SIZES CHAINS

ELECTRIAL MOTOR DIFFERENT SIZES

WOODEN CRATES

STABILIZER BARS

DIAMOND DRILL SLUDGE TANK

DOCK BOLLARD

DRUM TILTER

CONVEYOR PULLEYS

VEHICLES



Toyota # 662
659

have had all liquids
remove and have
been scraped after
being striped of
usable parts. + sent
to sink hole.

Mech. Gord Dehaca
completed May 30/02

Serge Ingram
May 30/02

Job Description		Originator		Materials and specifications	
Limits and tolerance unless specified will be		Fractional + 1/64 -	Decimal + .005 -	Angular + 1/2° -	Specified Scale
Machine finish required	As cast:	Rough	Medium	Fine	Other

Remarks:

Date _____, 19____

Name (please print) _____

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota

Equipment #: 604

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: 2 Popo

Supervisor's Signature Serge

JKK
June/98

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota

Equipment #: 761

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: J Pope

Supervisor's Signature Serge

JTK
June/98

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: GMC BUS

Equipment #: 696

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: 

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Fuel still draining
DRAINED EVERYTHING ELSE *Done*

Task Rec'd June 24/98
Sunk W/D.

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Paus Mancarrier.

Equipment Description: *PAUS* Equipment #:

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u><i>✓</i></u>	<u> </u>
Remove all filters	<u><i>✓</i></u>	<u> </u>
Remove all residual oil/grease	<u><i>✓</i></u>	<u> </u>

Tradesman Signature: *[Signature]*

Supervisor's Signature *[Signature]*

TO BE GIVEN TO JOHN KNAPP FOR FILING

*gts/k
Jun 29/98.
Sink Hole*

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota Equipment #: 749

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remove all filters	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remove all residual oil/grease	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Tradesman Signature: Jan Dennis.

Supervisor's Signature _____

TSK
July 2/98

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: toyota Equipment #: 695

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: Jon. B...

Supervisor's Signature Serge

TRK 2/10
Int

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: TOYOTA

Equipment #: 738

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: *P. Hawkan*

Supervisor's Signature *Serge*

TO BE GIVEN TO JOHN KNAPP FOR FILING

*gts/k
July 10/98*

John Knapp

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: DUX BARBARM Equipment #: 153

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: *JB PV*

Supervisor's Signature *[Signature]*

gtsk
July 14/98

TO BE GIVEN TO JOHN KNAPP FOR FILING

1905-16

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Paus / Flinger Equipment #: _____
Truck

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	_____
Remove all filters	<u>✓</u>	_____
Remove all residual oil/grease	<u>✓</u>	_____

Tradesman Signature: _____

Supervisor's Signature _____

gts/K
Rec'd / Aug 19/98

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: ST 8 A
Rear frame

Equipment #: 102

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: _____

Supervisor's Signature [Signature]

TO BE GIVEN TO JOHN KNAPP FOR FILING

ITS/K.
Rec'd/Star 19/98

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

John Knapp

Equipment Description: Ford F250

Equipment #: 733

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: 

Supervisor's Signature 

TO BE GIVEN TO JOHN KNAPP FOR FILING

TRK
Rec'd Aug 19/98

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: PJ 75 Equipment #: 661

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: Joseph Kontos

Supervisor's Signature Serge Gingras

TO BE GIVEN TO JOHN KNAPP FOR FILING

Rec'd
TJK
Nov 14/98

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: TOYOTA PZ-95 Equipment #: 767

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: *[Signature]*

Supervisor's Signature *[Signature]*
6/3/99.

TO BE GIVEN TO JOHN KNAPP FOR FILING

Rec'd.
Tant
MAR 6/99

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: INGERSOL-RAND DRILL. Equipment #: 160

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: _____

Supervisor's Signature _____

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: TOYOTA

Equipment #: 650

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: JB

Supervisor's Signature George

TO BE GIVEN TO JOHN KNAPP FOR FILING

Advised by Ron Matthews that this will be
disposed of July/Aug in 850-172 via Ramp

ITSK

Aug 1/97

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota

Equipment #: 663

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: J.B.J.

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Advised by R. Matthews that this will be
disposed of July/Aug in 850-172 via Ramp

ITSK

Aug 1/97

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota

Equipment #: 652

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: JBK

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Advised by R. Matthews, July 31/97 that this
will be disposed of in 850-172 via ramp.

JBK
July 31/97

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota Equipment #: 747

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: JB

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Advised by Ron Matthews that this will
be disposed of in July/Aug in 850-172 via the
Ramp.

ITSK
Aug 1/97

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota Equipment #: 692

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: J.B.J.

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Advised by Ron Matthews that this will be disposed of in July/Aug in 850-172 via the Ramp.

JBK
Aug 1/97

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota Equipment #: 668

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: L.J. J.B.J.

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: toyota

Equipment #: 658

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: 

Supervisor's Signature 

TO BE GIVEN TO JOHN KNAPP FOR FILING

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Toyota Equipment #: 660

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: A. Skoalas

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

Speedimemo



210-1217

SEND
TO:

FROM

WAYNE MORTON

DEPARTMENT

MINE-ENG

DATE

SUBJECT

BRAD SEWELL

CEMENT DUMP
SITE

POSTAL CODE

Message:

THE LOCATION OF THE
DUMPED CEMENT IN THE
SUBSIDENCE SINK HOLE IS:

2018.0 NORTH
1555.0 EAST
1015.0 ELEVATION (TOP)

USE THIS AREA FOR YOUR REPLY:

REPLY FROM

DATE

AVOID VERBAL INSTRUCTIONS — USE SPEEDI MEMOS

SENDER: RETAIN PART 2

RESPONDENT: RETURN LAST PART

POLARIS RECLAMATION PROJECT
OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: Ford F-250 4x4 Equipment #: 759

	<u>Yes</u>	<u>No</u>
Drain all oils/fluids/fuel	<u>✓</u>	<u> </u>
Remove all filters	<u>✓</u>	<u> </u>
Remove all residual oil/grease	<u>✓</u>	<u> </u>

Tradesman Signature: G. D. T. P.

Supervisor's Signature [Signature]

Mar 21/2002

TO BE GIVEN TO JOHN KNAPP FOR FILING

→ Paul Simms

206 W-20 Case Loader

All oils, fuel & coolant & filters
were removed on May 31/02
and loader was sent to
sink hole.

Warren Clapperton
Tim Pope.

Serge Merquar

Job Description		Originator		Materials and specifications	
Limits and tolerance unless specified will be		Fractional + 1/64 -	Decimal + .005 -	Angular + 1/2° -	Specified
Machine finish required		As cast:	Rough	Medium	Fine
Remarks:		Other			

POLARIS RECLAMATION PROJECT

OBSOLETE EQUIPMENT TO BE BURIED

Equipment Description: ~~744~~ Toyota Equipment # 742
W.O.# 105513

	<u>Yes</u>	<u>No</u>
✓ ✓ ✓ Drain all oils/fluids/fuel	<u>SL</u>	_____
✓ Remove all filters	<u>SL</u>	_____
✓ ✓ Remove all residual oil/grease	<u>SL</u>	_____

Tradesman Signature: SL

Supervisor's Signature Serge

TO BE GIVEN TO JOHN KNAPP FOR FILING

APPENDIX 4

PHOTOGRAPHS OF THE RECLAMATION LANDFILL DEBRIS

PHOTOGRAPHS – LATE MAY / JUNE 1997

















PHOTOGRAPHS – JULY 1998



Sinkhole
07/25/98



Sinkhole
07/25/98



Sinkhole
07/25/98



Sinkhole
07/25/98

















Sinkhole 07/20/98



Sinkhole 07/20/98



Sinkhole
07/25/98



Sinkhole
07/25/98





Sinkhole
07/25/98



07/25/98



SINK HOLE
08/07/98



Sinkhole
07/25/98



PHOTOGRAPHS – AUGUST 1998



SINK HOLE
08/07/98



SINK HOLE
08/07/98



SINK HOLE

PHOTOGRAPHS – AUGUST 1999













PHOTOGRAPHS – SEPTEMBER 1999











PHOTOGRAPHS – JULY 2000









PHOTOGRAPHS – 2001





