

Alistair MacDonald

From: David Swisher [dswisher@centurymining.com]
Sent: Monday, July 31, 2006 5:54 PM
To: JASON_MCNEILL@gov.nt.ca
Cc: dswisher@centurymining.com; Jerry Demarco; Alistair MacDonald
Subject: Tamerlane response to comments 6-27-06



TAM response to CMS R190 test
GNWT concerns ... outline.pdf (3 M...

Dear Jason,

Please see response document and supporting attachments to comments you submitted to the Mackenzie Valley Land and Water Board June, 27th. I hope this will serve to alleviate any concerns you may have concerning our advanced exploration project.

Additional emails will follow with attachment. *Attachments included here.*

If you have any further questions or comments, please don't hesitate to call me.

Thank you,

David Swisher

Tamerlane Ventures Inc.
Senior Project Manager
360.332.4653

Tamerlane

VENTURES INC. 

July 31, 2006

Jason McNeill
Environmental Assessment Officer
Policy, Legislation and Communications
Environment and Natural Resources
Government of the Northwest Territories
P.O. Box 1320
Yellowknife, NT
X1A 2L9

**RE: Response to MVLWB comments June 27, 2006
Tamerlane Ventures Inc., MV2006C014 / MV2006L2-0003
Pine Point Pilot Project**

Dear Jason,

Thank you for the comments you submitted to the Mackenzie Valley Land and Water Board June 21st. I would like to take the opportunity to respond to your comments in hopes of alleviating your concerns.

COMMENTS:

- Q1.** The Project Description presented by Tamerlane Ventures Inc (TVI) did not provide clear information on the footprint of the project. On map 1.4-1, it appears that some clearing of vegetation will have to be undertaken for site development but this is not discussed in section 5.4, Impacts on Vegetation.
- R1.** As stated in the Project Description Report, section 5.4, the project is not anticipated to create significant vegetation impacts. Additionally, section 1.4 discusses the projects anticipated footprint of 2.5 hectares, of which, much of the ground has already been previously disturbed. Section 1.4 also compares the difference with past mining related surface disturbance which included approximately 4200 hectares.
- Q2.** TVI states that impacts will be minimal as the area consists of several active quarries, Highway #5 and that wildlife are accustomed to loaders, dozers, haul trucks and pickups. Despite this context of existing development, combined with past mineral, and oil and gas exploration occurring in the area, the proponent states that the project will not significantly add to any cumulative effects. As the proponent provides no analysis or justification for their conclusion, ENR staff

suggest that a more thorough investigation into cumulative impacts be undertaken by the proponent.

R2. Because so much activity has occurred in the past as well as present, we cannot ignore the fact that potential cumulative effects contributions from our advanced exploration project will not significantly impact the area. Regardless, EBA Engineering Consultants Ltd. is completing a refined baseline study of the area. The results of these studies and a cumulative effects assessment are anticipated to form part of the Development Assessment Report requirements of the Mackenzie Valley Environmental Impact Review Board proceedings.

Q3. Could TVI provide more details on the infiltration basin proposed as a site for sewage effluent treatment and other liquid waste. How will this facility be constructed? If the proposed design does not include a liner, the proponent should consider local geology (karst) and justify the use of an unlined facility given the potential for contaminant infiltration and transport by way of groundwater.

R3. Tamerlane is not planning to utilize the infiltration basin as a treatment facility for liquid waste or sewage. Tamerlane is investigating the economics of utilizing a complete modularized RBC sewage treatment plant or contracting the use of port-a-potties.

Construction of the Infiltration basin will entail but not be limited to the following:

1. Stabilization of drainage to the old quarry (Proposed infiltration basin)
2. Placement of berms around lower elevations of quarry
3. Gradation of existing berms and high wall to natural angle of repose
4. Gradation of quarry bottom
5. Deep tilling (1-2 metres) of quarry bottom

Tamerlane will complete detailed design drawings of the infiltration basin upon receipt of topographic drawings currently being finalized by Aero Geometrics Ltd. As indicated on attached "hydrology & geology section figures", surficial material consisting of gravels and glacial till comprise no less than 30 metres overburden and is over 100 vertical metres above the main flow of the area aquifer.

Q4. We understand sewage effluent will report to the infiltration basin. Is there a solid stream to the sewage treatment plant discharge that will require disposal? If so, where will it be placed?

R4. If Tamerlane utilizes the RBC sewage treatment plant, the effluent would be tied into the DMS discharge line bound for the Infiltration Basin. If Tamerlane contracts the use of port-a-potties, then there will be no disposal of sewage effluent at the Project site.

Q5. Could the TVI characterize discharge associated with the Dense Media Separation process? Will all of the DMS discharge be recycled/stored temporarily/backfilled underground?

- R5.** As indicated in the following chart, all DMS discharge will be utilized underground as backfill.

<u>Waste Generation</u>	<u>Estimated Tonnage</u>
Shaft Sinking	16,300
Development	32,430
Raisebore	2,000
<i>SUBTOTAL</i>	<i>50,730</i>
Bulk Sample Extracted	1,000,000
DMS Recovery @ 60%	600,000
DMS Gangue Reject @ 40%	400,000
<i>SUBTOTAL</i>	<i>400,000</i>
TOTAL	<i>450,730</i>
Assume 100% swell factor	450,730
Total Waste Returned U/G	901,460
Total Waste Required for fill	1,000,000
Δ	(98,540)

- Q6.** Has the proponent considered a contingency plan in the event that the freeze curtain fails due to hydraulic head/blasting impacts?
- R6.** Tamerlane is currently designing the underground operations to account for minimal impacts to the freeze curtain. In addition, Tamerlane is sizing pumping capacity to allow for unexpected water inflows due to catastrophic failures. Please see attached "TAM dewatering plan".

SPECIFIC RECOMMENDATIONS

- Q7.** ENR outlines specific recommendations to Tamerlane to reduce potential impacts on the peregrine falcons, short-eared owls, grizzly bear, woodland caribou, wolf, fox and mineral/salt licks in the area.
- R7.** Tamerlane has reviewed these recommendations and will ensure the recommendations provided by ENR are followed. Additionally, Tamerlane will ensure that the on-site Environmental Technologist is advised of and incorporates these recommendations into his/her job description.

WASTE DISPOSAL

- Q8.** Has TVI been given permission to dispose of waste at the Hay River landfill?
- R8.** Tamerlane is and has been in discussion with the Hay River city council members and will continue to do so throughout the life of the project.

- Q9.** TVI commits to water quality sampling for six months after the program completion. In the event that the sampling program does not proceed to full-scale mining, TVI should commit to water quality sampling until such time that demonstration of compliance with the license criteria has been proven.
- R9.** Tamerlane will comply with the water license conditions and criteria for recycling, treatment (if necessary) discharge to ground/groundwater and monitoring/testing. Tamerlane intends to regularly test all discharge into the infiltration basin.

SPILL CONTINGENCY PLANNING

- Q10.** Could TVI supply a site map indicating where fuel and other hazardous materials will be stored?
- R10.** Please see the Project Description Report, Figure 1.4-1. If a larger map is required, please contact me at (360) 332-4653 and I would be pleased to mail an enlarged map.
- Q11.** TVI has provided the expected volumes of hydrocarbons to be brought on site. Please provide an inventory of any other hazardous materials that will be used including volumetric estimates and Material Safety Data Sheets for each product.
- R11.** Other than what has already been provided and due to continued Dense Media Separation Testing, Tamerlane can confirm that no other hazardous materials will be required for the project. Please see attached "CMS R190 test outline" and "Godfrey McDonald CV July 2006".

REQUESTS OF THE PROPONENT

- Q12.** To aid in the Department's tracking of development and management of impacts to wildlife we request that TVI provide ENR with a record of any wildlife sightings made during the program (including, if possible, GPS locations). These data should be provided to ENR's South Slave Biologist Deborah Johnson, (867) 872-6408.
- R12.** Tamerlane would be pleased to incorporate this request into the job description of the on-site Environmental Technologist.

Should you have any questions concerning Tamerlane's responses, please do not hesitate to contact me at (360) 332-4653

Sincerely,



David Swisher
Tamerlane Ventures Inc.
Senior Project Manager

CONFIDENTIAL METALLURGICAL SERVICES

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TAMERLANE VENTURES INC.

PINE POINT PROJECT

METALLURGICAL PROCESSING

The **R190 mineral deposit** in the Pine Point Project is a Mississippi Valley Type geological deposit that was formed by epigenetic solutions of lead and zinc sulphides filling open-space cavity and local replacement of internal sediments in carbonate strata. The sulphides have a specific gravity range of 4.0 to 7.5 and the carbonate strata has a specific gravity of 2.7. This significant difference in specific gravity and the zoned deposition of the sulphide mineralization in the carbonate (limestone and dolomite) host rock will be taken advantage of to affect a separation and produce a "Direct Shipment Ore" (DSO) for subsequent selective flotation/milling and smelting of the resultant concentrates; this additional processing will be done at an offsite domestic or foreign location(s).

Preliminary laboratory Dense Media Separation (DMS) testwork has indicated that run-of-mine (ROM) ore could be significantly upgraded to the mid/upper-forty percent range. To improve the overall mineral recovery, laboratory testwork will be done to determine how the pre-screened, -28 mesh screen fraction (range from 10 to 18% of the crushed ROM ore) can be processed so it can also be upgraded and then combined with the DMS "Sink" product for shipment from the site as DSO.

The deposits are located in an area that already has some very necessary infrastructure for a developing mine project. There is electric power, a highway to a railway and two towns (Hay River and Fort Resolution) in the vicinity which can accommodate the employees, all available to this project.

The DMS process which is proven and conventional technology that includes the following operating stages: first, the ROM ore has to be coarse crushed so there is maximum release (liberation) of the host rock from virtually all of the mineralization. The crushed ore is pre-screened to remove the -28 mesh fines which could contaminate the dense media and thereby increase dense media losses as well as modify the DMS feed, slurry viscosity which will directly affect the specific gravity separation. The +28 mesh screen fraction is mixed with the dense media (ferrosilicon) to a cut-point specific gravity of 2.75 to 2.95 and then pumped to a DMS cyclone. In the cyclone the mineral particles (free and middling with the host rock) which are heavier than the cut-point specific gravity are recovered from the cyclone in the underflow as the "Sink" product and the host rock with minimal sulphides reports to the cyclone overflow as the "Float"

reject product. The dense media and water are recovered in the product (Sink and Float) dewatering screen underflows. The recovered ferrosilicon is recycled to the DMS separation circuit after its specific gravity has been corrected to the cut-point setting.

The -28 mesh screen fines will be dewatered for direct shipment as part of the DSO or post-treated by gravity separation or flotation to upgrade the -38 mesh fines for subsequent shipment as part of the DSO. The -38 mesh post-treatment fines, tailings will be thickened and mixed with cement and DMS "Float" reject for deposition as backfill in the underground mined-out areas.

The goal of the testwork is to produce a Direct Shipment Ore that has a combined grade of +45 %.

Proposed Process Development Testwork to attain this goal will be done on diamond-drill core increments that represent the main mineralized, lower zone:

Process Concept No. 1, Single Stage DMS only:

The ROM ore will be crushed to -5/8 inch; pre-screened at 28 mesh to remove the fines which will be weighed and assayed. The +28 mesh screen fraction will be subjected to a DMS separation at a specific gravity of 2.95. The "Sink" product and the "Float" reject will be weighed and assayed. A metallurgical balance will be calculated for the test. The Direct Shipment Ore will comprise the "Sink" product and the -28 mesh pre-screen fines. The final deposition of the "Float" reject will be underground as backfill.

Process Concept No. 2, Double Stage DMS only:

The ROM ore will be crushed to -5/8 inch; pre-screened at 28 mesh to remove the fines (-28 mesh) which will be weighed and assayed. The +28 mesh screen fraction will be subjected to a DMS separation at a specific gravity of 2.95. The "Sink" product and the "Float" reject will be weighed and assayed. This "Float" reject will be re-crushed to -1/4 inch; re-screened on 28 mesh screen. The -28 mesh re-screen fines will be weighed and assay for the metallurgical balance. Fines from the -28 mesh re-screen will be combined with the coarse crush pre-screen fines. The +28 mesh re-screen fraction will be subjected to a second, DMS separation at a specific gravity of 2.75. The "Sink" product and the "Float" reject will be weighed and assayed. The DSO will comprise the two "Sink" products and the combines -28 mesh screen fines. The final deposition of the "Float" reject will be underground as backfill.

Process Concept No.3, Single Stage DMS and Flotation of the -28 mesh Pre-Screen Fines:

The Single Stage DMS test will be the same a Process Concept No. 1, except the DMS circuit specific gravity cut-point will be 2.85. The -28 mesh pre-screen fines will be conditioned with flotation reagents (lime, copper sulphate, xanthate and a frother) and will be subjected to "Flash" flotation to recover a bulk lead/zinc sulphide concentrate.

The bulk sulphide concentrate and the flotation tailings will be weighed and assayed. Then the metallurgical balance for the test will be calculated. The flotation tailings will be dewatered (thickened) and then mixed with cement and the DMS "Float" reject for deposition underground as backfill. The DSO will comprise the DMS "Sink" product and the bulk sulphide concentrate.

Process Concept No. 4, Single Stage DMS and Secondary Crushing of the -28 mesh Pre-Screen Fines to -70 mesh:

The Single Stage DMS test will be the same as Process Concept No. 3. The -28 mesh pre-screen fines will be crushed in a Rolls type crusher to -70 mesh and then conditioned with flotation reagents (lime, copper sulphate, xanthate and frother) and will be subjected to "Flash" flotation to recover a bulk lead/zinc sulphide concentrate. The bulk sulphide concentrate and the flotation tailings will be weighed and assayed. Then the metallurgical balance for the test will be calculated. The flotation tailings will be dewatered (thickened) and then mixed with cement and the DMS "Float" reject for deposition underground as backfill. The DSO will comprise the DMS "Sink" product and the bulk sulphide concentrate.

Process Concept No. 5, Single Stage DMS and Gravity Separation of the -28 mesh Pre-Screen

The Single Stage DMS test will be the same as Process Concept No. 3. The -28 mesh pre-screen fines will be subject to various Gravity Separation techniques (spirals, cyclone with natural specific gravity media, centrifuges, jigs, blanks, etc.) to produce an upgraded mineral product while rejecting the host rock as a tailings. The Gravity Separation mineral product and tailings will be weighed and assayed. Then the metallurgical balance for the tests will be calculated. The Gravity Separation tailings will be dewatered (equipment selected to accommodate the type of Gravity Separation employed) and then mixed with cement and the DMS "Float" reject for deposition underground as backfill. The DSO will comprise the DMS "Sink" product and the Gravity Separation mineral product.

General Notes:

Dewatering the tailings by thickening will probably be employed. A clear, environmentally acceptable overflow water quality should be produced that can be recycled to the process and/or pumped directly to the infiltration basin. The proposed testwork and evaluation of the thickening process will be tested employing proven flocculent reagents. The exact water quality analysis will be determined at that time.

The tailings solids volume for the fine and coarse particles from the processing of the ROM ore will be less than the total volume of the voids (stopes/development) available underground so final deposition of all the process tailings (DMS "Float" reject and -28 mesh screen secondary processing tailings) should be accommodated underground.

Consumables:

The DMS circuits (Single and Double) will employ ferrosilicon as the media and very little is lost from the process circuit (very expensive). Ferrosilicon is an inert material that is currently used in the diamond processing circuits in Canada.

The reagents to be tested for the flotation of a bulk sulphide concentrate are: Lime (pH modifier), Copper Sulphate (activate the surface of sphalerite particles so they can be recovered by flotation techniques), Isopropyl and/or Amyl Xanthate (attaches to the surface of galena and activated sphalerite particles so they can be recovered by flotation techniques) and Methyl Isobutyl Carbinol (used to stabilize the surface of the water/slurry in a flotation cell during the flotation process).

None of the consumables are considered hazardous in transporting, storage and for operating conditions. They are all relatively expensive to purchase so care in handling and use is an operating norm that everyone receives training about; it is a direct operation cost concern.

Delivery and Storage:

Ferrosilicon is usually shipped in tote bags (one/two tonnes) and/or steel drums. It can be stored outside as long as it is in a secure area (cost concern). It is an inert physical and chemical material.

Copper Sulphate is usually shipped in sealed plastic bags and should be stored in a covered area or under a tarp so it can easily be retrieved when needed in the process. Copper Sulphate is a chemical that is used to kill algae in water and should be handled carefully, no spills. The solution tanks should be in a safety basin in the plant.

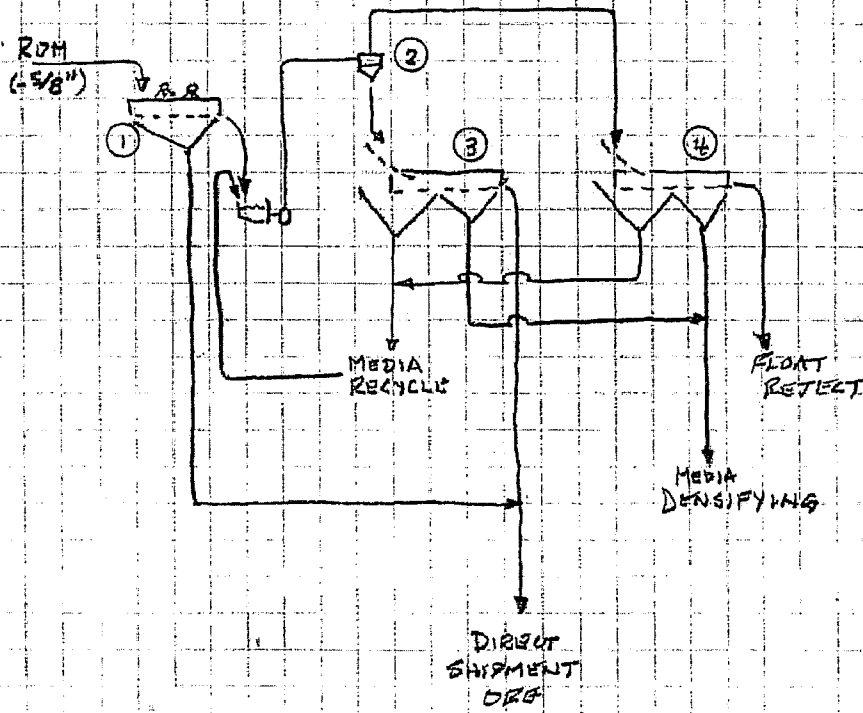
Xanthate is usually shipped in sealed plastic bags or totes and should be stored and handled like Copper Sulphate.

Methyl Isobutyl Carbinol is usually shipped in drums and is distributed in the flotation circuit directly from the drum with metering pump(s). It should be stored in a warm area with spill protection.

The only consumable that will be stored at the site in a volume will be the ferrosilicon (because it may come from South Africa). All the other consumables will be purchased in a monthly consumable quantity (small requirement that will be determined during the laboratory test program) as they can all be purchased in Canada.



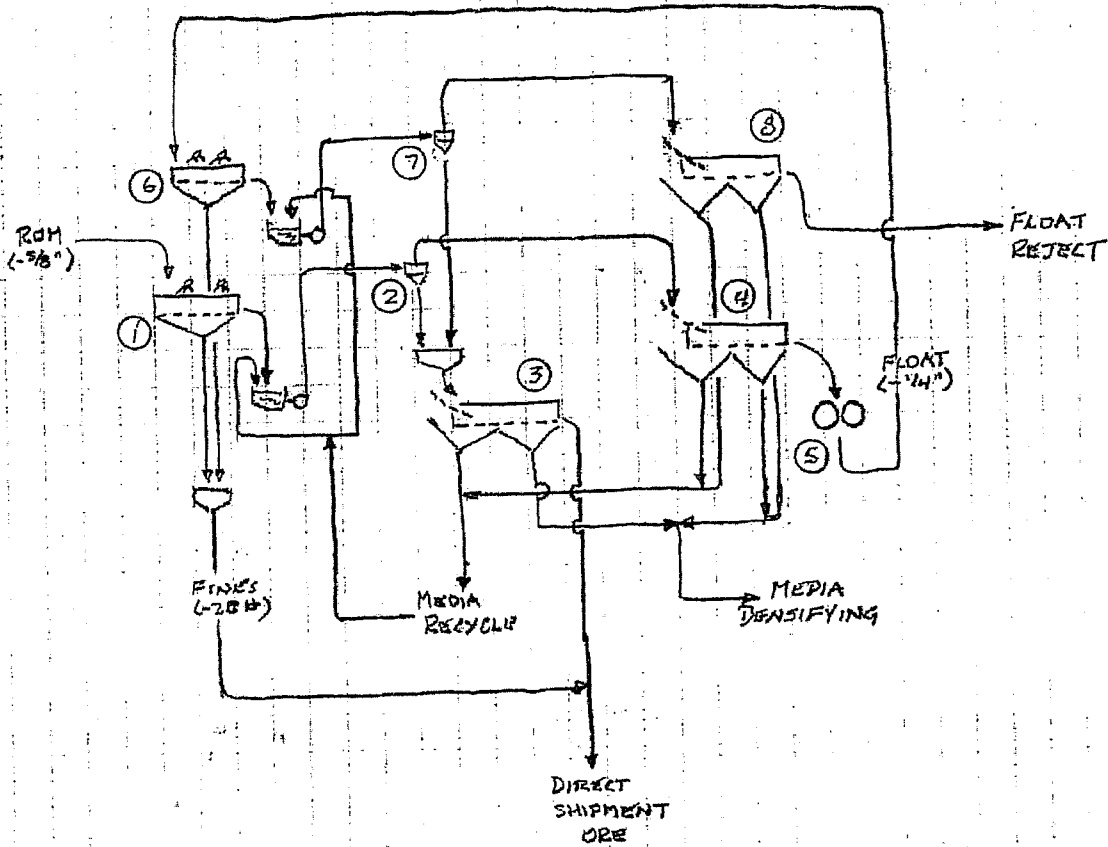
TAMERLANE VENTURES INC.
POINT POINT PROJECT
SINGLE DMS CIRCUIT



MAJOR EQUIPMENT

1. PRE-SCREEN
2. DMS CYCLONE
3. "SINK" DEWATERING SCREEN
4. "FLOAT" DEWATERING SCREEN

TAMERLANE VENTURES INC.
 PINE POINT PROJECT
 DOUBLE DMS CIRCUIT



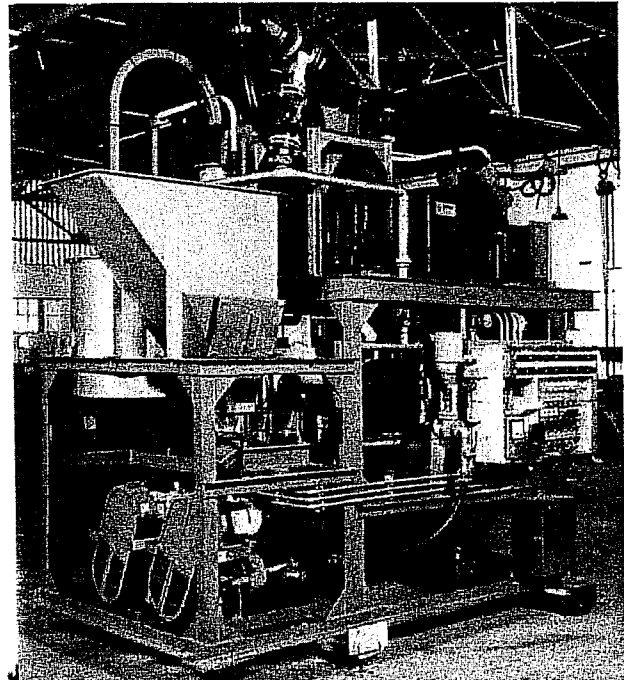
MAJOR EQUIPMENT

1. PRE-SCREEN
2. DMS CYCLONE (1ST STAGE)
3. "SINK" DEWATERING SCREEN (1ST and 2ND STAGE)
4. "FLOAT" DEWATERING SCREEN (1ST STAGE)
5. ROLLS TYPE CRUSHER
6. RS-SCREEN (2ND STAGE)
7. DMS CYCLONE (2ND STAGE)
8. "FLOAT" DEWATERING SCREEN (2ND STAGE)

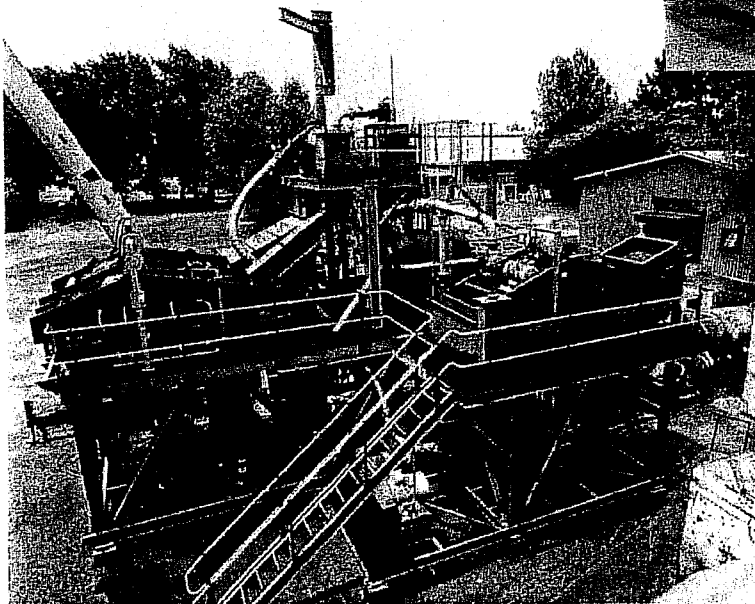
Commitment

We, in BATEMAN's Modular Plants business line, are totally committed to:

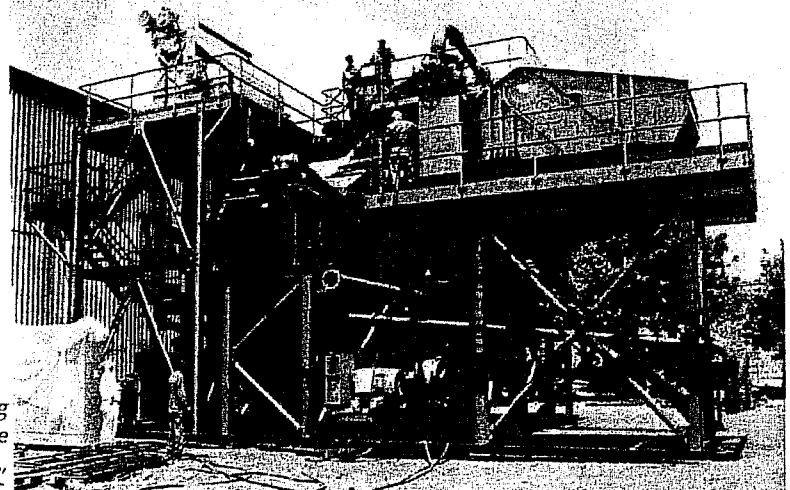
- Providing our clients with value for money plants, products and services.
- Building plants which meet environmental requirements.
- Providing our clients with service excellence in all their dealings with BATEMAN.
- Supporting our products with spares and technical advice.
- Meeting or exceeding safety standards set by our clients and the authorities in the countries where our plants operate.
- Providing our shareholders with a fair return on their investment.



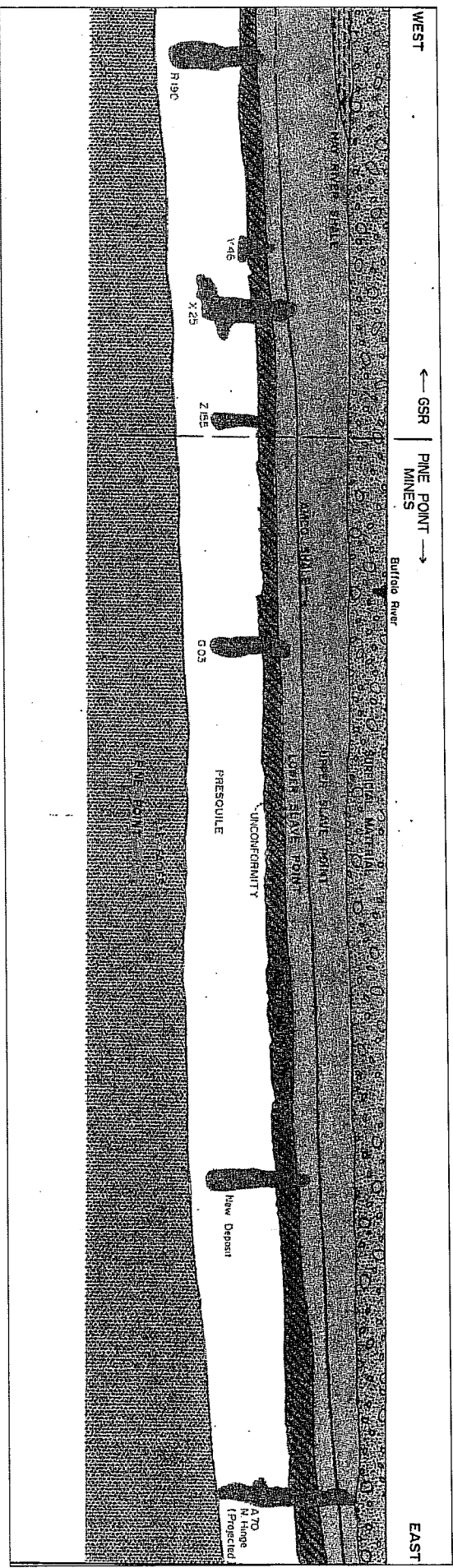
A typical BATEMAN 1 t/h transportable DMS module, ready for delivery.



A typical BATEMAN 50 t/h modular DMS plant for processing kimberlite, fully erected at the factory.



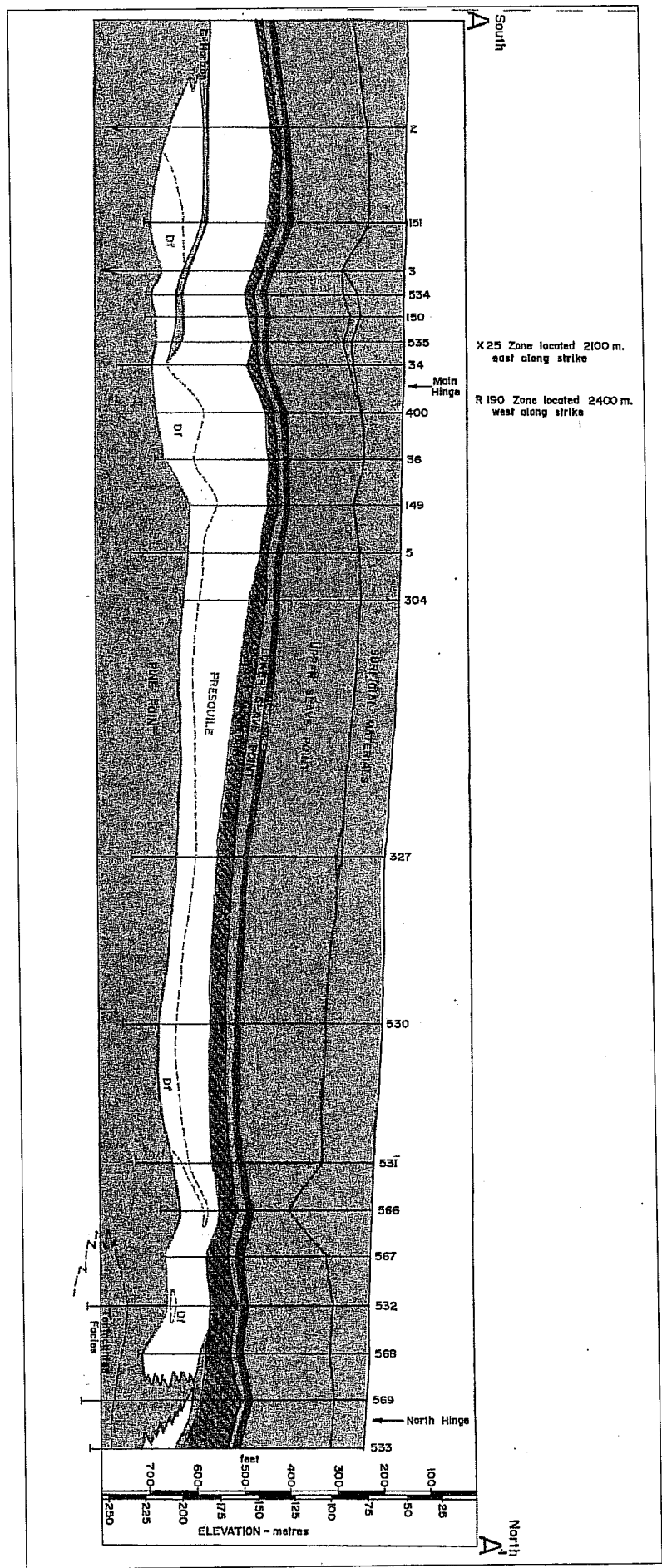
The 150 t/h BATEMAN DMS plant featuring two cyclones fully erected at the fabricator's site before transport to MIBA, Mbuiimavi, DRC.



- LEGEND**
- Surficial Materials
 - Upper Slave Point / Amco Shale / Lower Slave Point
 - Matt Mountain
 - Presquille
 - Pine Point
 - Ore Bodies

East-West Stratigraphic Section Through the Central Parts of Great Slave Reef and Pine Point Mines Project Areas, With Adjacent Mineralized Zones Projected Into the Section Plane. (After Westmin Resources Limited Diagramatic Long Section Parrot Main)



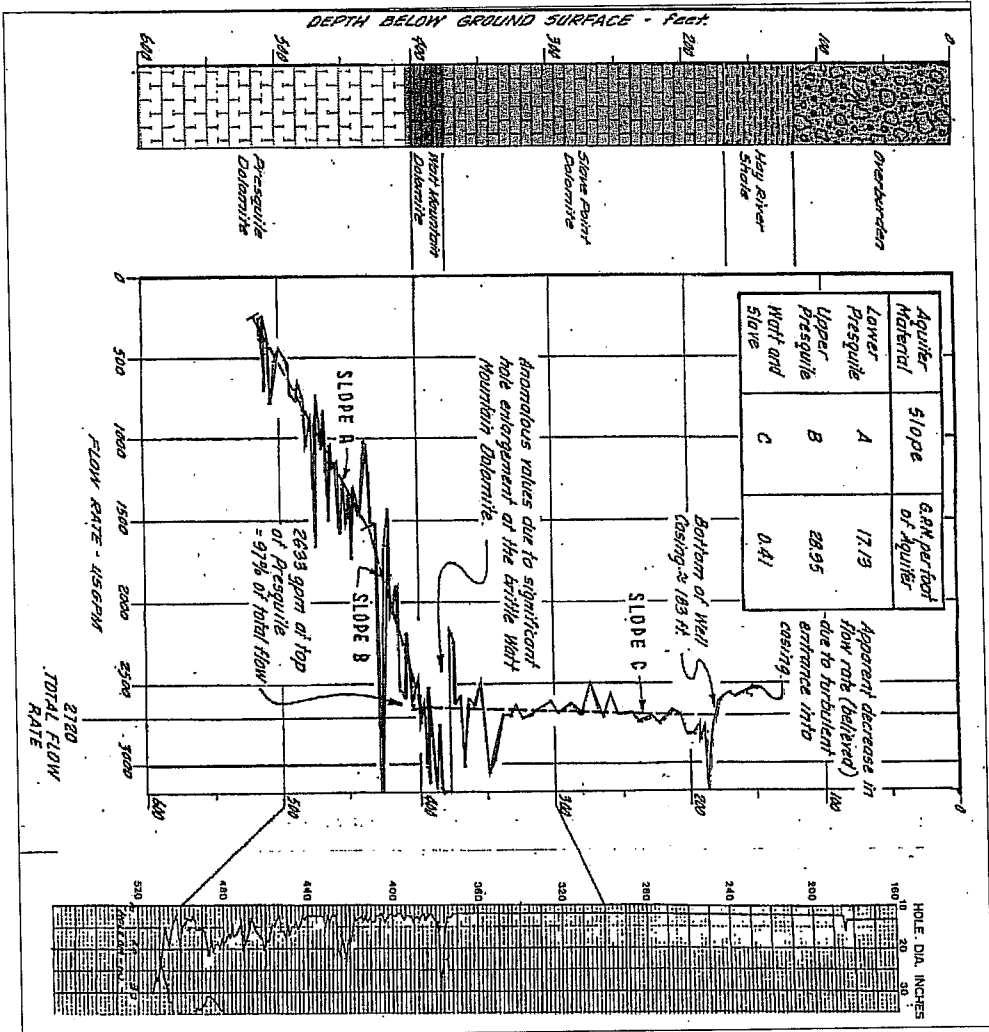


North-South Stratigraphic Section Through The Great Slave Reef Project Area (after Westm In Resources Limited cross section, Feb. 1982)

- LEGEND**
- Surficial Materials
 - Upper Slave Point / Amco Shale / Lower Slave Point
 - Wait Mountain
 - Presquille
 - Pine Point

1740149.003.Figures.pdf





Velocity and Caliper Logs of R190 Well (after Figures 7 and B3-2, Hydrology of R190 Mineralized Region Great Slave Reef Project, Westmin Resources Limited, Nov. 1983)

