



Wolverine Project

GENERAL SITE PLAN

VERSION 2006-01

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June 2006

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1 Introduction

This report, prepared by Yukon Zinc Corporation (YZC), describes the plan to deliver the Wolverine Project over a period extending from July 2006 to January 2008. Details pertaining to specific infrastructure design and facility operations are contained within the *Wolverine Project Environmental Assessment Report* (YZC, 2005) and *Wolverine Project Environmental Assessment Report Response to Public and Regulatory Reviews* (YZC, 2006).

This report does not include a description of exploration activities or those currently permitted under the existing Mining Land Use Permit (QZ01-051) and Type B Water Licence (LQ00140). These activities include, but are not limited to, ongoing water use and water treatment, underground development and waste rock pad use and expansion.

YZC anticipates receipt of the Quartz Licence in July 2006 and the Type A Water Licence in early 2007, and has incorporated these timelines and the target date of production in first quarter 2008 into the schedule of activities presented herein.

2 Infrastructure Development and Associated Activities

The proposed activities and infrastructure planned or in use for 2006 and 2007 prior to the production phase are located on claims solely owned by Yukon Zinc Corporation. Table 2.1 provides a summary of the claims for the existing and proposed site facilities, site and access roads, stockpile locations, and the ore body.

Figure 1 provides an overlay of the claims on the proposed infrastructure located between the industrial complex and the tailings facility. Detailed drawings for the mine access road claim boundaries are provided in the *All Weather Access Road Plan* (YZC, 2006).

The following subsections detail the development tasks to be completed and their estimated time frame. Where feasible, prefabrication off site will be completed to reduce on site labour and construction time. YZC recognizes that minimal concrete work will occur between November 15 and April 1.

Table 2.2 provides a summary of the proposed schedule for July 2006 to January 2008. The schedule is subject to a production decision, regulatory approvals, and project financing.

Table 2.1. Summary of List of Activities Proposed on Each Claim

Locations for Activities and Infrastructure	Claim Name
Airstrip	Foot 1; Puck 20, 22, 81
Explosive and Cap Magazine Sites	Foot 2,4
Industrial Complex (Mill, Office, Maintenance Shops, Fuel Storage, Chemical Storage, Batch Plant,	Kink 3; Foot 7-10
Ore Body	Foot 9, 10, 12, 12A; Kink 3
Tailings Facility Infrastructure (Dams, Spillways, Diversion and Collection Ditches)	Puck 20-22, 24-28, 30, 82-84; Foot 1, 20,
Tailings/Reclaim/Fresh Water Pipelines; Power Distribution	Foot 1, 3-7, 9; Kink 3
Existing Waste Rock Pad	Foot 5, 6
Exploration Camp (2006 Construction Phase)	Foot 181, 182
Permanent Camp	Foot 5-8
Mine Site Roads (Tailings Facility to Exploration Camp)	Foot 1, 3-10, 12, 12A, 14, 16, 18, 20, 180, 181 182; Puck 20-22, 24, 26, 28
Mine Access Road	Goalie 29-41, 43, 45, 47-52, 60, 62, 63, 65, 89, 93-98, 100, 102, 205, 206, 213, 215, 217, 219, 220, 222, 230-3, 239-41, 257-60, 289-92, 305, 306; Money 1, 2, 11-14, 29, 30; Puck 28, 30, 32, 34, 36, 43, 45, 47, 59, 61, 62, 67-71; Cup 11-15, 19
Organic Stockpile Areas	Foot 5, 7, 12A; Puck 20, 22, 25-7; Kink 3
Water Treatment Plant, Retention Pond and Discharge Pipeline	Puck 27, 28, 30, 84
Landfill and Incinerator	Puck 21, 22

Table 2.2. 2006 – 2008 Proposed Schedule for Wolverine Mine Development

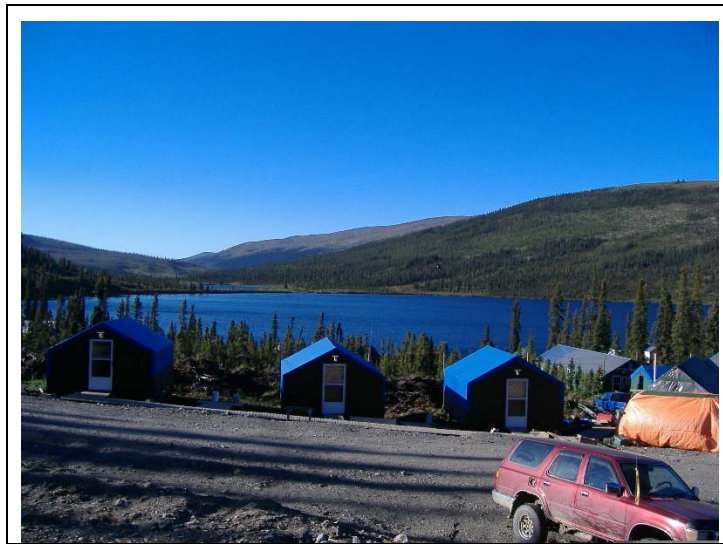
MILESTONE	2006						2007												2008					
	Jun	Jly	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jly	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
INFRASTRUCTURE																								
Access road																								
Accommodations																								
Service facilities and power plant																								
MINE																								
Dewatering & rehabilitation																								
Mine development; raise installation																								
MILL																								
Site preparation & mill foundation																								
Mill closed in																								
Mechanical Completion																								
Commissioning																								
Ramp up to full capacity																								
TAILINGS FACILITY																								
Dam and ditch construction																								
Liner installation																								
Divert Go Creek to fill pond																								
Install water treatment plant/pipelines																								

2.1 2006 Activities

Site development activities proposed for summer-fall 2006 focus on construction of the mine access road. Details pertaining to investigative and construction activities are provided in the *All Weather Access Road Plan* (YZC, 2006). There are no other surface works planned for 2006, with the exception of activities at the portal laydown areas that support the proposed underground activities, which include adit dewatering and rehabilitation, and water treatment.

2.1.1 Camp

Road construction activities proposed for 2006 will be supported by the existing camp infrastructure on Wolverine Lake (Picture 2.1). Beyond routine maintenance activities, no additional works are required for these camp facilities.



Picture 2.1. Fifty man exploration camp on Wolverine Lake

2.1.2 Maintenance Activities

There are no works planned for site roads or the airstrip; however, maintenance activities will be conducted on the road between the exploration camp and the airstrip, and at the airstrip as required to support current activities.

2.2 2007 Activities

The following targets are set for 2007: complete earth moving for site construction, establish the permanent camp, establish the concrete batch plant and pour mill foundations, erect all buildings, construct the mechanical and electrical equipment, commission the tailings facility, and commission the mill for ramp up to full production in the first quarter of 2008.

2.2.1 Industrial Complex

The industrial complex area is an expansion of the existing laydown areas at the portal (Picture 2.2). Prior to commencing foundation work, the remaining organic material will be stripped and stockpiled to the north, as shown on Figure 1. Once barren, the ground will be leveled and form work will be constructed as per the footprint provided on Figure 1. Detailed drawings of the industrial complex building are provided in the *Mill Operating Plan* (YZC, 2006).

YZC intends to pour the foundations for the mill building, assay lab, and service building in spring 2007. The priority is to establish the concrete batch plant and pour key heavy foundations so that pre-engineered buildings can be erected as early as possible in 2007. Depending upon the weather, protection (straw) may be required to prevent the ground from freezing and for allow the concrete work to proceed as weather permits in early 2007.

Laydown areas for construction supplies will be located at the existing lower laydown area, and along the road between the industrial complex and the airstrip, and at the airstrip.



Picture 2.2. The proposed industrial complex location will encompass the existing working area, and will extend ~200m to the southwest (left).

The location of the mill, power supply, batch plant, assay lab, fuel storage, offices and maintenance shop, chemical storage, and organic stockpiles are shown on Figure 1. The power distribution system and services will run parallel to the reclaim and tailings pipelines.

Freshwater groundwater supply for potable use, fire protection and certain mill processes will be established in the Go Creek watershed near the airstrip in spring 2007.

Sewage will be treated in pre-packaged treatment plants located at the camp and at the industrial site. Additional details are provided in the *Solid Waste Management Plan* (YZC, 2006).

2.2.1.1 Borrow Sources

The project borrow source is located near the airstrip and the temporary batch plant location is located within the industrial complex area (Figure 1).

Planned borrow sources for construction materials will include the tailings facility footprint, the project borrow site near the airstrip, and along roadway cuts. The roadway geotechnical investigation program will assess potential borrow pits for common embankment material, granular surfacing and culvert bedding/backfill materials, as well as for concrete aggregate. As per the details provided in the *All Weather Access Road Plan* (YZC, 2006), the development of at least three granular deposits is necessary for economic, quantitative and quality management purposes. The granular investigation program will provide site-specific development plan details for each source.

Granular material quantities required for the Wolverine Project to manufacture the respective aggregate products are summarized in Table 2.3.

Table 2.3. Quantities of Granular Material Required for Construction and Maintenance Activities

Description	Manufactured Product	Raw Material
Granular Surfacing for Road Construction	50,000 m ³	60,000 m ³
Granular Surfacing for Road Maintenance	20,000 m ³	25,000 m ³
Culvert Bedding and Backfill	8,000 m ³	10,000 m ³
Common Borrow for Construction	50,000 m ³	50,000 m ³
Concrete Aggregate (Industrial Complex)	2,000 m ³	5,000 m ³
Totals	130,000 m³	150,000 m³

Based on available surficial and geological mapping of the area, the potential for acid rock drainage or metal leaching from aggregate used for the road or concrete is low to nil. Protocols as recommended in *Protocol for Environmental (ARD/ML) Testing of Construction Materials, Wolverine Project* (AMEC, 2006) will be employed at each source investigated and each source developed as outlined in the *All Weather Access Road Plan* (YZC, 2006).

Once confirmed, granular borrow sources will be developed according to acceptable construction practices. A *Borrow Source Development Plan* drawing will be completed by Yukon Engineering Services. This plan will include instructions for the development stage: storage of overburden soils and organic stripping materials, stockpiling of granular screened or crushed product for construction and maintenance, designated area for setting up of plant, limits of clearing, any required drainage remedies, and buffer areas. Additional details pertaining to the development and reclamation of borrow excavation sites are provided in the *All Weather Access Road Plan* (YZC, 2006).

2.2.1.2 Explosive Storage

The powder and cap magazines will remain in the same locations established for the 2005 Advanced Exploration Program (Figure 1). No additional access points or clearing for buffer areas are required.

2.2.2 Camp

Based on a review of the camp location following completion of the feasibility study, YZC proposes to locate the camp near the industrial complex instead of adjacent to the airstrip. The exact location will be finalized in summer 2006 following further geotechnical investigation work. Although some clearing will be required at the camp foundations will not be required. There are numerous benefits associated with this location such as the combining of service facilities (potable water pipelines, sewage treatment plant, power plant) as well as reducing the need for crew busses for shift changes.

A modular 150-man camp will be mobilized to site in April 2007 via the mine access road. The camp facility will consist of customized modular sea can containers outfitted as bedrooms, bathrooms, laundry, kitchen, recreation rooms, etc (Picture 2.3).



Picture 2.3. Example of the configuration and interior of a modular construction camp comprised of pre-fabricated sea can containers.

2.2.3 Tailings Facility

The tailings facility is located south of the airstrip as shown in Picture 2.4. As outlined in the *Tailings and Infrastructure Design and Construction Report* (YZC, 2006), the tailings facility consists of the main dam, which is built to 1310m elevation as a Starter Dam then to 1316m elevation as the Ultimate Dam, a seepage dam, spillways, seepage collection and diversion ditches, reclaim pump barge and pipeline, and a water treatment plant and retention pond.

The reclaim and tailings pipeline extend from the tailings facility to the industrial complex and are aligned upslope of the site road between the two areas (Figure 1). Additional details pertaining to water treatment are provided in the *Wolverine Project Environmental Assessment Report Response to Public and Regulatory Reviews* (YZC, 2006).



Picture 2.4. Tailings facility location in small bowl-shaped valley southeast (right) of the airstrip.

2.2.4 Mine

Relatively little underground development work will be required to prepare the mine for production. Additional lateral and raise development, plus the installation of electrical, air and

dewatering infrastructure are planned for January to May 2007. Specific details and drawings for underground development are provided in the *Mine Development and Operation Plan* (YZC, 2006).

2.2.5 Airstrip and Site Roads

In early 2007, the airstrip will be extended as indicated on Figure 1 to accommodate personnel aircraft. In conjunction with this work, the existing culvert under the road in the upper Go Creek watershed will be upgraded to meet the 1:100 yr flood design criteria and will be extended under the airstrip. Ditches will be upgraded on the upslope side of the road to minimize road surface erosion. This work will be conducted in conjunction with the pipeline installation from the mill to the tailings facility.

3 Mitigation Measures for Construction

To ensure construction activities have a minimal impact on the environment, best management practices will be followed. Examples of BMP procedures for sediment and erosion control that may be incorporated in project planning activities are summarized in the sub-sections that follow. While it is recognized that there are general environmental techniques and procedures to minimize environmental damage, site-specific conditions will usually require a solution unique to that location. All onsite activities that interact with the environment will be reviewed by the onsite Environmental Coordinator. The main steps for review and approval of an activity are as follows:

- Obtain information pertaining to the job activity
- Determine environmental risk, consider risk and determine mitigation measures
- If required, contact government regulatory agencies and prepare regulatory applications

3.1 Sediment and Erosion Control Plan

The key to controlling erosion and sedimentation caused by work-related activities is to manage off and onsite runoff. In general, to minimize erosion and sedimentation, work-related activities will be conducted to:

- Minimize disturbance to vegetation and limit area of clearing
- Install sediment control measures (silt fences, sediment traps, etc.) before starting work
- Inspect sediment control measures regularly and make necessary repairs immediately
- Minimize length of time that unstable erodible soils are exposed
- Direct sediment-laden or turbid runoff into vegetated areas
- Stabilize erodible soils as soon as practical by seeding or installing erosion control blankets
- Cover temporary fills or stockpiles with impermeable covers (e.g. plastic) during heavy rainfall

Effective ways to control erosion and trap sediment are summarized in Table 3.1. All sediment traps and barriers (*i.e.*, silt fences, straw bales, etc.) will be inspected regularly while they are in place, and cleaned when required to maintain effectiveness.

Table 3.1. Description of Sediment and Erosion Techniques

Technique	Description	Application
Vegetation: preservation and replanting	Maintain vegetation, minimize grubbing and maintain root mat, reseed/ replant	On slopes, stream banks, floodplains to permit infiltration and minimize surface disturbance
Silt fences	Geotextile vertical barrier that causes sediment deposition	On slopes with erodible soils – surface applications only (not to be used instream (<i>i.e.</i> , flowing water))
Straw bales	Barrier that causes sediment deposition	On slopes with erodible soils and in low surface or low flows only
Sediment traps or basins	Excavate minor depressions to allow sediment to settle	In areas where high volumes of sediment-laden water occurs; may be used with silt fencing or bales
Flumes/ spillways	A chute or pipe of non-erodible material to convey runoff down a slope	In areas with concentrated high velocity surface runoff
Check dams	Small dams to reduce the velocity of storm water flows in swales/ditches	In small open channels
Erosion control blankets	Natural fibre matting used to minimize surface erosion	In areas with surface runoff or channels
Plastic covers	tarp to cover erosive soils	In non-vegetated areas where a temporary measure is required to control runoff until the site is stabilized

3.2 Monitoring Plan

The purpose of monitoring is to ensure that site activities have minimal adverse environmental effects. Monitoring activities and priorities vary between sites and construction works and may include inspections to ensure that:

- All equipment used for instream work is clean and is in good mechanical order with no fluid leaks
- All fuels and lubricants are stored and refueling and changing of oils/lubricants is conducted well away from any body of water
- Spill containment and clean-up equipment are onsite at all times
- All water displaced from concrete forms during concrete pouring is discharged into a sump
- All stockpiles of material are kept above high watermarks.

Environmental monitoring will ensure a high standard of environmental protection and compliance with all regulatory requirements. Details of monitoring programs will be specific to each work activity and specific plans will be developed in conjunction with the various

contractors. A fulltime Construction Management and Inspection Team will monitor all construction activities throughout the construction schedule, including clearing operations. For 2006 road construction activities, the team will be consist of both onsite and offsite personnel as detailed in the *All Weather Access Road Plan* (YZC, 2006).

During all construction activities in 2006 and 2007, a qualified Construction Manager or Project Engineer and an Environmental Monitor will be on site to:

- Coordinate the activities of contractors and technical specialists
- Ensure accurate layout and measurement of the work as well as quality control
- Re-design as required to accommodate changes in conditions (ie: soils conditions or grade-line corrections)
- Ensure contractor compliance with all regulatory, permitting and contractual conditions.
- Prepare daily reports of all construction activities, including equipment employed, areas works, personnel involved, and possible mishaps, outcomes and remedies.
- Complete photographic journal of all activities and a weekly summary report
- Monitor of any safety infractions, near misses, outcomes and remedies.

4 Summary

This *General Site Work Plan* is based on the best available information available at the time, and is provided without the benefit of detailed engineering designs. Detailed designs for the 2006 road construction will be available upon completion of the field geotechnical and granular investigations in July 2006. Detailed design for the industrial complex, camp, tailings facility and supporting infrastructure will be completed in fall 2006. As necessary, a revised plan will be prepared to suit the additional information.

5 References

- AMEC, 2006. *Protocol for Environmental (ARD/ML) Testing of Construction Materials, Wolverine Project* (Memo to P. Ladyman YZC, May 15, 2006, Sibbick, Kavalench, et al).
- Yukon Zinc Corporation, 2005. *Wolverine Project Environmental Assessment Report*. October 2005. 3 Vols.
- YZC, 2006. *Wolverine Project Environmental Assessment Report Response to Public and Regulatory Reviews*. February 2006. 2 Vols.
- YZC, 2006. *Wolverine Project All Weather Access Road Plan*. Version 2006-01. Prepared by YZC and Yukon Engineering Services, June 2006.
- YZC, 2006. *Wolverine Project Solid Waste Management Plan*. Version 2006-01. Prepared by YZC, June 2006.
- YZC, 2006. *Wolverine Project Mill Operating Plan*. Version 2006-01. Prepared by YZC in association with Hatch and Confidential Mineral Services, May 2006.
- YZC, 2006. *Wolverine Project Tailings and Infrastructure Design and Construction*. Version 2006-01. Prepared by Klohn Crippen Berger in association with YZC and Hatch, May 2006.
- YZC, 2006. *Wolverine Project Mine Development and Operation*. Version 2006-01. Prepared by YZC, April 2006.