

Facsimile

Mackenzie Valley Environmental Impact Review Board

FAXED
APR 23, 2001

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From: Luciano Azzolini, EAO
Pages: 52 including this cover
Date: Monday, April 23, 2001
File: EA01-002
Subject: Canadian Zinc Corporation Development Proposal

Please review the attached CZN development descriptions and let the Review Board know by April 30, 2001 what you want to see included in the draft work plan and draft Terms of Reference. The Board will circulate the draft documents and consider any comments before providing CZN the Terms of Reference and the work plan for completing the environmental assessment.

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*attached documents not sent to
NARR or CZN*
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CANADIAN ZINC
CORPORATION

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March 05, 2001

DETAILED PROJECT DESCRIPTION
YEAR 2001 PHASE II
MINERAL EXPLORATION DRILLING PROGRAM
PRAIRIE CREEK MINE

SUBMITTED IN SUPPORT OF:

Type "A" Land Use Permit Application
Dated March 02, 2001

SUBMITTED TO:

Mackenzie Valley Land and Water Board
7th Floor, 4910 - 50th Ave.
P.O. Box 2130
Yellowknife, NT
X1A 2P6

SUBMITTED BY:

Canadian Zinc Corporation
Suite 1202 - 700 West Pender Street
Vancouver, BC, V6C 1G8

March 05, 2001



March 05, 2001

Executive Summary

The Prairie Creek Mine is 100% owned and operated by Canadian Zinc Corporation of Vancouver, BC. The mine is located in the southern Mackenzie Mountains in southwestern Northwest Territories in the area claimed by the Nahanni Butte Dene Band of the Deh Cho First Nations as their traditional territory.

The Prairie Creek Mine has been the focus of exploration since mineralization was first discovered on the property in 1928. As a result of this activity the property is now known to contain a significant polymetallic Zinc-Lead-Silver-Copper mineral resource. In addition to this mineral resource, the site also contains approximately \$150 million of minesite infrastructure, in today's dollars, including a 1,000-ton per day mill, a 240 person camp, an administration and service complex and support facilities, all constructed in 1981. Although fully permitted for operation in 1982, the mine did not achieve commercial production due to a sudden collapse in world silver prices. The operating permits and licences then in force have since been allowed to lapse.

Prior to construction of the mine in 1981, a total of over 10,000 meters of exploration drilling (the majority from surface) and 3,800 meters of underground development had been completed. Approximately 120 diamond drill holes had been completed at the Prairie Creek Mine up to this point. At the time Canadian Zinc became involved in the property in 1991, the ore reserve estimate stood at 1.81 million tonnes grading 10.8% lead, 11.75% zinc, 0.4% copper and 182 g/tonne silver.

Since that time CZN has completed an additional 129 diamond drill holes, for a total of an additional 40,000 meters of surface diamond drilling, core from which is presently stored in racks at the minesite. To support these programs the Company purchased 2 Longyear Core Drilling Rigs in 1992, which were transported to the minesite by air and assembled in the on site shop facilities.

The Company's drilling focus to date has been primarily in the immediate area of the mine site and underground workings (Zone 3), where 80% of the total exploratory work has been carried out. As a result of these efforts the mineral resource now stands at 11.8 million tonnes grading 10.1% lead, 12.5% zinc, 0.4% copper and 161 g/tonne silver

As part of the ongoing process of establishing, confirming and enhancing the known mineral resource at the Prairie Creek property, Canadian Zinc is proposing to conduct a further exploration program to drill an additional 50-60 exploration holes, each up to approximately 500m in length, in an area adjacent to the existing underground workings. It is this program which is the subject of the Land Use Permit Application to which this Project Description is appended.



March 05, 2001

The main objective of the proposed Year 2001 Phase II drilling exploration program is to further delineate the area of known mineralization at Prairie Creek in order to upgrade these mineral resources to mineral reserve status. This information, in combination with additional work planned for 2001, including an underground decline and exploration program, and operation of an on-site pilot plant, will form the basis for a bankable feasibility study out of which CZN hopes to attract sufficient financing to place the mine into production in the near future.

The proposed mineral exploration diamond drilling program is typical of the technology used at mineral exploration properties throughout the world. The technique represents standard industry practice and has minimal environmental impacts associated with it.

Canadian Zinc submitted an application to the Mackenzie Valley Land and Water Board for a Land Use Permit on July 28, 2000 in support of activity in and around its Prairie Creek minesite proposed for the fall of 2000. A component of the land use operations proposed under the application was to undertake a surface exploration drilling program of 6-7 holes in an area proximal to the existing underground workings. This was considered to be the first phase of the larger exploration program proposed under this application.

Following preliminary screening, the application (MV2000C0030) for the Phase I exploration program was referred to the Mackenzie Valley Environmental Impact Review Board (the Review Board) on October 4, 2000 for further assessment. The Review Board undertook to develop a draft Work Plan and draft Terms of Reference for the program. Following a review and comment period, the Work Plan and Terms of Reference were issued in their final form on December 22, 2000.

Canadian Zinc prepared its EA Report in response to the Terms of Reference established for the Mineral Exploration Drilling Program component of the Land Use Application and submitted it to the MVEIRB on January 26, 2001. Under the Work Plan developed for this EA, the Review board is scheduled to make their recommendation by March 31, 2001.

Given the delay in receiving the necessary approvals, this work has had to be postponed to the 2001 summer season and is now referred to as the Year 2001 Phase I exploration program, in order to differentiate it from the current application which is referred to as the year 2001 Phase II exploration program.



March 05, 2001

Description of the development

The proposed mineral exploration drilling program is considered the second phase of the exploration program planned for 2001, the objective of which is to provide sufficient geologic information to define a mineable reserve for incorporation into a bankable feasibility study scheduled for completion in the last quarter of 2001. The feasibility study will form the basis for making a production decision and attracting the financing necessary to re-activate mining operations at Prairie Creek, which could occur as early as 2003, subject to receipt of the necessary operating permits and licences.

At the time the Application for the Phase I program was submitted on July 28, 2000 it was planned to complete the proposed drilling during the months of September and October in the fall of 2000. The necessary financings had been previously completed, budgets had been set and additional exploration drilling programs for 2001 were in the planning stages. However, given the time necessary to acquire approval to undertake the work, this program has had to be deferred to the summer of 2001 and is now planned to be undertaken immediately prior to or in conjunction with the Phase II program which is the subject of this application. The work will be completed over the period from May through October, 2001.

The planned second phase programs for 2001 will include further surface exploration drilling of the Zone 3 vein mineralization. The program is designed to provide the additional degree of confidence in the geological database necessary to upgrade the existing mineral resource to mineral reserve status through the application of geostatistical modeling. In order to achieve this, proposed holes are located between and in close proximity to existing holes to provide in-fill drilling on a closer spaced grid.

A separate application has been prepared and submitted to support the development of an exploration decline from which an underground exploration program will be undertaken targeting the deeper Stratabound mineralization underlying the vein mineralization. The Stratabound deposits are very underexplored and due to their thickness, up to 28m, have the potential to significantly increase the known mineral resource which is currently composed of about 80% vein mineralization.

The inability to complete the planned Phase I exploration program in a timely manner has complicated the orderly execution of the planned phased exploration program approach. The nature of mineral exploration, particularly by smaller mining companies such as CZN, is typically premised upon the results of initial phases of exploration generating sufficient interest and attracting sufficient investment to support subsequent phases of exploration. Smaller companies rarely have ready access to the millions of dollars necessary to fund advanced exploration activity, thus opening up such opportunity for investment. This has left CZN in the position of having to attract the necessary funding for the planned second phase programs, efforts at which are currently ongoing, without the benefit of new information detailing further exploration potential.



March 05, 2001

The up to 50 – 60 hole exploration drilling program as proposed in this application is to be carried out from surface along strike in a southwesterly to northeasterly direction over a distance of about 1000 m and parallel to the existing underground workings from about the 875 to 1125m elevation. The proposed area of investigation surrounds and, in fact, includes the area of the Phase I program. The entire drill program is proposed to take place within 1000m of the existing minesite facilities, within the area of traditional mining activity at Prairie Creek and within the boundaries of Mining Lease 2932 and Surface Lease 95F10/10-S-3. The general area for the proposed locations of the 50 – 60 drill holes is shown on the accompanying 1:5000 scale map. In all cases, potential drill hole locations are in close proximity to the existing network of exploration roads. As a result, if any, only minor extensions or spurs off of existing roads, typically in the order of a few to 10 or 20 metres, will be required to access drill pad sites.

It should be noted that the very nature of the mineral exploration in question means that precise number and locations of drill holes cannot reasonably be identified beforehand. The exploration process is dynamic, and the decisions as to where to drill the next hole are based on information retrieved from core currently being drilled. As a result, the locations of individual drill holes are generalized and will be precisely located in the field at the time of drilling.

Advanced exploration drill programs are typically designed based on delineation of a target zone of mineralization over at an expected depth. The number of holes proposed takes into account existing drill hole locations and the information requirements of geostatistical modeling necessary to quantify the mineral resource. Drilling contractors are provided with the estimated number and depth of holes, and then bid jobs on the basis of dollars per metre to be drilled. Budgets are then set accordingly.

In the process of drilling, however, a hole may be abandoned prematurely based on an observed lack of mineralization in the core recovered during drilling or, similarly, a hole may be extended beyond the depth originally contemplated if mineralization continues to be encountered. The former may result in a field determination of an alternate location for an additional hole to be drilled, while the latter may result in a reduction in the number of holes to be drilled as budget dollars have been used up in deeper drilling.

The program, as set out in the application, would employ 2 – 11 hour shifts of drilling, on each of 2 drill rigs. The drill rigs were purchased by CZN in 1992 and are currently on-site. The drill rigs are a skid mounted Longyear Super 38 diamond drill run by a 350 GMC diesel engine capable of recovering either NQ or BQ sized drill core.

Each drill rig is approximately 22 feet in length and 12 feet in width and has a 25 foot tower that is fully adjustable to accommodate vertical or inclined holes. The drill is mounted on steel skid unit and is fully contained within a wooden frame shack. Drill pads are prepared and vary in size depending on the terrain but must be large enough to maneuver the drill into the proper position. The rig is moved by D-8 Cat along local tote roads. Drill rods and other equipment are contained in a separate sloop on skids.



March 05, 2001

The process involves driving a fast rotating annular bit through the ground to collect a solid core sample. The drill bits used are generally diamond impregnated (as the name implies), or other cutting materials may be used such as tungsten. Water is generally used as a circulating fluid. The cuttings are washed up the hole between the rods and hole wall and the core sample is collected at the bottom of the hole in a core barrel.

A water supply pump is set up at a local source, in this case likely Harrison Creek, and 1.5 inch flexible hose line is laid to the rig to a high capacity Bean pump which delivers water to the drill bit for cooling and lubrication. Additives to the cutting fluid are kept at a minimum and used only if required. Standard additives such as drilling mud (550X Polymer, Linseed soap) may be mixed with water in a contained tank at the drill rig before pumping down hole, standard rod grease (Big Bear anti-friction) is used and if poor down hole conditions exist G-Stop and/or a quick set cement may be used to restore circulation. A sump is always established to retain any return waters in order to settle out any drill cuttings. This results in a small amount of "drill cuttings" or finely ground up rock, being deposited in the basin of rockfill sump. Water contained in the sump generally disappears through a combination of exfiltration and evaporation. The sump is of sufficient capacity that cuttings have ample time to settle and any discharge is just clear water. The sump is subsequently backfilled upon completion of all drilling at that location.

A 300 gallon diesel supply tank is located on the drill rig and supplied by hand pumps from 130 gallon tidy tanks located on the pick-up trucks. Bulk diesel fuel is stored on site in the existing fully bermed fuel farm storage area. Fuel spill kits will be available both at the drill rig and in the main camp.

A registered first aider is at the drill rig at all times of operation. The rig will have radio communications with camp and first aid kits at the rig site. Upon completion of the hole the rig will be moved off site and the pad will be fully stabilized, and cleaned up. Access between the drill rig and camp will be by pick-up truck.

The drill core, once retrieved will be logged and stored in core boxes on core racks at the minesite. The mineralized sections of core will be split and representative samples forwarded to an independent qualified geochemical laboratory for assay. The data so generated will then be used in geostatistical modeling to provide mineral resource and reserve estimates.

The process of diamond drilling represents standard industry practice in the exploration of base metal mineral deposits. While various other geophysical, geochemical and biogeochemical techniques exist for locating mineralized zones on a broader scale and for further enhancing our understanding of geologic processes, none are considered practical alternatives to in-situ diamond drilling and the subsequent assay of recovered drill core.



March 05, 2001

Security Exchange Commission rules and regulations, which apply to all public mining companies, set rigorous standards for release of information pertaining to mineral resource and reserve estimates. These typically require strict adherence to quality assurance standards in the recovery and assaying of drill core, and the subsequent interpretation of data by a qualified individual.

A total of 14 persons are estimated to be employed in carrying out the exploration program. The employees will stay in camp at the Prairie Creek Mine site where full accommodations are available. Existing minesite facilities, as have been used to support similar levels of on-site activity over the last number of years, include:

- Fully serviced bunkhouse, kitchen, office and washroom facilities
- Electricity supplied from an on-site diesel powered generator
- Potable water supplied from a well & pumphouse, located approximately 35m N of the main office and service building; the well draws water from a depth of about 50 feet in the Prairie Creek floodplain; potable well water is untreated
- Sewage disposal is by discharge to and exfiltration from an excavated and covered septic sump constructed in floodplain sands and gravels adjacent to and SW of the main office and service building; sewage disposal is hydraulically down gradient from the water well at a distance of approximately 45m
- Camp refuse is burned in an oil fired incinerator

A qualified person carrying a valid required First Aid Certificate will be based in camp at all times. Communications are via satellite phone/fax and access is presently by air onto a privately owned 1000 metre airstrip from either Ft. Nelson or Ft. Simpson. It is anticipated that the entire program of drilling seven holes each approximately 500 metres in length will take in the order of 40 days to complete.

Description of the existing environment potentially impacted by the proposed development

The Prairie Creek Mine is located in the southern Mackenzie Mountains in the southwest corner of Northwest Territories at 61° 33' north latitude and 124° 48' west longitude. The mine site facilities are situated adjacent to Prairie Creek about 43 km upstream from its confluence with the South Nahanni River and 32 km upstream of the point where Prairie Creek crosses the boundary of the Nahanni National Park Reserve.

The property is within the area claimed by the Nahanni Butte Dene Band of the Deh Cho First Nations as their traditional territory.

The nearest settled communities are:

- Nahanni Butte, NT - 90 km to the south-east
- Fort Liard, NT - 170 km to the south
- Fort Simpson, NT - 180 km to the east
- Yellowknife, NT - 480 km to the east

Year round access to the property is by charter aircraft, generally from Fort Simpson, NWT or Fort Nelson, B.C. The mine is serviced by a 1,000 m gravel airstrip that is located adjacent to Prairie Creek approximately 1 km to the north of the mine site.

The minesite is at an elevation of 850 meters above sea level and is situated in topography characterized by low mountains and narrow valleys with an average relief of 300 meters. Short summers and long winters are typical of the area's sub-arctic climate, where the mean annual temperature is -5°C. Annual precipitation is approximately 40 cm, most of which falls as rain. The minesite, including the area of the proposed drilling program, is located within the Alpine Forest-Tundra section of the Boreal Forest characterized by stunted fir with limited undergrowth and open areas dominated by lichen.

The exploration drilling program currently proposed is to be carried out from surface along strike in a southwesterly to northeasterly direction over a distance of about 1000 m and parallel to the existing underground workings from about the 875 to 1125m elevation. The entire drill program is proposed to take place within 1000m of the existing minesite facilities, wholly within the boundaries of the existing surface and mineral leases and within the area of traditional mining activity at Prairie Creek. In all cases, potential drill hole locations are in close proximity to the existing network of exploration roads. As a result, only minor extensions of existing roads, if any, typically in the order of a few to 10 or 20 metres, will be required to access drill pad sites.

Detailed baseline studies describing the existing environment in the vicinity of the Prairie Creek mine and along the access road corridor were undertaken in 1980-81 as a component of previous environmental assessments conducted in support of operating permits and licences issued at that time. Additional studies were undertaken in 1994 in support of further permitting efforts at that time. These studies, which included field assessments and descriptions of fisheries and aquatic resources, as well as wildlife populations and wildlife habitat, have been used as the basis for the discussions on impacts of the proposed development in the following sections.

Impacts of the development on the environment

Air Quality and Climate

Impacts of the proposed development on air quality are expected to be negligible.

The drill rigs are each powered by a 350 GMC diesel engine which emits hydrocarbon combustion products typical of similar diesel engines operated in highway trucks, graders, front end loaders, backhoes and other heavy equipment, as well as in generators for supplying electricity in remote communities, such as Fort Simpson and Nahanni Butte. Routine preventive maintenance will be employed to ensure the drill rig engine is operating efficiently to minimize fuel consumption and emissions.

The drilling process itself produces little in the way of particulate emissions. Water used as a lubricant in the drilling process assists in this regard.

Other potential sources of air contaminants are restricted to hydrocarbon combustion products from gasoline and diesel engines in support vehicles. Again, routine preventive maintenance will be employed to minimize contaminants resulting from inefficient operation of such equipment. Road dust from vehicle traffic is also negligible due to low traffic volumes, reduced speeds and roads bedded largely in coarse crushed rock.

The impacts of the proposed development will be additional to similar impacts associated with routine care and maintenance and ongoing exploration activity planned for the property. These will entail operation of the site power generator, vehicle operation and aircraft support. No residual impacts are expected to result from the operation.

Terrain

Impacts of the proposed development on the environment resulting from disturbance or use of surficial geology, bedrock or soils are expected to be negligible.

The proposed drilling program will entail minimal disturbance or use of surficial materials. All proposed drill locations are in close proximity to existing exploration tote roads which will minimize disturbance relating to the establishment of roads and drill sites. Existing tote roads are expected to require extensions, if any, of typically only from a few up to 10 or 20 metres at a maximum. The drill pads will be prepared only large enough to accommodate and position the approximate 7m x 4m drill rig. In many cases drilling will take place from roads or existing drill pads using a different hole orientation. This will minimize drill pad development and surface disturbance.



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March 05, 2001

Where clearing is required to create short extensions of tote roads or the drill pads themselves, surficial materials will be stripped and stockpiled adjacent to the area. When drilling is complete, cut banks will be re-contoured and stabilized, and stockpile surficial materials will be back bladed over the disturbed area. As drill pads are commonly re-used in future drilling programs, pads will not be fully reclaimed until it is determined that they are no longer required.

Permafrost occurs sporadically throughout the property. If encountered, appropriate measure will be taken to preserve its integrity.

The minor surficial terrain impacts associated with the proposed undertaking will be additional to those which have already occurred in conjunction with previous exploration, construction and development at the site. The proposed 60 holes represent a 24% increase over the 249 holes drilled on the property to date. Residual impacts are expected to be minor as drill sites represent relatively small areas and will be re-contoured and stabilized following use.

Vegetation and Plant Communities

Impacts of the proposed development on local plant communities resulting in habitat loss or alteration are expected to be negligible.

As stated above, minimal clearing will be required in order to carry out the proposed exploration program. The area of the proposed drilling program is located within the Alpine Forest-Tundra section of the Boreal Forest characterized by stunted black spruce and limited undergrowth and open areas dominated by lichen.

No rare or highly valued species have been identified from past studies of vegetation and plant communities in the area. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) does not list any plant species as endangered, threatened or of special concern in the area of the Prairie Creek Mine.

Water Quality and Quantity

Impacts of the proposed development on surface and groundwater quality and quantity are expected to be negligible.



The drilling program will be carried out on the northwest side of the Harrison Creek valley approximately 250 – 1000m upstream of its confluence with Prairie Creek. Harrison Creek is a small tributary of Prairie Creek with a catchment area of about 7.5 km² as compared to the catchment area of Prairie Creek above the minesite at 495 km². The average annual flow of Harrison Creek has been estimated at 3.6 cfs as compared to Prairie Creek at 204 cfs, or about 1:50. Harrison Creek commonly dries during the low flow late summer season and flows subterranean.

As the diamond drilling program utilizes very little water and discharges very little water, minimal impact on water quality or quality of either surface water or groundwater is expected to result from carrying out the exploration drilling program. Any return drilling water is discharged to a sump created at the drill site to settle out drill cuttings. In most cases the sump is of sufficient capacity to contain all return water without discharge. Water within the sump disappears through a combination of exfiltration and evaporation. Where a surface discharge from the sump occurs it is invariably a minor quantity and the capacity of the sump provides for efficient settling of cuttings and a clear discharge.

General Water

The exploration drilling program will result in only very minor emissions or discharges to air, land or water which will then have the capability of being transported to surface waters. Accordingly, negligible impact on surface water quality is expected as a result of carrying out the exploration drilling program.

Aquatic Habitat

Impacts of the proposed development on fisheries or other aquatic resources are expected to be negligible, since, as stated above, impacts to water quality and quantity are also expected to be negligible.

Fisheries studies by Beak consultants in 1980-81 and Rescan in 1994 identified limited fisheries habitat potential in Harrison Creek, with steep gradients restricting fish movement upstream of the mouth. As well, Harrison Creek commonly dries during the low flow late summer season and flows subterranean, and provides no over-wintering habitat due to low winter flows and shallow depths. As a result, fish utilization appears restricted to the mouth where 7 Slimy Sculpin were captured in 1980, and 2 Dolly Varden, 10 mountain whitefish and 8 Slimy Sculpin were encountered in 1981. No fish were observed in Harrison Creek in 1994.



Fish utilization of Prairie Creek appears to be confined largely to the headwaters and the mouth. The headwaters appear to be utilized by Dolly Varden (or Bull Trout) and Rocky Mountain Whitefish. Arctic Grayling do not appear to move upstream in Prairie Creek beyond the lowest reaches near the mouth. Limited use appears to be made of Prairie Creek in the vicinity of the minesite, or downstream of the minesite above the mouth.

Wildlife and Wildlife Habitat

Impacts of the proposed development on wildlife and wildlife habitat are expected to be negligible.

The development will take place within 1000m of the existing mill and campsite facilities and within the area of traditional mining activity at Prairie Creek. Previous activity has been undertaken over much of the surrounding area and the proposed development will occur primarily on or adjacent to existing exploration tote roads.

The principal wildlife species in the area are Dall Sheep which frequent the mill and campsite areas and seem generally unperturbed by ongoing site activity.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) lists only two species in the area of the Prairie Creek Mine. These are the Grizzly Bear (*Ursus arctos*) and the Wolverine (*Gulo gulo*), both of which are listed in the Special Concern category.

In areas removed from the minesite COSEWIC lists the Anatum Peregrin Falcon (*Falco peregrinus anatum*), the Woodland Caribou Boreal population (*Rangifer tarandus caribou*) and the Wood Bison (*Bison bison athabasca*) all of which are considered Threatened.

Field studies of wildlife populations and wildlife habitat in the area of the Prairie Creek Mine and the access road were conducted by Beak Consultants in 1980-81 and again by Rescan in 1994. The studies identified no critical habitats in the area of the minesite.

Grizzly bears have been infrequently encountered in the surrounding area of the mine. No denning areas have been identified in the immediate area of the minesite, including the area of the proposed development. Care is taken in the handling and disposal of refuse, with all kitchen and food wastes incinerated prior to disposal, in order to avoid attracting bears or other animals to the campsite. No incidents relating to problem bears in the camp have occurred in recent years as a result of these precautions.



March 05, 2001

Wolverine have been observed in the area surrounding the Prairie Creek mine on only a very few rare occasions over the past 20 years. As a result, the proposed development is expected to have negligible impact on wolverine populations.

Previous wildlife studies have identified potential caribou habitat and caribou populations in areas well removed from the minesite to the north and east in the Mackenzie mountains. As the minesite area itself is not classified as prime caribou habitat and caribou are not generally observed in and around the minesite, no impact is expected on caribou populations.

Previous wildlife field studies have specifically targeted potential Peregrine falcon nesting habitat. However, none have been identified in the area of the minesite. As a result, no impacts are expected on Peregrine falcon populations. Similarly, no impacts are expected on migratory bird populations as no usage of the minesite area by such populations has been identified.

Wood bison populations are located 90 km or so to the south and east of the minesite in the vicinity of Nahanni Butte, and will not be impacted by the proposed development.

Cultural and Heritage Resources

All areas proposed for use in this application are within 1000 metres of the existing facilities and within the area of traditional mining activity. As such, impacts of the proposed development on cultural and heritage resources are expected to be negligible.

An archaeological database search was conducted on August 18, 2000 through the Canadian Museum of Civilization in support of Land Use Permit Application MV2000C0030 submitted by Canadian Zinc.

The database search area encompassed the entire minesite area, as well as the entire access road corridor from the Prairie Creek mine to the Liard River. To accomplish this, the search parameters were defined by geographical coordinates to cover a block extending from 61° 00' to 61° 45' N. latitude and from 122° 45' to 125° 00' W. longitude.

No archaeological sites were identified within the minesite area proposed for use under this Land Use application. The closest identified sites are south of the South Nahanni River near the mouth of the Meilleur River, 35-40 km south of the minesite.



March 05, 2001

Land and Resources Use

Impacts of the proposed development on the use of land, water and renewable resources are expected to be negligible.

All areas proposed for use in this application are within 1000 metres of the existing facilities and within the area of traditional mining activity at Prairie Creek. No uses, other than mining, have been made of the land or resources in this area in recent history.

The Prairie Creek mine is located 90 km from the nearest settled community of Nahanni Butte. There is no road access into the property other than the old winter road alignment which dates back to 1982. Access is by air only, to a private airstrip controlled by the Company. There is no other existing land occupation nor commercial land or water based activities in the vicinity of the mine. Similarly, no observed traditional use or trapping activity has been observed in the minesite area in recent history.

South Nahanni Outfitters hold the outfitting licence for the area. Hunting activity generally takes place in the fall in areas well removed from the mine and should not be impacted by the proposed development.

The Prairie Creek mine is located adjacent to Prairie Creek, 32 km upstream of the point where it crosses the boundary of the Nahanni National Park Reserve, and 48 km upstream of the point where Prairie Creek joins with the South Nahanni River. The South Nahanni River is 500 km in length of which 300 km are contained within the Nahanni National Park Reserve. The confluence of Prairie Creek and the South Nahanni River is 65 km upstream of the point where the South Nahanni River leaves the Nahanni National Park Reserve crossing its downstream boundary. The South Nahanni River flows for 402 km prior to reaching its confluence with Prairie Creek, of which 235 km are within the Park Reserve.

The watershed of the South Nahanni River is 37,000 km², of which 4,766 km² are contained within the Nahanni National Park Reserve. By comparison, the watershed of Prairie Creek above the minesite is 495 km². In accordance with the relative sizes of their respective watersheds, water flow in the South Nahanni averages 75 times that of Prairie Creek and ranges from 50 to 180 times as much.

The Nahanni National Park Reserve was created in 1972, following a canoe trip down the river by Pierre Elliot Trudeau, specifically for the purpose of setting aside the South Nahanni River for wilderness recreational purposes. Exploration activity at Prairie Creek had been ongoing for many years and underground development was well advanced at this point in time.



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March 05, 2001

The South Nahanni River, regularly used for canoeing trips during the summer months, represents the nearest water use downstream of the Prairie Creek mine. Wilderness river tours are supported by a number of outfitting companies from as far away as Ontario. Parks Canada reports that there were 58 such private trips on the river in 1999.

The nearest downstream community is Nahanni Butte, located at the confluence of the South Nahanni and Liard Rivers, 146 km downstream of the minesite. The population of Nahanni Butte is approximately 117 people and water for domestic purposes is supplied by well. As the proposed development is not expected to affect water quantity or quality at the minesite, it is similarly not expected to impact on water quality or quantity within the Park Reserve or on these downstream users.

In 1996, the Company and the Nahanni Butte Dene Band successfully negotiated and executed the Prairie Creek Development Cooperation Agreement. The Nahanni Butte Dene Band issued a Band Council Resolution on November 28, 1996 stating that the Band on behalf of its membership "does fully ratify and endorse the Prairie Creek Development Cooperation Agreement" in which the Nahanni Butte Dene Band proclaimed its support for the Prairie Creek mine and the establishment of an all weather access road to the mine in recognition of the significant benefits to Nahanni Butte and the DCFN communities as a whole.

More recently, the Deh Cho First Nations have put forward a proposal at the Treaty Negotiations table, pursuant to the Draft Interim Measures Agreement, for the withdrawal of land within the South Nahanni River watershed from further mineral staking, industrial development and exploration. The Interim Measures Agreement would remain in effect until superceded by the provisions of the Deh Cho Final Agreement.

The Nahanni Butte Dene Band issued a Band Council Resolution on May 18, 2000 in support of protecting the South Nahanni watershed, stating that "the Nahanni National Park Reserve was created without the consent or participation of the Deh Cho First Nations" and that the "Final Agreement should provide for the recognition of Deh Cho First Nations jurisdiction over the entire Nahanni watershed, including the Park or Park Reserve."

As the Prairie Creek Development Cooperation Agreement provides for a positive and cooperative working relationship between the Company, Nahanni and the Deh Cho First Nations in respect of developing and operating an environmentally sound operation at Prairie Creek, which will not have significant adverse environmental effects on the ecological integrity of the South Nahanni River or the Nahanni National Park Reserve, the separate goals of the local communities in achieving economic self-sufficiency and protecting the environment seem justifiably quite compatible.



March 05, 2001

Economy

The proposed development is part of the process of establishing, confirming and enhancing the known mineral resource at the Prairie Creek property, which has been ongoing since mineralization was first discovered in 1928.

The main objective of the current program is to further delineate the area of known mineralization in order to upgrade these mineral resources to mineral reserve status. This information, in combination with additional work planned for 2001, such as an underground decline and exploration program, and operation of an on-site pilot plant, will form the basis for a bankable feasibility study scheduled for completion in the last quarter of 2001. With a bankable feasibility study demonstrating a positive return on investment, CZN believes it will be able to attract the necessary financing to support re-development of mine operations leading to production by 2003, subject to receipt of the necessary operating permits and licences.

In the short term, the proposed development will create positive economic impacts for local communities in terms of employment opportunities and contracted support and supply services. CZN employed two local residents of Nahanni Butte for the majority of the 2000 summer season. Similar opportunities are anticipated in 2001 in support of this and other planned programs. The proposed development is expected to employ about 14 persons, including a cook, caretaker, mechanics, drillers, geologist, First Aid attendant, and labourers. Fixed wing aircraft and helicopter support will provide opportunities for charter companies in Fort Simpson and Fort Liard. Consumables will also be sourced from local suppliers and flown into site. Project management will necessitate travel for head office and other personnel, resulting in positive economic impacts for commercial airlines servicing Yellowknife and Fort Simpson, as well as hotels and restaurants in Yellowknife, Fort Simpson and other local communities.

In the long term, the proposed development is necessary to support plans for mine re-development. Positive economic impacts of future mining operations to local communities, the Northwest Territories and Canada are substantial and have been estimated as follows.

The mine will employ up to 170 persons directly at the minesite plus an additional 60 under various contracts for at least 18 years based on the current mineral resource. Using a standard multiplier of 2:1 this would be predicted to create another 460 jobs elsewhere in the NWT and Canada.



March 05, 2001

Annual payroll, including benefits, will be in the order of \$14.3 million. Payments to government, including corporate income tax, employee income tax and royalty payments are estimated at \$15.4 million. Third party contracts for catering, air transport, incoming freight and outgoing concentrate total an estimated \$10.5 million. Mill supplies and general consumable, including fuel, total \$8 million annually. Road construction and annual operating costs, including the Liard ferry crossing, total \$17 million and \$1 million respectively. The capital cost of the ferry and approaches is an additional \$1 million.

The existing resource has been established over only about 2.1 km of mineralized strike length of 16 km, suggesting the potential to define additional mineral resources and extend the mine life, and economic benefits associated therewith, well beyond current projections is excellent. As well, much thicker stratabound mineralization discovered in 1992 to be underlying the known vein mineralization is currently underexplored and holds the potential to significantly increase the mineral resource of the property, thereby extending the projected mine life.

The Prairie Creek Mine is located on land claimed by the Nahanni Butte Dene Band of the Deh Cho First Nations (DCFN) as their traditional territory. The DCFN are engaged in ongoing negotiations with the Government of Canada and the Government of the Northwest Territories in what is referred to as the Deh Cho Process. The negotiations are currently at the Interim Measures and Agreement In Principle stage. The outcome of the negotiations is expected to be a Final Agreement that will provide, amongst other things, for the implementation of a Deh Cho form of government to oversee the delivery of programs and services to residents within the DCFN territory. It is expected that the negotiations will take some five to seven years to complete.

In 1996, the Company and the Nahanni Butte Dene Band successfully negotiated and executed the Prairie Creek Development Cooperation Agreement. The overall intent of the Agreement was to establish and maintain a positive and cooperative working relationship between the Company and Nahanni in respect of the further development and operation of the mine, while at the same time supporting an economically viable and environmentally sound operation and maximizing economic opportunity and benefits to Nahanni and other Deh Cho First Nations. This Agreement foresaw the many benefits which could accrue to the Nahanni Butte Dene Band and the DCFN in conjunction with development of the road and mine, and made provision for maximizing opportunities to realize these benefits. To this end, the Agreement provides employment and contracting opportunities as well as equity participation for the Nahanni Butte and the DCFN. The negotiation of this Agreement by Nahanni Butte was supported by the DCFN by Tribal Council Resolution and the final agreement itself was endorsed by Nahanni Butte Band Council Resolution.



March 05, 2001

In the Agreement, Nahanni proclaimed its support for the mine and the establishment of the access road in recognition of the significant benefits to Nahanni and the DCFN communities as a whole, and undertook to assist the Company in procuring permits, approvals and licences necessary to bring the mine into production, as well as grants, guarantees or other financial assistance from Government towards the establishment of the access road.

Some specific considerations as set out in the Agreement pertaining to economic opportunities relating thereto are as follows:

- Nahanni shall enjoy preferential access to economic opportunities including open book negotiated contracts
- CZN shall have a minimum target of 20% employees from DCFN communities
- CZN shall require non-First Nation contractors to have a target of not less than 20% employees from DCFN communities
- Nahanni will receive a 5% equity interest of profits before taxation, but after recovery of prior capital and development costs
- Nahanni will be granted an option to purchase either a 10% or 15% working interest in the Project for \$6 or \$9 million, inflation adjusted on completion of a Feasibility Study, but before construction
- Following the commencement of commercial production, Nahanni and the Project will fund equally between them:
 - The establishment of The Prairie Creek Education Centre in Nahanni Butte at a cost of up to a maximum of \$150,000 and the annual operating costs up to a maximum of \$50,000. This centre will focus on adult literacy programs and special needs education for children; and
 - A Scholarship Trust Fund of \$20,000 per annum initially, increasing to \$30,000 per annum following the payback of all capital costs.
- Upon commencement of construction of the Access, the Project will contribute \$25,000 per annum to a Trust Fund to provide compensation to traditional harvesters who are negatively affected by the Project and the Access.

CZN is committed to continuing to work closely with the Nahanni Butte Dene Band and the DCFN to fulfill the provisions of the Development Cooperation Agreement and ensure that First Nations communities in the area have ongoing input into the re-development plans for the mine.



CANADIAN ZINC
CORPORATION

March 05, 2001

Noise

Impacts of the proposed development associated with ambient noise levels are expected to be negligible.

The principal source of noise associated with carrying out the exploration program relates to the operation of the diesel engine which powers the drill rig. The engine is enclosed within the drill shack, minimizing ambient noise. Routine maintenance will also be employed to ensure the engine is running efficiently.

Noise from the drill rig is localized within the immediate area of drilling activity. Noise from the drill rig will be in addition to noise levels from the generator which supplies power to the minesite facilities which operates 24 hours per day while the camp is in operation. No residual impacts are expected relating to ambient or acute noise levels associated with the proposed development.

Visual and Aesthetic Resources

The Prairie Creek minesite is very remote and not generally visible from any location except by low flying aircraft operating in and around the Prairie Creek Valley. The proposed development will take place within the area of traditional mining activity and within 1000 metres of the existing minesite facilities and will therefore not stand out in contrast to undisturbed terrain. Drill sites will be recontoured after all drilling is complete to conform to the local topography. Residual impacts will relate to minor alterations in topography on a localized scale associated with development of the drill pads and extension to existing tote roads, if required.

Traditional Knowledge

As detailed under the "Consultation" section below, a public meeting including representatives of Deh Cho First Nation communities and organizations was held in Nahanni Butte on November 22, 2000, at which time the Company reviewed its plans for this and other programs with the objective of providing opportunity for the communities to raise concerns with respect to impacts of the proposed development on their traditional use and activities in the area. No specific concerns were raised at that time with respect to the mineral exploration program proposed in this application.



March 05, 2001

A letter was forwarded to local First Nations communities and organizations, including the Nahanni Butte Dene Band, Lidlii Kue First Nation, Acho Dene Koe First Nation and Deh Cho First Nations on January 5, 2001, advising these groups of the Review Boards' request for integration of traditional knowledge into the EA report for the Phase I exploration program and requesting such information to be supplied, if available. At the time of writing, no information had been received. However, should any information be forthcoming CZN will use its best efforts to incorporate such considerations into its planning and execution of the proposed development.

Developer Identification and Performance Record

Canadian Zinc Corporation is a Canadian public company engaged in the business of mineral exploration and development. Formerly known as San Andreas Resources Corporation, the Company changed its name to Canadian Zinc Corporation on May 25, 1999. San Andreas Resources Corporation had been previously incorporated under the Companies Act of British Columbia on August 29, 1991. Canadian Zinc is listed and trades on the Toronto Stock Exchange under the symbol "CZN".

The Company maintains its head office at Suite 1202, 700 West Pender Street in Vancouver, BC. The day-to-day business of the Company is run by management under the direction of a six member Board of Directors as follows:

Management

Mr. Malcolm Swallow	President and Chief Executive Officer
Mr. Alan Taylor	Vice President, Exploration
Mr. Peter Campbell	Vice President, Project Affairs
Ms. Rhonda Shultz	Office Administrator

Board of Directors

Mr. John MacPherson	Chairman
Mr. Wayne Lenton	Director
Dr. Hugh Morris	Director
Dr. David Shaw	Director
Mr. Bob Gayton	Director
Mr. Malcolm Swallow	Director

The proposed development will be conducted under the direct supervision of Mr. Alan Taylor, VP, Exploration or, in his absence, his appointed designate. Mr. Taylor has been intimately involved with ongoing activity at the property since 1994.

**CANADIAN ZINC**
CORPORATION

March 05, 2001

The Company entered into an option agreement to purchase the Prairie Creek property from Nanisivik Mines Ltd. on August 23, 1991. This agreement was superceded by the Asset Purchase Agreement of March 29, 1993 by which the Company acquired a 100% interest in the Prairie Creek property subject to a 2% net smelter royalty in favour of Titan Pacific Resources Ltd. to a maximum of \$8.2 million.

Canadian Zinc has been actively involved in the NWT in exploration of the Prairie Creek property since 1991, over which time it has drilled 129 holes recovering some 40,000 metres of core in the process. Through this process the Company has successfully increased the known mineral resource on the property from the 1.8 million tonne reserve in 1991 to the present 11.8 million tonne resource. The Prairie Creek mine is the principal asset of the Company.

In 1996, the Company and the Nahanni Butte Dene Band successfully negotiated and executed the Prairie Creek Development Cooperation Agreement. Under the terms of the Agreement, Nahanni will receive a 5% equity interest of profits before taxation, but after recovery of prior capital and development costs. As well, Nahanni is granted an option to purchase either a 10% or 15% working interest in the Project for \$6 or \$9 million, inflation adjusted on completion of a Feasibility Study, but before construction.

All work and activity undertaken by Canadian Zinc at the Prairie Creek property has been conducted in compliance with applicable legislation and the Company has worked closely with regulatory agencies to promptly address areas of concern identified in the course of regular site inspections. The Company maintains a written environmental policy and in 2000 initiated a clean-up program aimed at mitigating environmental risks and residual impacts relating to the storage of reagents, fuel products and other materials associated with the property's long term care and maintenance status.

Tenure

CZN owns 100% of the Prairie Creek Mine and Property subject to a 2% net smelter royalty in favour of Titan Pacific Resources Limited to a maximum of \$8.2 million. Upon full payment the royalty will be terminated.

The main land holding comprises eight mining leases and two surface leases. The Company also holds seven additional mineral claims. Details of the Project tenements are shown in the Table below.



March 05, 2001

PRAIRIE CREEK PROPERTY

Property Type	Claim #	Lease/Claim Name	Area Ha	Area Acres
Mineral Claims				
Claim	F22751	SAN 4	1,003.30	2,479.20
Claim	F22752	SAN 5	1,003.30	2,479.20
Claim	F22753	SAN 6	701.40	1,733.20
Claim	F67134	GATE 1	731.59	1,807.75
Claim	F67135	GATE 2	1,003.30	2,479.20
Claim	F67136	GATE 3	1,003.30	2,479.20
Claim	F67137	GATE 4	1,003.30	2,479.20
Claims total			6,449.49	15,936.95
Surface Leases (held in Over holding Tenancy)				
Surface Lease	95F/10-5-3	Minesite	113.60	280.74
Surface Lease	95F/10-7-2	Airstrip	18.20	45.07
Surface Lease total			131.80	325.81
Mining Leases				
Mining Lease	ML 2854	Zone 8-12	743.00	1,835.99
Mining Lease	ML 2931	Zone 4-7	909.00	2,246.18
Mining Lease	ML 2932	Zone 3	871.00	2,152.28
Mining Lease	ML 2933	Rico West	172.00	425.02
Mining Lease	ML 3313	Samantha	420.05	1,037.96
Mining Lease	ML 3314	West Joe	195.86	483.99
Mining Lease	ML 3315	Miterk	43.70	107.98
Mining Lease	ML 3338	Rico	186.16	460.00
Mining Leases total			3,804.35	9,401.02
Grand Total			10,253.84 Ha	25,337.97 Acres

All mining leases and claims are in good standing. The surface leases are presently held in overholding tenancy to cover ongoing care and maintenance activity on the property.

The area which the Company wishes to secure for the purposes of undertaking the proposed development is shown on the attached drawing as the "Proposed 2001 Surface Drilling Area." For reference purposes the drawing also depicts the area in which the Company applied for approval to conduct the Phase I drilling in 2000, described as the "General 2000 Surface Drilling Area" and the location of the "Proposed 2001 Underground Decline."



CANADIAN ZINC
CORPORATION

March 05, 2001

Regulatory Regime

To undertake the proposed program of work, the Company requires:

- a Type A Land Use Permit

Existing tenures, acquired pursuant to the Canada Mining Regulations and the Territorial Lands Act, which grant the right to occupy the land and to explore for and extract mineral resources from the area, are in the form as described in the preceding section. No other permits or authorizations remain in force.

Accidents and Malfunctions

The probability, risk and potential magnitude of an accident or malfunction associated with the proposed development are deemed to be very low. Principal possible failure mechanisms with associated risk assessment factors are as follows:

Failure Mode	Initiating Event	Probability	Magnitude	Consequence
Diesel Spill	Drill Fuel Tank Rupture	Low	Small Max. 300 gals	Low - Medium Relatively small volume; Spill likely contained in soils at drill site; Worst case loss of portion to Harrison Creek
Diesel Spill	Spill during Transfer	Low	Small Max 130 gals.	Low - Medium As above
Diesel spill Air emissions	Fire	Low	Small	Low Relatively small combustible volumes
Drill water Discharge	Sump Failure	Low	Small Max. 50 gals.	Low Very small volumes; water & suspended solids unlikely to migrate much beyond drill pad

Canadian Zinc has a Spill Contingency Plan developed for the Prairie Creek mine which has been filed with Indian and Northern Affairs Canada. The Company maintains a supply of spill clean-up materials at the site including a variety of absorbent materials and ready access to large inventory of heavy equipment, tools and supplies at the site.

Consultation

Following is a summary of consultations undertaken, including those with government regulatory agencies, the Nahanni Butte Dene Band, the Liidlii Kue First Nation, Acho Dene Koe First Nation and the Deh Cho First Nations.



CANADIAN ZINC
CORPORATION

March 05, 2001

August 14-16, 2000 Yellowknife

- Meetings with INAC, GNWT/RWED, EC, DFO, MVLWB, MVEIRB, Parks Canada, DCFN (Petr Cizek)

October 6, 2000

- Letter request to NBDB, LKFN, ADKFN, DCFN for meeting

November 21, 2000 Yellowknife

- Meeting with Mineral Development Advisory Group (MDAG)
- INAC, EC, DFO, GNWT/RWED, WCB, SRHB,

November 22, 2000 Nahanni Butte

- Meeting with First Nation community and association representatives
- NBDB, LKFN, DCFN, CPAWS, Parks Canada

January 5, 2001

- Letter request to NBDB, LKFN, ADKFN for traditional knowledge

February 16, 2001

- Letter enclosing Draft Application package to NBDB, LKFN, ADKFN & DCFN requesting comments

February 26, 2001

- Telephone conversation with Chief Leon Konisenta (NBDB) advising of intention to submit permit applications

February 27, 2001

- Letter to NBDB, LKFN, ADKFN & DCFN advising of intention to submit permit applications

No specific concerns were raised at any of these meetings or in response to any correspondence with respect to the proposed mineral exploration program.

Alternatives

There are no viable alternatives to the practice of exploration diamond drilling of the type proposed for the purpose of establishing, confirming and enhancing the known mineral resource at the Prairie Creek property.

The process of diamond drilling represents standard industry practice in the exploration of base metal and other mineral deposits. It has been, and continues to be used commonly throughout the Northwest Territories, throughout Canada and throughout the World for this purpose. At Prairie Creek, the first diamond drill holes were drilled in 1966. Since that time a total of some 249 holes have been drilled throughout the property.

**CANADIAN ZINC**
CORPORATION

March 05, 2001

While various other geophysical, geochemical and biogeochemical techniques exist for locating mineralized zones on a broader scale and for further enhancing our understanding of geologic processes, none are considered practical alternatives to in-situ diamond drilling and the subsequent assay of recovered drill core. Security Exchange Commission rules and regulations, which apply to all public mining companies, set rigorous standards for release of information pertaining to mineral resource and reserve estimates. These typically require strict adherence to quality assurance standards in the drilling, recovery and assaying of drill core, and the subsequent interpretation of data by a qualified individual.

Closure and Reclamation

The area of the proposed development is within the area of traditional mining activity and adjacent to the existing facilities, including the existing underground workings and the location of the underground decline portal proposed for 2001. As a result, these areas are expected to be subject to ongoing activity associated with further exploration and mine development. Accordingly, final reclamation and abandonment of these sites is not proposed at this time.

The proposed drilling program will entail minimal disturbance of surficial materials. All proposed drill locations are in close proximity to existing exploration tote roads which will minimize disturbance relating to the establishment of roads and drill sites. Existing tote roads are expected to require extensions, if any, of typically only from a few up to 10 or 20 metres at a maximum. The drill pads will be prepared only large enough to accommodate and position the approximate 7m x 4m drill rig.

Where clearing is required to create short extensions of tote roads or the drill pads themselves, surficial materials will be stripped and stockpiled adjacent to the area. Any trees which require clearing will be bucked into 1.5 metre lengths. When all drilling is complete, cut banks will be re-contoured to conform to the local topography and stabilized, and stockpile surficial materials will be back bladed over the disturbed areas.

Cumulative Impacts

The potential for cumulative impacts has been assessed within the context of the Interim Guide for Addressing Cumulative Environmental Effects in Environmental Assessment under the Mackenzie Valley Resource Management Act (September, 2000).

**CANADIAN ZINC**
CORPORATION

March 05, 2001

The foregoing discussion has provided an analysis of potential impacts on individual components of the environment associated with the proposed development. As the potential environmental effects of the proposed development are expected to be negligible, it would seem intuitive that the potential for cumulative effects in association with other past, existing or future developments or activities would also be negligible.

Within the narrow spatial boundaries of the immediate minesite area and the surrounding Prairie Creek watershed, the potential for cumulative effects is considered minor. No other development or activity, other than mineral exploration and mine development at the Prairie Creek mine, has occurred in the past, been proposed, or can be reasonably foreseen in the future. The only other activity that has taken place in the area was the peripheral staking of mineral claims surrounding the pre-existing Prairie Creek claim block in May, 2000. As the Prairie Creek claim block encompasses the whole of the mineralized trend zone based on current geological interpretation, this staking is believed to be primarily speculative in nature.

The proposed program, involving the drilling of 50 – 60 holes, equates to a incremental increase of 20% to 24%, respectively, over the 249 holes drilled on the property to date and comprises only a small component of the overall development which has occurred on the site to date. Despite the considerable amount of activity and development which has occurred on the property over the past 40 years, residual impacts are principally visual and aesthetic, and confined to physical disturbance directly associated with the construction development of the existing facilities. No impacts on the surrounding environment are apparent or have been identified.

In a temporal sense, additional mineral exploration programs of a similar nature will likely be proposed in the future to further delineate the mineral resource. The ultimate goal of which, depending on the success of these programs, is a re-vitalized mining operation at Prairie Creek. Plans for any such mining operation would have to undergo a formal environmental assessment based on their own merit and ultimately comply with statutory and regulatory requirements which uniformly require that such activities have no significant adverse effect on the environment.

Within the broader spatial context of the entire South Nahanni watershed, the potential for cumulative effects of the proposed program are also considered minor. It is expected that there will be no significant adverse effects on Prairie Creek, the South Nahanni River or the Nahanni National Park Reserve associated with the proposed development.

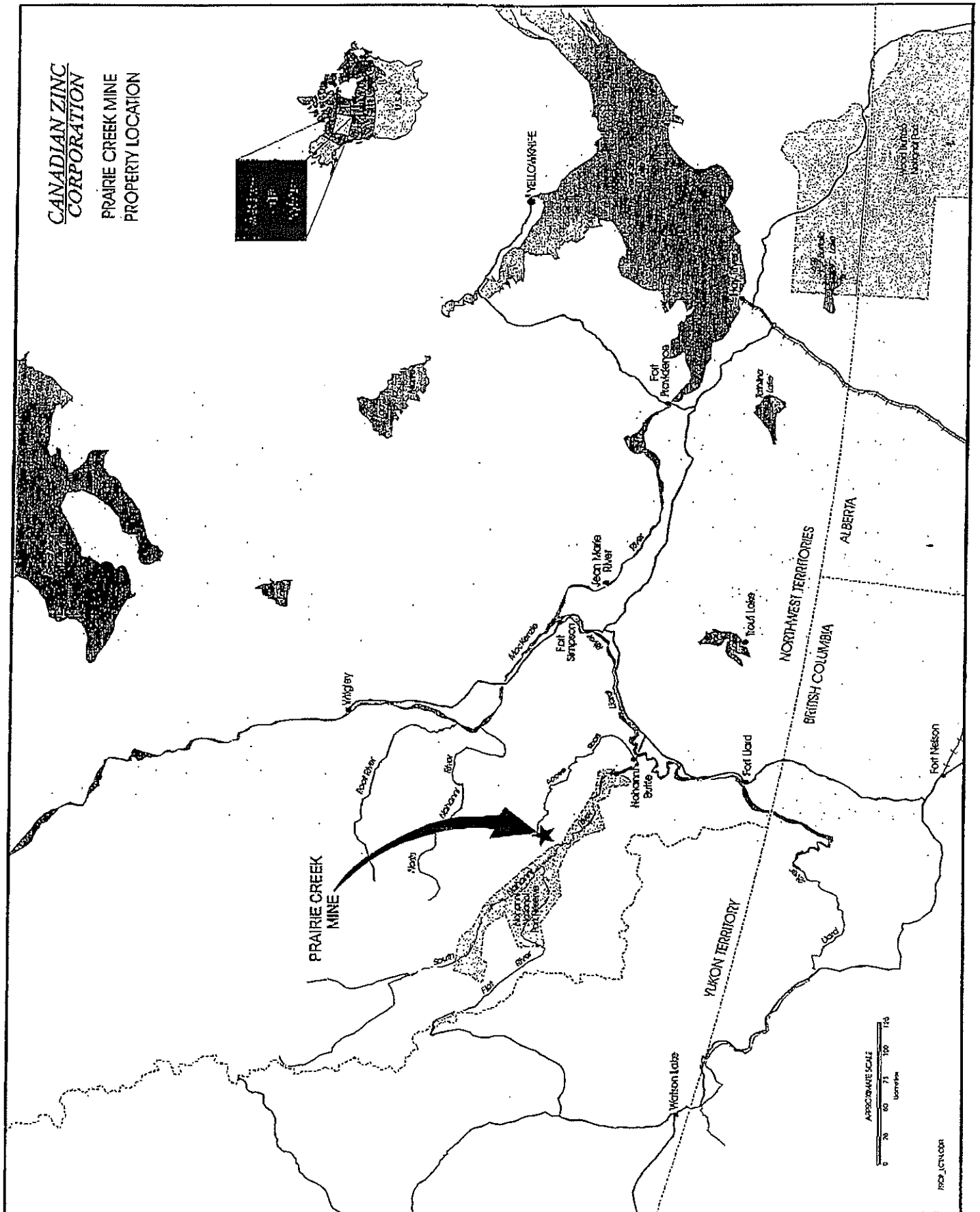
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CORPORATION

March 05, 2001

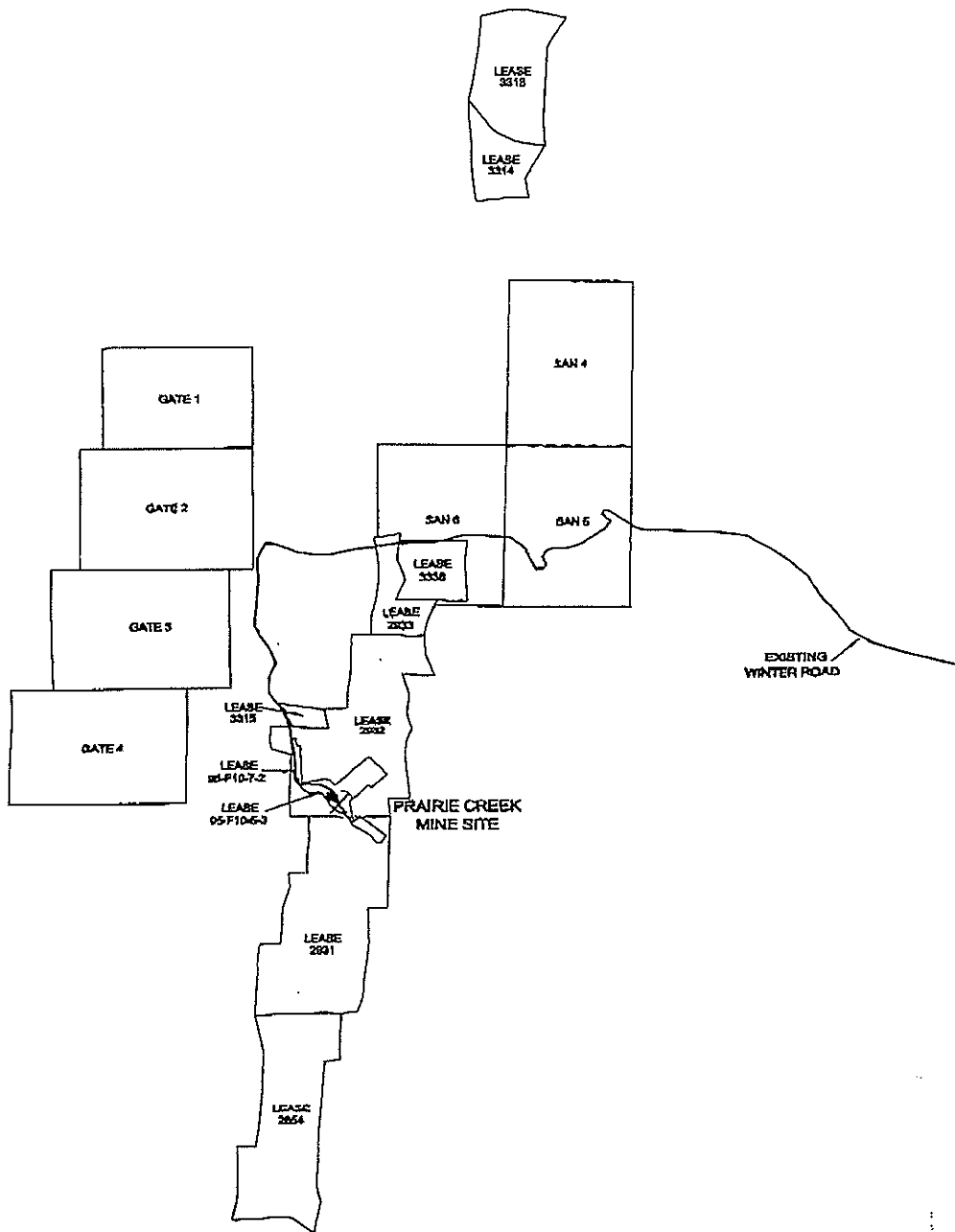
Within the South Nahanni watershed, the most significant development other than the Prairie Creek mine is the Cantung mine at Tungsten, NWT. The Cantung property is about 190 km in a straight line east-northeast of the Prairie Creek mine. The minesite facilities are located adjacent to and on the floodplain of the Flat River, a major tributary of the South Nahanni River. Cantung, an underground tungsten mine, operated over 24 years from 1962 to 1986, prior to being put on care and maintenance due to a fall in world tungsten prices. The mine is supported by a 1000 ton per day mill, a full townsite to house workers and their families, and a 200 km all weather access road connecting the mine to the Robert Campbell highway in the Yukon.

An extensive Environmental Water Quality Monitoring and Assessment Program of the South Nahanni River Basin has been undertaken by Environment Canada in association with Parks Canada since 1988. The results of this program have been reported by Environment Canada in "Protecting the Waters of Nahanni National Park Reserve, NWT" (December, 1991) and "Protecting the Aquatic Quality of Nahanni National Park Reserve, NWT" (December, 1998) Both of these reports identified no impacts on water quality within the Park Reserve or the South Nahanni River associated with the presence and operation of the Cantung mine over those 24 years, and concluded that the waters of the South Nahanni River remain pristine.

The potential for cumulative effects associated with a combination of the proposed development and the Cantung mine is therefore expected to be very low.



Not to Scale



Scale 1:100,000
0 1500 2500 5000
metres

GATE 1
LEASE 85-F-10-63
LEASE 2833

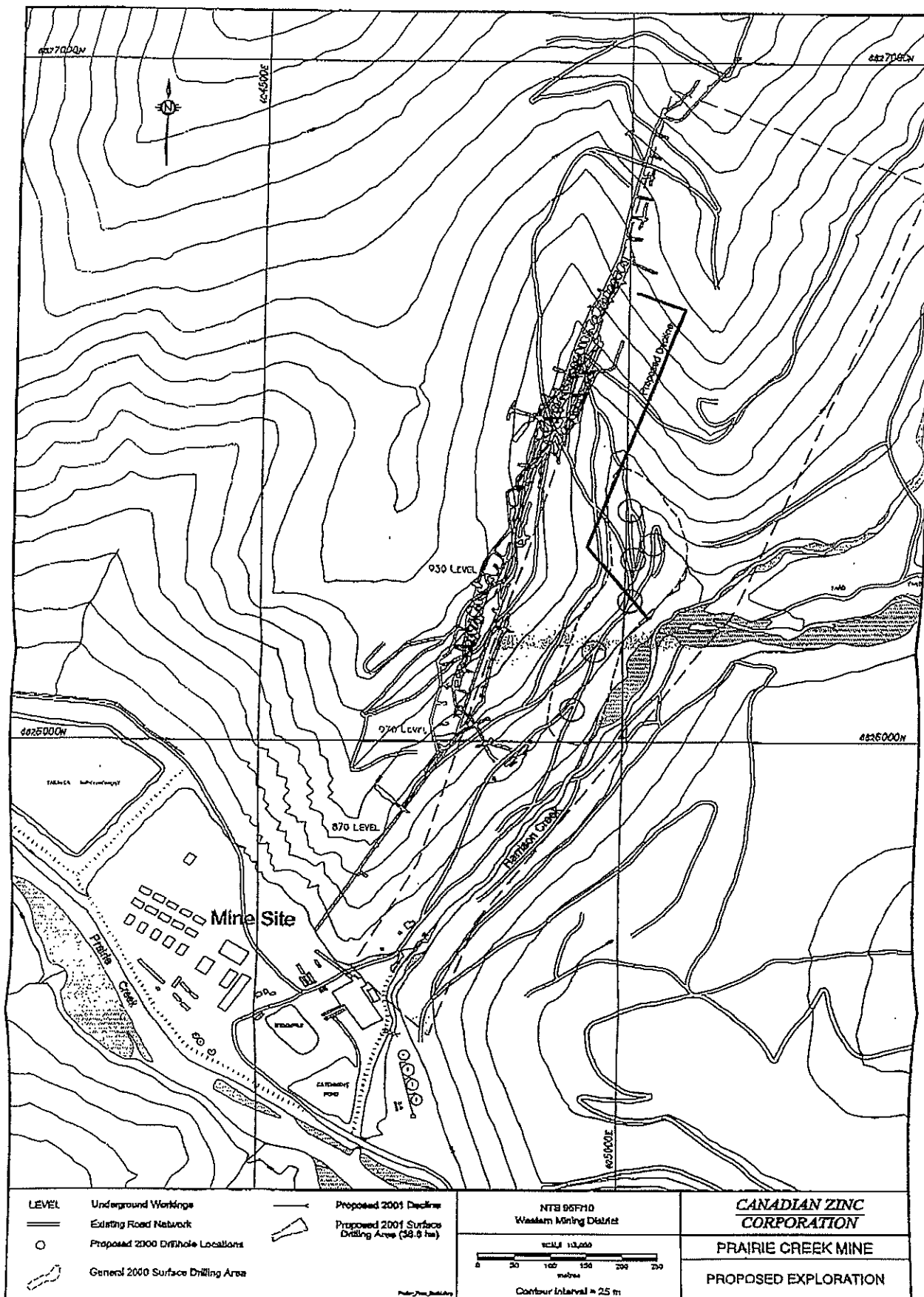
Mineral Claim
Surface Lease
Mining Lease

Scale: 1:100,000
Drawing: claims.dwg
Revised:

CANADIAN ZINC CORPORATION
PRAIRIE CREEK MINE

Date: January, 2001 Figure:

Not to Scale





Project Description
Type "B" Water Licence Application

Prairie Creek Mine
Metallurgical Pilot Plant Program

Introduction

As a key component of mine development planning, considerable effort has been directed at testwork aimed at defining metallurgical performance in processing the polymetallic ores encountered at Prairie Creek, the current resource of which stands at 11.8 million tonnes grading 12.5% zinc, 10.1% lead, 0.4% copper and 161 grams per tonne silver.

The mineral processing philosophy at Prairie Creek has changed over time in conjunction with changes in metal prices, as well as with changes in mineral industry economics generally. When the mine was constructed in the early 1980's, the focus of the metallurgical testwork was on producing a copper/lead concentrate containing the high value silver credits. More recent studies conducted on behalf of San Andreas Resources in the mid-1990's focused on efficient separation of metal values to produce separate zinc, lead and copper concentrates, with silver reporting to the lead and copper concentrates.

In its preliminary evaluation of the economics of re-establishing mining operations at Prairie Creek, Canadian Zinc identified the need to increase mill throughput in order to benefit from the economies of scale contingent with a higher processing rate, while at the same time avoiding the high capital costs associated with installing additional grinding capacity.

In order to achieve this, Canadian Zinc commissioned several studies designed at evaluating the feasibility of incorporating a gravity pre-concentration step at the front end of the existing mill process. These tests, conducted in 2000, successfully demonstrated the ability of a gravity step to selectively reject, based on specific gravity, up to 65% of the lower density non-mineralized host rock prior to grinding. This is significant in that it will allow the mill to reach a target throughput of 1500 tonnes per day without the requirement for additional grinding capacity and without the need for significant mill expansion. At the same time, this process has the added benefits of reducing energy requirements, water usage and reagent consumption. In addition, preliminary mill re-design to incorporate these changes has included provision for an enhanced state-of-the-art thickened tailings or paste backfill plant which will see the vast majority of the tailings returned underground, thus minimizing the use of the surface tailings impoundment primarily to that of a process water settling and reclaim pond. Combined, these considerations provide significant positive economic and environmental benefits to the operation.



March 05, 2001

In view of the obvious potential benefits of the proposed changes, it is important that these findings be confirmed at a larger scale. All of the metallurgical testwork conducted to date has been at the bench scale at off-site laboratories on relatively small quantities of up to 100 kg of ore transported out of the site by air. Typically, bulk samples are collected and trucked off-site for pilot plant processing. However, given the remoteness of the Prairie Creek mine, the lack of established road access and the presence of the existing on-site milling facility, it makes more sense to conduct the pilot plant operation on-site. The provision of a small scale pilot plant operated on-site for processing up to 2000 tonnes of ore has a number of significant advantages in terms of understanding the metallurgical and environmental aspects of mill processing and tailings disposal. This will provide important information for mine design planning and environmental assessment.

Canadian Zinc proposes to run such a small metallurgical pilot plant program at the Prairie Creek Mine over the period from May to September, 2001 to confirm the results of the most recent bench scale testwork conducted on Prairie Creek ore in 2000, and to provide additional information on process water quality, tailings chemistry and amenability of thickened or paste backfill to support future application for mine and mill operations.

Operation of the pilot plant will require the use of water and the discharge of treated process water. As the pilot plant will process a maximum of about 1.5 tonnes per hour, or 36 tonnes per day, and use of water will be less than 100 cubic meters per day, only a Class "B" Water Licence will be required.

Pilot Plant Program Objectives

Preliminary test work and metallurgical review has indicated that installation of a gravity pre-concentration circuit and a thickened or paste backfill circuit will provide a number of significant benefits to the Prairie Creek Mine, such as:

- Increased mill throughput
- Improved metallurgical recoveries
- Improved process water quality
- Reduced power consumption per tonne of ore milled
- Reduced reagent consumption per tonne of ore milled
- Placement of the majority of tailings underground as thickened or cemented fill
- Reduced tailings pond requirements

**CANADIAN ZINC**
CORPORATION

March 05, 2001

A small scale pilot plant operation will confirm the process philosophy and highlight any operational constraints that may exist. The pilot plant will be designed in such a way that every aspect of the operation can be investigated and will incorporate gravity and flotation separation as well as having facilities for thickening and filtration equipment. The final design of the main circuit may then be completed with a much higher degree of confidence. As well, the process will result in representative quantities of concentrates being available for potential customers to assess, thus providing reliable estimates of applicable smelter charges.

The pilot plant program will also allow detailed analysis of the quantity and quality of the water required for the full-scale milling process, the percentage of re-cycle water applicable to the process and the quantity and quality of water required to be treated and disposed of after use in the process plant.

Additionally, the tailings solids produced from the pilot plant operation will be available for paste and thickened backfill testing, which will in turn allow for accurate design and sizing of the full-scale backfill plant and of the surface tailings facility required for process water settling and reclaim in addition to placing the vast majority of tailings underground. Representative tailings solids will also be characterized as to chemical composition and potential reactivity through standard analytical procedures for metal content, acid base accounting and neutral pH metal leaching potential.

The operation of an on site pilot plant at this scale will provide operating and financial certainty for the eventual mine design and flow sheet. Operating costs from a plant of this capacity can be accurately extrapolated so that costs relating to the main plant can be calculated.

The plant will provide the following information for the full feasibility study and environmental assessment:

- Firm metallurgical performance data, including recoveries, grades, grind sizing, cell sizing etc.
- Firm design and throughput data for the eventual mill overhaul.
- Actual concentrate available to potential customers for evaluation and treatment charges estimates.
- Actual reagent usage data scalable to full size operation.
- Actual operating cost data that can be extrapolated to the full size plant.
- Actual water quality and volumetric data for permitting and eventual plant operation.
- Firm data on tailings quantity, quality and suitability for paste or thickened backfill.
- Actual volumes of tailings that can be placed underground and the volume implications for tailings or settlement pond facility required.



CANADIAN ZINC
CORPORATION

March 05, 2001

In combination, the above information will then be used to build up a complete financial model of the process operation, from which confident financial returns will then be produced.

Proposed Pilot Plant Description

Arrangements have been made to purchase a suitable pilot plant currently available in the United Kingdom. The plant is composed of a number of individual components which will be airlifted into the mine site in sections. The pilot plant will be re-assembled and totally contained within the existing mill building at Prairie Creek.

The milling and classification circuit is a typical Hardinge-type set-up where the mill discharges into a launder, which feeds an inclined 12-inch classifier. Oversize sands are returned to the feed box of the mill for re-grinding. The mill is driven by 'V' belts. A 7.5kW motor supplies the necessary power.

The entire pilot plant will fit into an approximate 40 foot by 16 foot open area of the mill basement adjacent to the existing ball mill as shown on the attached general arrangement diagram. Photographs and a flowsheet for the pilot plant are also attached.

The Pilot flotation plant set-up will consist of the following:

4 - Gravity Spirals. These will be new production units and will replicate the gravity section of the plant.

1 - Wilfley 500 gravity table. For study of final pre concentration of ore and production of a high-grade lead product by gravity.

1 - Hardinge conical ball mill complete with screw classifier and 7.5 kW motor

1 - 1m x 1m steel conditioner tank powered by a 0.75 kW motor.

1 - bank of 3 Denver pilot scale sub 'A' type flotation cells

1 - bank of 4 Denver pilot scale sub 'A' type flotation cells

1 - Sturtevant rotary crusher

1 - SALA 25mm vertical spindle pump

1 - 1.2m-diameter cone base thickening tank

1 - Denver scaled pilot plant thickener 1.8m diameter x 2 m high on a 2 m support frame powered by a 2 kW motor. standard Denver rake mechanism

1 - Pilot thickening and filtration unit consisting of the following:

1 - Stockdale 1m x 0.5m rotary drum vacuum filter in a 1.5m x 1m bath complete with control skid in stainless steel powered by a 0.75 kW motor

1 - Vacuum module consisting of 1 Nash Huyter vacuum pump, filtrates receiver and filtrates pump all constructed in stainless steel powered by a 5 kW motor with a 1 kW filter air blower fitted with wheels for easy maneuverability.

1 - Motor control centre for the above 2 modules which caters for one mains connection. The equipment is connected to the MCC with one multi-core cable socket.

1 - Goodwin 24in. X 14in. Roller Crusher. To be used for size reduction to minus 1mm in closed circuit with a small screen.



Pilot Plant Operating Parameters

The pilot plant is essentially a miniature, scaled-down version of the proposed full-scale mill gravity pre-concentration, grinding, flotation and concentrate filtration process. As stated in the previous section, the pilot plant will be air-lifted in sections into the minesite where it will be re-assembled and totally contained within the existing mill building. The program will utilize the existing crushing and conveying systems within the mill to supply feed to the pilot plant

All process equipment will be operated by diesel power generation facilities currently existing at the minesite. Reagents will be taken from existing onsite stockpiles or flown in by aircraft in small batches.

Reagents used successfully in the bench scale testwork and planned for use in the pilot plant include:

Lime	0 - 3 kg per tonne
Cytec Aerophine 3418A promoter	30 - 60 grams per tonne
Sodium isopropyl xanthate	0 - 60 grams per tonne
Copper sulphate	550 - 600 grams per tonne
Sodium sulphide	50 grams per tonne
Glycol frother (Dowfroth 250)	40 grams per tonne

All of the proposed reagents are standard reagents used at similar operations throughout the world. The nature of these reagents is such that they tend to have a selective affinity for the mineral of interest and as a result report primarily to the concentrates and not to the tailings. Material Safety Data Sheets for each of the proposed reagents are attached.

The plant will be self-contained and operated in batches at approximately 1.5 tonnes per hour, fed via the current mill crushing circuit. Process water requirements for the pilot plant will be about 2 m³ per tonne of ore, of which approximately 50% would be fresh and 50% reclaim. On a continuous operating basis, therefore, the pilot plant would use about 3 m³ per hour or 72 m³ per day, half of which would be fresh and half reclaim.

Fresh water will be acquired from the existing water well drawing from the Prairie Creek Valley aquifer. Initially, fresh water would be pumped into one of the two thickeners to a ½ to ¾ full level equivalent to 125 to 200 m³ of fresh water storage. Process water and tailings from the pilot plant would be stored in the other existing onsite 35-foot thickener inside the mill building to simulate tailings production and recycling of process water.



CANADIAN ZINC
CORPORATION

March 05, 2001

It is expected that the plant will be operated up to several days in a row at 10-24 hours per day over a period of four to five months. Because of the limited size of the pilot plant, only one circuit can be imitated at a time. As a consequence, a variety of streams of material in process will need to be stored while each circuit is tested and reintroduced to the revised circuit as treatment progresses. This will result in a batch type process where the pilot plant is started up and shut down regularly over the test period.

The water recycling system will be flexible so that various close circuits operating within the main circuit can be explored. Efforts will be made as well to operate the pilot plant on a continuous basis in order to explore the build up of reagent complexes in the circuits. Water would be recycled between the two thickeners and the plant to study the changes in water chemistry brought about by the milling process. This information will be invaluable for design of the ultimate water treatment process for the operating mine.

The total tonnage processed will be in the region of 1,000 -2,000 tonnes of ore taken principally from the surface ore stockpile, possibly supplemented from underground development. Total water use over the whole of the pilot plant program will therefore be in the range of 2000 - 4000 m³ of which half or 1000 - 2000 m³ will be fresh and half or 1000 - 2000 m³ will be reclaim. For comparison purposes, when the Prairie Creek mine was originally permitted for operation in 1982 under Water Licence N3L3-0932, it was authorized to draw up to 1,150 m³ per day from the Prairie Creek Valley Aquifer via the existing on-site wells.

All process water will be retained in available tankage within the mill pending treatment and testing to ensure it is of acceptable quality prior to discharging to the existing tailings pond. Treatment will be accomplished through lime addition within the mill to precipitate dissolved metals. The tailings pond, which covers approximately 10 ha, is currently filled with water to elevation 868m for an average depth of just over 2m and a contained volume of about 225,000 m³. The crest elevation of the impoundment dike is at 876m for a freeboard of about 8m. Pumping of the entire volume of treated process water to the impoundment will add less than 2% to the volume and result in a rise in pond level of only about 4cm. Handling of the process water in this manner will provide for a 50 times dilution of process water within the impoundment and no direct discharge of process water to Prairie Creek.

Tailings solids, consisting principally of inert sands from which the mineralization has been removed, will be stored in one of the two thickeners inside the mill building. Representative samples of the tailings will be assessed for performance in paste or thickened backfill application, as well as for chemical characterization.

The concentrate produced would be stored in 2 tonne bags and transported off-site by air for test marketing purposes.



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CORPORATION

March 05, 2001

Key operating parameters for the pilot plant will include:

- All pilot plant components air portable or currently available on site
- Total of approximately 1000 - 2000 tonnes of ore to be processed from the existing surface ore stockpile, possibly supplemented from underground development
- Pilot plant to treat up to 1.5 tonnes per hour in batches over several days at a time for 10 to 24 hours per day
- Water requirement of up to 3 m³ per hour for a total of up to 4000 m³ to be extracted from the Prairie Creek Valley aquifer by existing well
- All tailings to be stored within the mill building in the existing 35-foot thickeners.
- All process water to be held within the mill pending treatment and testing prior to discharge to the existing tailings impoundment
- Concentrate produced will be stored in the mill building in 2-tonne bags or flown off site for test marketing.
- Power will be generated on site using existing diesel supplies and generators.

Personnel

It is expected that operation of the pilot plant will require the following personnel:

- 1 metallurgical engineer
- 1 metallurgical technician
- 1 certified pipefitter/mechanic
- 1 certified electrician
- 2 - 4 labourers

It is expected that the pilot plant program will be conducted while other activity is ongoing at the site, including development of an exploration decline and exploration drilling. This will likely result in sharing of personnel between programs. All personnel involved in the operation of the pilot plant will be accommodated within the existing camp facility. Domestic water is supplied from an existing well, sewage is discharge to a sump and garbage is incinerated. Site operations will be supported by a camp cook and a project manager.



March 05, 2001

Consultation

Following is a summary of consultations undertaken, including those with government regulatory agencies, the Nahanni Butte Dene Band, the Liidlii Kue First Nation, Acho Dene Koe First Nation and the Deh Cho First Nations.

August 14-16, 2000 Yellowknife

- Meetings with INAC, GNWT/RWED, EC, DFO, MVLWB, MVEIRB, Parks Canada, DCFN (Petr Cizek)

October 6, 2000

- Letter request to NBDB, LKFN, ADKFN, DCFN for meeting

November 21, 2000 Yellowknife

- Meeting with Mineral Development Advisory Group (MDAG)
- INAC, EC, DFO, GNWT/RWED, WCB, SRHB,

November 22, 2000 Nahanni Butte

- Meeting with First Nation community and association representatives
- NBDB, LKFN, DCFN, CPAWS, Parks Canada

December 27, 2000

- Letter enclosing Draft Application package to NBDB, LKFN, ADKFN & DCFN requesting comments

January 5, 2001

- Letter request to NBDB, LKFN, ADKFN for traditional knowledge

February 26, 2001

- Telephone conversation with Chief Leon Konisenta (NBDB) advising of intention to submit permit applications

February 27, 2001

- Letter to NBDB, LKFN, ADKFN & DCFN advising of intention to submit permit applications

Plans for operation of the pilot plant at Prairie Creek in 2001 were among the issues discussed by Canadian Zinc at these meeting. At each of these meetings, an information package was distributed to attendees which contained among other things a memo describing the pilot plant operation, photographs of the key components of the pilot plant and a flowsheet for the pilot plant.

No specific concerns were raised at any of these meetings or in response to any correspondence with respect to the proposed mineral exploration program.



March 05, 2001

Archaeology

An archaeological database search was conducted on August 18, 2000 through the Canadian Museum of Civilization in support of previous Land Use Application MV2000C0030 submitted by Canadian Zinc.

The database search area encompassed the entire minesite area, as well as the entire access road corridor from the Prairie Creek mine to the Liard River. To accomplish this, the search parameters were defined by geographical coordinates to cover a block extending from 61° 00' to 61°45' N. latitude and from 122°45' to 125°00' W. longitude.

No archaeological sites were identified within the minesite area proposed for use under this Water Licence application. The closest identified sites are south of the South Nahanni River near the mouth of the Meilleur River, 35-40 km south of the minesite.

All areas proposed for use in this application have been previously developed. No new development is planned in conjunction with this application.

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March 05, 2001

**Project Description
Type "A" Land Use Permit Application****Prairie Creek Mine
Underground Decline Development and Exploration Drilling****Introduction**

Mineralization was first discovered at Prairie Creek in 1928. Exploration activity over the years has resulted in some 232 holes having been drilled on the property for an approximate total of 50,000 metres of drilling conducted to date. As well, between 1970 and 1980, extensive underground development of Zone 3 took place, resulting in some 5 km of underground workings on three levels. Access to the underground workings is available through the existing 870, 930 and 970 m portals.

Historically, the Prairie Creek deposit has been evaluated on the basis of its being composed primarily of quartz vein-type mineralization. The mine and mill were originally designed and constructed in 1982 based on a 1.81 million tonne ore reserve of vein-type material grading 10.8% lead, 11.75% zinc, 0.4% copper and 182 g/tonne silver.

Since acquiring the Prairie Creek Mine in 1991, Canadian Zinc has conducted numerous diamond drill programs on the property. To date, the Company has drilled some 128 holes, recovering more than 40,000 metres of drill core in the process. The Company's drilling focus to date has been primarily on Zone 3 in the immediate mine site area, where 80% of the total exploratory work has been carried out.

In 1992, a stratabound form of mineralization was discovered underlying the vein-type deposits of Zone 3 while drilling to extend these vein resources at depth. Up to six mineralized stratabound lenses have been intersected varying in thickness from between less than one metre to several metres in thickness. Total thickness of the stratabound zone reaches up to 28 m. The stratabound deposits are located at around the 600 – 650m elevation, 200 – 350 m below the existing underground workings and 400 m below the surface of the ground.

As a result of the exploration drilling undertaken by Canadian Zinc, the mineral resource now stands at 11.8 million tonnes grading 10.1% lead, 12.5% zinc, 0.4% copper and 161 g/tonne silver. Of this resource, approximately 80% is comprised of vein-type mineralization and only 12% is stratabound mineralization.

As part of the ongoing process of establishing, confirming and enhancing the known mineral resource at the Prairie Creek property, Canadian Zinc proposes to develop an exploration decline to permit access for underground exploration drilling of the stratabound deposit underlying the Zone 3 quartz vein mineralization.

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March 05, 2001

The main objective of the proposed decline development and underground drilling exploration program is to further delineate additional stratabound and vein mineralization that will add to the existing defined mineral resource. The stratabound deposits are very underexplored, thus having the potential to significantly increase the known mineral resource and, due to their thickness, hold the key to supporting the desired increased mill throughput of 1500 tonnes per day.

The proposed decline will allow drilling to be conducted from underground about 200 m above the stratabound, as compared to drilling from surface which would require approximately 450 m long holes, resulting in a substantial saving in drilling costs.

The decline development is proposed to take place within 1000m of the existing minesite facilities and within the area of traditional mining activity at Prairie Creek and the boundaries of Mining Lease 2932 and Surface Lease 95F10/10-5-3.

The general area for the proposed decline is shown on the accompanying 1:5000 scale map.

Description of Decline Development

The proposed decline will be accessed by a portal to be developed at the 905 m elevation approximately 600 m north of the existing mill facility. The proposed portal location is accessible by existing roads. This will be the fourth portal established on the property to access the underground workings, the others being in the same general area at the 870m, 930m and 970m elevations. The decline itself will be approximately 3m in width, 2.3m high and 600 m long at a 15% downward grade.

The majority of the equipment utilized in support of this program currently exists on-site. The main drive would be drilled by a two-boom air jumbo drill, which would be airlifted into the site. Rock from the underground development would be removed by existing 2-yard scoop trams and transported to stockpile locations by existing loader and truck. All this equipment is currently on-site, along with necessary compressors and fuel.

A minimum of 9 drill cutouts will be prepared along the decline to support the planned underground exploration drilling program. This work will be carried out using Boyles electric or hydraulic diamond drills. It is estimated that further delineation of the deposits will require drilling of 50 to 250 m long holes totaling approximately 5000m.

The mineral resources at Prairie Creek are hosted in carbonate rocks. The decline will be driven entirely within the sedimentary dolostone formation and will produce approximately 5200 m³ of rock, which will be trucked and stockpiled within the existing plantsite area, either adjacent to the existing ore stockpile or in the storage yard along the toe of the tailings impoundment dam.



March 05, 2001

The Upper Spar and Chert/Dolostone rock units from which the rock will originate have been tested and determined to have low sulphide values and high excess neutralization potential, and will therefore pose no hazard to the environment through sulphide oxidation processes. The results of this testwork are attached.

Dewatering of the workings will be accomplished through the use of sumps and pumps underground. A sump will be developed near the mouth of the portal to act as a settling pond for mine water prior to release to Harrison Creek. Quality of the water to be pumped from the underground workings is expected to be typical of the local groundwater regime which is hydraulically connected with the Prairie Creek Aquifer. A sump will be developed near the mouth of the portal to act as a settling pond for mine water prior to release to Harrison Creek.

Fisheries studies by Beak consultants in 1980-81 and Rescan in 1994 have identified limited fisheries habitat potential in Harrison Creek, with steep gradients restricting fish movement upstream of the mouth. Fish utilization appears restricted to the mouth where 7 Slimy Sculpin were captured in 1980, and 2 Dolly Varden, 10 mountain whitefish and 8 slimy sculpin were encountered in 1981. No fish were observed in Harrison Creek in 1994. Fish utilization of Prairie Creek appears to be confined largely to the headwaters and the mouth. The headwaters appear to be utilized by Dolly Varden (or Bull Trout) and Rocky Mountain Whitefish. Arctic Grayling do not appear to move upstream in Prairie Creek beyond the lowest reaches near the mouth.

No impacts on fisheries or other aquatic resources are expected as a result of the release of mine water during the operation.

Personnel

The underground development and exploration diamond drilling will be conducted by a qualified underground mining contractor and diamond drilling contractor, respectively. The contracts will be awarded following a competitive bidding process taking into account cost, quality of work, reliability, ability to undertake work and meet schedule, etc.

It is anticipated that initial preparation and driving of the decline will take in the order of 3.5 months to complete. The diamond drilling, depending on the final budgets which will determine the amount of drilling which will be undertaken, and on whether drilling can commence while the decline is still be advanced, will take in the order of 3 months to complete.



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March 05, 2001

It is expected that development of the decline will require the following personnel:

- 1 Project Superintendent
- 1 Shift Boss
- 1 Surveyor
- 1 Lead Mechanic
- 3 Shift Mechanics
- 1 Electrician
- 1 Surface Operator/Labourer
- 6 Miners
- 15 Total

It is expected that the decline development will be conducted while other activity is ongoing at the site, including operation of a mill pilot plant and exploration drilling. This will likely result in sharing of personnel between programs. All personnel involved in the decline development will be accommodated within the existing camp facility. Domestic water is supplied from an existing well, sewage is discharge to a sump and garbage is incinerated. Site operations will be supported by a camp cook and a project manager.

Consultation

Following is a summary of consultations undertaken, including those with government regulatory agencies, the Nahanni Butte Dene Band, the Liidlii Kue First Nation, Acho Dene Koe First Nation and the Deh Cho First Nations.

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January 11, 2001

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**CANADIAN ZINC**
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March 05, 2001

February 26, 2001

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February 27, 2001

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Plans for development of the decline at Prairie Creek in 2001 were among the issues discussed by Canadian Zinc at these meetings. At each of these meetings, an information package was distributed to attendees which contained among other things a memo describing the plans for decline development.

No specific concerns were raised at any of these meetings or in response to any correspondence with respect to the proposed mineral exploration program.

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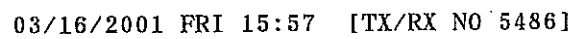
All areas proposed for use in this application have been previously developed. No new development is planned in conjunction with this application.

UNDERGROUND DECLINE DEVELOPMENT - 2001
WASTE ROCK CHARACTERIZATION

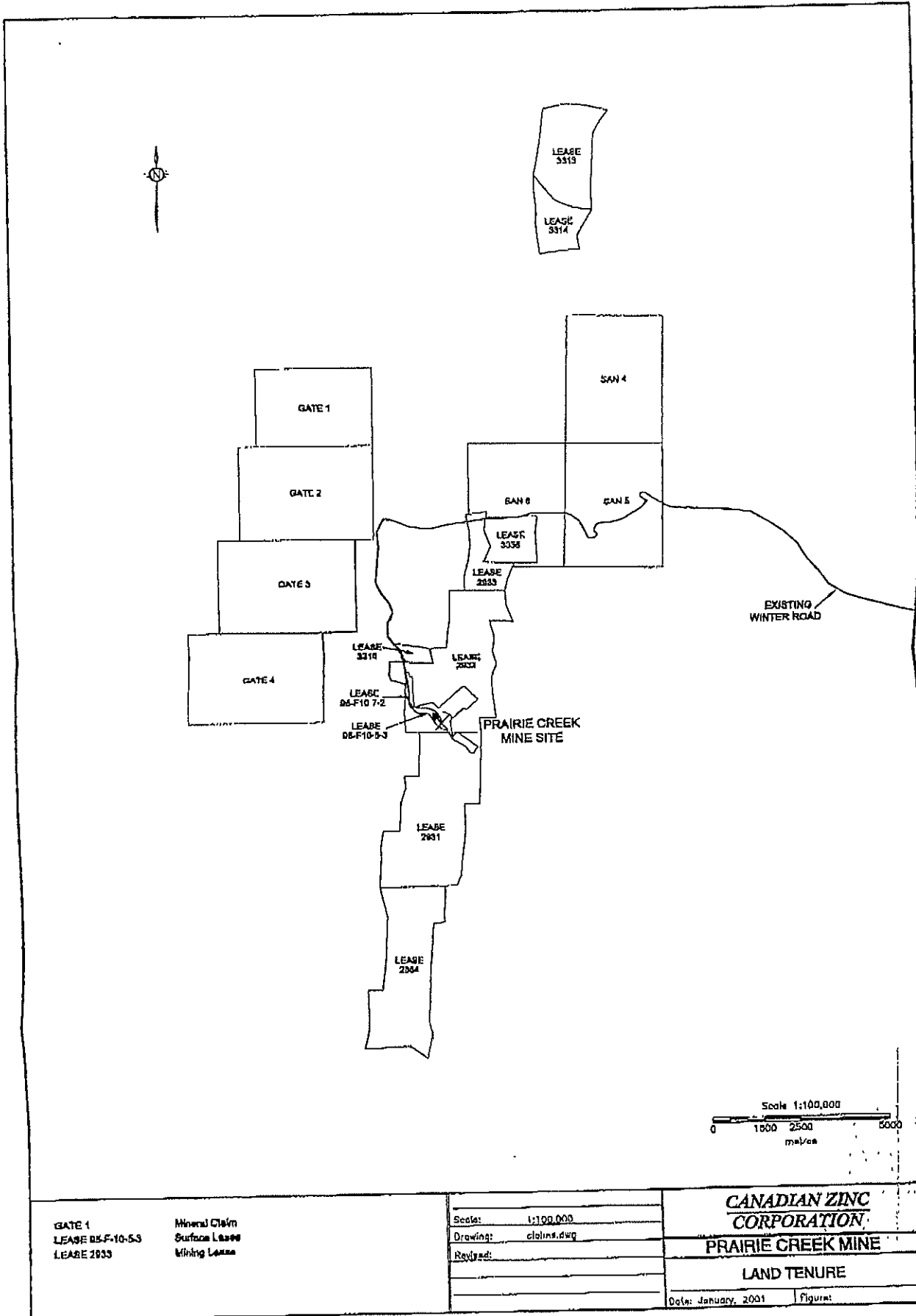
Sample ID	Rock Type	Description	Paste pH	Total S %	SO4 - S %	Sx - S %	Total AP kgCaCO3/t	Sx-S AP kgCaCO3/t	NP kgCaCO3/t	CO2 %	CaNP kgCaCO3/t	NNP kgCaCO3/t	NPTAP
Unit 6-1	Upper spar	PC94-63;324.5m	9.1	0.51	0.005	0.53	16	17	999	43.2	982	+983	62.1
Unit 6-2	Upper spar	PC94-61A;314.6m	8.8	0.17	0.005	0.26	5	8	1030	45.1	1026	+1025	200.1
Unit 7-1	Chert/Dolostone	PC94-63;260.9m	9.2	0.05	0.005	0.06	2	2	446	19.2	437	+444	285.1
Unit 7-2	Chert/Dolostone	PC94-61A;283.2m	9.1	0.06	0.005	0.1	2	3	342	14.7	334	+340	179.1

Sample ID	Rock Type	Description	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb
Unit 6-1	Upper spar	PC94-63;324.5m	3	0.12	10	10	0.25	17.8	13.5	0.5	9	40	0.47	4.6
Unit 6-2	Upper spar	PC94-61A;314.6m	0.5	0.08	10	20	0.25	10.7	7.5	0.5	6	23	0.27	5.2
Unit 7-1	Chert/Dolostone	PC94-63;260.9m	0.25	0.75	10	5	0.25	3.99	0.5	0.5	120	5	0.15	0.24
Unit 7-2	Chert/Dolostone	PC94-61A;283.2m	0.5	0.52	10	10	0.25	4.82	0.5	0.5	144	5	0.27	0.16

Sample ID	Rock Type	Description	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
Unit 6-1	Upper spar	PC94-63;324.5m	0.21	15.6	290	1	0.62	2		3200	130	0.005	15	2270
Unit 6-2	Upper spar	PC94-61A;314.6m	0.09	13.2	250	1	0.42	1		380	92	0.005	13	1450
Unit 7-1	Chert/Dolostone	PC94-63;260.9m	0.5	4.4	95	0.5	0.07	6	270	54	19	0.005	52	158
Unit 7-2	Chert/Dolostone	PC94-61A;283.2m	0.22	5.1	95	3	0.2	7	80	41	29	0.005	92	72

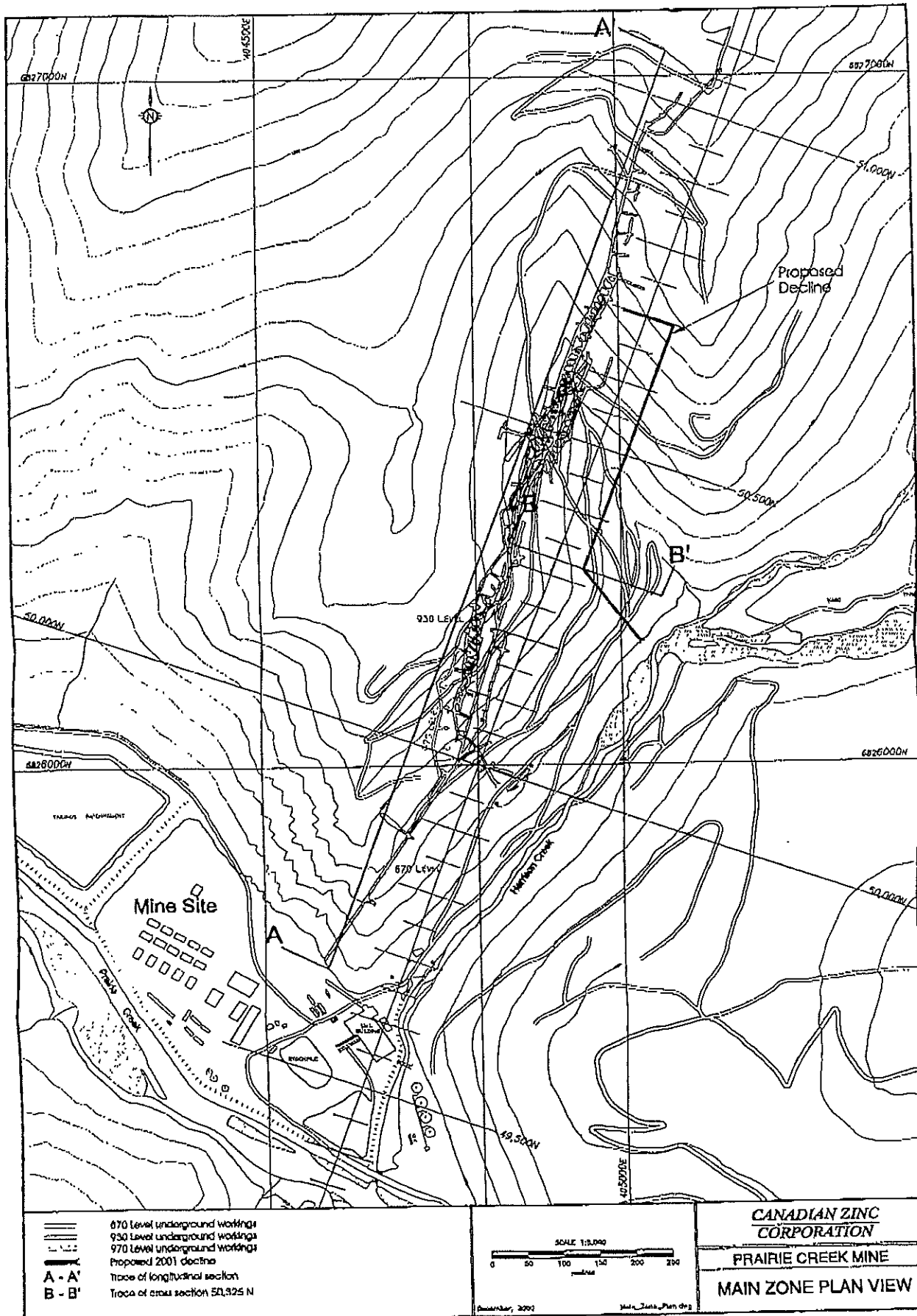


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