
TITLE	GSA Private Lands Application for a Type A Land Use Permit
SECTION	4: Infrastructure Sites
SUBJECT	1: Campbell Lake Infrastructure Site

INTRODUCTION

This section supports an application for the development of a temporary infrastructure site near Campbell Lake. It contains:

- an overview map with the site location ([Figure 4-1](#))
- an estimate of the personnel requirements
- a summary of the operations
- a description of potential environmental and resource effects
- construction equipment estimates

The location of the Campbell Lake infrastructure site is shown in the photographs and site-specific maps provided in [Figure 4-2](#), [Figure 4-3](#) and [Figure 4-4](#).

PERSONNEL (PART 3)

The construction of the infrastructure site at Campbell Lake will require clearing, grading, camp construction and mechanical crews. These crews, of up to 60 people, will be obtained from the main pipeline clearing and grading crews or will be established specifically for infrastructure development. They will initially reside at an existing camp in the town of Inuvik. The Campbell Lake camp pad will be completed during the winter of 2006-2007 and a 120-person camp will be installed in the summer of 2007.

Initial crews will move from the existing camp in the town of Inuvik to the Inuvik area facility camp in the winter of 2006-2007, and then to the 120-person camp at the Campbell Lake site as soon as it is commissioned in the summer of 2007. This camp will require a support staff of about 12 people. These people are included in the 120-person total.

In the summer of 2008, the 120-person construction camp will be expanded to a capacity of about 1,350 personnel. This camp will require a camp support staff of about 120 people. These people are included in the 1,350-person total.

Construction personnel will occupy the camp over three winter construction seasons (2007-2008 for right-of-way clearing, 2008-2009 for pipeline construction and 2009-2010 for commissioning and reclamation). Personnel will begin arriving in November. Numbers will peak in mid-winter and taper off toward spring. A minimal camp support staff will remain on the site between construction seasons.

SUMMARY OF OPERATION (PART 5)

The land use activities and operations associated with this site include:

- developing and operating:
 - a fuel storage site to support construction activities
 - an administration office
 - a stockpile site for storage of material, equipment, and pipe, and for construction equipment maintenance
 - sequentially, a 120-person camp expanding to a 1,350-person camp for worker accommodation during construction activities
 - a helipad within the site boundary
- developing a new 16.3 km all-weather road from the Dempster Highway to the Inuvik area facility, including 2.5 km on private land and an all-weather approach to the Campbell Lake site

Preconstruction Activities

Before site development begins:

- a preconstruction survey will be conducted to finalize the location and site-specific layout
- geotechnical evaluations will be conducted, as required, to support engineering of the infrastructure site components

Development Activities

Initial development activities will commence in 2006 and will include clearing and construction of the pad that will support the proposed infrastructure site. The pad material might be obtained from nearby borrow sites on both Gwich'in private and Crown land. The borrow sites on Crown land will be included in the land use permit application for Crown lands within the GSA. Detailed discussion of development of borrow sites on private lands is included in [Section 5](#).

The temporary infrastructure site will be developed on the north side of the Dempster Highway. By placing all the related facilities together, operational efficiencies are realized and the overall footprint of construction activities is reduced. These facilities include:

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- a module, pipe, material and equipment stockpile
- a fuel storage depot
- a camp
- an administration office
- a helipad

A conceptual 1,350-person camp layout is provided in [Section 3](#).

Infrastructure Site Access

Access to the Campbell Lake infrastructure site will be from the all-weather road from the Dempster Highway to the Inuvik area facility.

A 2.5 km section of permanent access road (G-F-A-0.0) to the Inuvik area facility will be built within GSA private lands, beginning at the Dempster Highway near the Campbell Lake infrastructure site (see [Figure 4-2](#) and [Table 4-1](#)).

Table 4-1: Infrastructure Access

Access Road Name	Kilometre Post (KP)	Land Use			Estimated Length (km)
		Municipal Length (km)	Private Length (km)	Crown Length (km)	
G-F-A-0.0	0.0	-	2.5	13.8	16.3
Total length of infrastructure access on GSA private lands:			2.5		

Fuel Storage Depot

The fuel storage depot will require the installation of pads of a sufficient depth to permit truck movement around the site and to safely support refuelling activities. The pads will be sufficient to stabilize the traffic areas of the site, to provide a suitable driving surface and to support the fuel tanks. The fuel depot will be located within the overall infrastructure site footprint. Additional information on typical fuel storage depots is provided in [Section 3](#).

Storage tanks will be used to supply the site requirements for electric power generation and pipeline and facility construction equipment. Tank storage for about 1.1 million L will be required at the Campbell Lake site. These tanks are planned to contain diesel fuel.

The fuel storage depot at the Campbell Lake site will be monitored by computerized systems and site security patrol. It will be equipped with management control systems for access, and authorization controls for fuel handling. An emergency shutdown system will also be provided.

Stockpile Site

The stockpile at the Campbell Lake site will require the installation of pads to permit truck movement around the site and to safely support unloading and storing large loads of pipe, equipment, modules and materials. The pad will be of sufficient depth to stabilize the storage areas of the stockpile site and provide a suitable driving surface for heavy truck traffic. Pad material requirements, the stockpile layout, and size will be finalized after the preconstruction survey. Typical stockpile sites are discussed in [Section 3](#).

Camp Site

Development of the temporary self-contained camp will require the installation of pads of sufficient depth to permit the transport and erection of about 300 modular camp structures. Pad material requirements, camp site layout and size will be finalized after the preconstruction survey. Typical camp layout and services are described in [Section 3](#).

Start-up of camp activities will involve the mobilization of supplies and materials.

Water for the camp will likely be obtained from Inuvik, subject to negotiations with the town. The water will be transported by truck from the source to the camp site for use as camp and fire suppression water.

Operations Activities

The site will act as a staging area for the construction activities for a section of the project and, possibly, the Inuvik area facility.

Fuel Depot Operations

Fuel will be delivered by truck to the fuel depot from the existing bulk storage facility in Inuvik. This will reduce the size of the depot facilities at the Campbell Lake infrastructure site. Required fuel will be delivered from the depot to the construction sites. This will require daily truck traffic through the fuel depot during construction operations.

Stockpile Operations

The stockpile will be used to store material required for construction of the pipeline and possibly, the Inuvik area facility. The Dempster Highway and all-weather access road will be used for transporting equipment and material from the existing barge landing site in Inuvik and the Campbell Lake staging area to the Inuvik area facility stockpile site. This activity will primarily take place in the summer during the open-water barging season.

During the barge-unloading period (about seven weeks each year), trucks will operate continuously until all the required material has been stockpiled. A preliminary estimate of materials to be stockpiled at the infrastructure site includes about 37,200 tonnes of pipe and 6,940 tonnes of camp modules and supplies. A list of equipment that might be stored at the site is included in [Section 6](#) of this application and in [Section 7](#) of the Crown land use permit application.

During construction, the material required for constructing the project will be hauled from the stockpile site and set in place at the infrastructure site. When construction is underway, truck activity will occur along the proposed all-weather access road and the Dempster Highway and from Inuvik and the Campbell Lake infrastructure site to the Inuvik area facility site.

Camp Site Operations

The camp will be used to feed and house construction personnel. The largest element of the operations will be catering and housekeeping for camp residents. Other activities will include the maintenance operations of the camp and restocking of fuel and supplies by truck.

Daily transport of personnel will be required during construction activities along the pipeline right-of-way, and to and from the Campbell Lake infrastructure site. This will be accomplished with buses and light trucks. Food and other supplies will be trucked in periodically from Inuvik. Daily water truck cycles will bring the necessary volume of water (about 227 L per person daily or 300 m³ daily at full occupancy) to the camp.

The camp will have attendants and facilities to handle medical problems as they arise. All project camps will have a zero tolerance policy for alcohol and illegal drugs.

SUMMARY OF POTENTIAL ENVIRONMENTAL AND RESOURCES EFFECTS (PART 6)

ENVIRONMENT

The following topics provide specific biophysical and human environment setting, effects and mitigation information for the Campbell Lake infrastructure site. This information includes data gathered during the 2004 field studies.

A separate application has been submitted to the GLUPB for an exception to conditions related to the visibility of the Campbell Lake infrastructure site because of its proximity to the Dempster Highway.

Biophysical Environment

Air Quality Setting

Air quality setting information for Campbell Lake infrastructure site is expected to be similar to regional setting information for the GSA described in [Section 8](#).

Air Quality Potential Effects and Mitigation

Potential effects to air quality associated with the development of the Campbell Lake infrastructure site, such as dust, vehicle and equipment emissions, are expected to be limited and localized. Site-specific effects and mitigation are expected to be similar to regional effects and mitigation for the GSA described in [Section 8](#).

This infrastructure site might be a potential source of air emissions from space heating and from the incinerators used to manage certain types of combustible non-hazardous wastes. Air effects from these sources will be limited to the immediate vicinity of the site.

Noise Setting

Aside from any noise associated with traffic on the Dempster Highway, the noise setting information for the Campbell Lake infrastructure site is expected to be similar to the regional setting information for the GSA described in [Section 8](#).

The Campbell Lake site will be accessed by an all-weather road that will be constructed between the Dempster Highway and the Inuvik area facility.

The site is currently undeveloped and therefore, no manmade sources of light occur.

Noise Potential Effects and Mitigation

The potential effects of, and mitigation pertaining to, noise and lighting are discussed next. These items are combined because both affect sensory perception.

Potential noise effects associated with the development of the Campbell Lake infrastructure site are expected to be limited and localized. Site-specific effects and mitigation are expected to be similar to the regional effects and mitigation for the GSA described in [Section 8](#).

Industrial lighting can cause increases in ambient light. Sources of light include vehicles, flares and lighting around the site.

Lighting will be used during non-daylight hours, which, during the winter months, might mean periods where lighting is required on a 24 hour basis. Conversely,

during the late spring and through summer months, lighting will not be required at all because of the extended daylight hours.

The visual effect of lighting can be partially reduced by proper placement and use of lighting only in areas where it is required.

Soils, Landforms and Permafrost Setting

The Campbell Lake infrastructure site lies in a region of continuous permafrost with moderate visible ice contents ranging from 5.0% to 15%, and is characterized by soils of the Cryosolic Order. The site is located in an area of bedrock covered by a veneer of moraine, and is bordered to the southeast by a moraine plain. Access to the Dempster Highway to the south is across the same moraine plain that underlies the facility.

Soils, Landforms and Permafrost Potential Effects and Mitigation

Effects to soils, landforms and permafrost at the Campbell Lake infrastructure site are expected to be limited. Erosion and thaw settlement are not expected to occur because the land surface is level and bedrock is close to the surface. The construction of granular pads for the site will result in soil loss because of burial.

A discussion of general project effects, some of which might occur at the site, as well as general mitigation strategies to offset potential effects, are outlined in [Section 8](#).

Vegetation Setting

The Campbell Lake infrastructure site occurs in an area of black spruce/ground birch forest. Surveyed areas (rare plant and ecological land classification surveys, 2004) of this site are characterized by an open canopy of mature black spruce (averaging 7.0 m in height), with some areas also having a component of Alaska birch (see [Figure 4-2](#)). Dominant shrubs include green alder, ground birch, blue-green willow, bog bilberry and northern Labrador tea. Other species in the understory include prickly rose, mountain cranberry, red bearberry and black crowberry. Moss and lichens are abundant. No rare plants were observed in the surveyed areas of this site.

Vegetation Potential Effects and Mitigation

The Campbell Lake infrastructure site development will affect vegetation through clearing of trees and shrubs on the site and along the access road, burial of vegetation on the site by gravel, permanent changes in substrate with construction of pads, and potential changes in drainage around the site. Alteration of vegetation health through effects of dust might occur during construction, to a limited extent. Vegetation on pads will likely develop into a different vegetation community than what existed before development. Effects on vegetation due to the access road

will persist into the far future (effect extends beyond 30 years past decommissioning and abandonment) given the slow growing conditions in the North.



Figure 4-2: Example of Vegetation at Campbell Lake Infrastructure Site

Implementation of primary mitigation measures, as described in [Section 8](#), will help reduce the magnitude of effects on vegetation at the site.

Wildlife Setting

Wildlife habitat at the Campbell Lake infrastructure site is predominantly open black spruce forest. Shrub cover is closed and consists of alder, birch and willow. There are few snags and little coarse woody debris on the site. The Dempster Highway is immediately adjacent to the site.

Key wildlife species detected at the site (by sign or visual observation) included marten and moose. Key species were species selected because of their importance in the subsistence economy or because they are listed as species of conservation concern or as species of particular ecological relevance. A marten natal den was recorded at the site. Other wildlife recorded included red squirrel, American robin, bohemian waxwing and white-winged crossbill. The site provides high quality foraging habitat for grizzly bear (fall only), moose, marten and lynx (see Table 4-2). Little grizzly bear denning habitat occurs on the site. A peregrine falcon nest was observed about 500 m southwest of the Campbell Lake site, on the edge of a small lake across the Dempster Highway.

Overall habitat quality for wildlife at the site, based on habitat complexity and diversity, habitat rarity, proximity to disturbance, and wildlife species occurrence, was considered moderate for birds and mammals. The diversity of habitats and wildlife species at the site is low. Habitats at the site are also well represented in the surrounding region.

Table 4-2: Habitat Quality for Key Wildlife Species at Campbell Lake Infrastructure Site

Group	Species	Habitat Use	Habitat Quality ^a
Mammals	Barren-ground caribou	Winter foraging	Low
	Woodland caribou	Winter foraging	Low
	Moose	Winter foraging	High
	Grizzly bear	Fall foraging	High
		Spring foraging	Moderate
		Denning	Low
	Marten	Foraging	High
	Lynx	Foraging	High
	Beaver	Cover	Low
		Foraging	Low
Birds	Scaup	Nesting	Low
	Peregrine falcon	Nesting	Low
	Arctic tern	Nesting	Low
	Lesser yellowlegs	Nesting	Moderate
	Boreal chickadee	Nesting	Moderate
NOTE: ¹ Habitat quality was determined by comparing the vegetation and terrain characteristics at each site to each species' habitat requirements (such as, shrub availability for moose).			

Some species-at-risk, such as sensitive or threatened species, might also occur at the infrastructure site. Species-at-risk that might occur based on habitat availability, are summarized in [Table 4-3](#).

Species with a regulatory status designation are those that either the *Committee on the Status of Endangered Wildlife in Canada* (COSEWIC) or the Government of the Northwest Territories ranks as being sensitive to disturbance. They also include species listed under the *Species at Risk Act* (SARA) and the IUCN – The World Conservation Union (IUCN) *Red List of Threatened Species*.

Table 4-3: Species at Risk That Were Observed or That Might Occur at Campbell Lake Infrastructure Site

Species	Status ^b			
	RWED ^c	COSEWIC ^d	SARA ^e	IUCN ^f
Northern flying squirrel	Sensitive	-	-	Lower risk-least concern
Grizzly bear (northwestern population)	Sensitive	Special concern	Schedule 3-special concern ^a	Lower risk-least concern
Wolverine	Secure	Special concern	Schedule 3-special concern ^a	Vulnerable
Woodland caribou (boreal population)	Sensitive	Threatened	Schedule 1-threatened	Lower risk-least concern
Lesser yellowlegs	Sensitive	-	-	-
Northern flicker	Sensitive	-	-	-
Boreal chickadee	Sensitive	-	-	-
Gray-headed chickadee	May be at risk	-	-	-
American tree sparrow	Sensitive	-	-	-
Blackpoll warbler	Sensitive	-	-	-
White-throated sparrow	Sensitive	-	-	-
Harris' sparrow	Sensitive	-	-	-
<p>NOTES:</p> <p>^aIndicates that status is to be assigned (i.e. potentially added to Schedule 1) pending results of public consultation, stakeholder consultation, and final ministerial approval.</p> <p>^bA hyphen indicates no status has been assigned for that species.</p> <p>^cRWED – Resources, Wildlife and Economic Development</p> <p>^dCOSEWIC – Committee on the Status of Endangered Wildlife in Canada</p> <p>^eSARA – <i>Species at Risk Act</i></p> <p>^fIUCN – IUCN–The World Conservation Union</p>				

Wildlife Potential Effects and Mitigation

Mammals

Although the Campbell Lake infrastructure site and access road provide potential habitat for a number of mammal species, vegetation clearing will have little effect on regional habitat availability within the GSA. These effects, however, will be long-term because of slow vegetation regrowth at disturbed sites.

In addition to direct habitat loss, moose, marten and lynx might be affected by sensory disturbance during winter, resulting in displacement of a limited number of individuals from the vicinity of the access road. This will result in some habitat loss and potential disruption of movements. These effects will be localized and limited to the duration of site operations, resulting in little long-term effect on wildlife populations. Because sensory disturbance will primarily occur during winter, grizzly bears will likely not be displaced from the vicinity of the site and access road during their active period.

The site provides low quality denning habitat for grizzly bears. As a result, it is unlikely that bears would den at the site, resulting in little risk of bear mortality during site clearing.

Mortality of bears can also result from attraction of bears to infrastructure sites. Although the majority of site activities will occur during the winter when bears are hibernating, a small number of project staff might be on site during spring, summer and fall. At this time, bears might be attracted to the site because of human and industrial smells. Attraction of bears to the site will be mitigated by enforcing strict waste and food management policies. This will reduce potential bear mortality.

Development of an all-weather access road could result in increased trapping of marten, and lynx, as well as increased hunting moose and grizzly bear in the immediate vicinity. In addition, animals might be killed or injured by vehicle collisions. Prohibiting recreational use of the access road by project staff while on the job site and enforcing speed limits will reduce potential wildlife mortality.

Implementation of general mitigation measures, outlined in [Section 8](#), will reduce potential effects on mammals during infrastructure site and access road development and operations.

Birds

The Campbell Lake infrastructure site and approach provide habitat for several migratory bird species, including lesser yellowlegs. Migratory birds will be absent from the area from October to April, and will not be affected by sensory disturbance during winter operations. However, clearing will result in the loss of a

small amount of habitat relative to regional habitat availability in the GSA. The effects of habitat loss on migratory birds are considered local in extent, but long-term in duration because of slow vegetation regrowth at disturbed sites in the North.

Summer construction or excavation at this site will have a greater effect on migratory birds than winter clearing, through both sensory disturbance and vegetation clearing. Mitigation will be put in place to reduce potential disturbance or destruction of any nest sites, particularly in May through July, and into August for waterfowl. Vegetation clearing should occur primarily before May and avoid critical bird nesting habitat. Where practical, a vegetated buffer on vegetation clearing around raptor nests, depending on the species, will be considered.

Because clearing and operational activities will primarily occur during the winter, development of the site will not result in the destruction of migratory bird nest sites. However, work activities might overlap with the early nesting period of some resident birds, such as owls. Nesting birds will likely avoid the site and road if clearing or excavation activities are underway. As a result, little or no bird mortality is expected to occur because of activities at this site.

Resident species such as the boreal chickadee will be affected by noise and visual disturbances during site clearing, road clearing and use, camp occupation (primarily during winter), and reclamation activities. These effects might result in the displacement of some birds from the immediate vicinity of work areas and the road. However, the effects will be localized and limited to the duration of site operations, resulting in little long-term effect on resident bird populations.

Implementation of general mitigation measures, outlined in [Section 8](#), will reduce potential effects on birds during site development and operations.

Hydrology Setting

Campbell Lake is the only major waterbody close to this infrastructure site. The drainage area of Campbell Lake is 383 km². There are many unnamed watercourses draining into the lake. One of these watercourses runs within the site and along the Dempster Highway. It drains into a small unnamed lake about 2.0 km to the east and then into Campbell Lake. It has a drainage area of about 17 km² at its inlet to Campbell Lake.

Hydrology Potential Effects and Mitigation

Changes in runoff coefficients might occur with the development of the site. Runoff discharge and velocity will be greater in areas where vegetation has been removed and the land surface graded. A potential increase in mean annual flow because of the higher runoff coefficient of the disturbed area is not expected. The effect on flows in the receiving watercourse and on water levels in Campbell Lake will be undetectable.

Specific hydrology effects and mitigation for the Campbell Lake infrastructure site are expected to be similar to regional GSA hydrology effects and mitigation information described in [Section 8](#).

Groundwater Setting

The Campbell Lake infrastructure site lies within a region of continuous permafrost. The extent and depth of permafrost affects the distribution of groundwater. In areas of continuous permafrost, groundwater flow is seasonal and restricted to the active layer. Groundwater beneath the permafrost has little interaction with surface water or shallow groundwater.

Groundwater Potential Effects and Mitigation

Local alterations of surface water drainage patterns, because of the presence of gravel pads for the site, could result in changes to groundwater flow patterns. These effects are expected to be not detectable. General mitigation measures, such as the installation of ditches or culverts to restore surface water drainage patterns, will be used, as required.

Water Quality Setting

Campbell Lake is the only major waterbody close to the infrastructure site. There are numerous unnamed watercourses draining into the lake. Water quality data for this site is expected to be similar to regional data in the GSA described in [Section 8](#).

Water Quality Potential Effects and Mitigation

The Campbell Lake infrastructure site could affect water quality through the release of treated wastewater from the camp, leaks and spills, sediment releases from disturbed land, and changes in surface water flow and level resulting from water withdrawals.

Effects of domestic wastewater deposits will be managed using water treatment and disposal techniques that will reduce effects on water quality.

Effects of small-scale leaks will be reduced through management practices, contingency plans, and mitigation and emergency response plans (see [Section 11](#)).

Some localized effects on water quality because of sediment releases are expected. However, these effects are expected to be limited to small increases in concentrations of sediment-associated parameters, such as nutrients and metals. These increases are not expected to result in concentrations above water quality guidelines for the protection of aquatic life, or drinking water quality.

Changes to surface water levels and flows because of development are predicted to not affect water quality.

Standard regional water quality effects and mitigation information for the GSA are described in [Section 8](#).

Fish and Fish Habitat Setting

The Campbell Lake infrastructure site is crossed by a small unnamed watercourse, classified as a vegetated channel, which was dry in July 2003. A vegetated channel is a channel which has poorly defined flow paths or with drainage dispersed through shrubs or trees. The watercourse is connected to a small unnamed lake located about 2.0 km downslope. The unnamed lake drains into the northern basin of Campbell Lake, which is located about 1.0 km farther south.

Arctic grayling, Arctic cisco, broad whitefish, burbot, inconnu, lake trout, lake whitefish, least cisco, northern pike, and walleye have been reported in Campbell Lake. Habitat surveys of the north end of Campbell Lake were conducted in 2003. The bay surveyed provided suitable habitat for spawning, rearing, adult feed and holding, and overwintering for northern pike, sucker species, whitefish species, burbot, lake trout and walleye, and is suitable for all uses except spawning for Arctic grayling. The maximum depth of the bay surveyed was 15.8 m and a large part of the lake was deeper than 2.0 m. The lake bottom consisted primarily of sand and gravel near the shore. Gravel and cobble substrates suitable for lake trout, whitefish and sucker spawning were also present. Summer dissolved oxygen concentration in the surface waters was at or near saturation but was reduced to 6.5 mg/L near the bottom.

Fish and Fish Habitat Potential Effects and Mitigation

Adverse effects on fish and fish habitat from development of the Campbell Lake infrastructure site would be primarily related to direct disturbance of fish habitat by activities associated with the development of the site and indirect effects resulting from sediment in runoff. However, the Campbell Lake infrastructure site is located sufficiently far from any local fish bearing waterbodies that there will likely be no direct effects on fish habitat or effects related to runoff and sediment yield.

The topography at the site, maintaining a vegetated buffer zone between the site and local waterbodies, if required, and implementation of site-specific erosion and sediment control plans will prevent sediment from reaching the lake and other nearby surface waters.

Human Environment Setting

This topic provides information on the protected areas and heritage resource aspects of the human environment at the Campbell Lake infrastructure site. Regional aspects of the human environment are addressed in [Section 8](#).

Protected Areas Setting

The Campbell Lake infrastructure site is located within the Transportation Special Management Zone – Dempster Highway: Mackenzie River to Inuvik.

Protected Areas Potential Effects and Mitigation

The development of this site in the Transportation Special Management Zone will result in a decrease in the land base available for other land uses. Development within this zone will bring about a permanent change to the landscape.

The Campbell Lake infrastructure site is partially screened by trees and was selected, in part, because of its proximity to existing access that will reduce the potential footprint of this development. The site will also be operational primarily during the winter construction season, when the potential effect on tourism will be reduced.

Heritage Resources Setting

The Campbell Lake infrastructure site was inspected as part of the 2004 field reconnaissance program. This location was considered to have low potential for the discovery of heritage resources. Two previously recorded heritage resource sites are located within 5.0 km of the proposed development. However, no new heritage resources were identified during the recent investigation.

Heritage Resources Potential Effects and Mitigation

Prior to the development of this site, and if required, a Heritage Resource Impact Assessment will be conducted and provided to the Prince of Wales Northern Heritage Centre. If it is determined that the development will affect any heritage resources, mitigation plans will be prepared. Regulations in the Northwest Territories prevent the publication or distribution of this information to the public. This information can only be obtained, with explicit approval, from the Prince of Wales Northern Heritage Centre.

PUBLIC INVOLVEMENT

The Campbell Lake temporary infrastructure camp was proposed in the Campbell Lake area on GSA private lands. The Inuvik Town Administration preferred that the Campbell Lake camp be established in Inuvik, whereas the community residents expressed concerns about increased social problems with having a camp

too close to the community. After further consideration, Imperial re-confirmed that the proposed Campbell Lake camp would be located on GSA private lands near Campbell Lake.

EQUIPMENT (PART 10)

The following tables show an estimate of the equipment that might be required for the Campbell Lake infrastructure site. An exact list and numbers will not be known until immediately before construction. [Table 4-4](#) lists the site construction equipment. [Table 4-5](#) lists site operations equipment.

Table 4-4: Estimate of Site Construction Equipment

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Crew Cab Pick Ups – 2	4x4	Transporting crews
Bulldozers with GP buckets, U blades and brush rakes – 2	Large sized bulldozer (405 HP)	Site grading, pad and access road development, spreading granular material, snow removal
Dump trucks (double axle) – 2	Truck with trailer (12 m ³)	Hauling granular material
Front end loader with GP bucket – 1	Large sized loader (5.5 m ³ bucket loader)	Site preparation work
Road grader – 1	Large sized grader (4.9 m blade)	Site preparation work, grading ramps and access roads
Tracked mechanical ditcher – 1	Medium sized excavator (1.45 m ³ bucket)	Excavating and removing organic material
Tree feller-buncher and skidder – 1	Tracked 35,490 kg feller-buncher with a high speed saw head	Site clearing and timber hauling
Compactor -1	Medium sized compactor (20,879 kg sheepsfoot packer)	Compaction of camp site pad fill materials and access road construction
Cranes (tracked) – 1	Medium sized crane (100 t)	Unloading and placement of camp modules
Mechanics truck with welder -1	4x4	Equipment repair
Water truck – 1	Tandem axle, 16-24 m ³	Site and road work
Sea containers – 2	6 m	Storage
Mobile camp – 1	35 person	Site development
Fuel truck – 1	3785 L	Fuel for equipment
Skid steer loaders – 2	Large sized skid steer (80 HP)	Site work

Table 4-5: Estimate of Equipment to Operate the Infrastructure Site

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Sea containers – 4	6 m	Storage
Tractor trailers – 4	Dry van 14.6 m or 16.2 m	Parts and supplies
Road graders – 2	Large sized grader (4.9 m blade)	Earthwork, road maintenance and snow removal
Front end loader with GP bucket - 1	Large sized loader (5.5 m ³ bucket loader)	Movement of camp supplies and snow removal
Snow machines – 6	Small sized snow machine (400 cc)	Personnel transport
4x4 crew cab pick up – 4	4x4	Transporting crews
Crane (tracked) – 1	Medium sized crane (100 t)	Loading and unloading pipe, equipment and materials
Flatbed trucks with pickers – 2	10 ton truck	Transporting materials and maintenance
Truck and water tank trailers – 5	Tandem axle, 16-24 m ³	Bringing water to the camp for domestic use and fire protection
Skid steer loaders – 2	Large sized skid steer (80 HP)	Site work

FUELS (PART 11)

Table 4-6 itemizes fuel storage. This represents an estimate of fuel requirements.

Table 4-6: Estimate of Fuel Storage

Fuels	Number of Containers	Capacity of Containers	Location
Diesel	2	500,000 L	Fuel Depot
Diesel	2	50,000 L	Fuel Depot
Other	As required	As required	Fuel Depot

PERIOD OF OPERATIONS (PART 14)

Site operations will be continuous from 2006 through the summer of 2010, with the potential for limited activities after 2010. See Section 3 for a schedule of development activities in the GSA.

LOCATION OF ACTIVITIES BY MAP COORDINATES (PART 16)

Map coordinates of the site centroid are shown in Table 4-7. A map showing the location of the site is provided in Figure 4-3.

A photograph of the Campbell Lake infrastructure site appears in [Figure 4-4](#).

Table 4-7: Map Coordinates

Latitude (DD)	Longitude (DD)	UTM Easting (m)	UTM Northing (m)	UTM Zone
68.3115	-133.3238	569122	7578535	8

FEES (PART 18)

The total land area required for activities contained in this section is 25.2 ha.

The land requirements are shown in [Appendix A](#).

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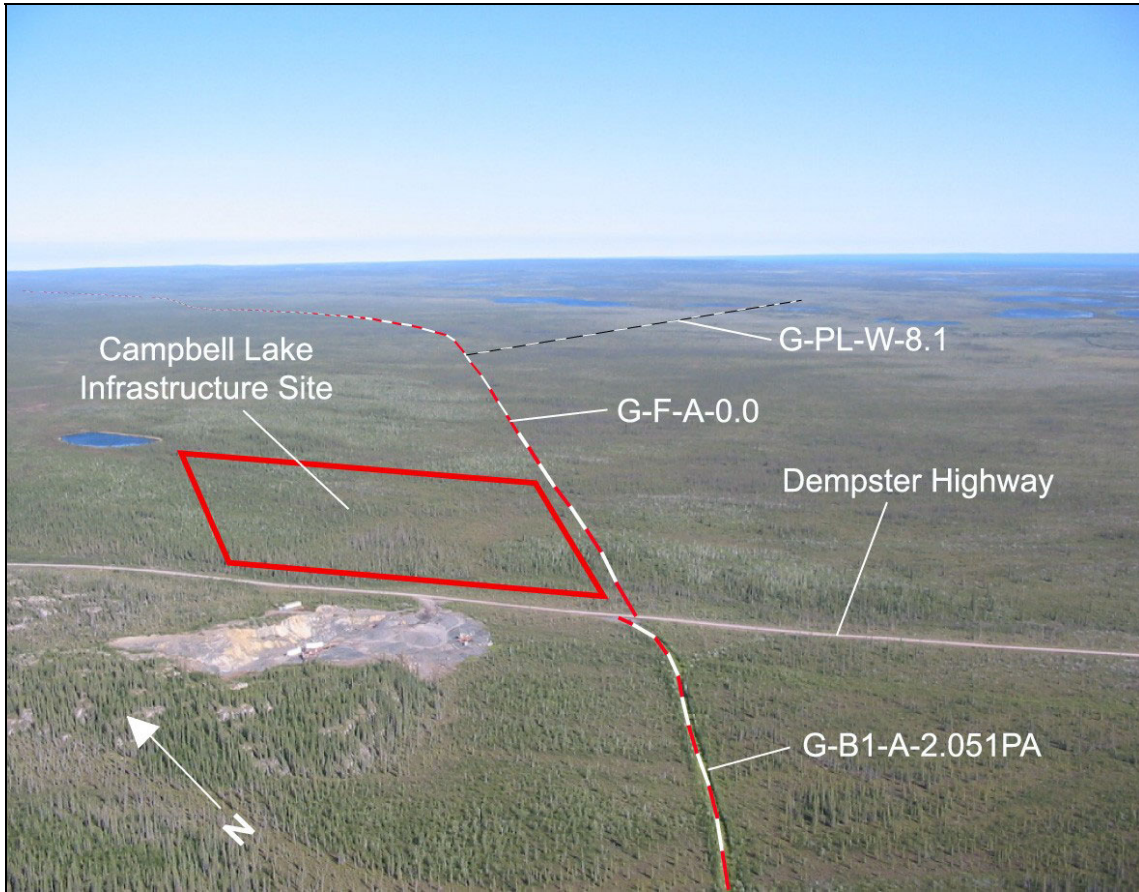


Figure 4-4: Campbell Lake Infrastructure Site

