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June 29, 2022

Sahtu Land and Water Board
Box 1
Fort Good Hope, Northwest Territories
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Attention:

RE: New 5 Year Term Land Use Permit and 5 Year Term Water Licence for MGM Energy for I-78 East Mackay Project

MGM Energy (“MGM”) is enclosing applications and associated supporting materials for a new Land Use Permit (“LUP”) and Water Licence (“WL”) for the I-78 East Mackay Project. The new LUP and WL will be a replacement for some of the project activities approved under the approvals S12A-001 and S12L1-001. The new applications do not include drilling or completions activities.

The scope of the applications is to allow for closure of the project. The applications in their entirety are a closure and reclamation plan for the project, MGM envisions the project area being closed within the next 5 years. Regarding security, MGM would note that it currently has security posted under S12A-001 in the amount of \$234,423 and under S12L1-001 in the amount of \$553, 579. MGM would suggest, given the goal of closure as the scope of the current applications, that the current posted security for this low risk project is sufficient.

If you have any questions regarding the above or enclosed please do not hesitate to contact the undersigned via e-mail at terence.hughes@paramountres.com or via phone at 403-206-3859.

Respectfully,
MGM Energy

Terence Hughes
Regulatory and Community Affairs Advisor

ENCL.



mgm
ENERGY

I-78 Land Use Permit and Water Licence Application
Attachment

Introduction

The East Mackay I-78 Wellsite Area (Wellsite Area) and East Mackay I-78 Staging Area (Staging Area), collectively called the Site, are located in the Sahtu Settlement Area (SSA), Northwest Territories (NWT). The Wellsite Area is located approximately 110 km southeast of Norman Wells. The Staging Area is located approximately 22 km north of the Wellsite Area along the banks of the Mackenzie River (Appendix A: Project Map). The Wellsite Area is approximately 2.7 ha and includes a Wellhead, Recovered Wellhead Bare Area and groundwater monitoring wells. The decommissioned Staging Area is a 0.80 ha parcel. Maps and an as built survey can be found in Appendix A of this document.

The drilling and construction activities for the well occurred in the 2012-2013 winter season, the well has remained in a suspended state since. MGM has been regularly been conducting environmental monitoring of the location and has been conducting Office of the Regulator Oil and Gas Operations (“OROGO”) inspections of the wellhead. On February 1, 2017 OROGO implemented the Well Suspension and Abandonment Guidelines and Interpretation Notes (“the guidelines”). To comply with the guidelines MGM Energy (“MGM”) is planning on abandoning wellbore, removing the wellhead and completing any reclamation activities that are needed.

Regulatory Background and Approvals

To undertake the original activity, MGM sought and received, a Land Use Permit (“LUP”) and Water Licence (“WL”). The original project was subject to a preliminary screening, the report can be found at [Preliminary Screening.pdf](#). The LUP and WL are listed below in Table 1.

Table 1: Historical LUP and WL

Regulatory Authorization	Registry Link
S12A-001	https://slwb.com/registry/S12A-001
S12L1-001	https://slwb.com/registry/S12L1-001

The drilling of the well was authorized by the National Energy Board. Since that time devolution has occurred and OROGO has been created, as a result the abandonment will be conducted under their regulatory jurisdiction.

Biophysical Environment

The project falls within the Mackenzie River Plain Ecoregion. This ecoregion extends from north of Fort Good Hope on the west side of the Mackenzie River to Wrigley. It is a narrow northern extension of the boreal forest along the east side of the Mackenzie River. The ecoregion is marked by cool summers and very cold winters. The mean annual temperature is approximately -6.5°C. The mean summer

temperature is 11.5°C and the mean winter temperature is -24.5°C. The mean annual precipitation ranges from 300 to 400 mm. The ecoregion is classified as having a subhumid high boreal ecoclimate.

The ecoregion is a broad, rolling, drift-covered plain lying between Mackenzie and Franklin mountains, into which the Mackenzie River is entrenched for part of its course. Native vegetation consists predominantly of medium to tall, closed stands of black spruce and jack pine with an understory of feathermoss, bog cranberry, blueberry, Labrador tea, and lichens. White spruce, balsam fir, and trembling aspen occur in the warmer, moister sites in the southern section of the region. Drier sites have more open stands of black spruce and jack pine. Low, closed and open stands of black spruce, ericaceous shrubs, and sphagnum mosses dominate poorly drained, peat-filled depressions. Wetlands cover 25-50% of the ecoregion, and are characteristically peat plateau bogs, and ribbed and horizontal fens. Permafrost is extensive and discontinuous with medium ice content and is characterized by sparse ice wedges. Dominant soils in the ecoregion are Organic and Turbic Cryosols and Eutric and Dystric Brunisols with some Regosols that have developed on terraced to rolling morainal, alluvial, lacustrine, and organic deposits.

Characteristic wildlife includes moose, caribou, musk ox, grizzly bear, black bear, beaver, fox, wolf, hare, raven, grouse, and waterfowl. Limited forestry, oil production near Norman Wells, hunting, and trapping are the principal land use activities. The main communities include Norman Wells and Tulita.

Pre-disturbance Conditions

The pre-disturbance assessment confirmed that the dominant forest species at the two campsites and in the north and south of the area of search are willow and black spruce; the latter is stunted and ranges in height from less than 0.5 m to approximately 6 m at campsite #1, and north of the area of search. Mountain alder is also dominant in the north of the area of search and camp site #2. Labrador tea, lichen, mosses, and grasses are dominant understory species at each site. Previously disturbed areas (cutlines and abandoned well sites) have grown in with deciduous shrubs and trees. The pre-disturbance assessment also confirmed that the north of the area of search is located in a burn area with regrowth stunted black spruce and recent new growth.

Observed vegetation within the Project area included: Black spruce *Picea mariana* Blueberry *Vaccinium corymbosum* Willow *Salix* spp. Sphagnum moss *Sphagnum* spp. Mountain alder *Alnus viridis* Birch *Betula* spp. Labrador tea *Ledum groenlandicum* Mosses Undifferentiated Lichen (reindeer) *Cladonia rangiferina* Grasses Undifferentiated The Government of Canada Species at Risk Website species index was examined to determine the status of plants, lichens, and mosses potentially existing in the Project area. The search did not reveal any flora species at risk within the Project area. The GNWT's Environment and Natural Resources (ENR) Species Monitoring Infobase web search application was examined to determine the status of plants, lichens, and mosses potentially existing in the Sahtu region of the NWT. The search did not reveal any flora species at risk within the Sahtu region of the NWT. The potential for direct disturbance of plant species is low given that this Project will be conducted during the winter.

No wildlife was observed during the Pre-Disturbance Assessment of the project area; however, moose tracks were seen at campsite #1 and the south of the area of search. Moose and two wolves were observed from the helicopter scout of the surrounding area. Specific wildlife surveys were not conducted. The only structures in the area was the presence of a 3rd party trailer at the staging area.

Pre-disturbance assessment from 2011 is included as Appendix B of this document.

Current Conditions

The project area was last observed in 2020. Due to Covid the field monitoring program was cancelled in 2021.

Wellsite

No terrain stability concerns were observed at the Wellsite Area during the site visit. Terrain conditions observed to be stable. No evidence of soil contaminants such as sheen, surface staining, or surface crusts were observed at the Wellsite Area. Site had naturally revegetated in lease area around wellhead location. Native vegetation cover and health on the Wellsite Area was meeting land use permit S12A-001 requirements (>70% vegetation cover, in healthy condition). Recovered wellhead bare area continued to have a well-established vegetation cover and was meeting permit requirements. Vegetation appeared healthy; no health issues observed. No invasive plants/weeds observed within the Site during the site visit. Moose hoof prints were observed within the Wellsite Area during the site visit. No other wildlife signs of use were observed within the Wellsite Area during the site visit.

Staging Area

No terrain stability concerns were observed at the Staging Area during the site visit. No standing water was sampled during the site visit. No standing water was observed at the Staging Area during the site visit. Surface staining (oily residue) on the ground below the kerosene/fuel tank. The fuel tank is associated with the third-party trailer located in the southwest corner of the site. West end of Staging Area has naturally revegetated with native trees, shrubs, and forbs. Vegetation cover was meeting permit requirements (>70% cover, healthy conditions). East portion has revegetated with seeded agronomic grasses and legumes and has naturally revegetated with native trees, shrubs, and forbs. Vegetation cover in the east portion of the Staging Area was approximately 55% to 70% cover. Vegetation appeared healthy; no health issues observed. Overall, vegetation cover in the east portion met land use permit conditions for vegetation health but was slightly under for vegetation cover (<70% cover). Previously observed invasive plant locations were not monitored during the 2020 site visit.

Species at Risk

SPECIES	STATUS IN NWT		STATUS IN CANADA	
	SARC Assessment	NWT List of Species at Risk	COSEWIC Assessment	Federal Species at Risk Act list
Barren-ground Caribou	Threatened	Threatened	Threatened	Under Consideration
Boreal Caribou	Threatened	Threatened	Threatened	Threatened
Grizzly Bear	Special Concern	No status	Special Concern	Special Concern
Northern Mountain Caribou	Special Concern	Special Concern	Special Concern	Special Concern
Wolverine	Not At Risk	No status	Special Concern	Special Concern
Bank Swallow	Not applicable	Not applicable	Threatened	Threatened
Barn Swallow	Not applicable	Not applicable	Special Concern	Threatened
Common Nighthawk	Not applicable	Not applicable	Special Concern	Threatened
Horned Grebe	Not applicable	Not applicable	Special Concern	Special Concern
Olive-sided Flycatcher	Not applicable	Not applicable	Special Concern	Threatened
Peregrine Falcon anatum/tundrius complex	Not At Risk	No status	Not at risk	Special Concern

SPECIES	STATUS IN NWT	STATUS IN CANADA	SPECIES	STATUS IN NWT
Red-necked Phalarope	Not applicable	Not applicable	Special Concern	Special Concern
Rusty Blackbird	Not assessed	No status	Special Concern	Special Concern
Short-eared Owl	Not assessed	No status	Threatened	Special Concern
Bull Trout	Not applicable	Not applicable	Special Concern	Special Concern
Shortjaw Cisco	Not applicable	Not applicable	Threatened	No status
Gypsy Cuckoo Bumble Bee	Data Deficient	No status	Endangered	Endangered
Suckley's Cuckoo Bumble Bee	Not assessed	No status	Threatened	Under Consideration
Transverse Lady Beetle	Not assessed	No status	Special Concern	Special Concern
Yellow-banded Bumble Bee	Not At Risk	No status	Special Concern	Special Concern

[NWT Species at Risk](#)

Project Activities

The Project will need to be executed in multiple stages with each main activity requiring different equipment and personnel requirements. The table below provides a summary of the main activities for the proposed project.

Program Activity	Associated Tasks	Timing
Staging and Mobilization	Movement of equipment to the project area or the region to enable construction and abandonment activities to start as early as possible	Summer months
Construction and Operation of Ice Road and Ice Pad	Includes the construction and maintenance of ice roads and ice pads for well site, staging site and camp, to facilitate abandonment activities,	December through March
Abandonment	Abandonment operations.	January or February
Reclamation and Remediation	Scarification, seeding and recontouring. In-situ remediation and soil removal if necessary.	February Summer and fall months (if required)
Demobilization	Includes demobilization of equipment and material from staging sites, wellsites, camps and any other associated infrastructure by either ice road or storage in Colville Lake or Norman Wells at the end of the season.	February through April
Monitoring	Monitoring site conditions post abandonment and reclamation activities	Subsequent years

Project Equipment

Construction Equipment	Number	Weight per unit
Trucks (e.g. vacuum and water)	2	40,000 lb
Front end loaders with optional attachments	2	29,000 lb
Graders	2	45,000 lb
Plough/auger truck	2	35,000 lb
Pick-up trucks (personnel vehicles)	10	7000 lb
Bulldozers	4	36,000 lb
Trackhoe	2	79,700 lb
Backhoe (rubber-tired)	2	15,000 lb
Snow cats	4	18,000 lb
Dump trucks	2	56,000 lb

Snowmobiles (gasoline)	4	500 lb
Snow making machines(s) and/or spray ice pump & monitor(s)	2	40,000 lb
Sleigh Camps	1	46,000 lb
Accessory and support equipment (e.g., power generators, light towers, tanks)	2	6,000 lb (generator) 2,000lb (Light Tower)
Communication systems (e.g., radios)	20	2 lb

Abandonment Equipment	Number	Weight per unit
40 Man Camp	1	352,000 lb
Service rig	1	110,000 lb
Service Rig Pump and tank	1	62,000 lb
Spare Rig Pump	1	41,000 lb
Catwalk & Pipe Racks	1	40,000 lb
100 to 150 HP Boilers	2	44,000 lb
Wellsite Shacks	2	51,000 lb
Eline/Slick line unit combo unit	1	66,000 lb
P-Tank unit with flare stack	1	53,000 lb
Jet Cut equipment for cut and cap operations	1	66,000 lb
Back Hoe for cut cap operation	1	15,000 lb
Bed Truck for hauling equipment	2	95,000 lb
Picker Truck for hauling equipment	2	95,000 lb
Water tank truck for produced Fluid	1	40,000 lb
Potable Water Trucks	1	40,000 lb
Hydrovac truck	1	40,000 lb
Vacuum Truck	1	70,000 lb

Cement Pumpers	1	75,000 lb
Cement Bulker	1	32,000 lb
Heated insulated 63.56m ³ tanks for fresh water	2	11,000 lb
Heated insulated 63.56m ³ tanks for produced water	1	11,000 lb
Snow mobiles	2-4	500 lb
Methanol Storage 10m ³	1	25,000 lb
Secondary containment for tanks	2	4400 lb

Personnel Requirements

Approximately 40 personnel will be required for the construction phase of the project. Approximately 30 personnel are expected to be required for the abandonment phase of the project.

Fuel Requirements

Fuel requirements for abandonment operations not including construction:

- Service Rig and Boiler = 2000Liters/day x 60 days. = 120,000 Liters.
- Camp = 3000 Liters/day x 60 days = 180,000 Liters.
- Trucks /Generators/Light Towers and Miscellaneous = 1000 Liters/day x 60 = 60,000 Liters.
- Propane 100 Liters/Day (Testers/camp).
- 2000 Liters jet fuel if required;
- 1000 Liters of gasoline.

Fuel Type	Volume Liters	Purpose/Requirement	Storage Location
Diesel	360,000	Abandonment Operations/ Road and pad construction	On lease, camp and staging area.
Propane	6000	Abandonment Operations.	On lease/camp and trucked in as required.
Jet Fuel	2000	For air Service	Camp or Staging area.
Gasoline	1000	Snowmobiles	On lease and camp.

Water Use

MGM is applying for 50,000 m³ of water annually for the abandonment program. MGM anticipates using that volume only in the year of the abandonment program, other years the anticipated volume is anticipated to be 0 m³. MGM is basing the volume request on the usage from the drilling programs, the volume required for the abandonment program will likely be less, but MGM is erring on the side of caution for the estimate. It is anticipated that 3000 m³ will be required for the abandonments and camps, the remainder would be used for ice road and pad construction. The source will be the Mackenzie River, as was previously used for the drilling project.

Waste

Details of waste management can be found in the project Environmental Protection Plan.

Closure and Reclamation

The scope of this application is closure and reclamation, no other activities are considered other than monitoring related to pre-closure and post-closure monitoring. Through the extensive monitoring of the site, by both the Government of Northwest Territories Lands Department and MGM, which is documented on the public registry at <https://slwb.com/registry/S12A-001>. The goal of the closure and reclamation activities will be to return the site to an equivalent of the pre-disturbance state and meet any vegetation requirements from the previous and new LUP.

The scope of work MGM has identified is to abandon the well to the satisfaction of the OROGO guidelines for abandonment and suspension, the wellhead will be removed. Remediation activities that need to take place are limited to the well head area relating to contaminated soil. MGM will remove the contaminated soil from the Northwest Territories to an appropriate Class II landfill in either Alberta or British Columbia. Paramount will backfill the area and this activity will address the Land Use Inspector's concern with slumping at the wellhead. The site currently has good vegetation cover, MGM will use good construction practices to preserve as much of the vegetation as possible.

The greatest risk to closure identified by MGM is invasive vegetation species at the wellsite. MGM is plans to mitigate this risk by using Northern based equipment where possible and ensuring all equipment is properly cleaned prior to entering the project area. MGM does not anticipate the need for seeding, which further reduces the risk of invasive vegetation species.

The staging area, which existed prior to MGM using it, will be left as is as it was and continues to be used by a 3rd party.

Socio-Economic Impact

Given the suspended and abandoned state of the I-78 Project, socio-economic benefits are expected to be limited in most years. Annual monitoring is the only sustained activity associated with the Project in the current state, most of which is handled by Northern Companies. One year of abandonment activities in the life of the LUP and WL will see a dramatic increase in socio-economic opportunities associated with the project. A wide variety of contracting and employment opportunities, as outlined in this document, will be available. Through its engagement activities, MGM has been making stakeholders aware of those opportunities and to make itself aware of local capacity that can be utilized in its activities. MGM will prepare a Benefits Plan related to the abandonment and subsequent monitoring activities to the Department of Industry, Tourism and Investment. MGM will report annually on the socio-economic outcomes of the project.



Government
of Canada

Gouvernement
du Canada

Monthly Discharge Data for MACKENZIE RIVER AT NORMAN WELLS (10KA001) [NT]

All times are specified in Local Standard Time (LST). Add 1 hour to adjust for Daylight Saving Time where and when it is observed.

Monthly Mean Discharge (m³/s)

This table provides monthly mean value for a station.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
2020	3,980	3,800	3,750	3,870	13,400	23,400	22,500	19,800	17,800	12,400	8,570	6,220	11,600
2019	3,510	3,360	3,180	4,750	9,720	13,600	11,300	10,200	9,450	8,100	5,120	4,190	7,210
2018	3,780	3,690	3,610	3,680	13,400	14,400	15,000	10,500	8,470	6,830	5,220	3,540	7,680
2017	3,880	3,910	3,780	4,170	12,200	17,200	16,300	11,600	9,240	7,390	4,370	3,620	8,140
2016	3,330	3,250	3,190	3,540	13,700	15,100	13,400	9,940	10,900	8,310	4,060	2,970	7,640
2015	3,490	3,370	3,230	3,780	14,100	12,900	11,200	11,100	9,770	8,190	4,760	3,270	7,430
2014	3,660	3,410	3,430	3,670	12,700	15,900	14,500	10,100	8,160	7,590	3,970	3,470	7,550
2013	4,100	3,830	3,770	3,890	12,700	19,700	14,900	12,500	10,700	9,480	5,480	3,700	8,730
2012	4,140	3,530	3,330	3,720	14,200	22,800	14,500	11,000	10,400	8,300	4,130	3,860	8,660
2011	3,480	3,180	2,970	3,330	13,000	16,400	15,400	13,400	10,900	8,950	4,300	4,290	8,300
2010	4,260	4,150	3,960	4,920	14,300	13,000	14,000	11,100	10,900	8,260	5,030	3,230	8,090
2009	3,880	3,500	3,340	3,520	15,700	20,300	16,900	11,900	12,200	9,690	5,340	3,530	9,150
2008	5,000	4,070	3,570	3,770	16,500	19,500	16,900	11,500	9,830	8,560	5,460	3,380	9,000
2007	3,530	3,090	2,930	3,920	15,300	18,400	19,300	14,700	11,400	10,200	6,350	4,080	9,430
2006	3,730	4,220	4,490	4,480	16,800	22,700	14,500	11,000	9,930	8,340	4,100	3,430	8,980
2005	3,940	3,650	3,560	4,190	18,700	18,100	14,300	12,100	11,400	9,730	6,740	3,600	9,170
2004	4,260	3,890	3,530	3,820	12,800	17,300	12,400	9,370	8,060	7,510	3,690	3,590	7,520
2003	3,870	3,620	3,430	3,860	13,300	17,300	15,500	11,200	9,520	8,810	5,140	3,770	8,280
2002	4,610	4,120	3,640	3,640	11,200	17,300	15,700	14,200	11,400	8,670	4,430	3,990	8,580
2001	-	-	-	-	-	20,100	16,900	12,300	11,300	9,770	6,140	3,700	-
2000	-	-	-	-	-	13,800	14,300	12,400	11,200	8,980	-	-	-
1999	-	-	-	-	-	18,300	13,800	11,400	9,580	7,910	-	-	-
1998	-	-	-	-	-	16,400	12,600	9,890	8,340	-	-	-	-
1997	-	-	-	-	-	20,700	18,100	16,100	13,300	-	-	-	-
1996	2,960	2,820	2,880	3,280	12,800	15,200	16,700	14,100	13,600	10,300	-	18,100	-
1995	3,740	2,880	2,320	2,910	10,900	10,700	8,960	9,130	8,120	6,270	2,340	3,310	5,970
1994	4,020	3,600	3,360	3,820	15,300	16,900	14,800	10,600	9,160	8,250	3,890	3,590	8,110
1993	3,580	3,580	3,650	4,220	16,400	16,900	13,600	12,100	9,880	8,320	4,700	3,380	8,360
1992	5,500	4,960	4,670	4,920	18,600	24,400	17,900	12,200	9,220	8,220	5,010	3,320	9,910
1991	4,280	3,940	3,730	4,230	17,300	17,100	19,200	13,500	11,700	9,680	4,260	4,860	9,480
1990	3,980	3,960	3,590	4,100	12,900	19,300	14,700	12,700	10,800	8,620	3,280	4,310	8,520
1989	4,340	3,690	3,400	3,360	15,900	17,800	12,900	11,000	9,160	7,950	3,550	4,560	8,130
1988	3,780	3,650	3,610	4,140	14,300	19,100	24,700	15,100	12,500	8,890	4,630	4,190	9,880
1987	3,740	3,550	3,560	3,700	12,700	16,500	14,500	13,100	10,600	9,100	4,220	3,230	8,210
1986	3,390	3,220	3,020	3,040	12,900	19,200	18,700	13,600	10,400	9,880	4,120	4,150	8,800

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1985	4,050	4,020	3,700	3,940	15,000	18,400	17,000	12,100	11,000	8,280	3,260	3,900	8,720
1984	2,860	2,840	2,770	3,470	10,000	15,300	15,900	12,800	11,300	8,450	3,260	3,990	7,750
1983	3,050	3,000	2,990	3,170	10,300	18,300	12,700	12,100	9,800	7,980	4,440	2,740	7,550
1982	2,430	2,340	2,250	2,430	13,100	18,500	12,900	12,300	10,100	8,630	5,530	3,240	7,810
1981	-	-	-	-	-	16,400	12,300	9,010	8,290	7,930	7,720	6,060	-
1980	-	-	-	-	-	13,200	12,800	11,000	8,860	8,830	-	-	-
1979	3,090	2,930	2,920	3,040	10,200	19,600	19,700	13,800	11,100	9,010	6,330	2,250	8,660
1978	3,620	3,400	3,230	3,400	13,000	15,800	14,200	11,400	9,340	7,810	3,990	2,890	7,670
1977	3,040	2,940	2,980	3,600	14,000	22,000	16,600	13,600	10,600	8,960	4,550	3,840	8,890
1976	3,520	3,110	2,920	3,630	14,300	18,400	20,200	15,600	13,000	9,760	6,120	2,980	9,460
1975	4,510	3,920	3,680	3,710	18,500	19,600	18,500	13,800	10,600	9,370	4,140	4,100	9,540
1974	3,460	3,020	2,620	2,920	12,900	19,200	18,800	18,100	12,800	10,500	6,810	4,590	9,640
1973	3,540	3,420	3,290	3,300	14,800	20,200	16,400	12,700	12,200	9,130	4,970	3,700	8,970
1972	2,880	2,590	2,480	2,430	11,300	22,000	18,500	15,100	10,600	8,440	4,760	3,790	8,740
1971	2,700	2,550	2,400	2,490	14,900	17,800	15,400	10,900	9,130	7,940	4,660	3,390	7,860
1970	2,480	2,410	2,360	2,510	6,680	17,900	14,600	11,800	9,330	8,010	4,990	3,220	7,190
1969	2,260	2,130	2,190	2,830	12,400	15,100	13,300	12,100	10,500	8,390	5,050	3,000	7,440
1968	2,770	2,760	2,610	3,110	12,200	17,300	17,800	11,900	10,600	7,730	5,230	2,830	8,070
1967	4,000	3,770	3,450	3,080	9,390	20,100	17,000	13,000	10,800	9,260	6,420	2,700	8,580
1966	6,610	3,970	3,440	3,490	7,390	17,800	17,100	13,700	11,000	9,700	4,730	3,930	8,570
1965	-	-	-	-	-	16,600	16,200	12,700	11,100	10,500	10,000	9,260	-
1964	-	-	-	-	-	-	17,700	16,200	13,600	-	-	-	-
1963	6,680	4,750	4,090	3,750	-	-	21,100	15,100	13,700	11,600	-	-	-
1962	4,350	3,000	2,810	-	-	-	-	-	-	13,400	10,000	8,920	-
1961	-	-	-	-	-	-	-	-	10,500	9,970	7,810	6,000	-
1955	-	-	-	-	-	-	19,100	14,400	10,100	-	-	-	-
1954	-	-	-	-	-	17,200	14,800	13,600	11,400	-	-	-	-
1953	-	-	-	-	-	12,900	14,200	11,300	9,680	-	-	-	-
1952	-	-	-	-	-	-	16,300	-	-	-	-	-	-
1951	-	-	-	-	-	14,800	15,100	11,700	-	-	-	-	-
1950	-	-	-	-	-	13,700	12,600	11,700	-	-	-	-	-
1949	-	-	-	-	-	18,500	19,000	16,600	-	-	-	-	-
1948	-	-	-	-	-	14,600	14,600	11,400	12,300	-	-	-	-
1947	-	-	-	-	-	19,700	15,300	11,700	10,400	9,000	-	-	-
1946	-	-	-	-	-	10,000	8,540	6,920	-	-	-	-	-
1945	-	-	-	-	-	11,900	10,300	8,010	6,590	6,460	-	-	-
1944	-	-	-	-	-	-	12,900	11,500	8,980	-	-	-	-
1943	-	-	-	-	-	10,800	12,800	-	-	7,470	-	-	-
Mean	3,790	3,450	3,270	3,600	13,400	17,300	15,500	12,400	10,600	8,830	5,140	4,220	8,460
Max	6,680	4,960	4,670	4,920	18,700	24,400	24,700	19,800	17,800	13,400	10,000	18,100	14,000
Min	2,260	2,130	2,190	2,430	6,680	10,000	8,540	6,920	6,590	6,270	2,340	2,250	4,880

Station Information

Active or discontinued:

Active

Province / Territory:

Northwest Territories

Latitude:

65° 16' 19" N

Longitude:

126° 51' 00" W

Gross drainage area:	1,590,000 km ²	Effective drainage area:	N/A
Record length:	77 Years	Period of record:	1943-1956; 1960-1961; 1962-1981; 1982-2001; 2002-2022
Regulation type:	Regulated	Regulation length:	N/A
Real-time data available:	Yes	Sediment data available:	Yes
Type of water body:	River	RHBN:	No
EC Regional Office:	YELLOWKNIFE	Current Operation Schedule:	Continuous
Data contributed by:	N/A	Operation Period:	N/A
Vertical datum of published data:	ASSUMED DATUM		

[For more information on datum conversion](#)

Data Collection History

This table contains information pertaining to the historical changes of defined elements in the operation of a station.

	Type	Operation schedule	Gauge type
1943 - 1956	Flow	Seasonal	Manual
1960 - 1961	Flow	Miscellaneous	Manual
1962 - 1979	Flow	Continuous	Recorder
1980 - 1981	Flow	Seasonal	Recorder
1982 - 2001	Flow	Continuous	Recorder
2002 - 2022	Flow & Level	Continuous	Recorder

Click [here](#) for further information on remarks.