

December 29, 2022
HP-MG003-EV-136-0034_0

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Dear Mr. Courville,

Re: Greenstone Mine, Annual Report for the Environmental Impact Statement, Condition 2.10

Greenstone Gold Mines GP Inc. (GGM) proposes to construct, operate and ultimately decommission/close a new open pit gold mine, process plant, and associated ancillary facilities, collectively known as the Greenstone Mine (the Mine). The Mine's Environmental Impact Statement was approved by the federal Minister of the Environment as outlined in the Decision Statement issued December 10, 2018, under Section 54 of the Canadian Environmental Assessment Act, 2012. The Annual Report for the Environmental Impact Statement, Condition 2.10 has been developed and submitted to satisfy Federal EIS Condition 2.10.

Should you have any questions or comments, please contact the undersigned.

Sincerely,

<original signed by>

Eric Lamontagne
General Manager

cc: Michelle Fraser, Stantec Consulting Ltd.
Mike Johns, Stantec Consulting Ltd.
Lesley Lorrimer, Stantec Consulting Ltd.
Laura Vares, Greenstone Gold Mines
Pete Pajunen, Greenstone Gold Mines

Greenstone Mine

Annual Report for the Environmental Impact Statement, Condition 2.10

HP-MG003-EV-136-0034_0

December 29, 2022

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List of Acronyms

AFN	Aroland First Nation
AZA	Animbiigoo Zaagi'igan Anishinaabek
BMMP	Biodiversity Management and Monitoring Plan
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EAC	Environmental Advisory Committee
ECCC	Environment and Climate Change Canada
GFN	Ginoogaming First Nation
GGM	Greenstone Gold Mines
IAAC	Impact Assessment Agency Canada
LLFN	Long Lake #58 First Nation
MDMER	Metal and Diamond Mining Effluent Regulations
MECP	Ontario Ministry of the Environment, Conservation and Parks
MNO	Métis Nation of Ontario
MNRF	Ontario Ministry of Natural Resources and Forestry
MTO	Ontario Ministry of Transportation
RSMIN	Red Sky Métis Independent Nation
WRSA	Waste Rock Storage Area

Executive Summary – English

Greenstone Gold Mines (GGM) is currently constructing and plans to operate and ultimately decommission/close a new open pit gold mine, process plant, and associated ancillary facilities, collectively known as the Greenstone Mine (the Mine), formerly known as the Hardrock Project (the Project). The Mine site is located just south of Geraldton, Ontario, within the municipality of Greenstone, at the intersection of Highway 11 and Highway 584.

The Minister of the Environment and Climate Change issued a Decision Statement under Section 54 of the Canadian Environmental Assessment Act, 2012 (Decision Statement, dated December 10, 2018) for the Project's Environmental Impact Statement (EIS) (Stantec 2018), which included a series of conditions to be met for GGM to proceed with the Project. This report is submitted to meet the Annual Report requirements described under Condition 2.9 of the Decision Statement and describes activities undertaken by GGM to comply with each of the conditions in the Decision Statement during the reporting period of October 1, 2021 to September 30, 2022.

Although some construction activities began in 2021, construction of major site infrastructure began in 2022 including the highway realignment, historical tailings Containment Cell No. 1, aggregate pits, Tailings Management Facility (TMF) dams, Goldfield Creek realignment, full scale effluent treatment plant (ETP), Starter Pit, mill and office buildings.

During the 2022 monitoring period, the Following follow-up monitoring plans were implemented:

- A Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a)
- Biodiversity Monitoring and Management Plan (GGM 2022a)
- Greenstone Mine Current Use of Lands and Resources for Traditional Purposes – Follow-Up Plan (GGM 2020a)
- Indigenous Peoples Health Risk Assessment Follow-up Plan (GGM 2020b)
- Federal Condition 2.10 Annual Report (this report)

This follow-up program describes the results of the October 2021 through September 2022.

GGM has established environmental advisory committees with the local Indigenous groups, which meet regularly. These committees have agreed upon methods of communication, types of information to be provided, review timelines, and discussion of views/information.

As per the requirements of federal Condition 3.14, GGM has developed and implemented measures to control erosion and sedimentation. An Erosion and Sediment Control Plan (ESCP) (GGM 2020d) was implemented to mitigate potential effects of erosion and sedimentation on fish and fish habitat. Erosion and sediment control measures were regularly inspected to verify the effectiveness. Management practices were implemented to protect the environment, and to determine whether new management strategies and/or mitigation measures were required.

The Fish and Fish Habitat Follow-up Monitoring Plan identifies methods for monitoring water quality in Kenogamisis Lake, Mosher Lake, and the Southwest Arm Tributary (SWAT). During routine monthly sampling, surface water samples were completed as grab samples and were submitted to an accredited laboratory for analysis. Additionally, in-situ temperature, pH, conductivity, turbidity, and dissolved oxygen (DO) were measured at the water surface during sample collection using a multi parameter water quality meter. Temperature and DO water column profile sampling was also completed quarterly (February, June, August, October) at eight surface water monitoring locations. Surface water quality data collected at 10 trigger monitoring stations were compared to seasonal surface water quality trigger thresholds described in the 2022 Fish and Fish Habitat Federal EIS Follow-Up Monitoring Report (GGM, 2021a). Ten (10) Trigger Threshold 2 investigations were undertaken in the 2022 reporting period to evaluate surface water quality trends and potential reasons for observed results. In summary:

- Trigger Threshold 2 investigations for uranium at Station 39, arsenic at Station 8, and iron at Stations 26 and 39. These are not believed to be mine related but can be attributed to natural variability.
- Trigger Threshold 2 investigations for iron at stations 8, 24, 49 and 53 suggested that elevated concentrations of iron may be related to either natural variability or issues related to laboratory analyses. A laboratory investigation is ongoing. The investigation into the laboratory data needs to be completed prior to concluding the potential source of increased iron concentrations at these stations.
- Trigger Threshold 2 investigation for total phosphorous at station 25 concluded that no direct link of total phosphorus exceedances at Station 25 and mine related activities can be established.
- Trigger Threshold 2 investigation for arsenic at station 25 suggested that the source of the increased arsenic concentrations may be related to temporary mine construction activities around SWAT. The arsenic concentrations at station 25 declined considerably in September and October 2022 sampling in comparison to summer months during active in-water construction.

The Fish and Fish Habitat Follow-up Monitoring Plan identifies the following main groundwater monitoring components 1) Pumped Volume Monitoring, 2) Water Level Monitoring, 3), and 4) Water Quality Monitoring. Pumping from MacLeod Shaft No. 1 occurred intermittently beginning August 5, 2022 and continued to the end of the monitoring period. Available average monthly pumped volumes were below the trigger threshold. Pumped volume data between August 5, 2022 and September 19, 2022 was unavailable at the time of report preparation, but based on groundwater level response to pumping observed in the Mosher No. 1 Shaft, daily pumped volumes were interpreted to be less than those occurring in October and November 2022. No trigger pumping volume threshold exceedances were documented, nor interpreted to have occurred during this reporting period. During the reporting period, there were no exceedances of the groundwater level and horizontal hydraulic gradient trigger thresholds for groundwater quantity as defined in the Federal Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a). No groundwater quality trigger thresholds were exceeded in this reporting period.

The Noise and Vibration Monitoring and Management Plan (NVMMP) (GGM 2020c) identifies an overpressure threshold of 50 kPa in water and a vibration threshold of 13mm/sec (in substrate). Based on measured overpressure and vibration levels in Kenogamisis Lake and calculated setback distance to the smaller water bodies near the project site, established thresholds for the protection of fish and fish habitat (overpressure threshold of 50 kPa in water and a vibration threshold of 13mm/sec in substrate) were not exceeded during the 2022 monitoring period.

A potential trigger threshold exceedance of mercury at Station 25 was identified in June 2022. Sampling was conducted at Station 25 in July however low-level mercury was not analysed due to a submission error. Resampling in August 2022 showed no more exceedance of the seasonal 95th percentile for mercury and therefore Trigger Threshold 1 was not confirmed for mercury at Station 25, and no further action was required. No other mercury or methyl-mercury surface water quality trigger exceedances were documented in the 2022 monitoring period.

The new Goldfield Creek realignment was constructed during the reporting period. Construction of the Goldfield Diversion Pond was initiated during the monitoring period and continued into fall 2022. Flow was not diverted into the realigned Goldfield Creek channel during the current monitoring period and, as such, post-realignment fish tissue monitoring has not yet begun. Flow into the new realignment channel is expected to occur in winter 2022, with the first year of post-realignment monitoring planned for 2023.

The management and monitoring requirements of Condition 5.5.1 deal specifically with potential effects related to changes in mercury and methylmercury in Walleye from Kenogamisis Lake. No activities related to monitoring fish tissue in Kenogamisis Lake occurred in the 2022 monitoring period, nor were monitoring activities required.

Barn swallows (*Hirundo rustica*), a threatened species (ESA 2007, SARO 2011) is present in two buildings requiring removal by GGM in the Ministry of Transportation of Ontario (MTO) Patrol Yard. Removal is expected to occur in 2023 following procedures outlined in the BMMP (GGM 2022a). A Barn Swallow habitat compensation structure was monitored four times during the 2022 nesting season. The habitat compensation structure was in good condition during the 2022 nesting season, including the overall structure, nest cups, and predator controls. There was no evidence of use of the structure by Barn Swallows or other bird or bat species in 2022.

A pre-construction Bald Eagle survey was completed to help determine if clearing, site preparation and early construction activities had potential to impact eagle nests or eagle nest buffer zones. One active Bald Eagle nest within 800 m of construction activities was also monitored to document potential impacts of project construction on Bald Eagle nesting behaviour and nest success. Four eagle nests were identified in 2019. Of the four eagle nests identified in 2019, three eagle nests (487, E-535, WP-008) remain, all of which were confirmed active in 2019. Eagle nest 487 is 650 m from the proposed TMF and nest E-535 is between 217 m and 352 m of various project components, including the proposed TMF. Nest WP-008 is greater than 800 m from any project component. Three nests identified in 2019 are no longer present while new nests identified to the east of the PDA (GGM11 and GGM12) are greater than 800 m from any project component. In summary, two nests (487 and E-535) observed in 2021 required implementation of mitigation measures due to their respective proximities to site development. Of the

four eagle nests that were identified in 2019, three were present in 2021 (487, E-535, WP-008). Only nest E-535 showed evidence of potential nesting in 2022.

The Health of Indigenous Peoples Follow-up Program is based on comparisons between the predicted contaminant concentrations (Human Health Risk Assessment) in environmental media (air, surface water, and terrestrial and aquatic country foods) and the contaminant concentrations measured by the ongoing environmental monitoring programs. The follow up monitoring will be carried out once during each phase of the project (construction, operation, closure) and will be used to determine when a more detailed reassessment of Indigenous human health risk is required. Currently, the Greenstone Mine is in the early stages of the construction phase, which will continue through 2023. A Health of Indigenous Peoples Follow-up Program report for the construction phase will be submitted in a subsequent year.

Condition 6.1 of the federal Decision Statement requires GGM to establish in alternate unrestricted access to the Southwest Arm of Kenogamisis Lake and to maintain that alternate access during all phases of the Designated Project, to the extent that such access is safe. GGM has included a public access road from Highway 11 along the east side of the PDA to maintain access to the Southwest Arm of Kenogamisis Lake. For the Goldfield Creek diversion channel access, the main access point of Lahtis Road is closed during construction and operation due to safety reasons (EIS/EA, Chapter 16). Lahtis Road was closed during the reporting period.

Implementation of the follow-up programs will remain generally unchanged in the upcoming monitoring year, with exception of proposed changes to monitoring of the hydraulic gradient and drive point piezometers, as described herein.

Executive Summary – French

Greenstone Gold Mines (GGM) construit actuellement et prévoit d'exploiter et finalement de déclasser/fermer une nouvelle mine d'or à ciel ouvert, une usine de traitement et des installations auxiliaires associées, collectivement connues sous le nom de mine Greenstone (la mine), anciennement connue sous le nom de projet Hardrock (le Projet). Le site minier est situé juste au sud de Geraldton, en Ontario, dans la municipalité de Greenstone, à l'intersection de Highway 11 et de Highway 584.

La ministre de l'Environnement et Changement Climatique a publié une Déclaration de Décision en vertu de l'article 54 de la Loi canadienne sur l'évaluation environnementale (2012) (déclaration de décision datée du 10 décembre 2018) pour l'étude d'impact environnemental (EIE) du projet (Stantec 2018), qui comprenait une série de conditions à remplir pour que GGM poursuive le projet. Ce rapport est soumis pour répondre aux exigences du rapport annuel décrites à la condition 2.9 de la déclaration de décision et décrit les activités entreprises par GGM pour se conformer à chacune des conditions de la déclaration de décision au cours de la période de rapport du 1^{er} octobre 2021 au 30 septembre 2022.

Bien que certaines activités de construction aient commencé en 2021, la construction des principales infrastructures du site a commencé en 2022, notamment le réalignement de l'autoroute, la cellule de confinement des résidus historiques No. 1, les fosses à granulats, les barrages de l'installation de gestion des résidus (TMF), le réalignement du ruisseau Goldfield, l'usine de traitement des effluents à grande échelle (ETP), Starter Pit, moulin et immeubles de bureaux.

Au cours de la période de surveillance de 2022, les plans de surveillance de suivi suivants ont été mis en œuvre :

- Un plan fédéral de surveillance de suivi de l'EIE du poisson et de son habitat (GGM 2021a)
- Plan de surveillance et de gestion de la biodiversité (GGM 2022a)
- Utilisation actuelle des terres et des ressources à des fins traditionnelles de la mine Greenstone - Plan de suivi (GGM 2020a)
- Plan de suivi de l'évaluation des risques pour la santé des peuples autochtones (GGM 2020b)
- Rapport annuel sur la condition fédérale 2.10 (le présent rapport)

Ce programme de suivi décrit les résultats d'octobre 2021 à septembre 2022.

GGM a établi des comités consultatifs environnementaux avec les groupes autochtones locaux, qui se réunissent régulièrement. Ces comités ont convenu des méthodes de communication, des types d'informations à fournir, des délais d'examen et de la discussion des points de vue/informations.

Conformément aux exigences de la condition fédérale 3.14, GGM a élaboré et mis en œuvre des mesures pour contrôler l'érosion et la sédimentation. Un plan de contrôle de l'érosion et des sédiments (ESCP) (GGM 2020d) a été mis en œuvre pour atténuer les effets potentiels de l'érosion et de la sédimentation sur le poisson et son habitat. Les mesures de contrôle de l'érosion et des sédiments ont été

régulièrement inspectées pour vérifier l'efficacité. Des pratiques de gestion ont été mises en œuvre pour protéger l'environnement et pour déterminer si de nouvelles stratégies de gestion et/ou des mesures d'atténuation étaient nécessaires.

Le plan de surveillance de suivi du poisson et de son habitat identifie les méthodes de surveillance de la qualité de l'eau dans le Kenogamisis Lake, le Mosher Lake, et l'affluent du bras sud-ouest (SWAT). Au cours de l'échantillonnage mensuel de routine, des échantillons d'eau de surface ont été prélevés au hasard et ont été soumis à un laboratoire accrédité pour analyse. De plus, la température in situ, le pH, la conductivité, la turbidité et l'oxygène dissous (OD) ont été mesurés à la surface de l'eau lors de la collecte d'échantillons à l'aide d'un compteur de qualité de l'eau multi-paramètres. L'échantillonnage de la température et du profil de la colonne d'eau d'OD a également été effectué tous les trimestres (février, juin, août, octobre) à huit emplacements de surveillance des eaux de surface. Les données sur la qualité des eaux de surface recueillies à 10 stations de surveillance de déclenchement ont été comparées aux seuils de déclenchement saisonniers de la qualité des eaux de surface décrits dans le Rapport de surveillance de suivi de l'ÉIE fédérale sur les poissons et leur habitat de 2022 (GGM, 2021a). Dix (10) enquêtes du seuil de déclenchement 2 ont été entreprises au cours de la période de rapport de 2022 pour évaluer les tendances de la qualité des eaux de surface et les raisons potentielles des résultats observés. En résumé:

- Enquêtes du seuil de déclenchement 2 pour l'uranium à la station 39, l'arsenic à la station 8 et le fer aux stations 26 et 39. On ne pense pas qu'elles soient liées à la mine, mais elles peuvent être attribuées à la variabilité naturelle.
- Les enquêtes sur le seuil de déclenchement 2 pour le fer aux stations 8, 24, 49 et 53 ont suggéré que des concentrations élevées de fer pourraient être liées à la variabilité naturelle ou à des problèmes liés aux analyses en laboratoire. Une enquête de laboratoire est en cours. L'enquête sur les données de laboratoire doit être terminée avant de conclure sur la source potentielle d'augmentation des concentrations de fer à ces stations.
- L'enquête du seuil de déclenchement 2 pour le phosphore total à la station 25 a conclu qu'aucun lien direct entre les dépassements de phosphore total à la station 25 et les activités liées à la mine ne peut être établi.
- L'enquête du seuil de déclenchement 2 pour l'arsenic à la station 25 a suggéré que la source de l'augmentation des concentrations d'arsenic pourrait être liée aux activités temporaires de construction de la mine autour de SWAT. Les concentrations d'arsenic à la station 25 ont considérablement diminué lors de l'échantillonnage de septembre et d'octobre 2022 par rapport aux mois d'été pendant la construction active dans l'eau.

Le plan de surveillance de suivi du poisson et de son habitat identifie les principales composantes de surveillance des eaux souterraines suivantes : 1) surveillance du volume pompé, 2) surveillance du niveau d'eau, 3) et 4) surveillance de la qualité de l'eau. Le pompage du puits MacLeod n° 1 s'est produit par intermittence à partir du 5 août 2022 et s'est poursuivi jusqu'à la fin de la période de surveillance. Les volumes pompés mensuels moyens disponibles étaient inférieurs au seuil de déclenchement. Les données sur le volume pompé entre le 5 août 2022 et le 19 septembre 2022 n'étaient pas disponibles au

moment de la préparation du rapport, mais sur la base de la réponse du niveau des eaux souterraines au pompage observée dans le puits Mosher No. 1, les volumes pompés quotidiens ont été interprétés comme étant inférieurs à ceux qui se produisent en octobre et novembre 2022. Aucun dépassement du seuil de volume de pompage déclencheur n'a été documenté, ni interprété comme s'étant produit au cours de cette période de rapport. Au cours de la période de référence, il n'y a eu aucun dépassement des seuils de déclenchement du niveau de l'eau souterraine et du gradient hydraulique horizontal pour la quantité d'eau souterraine, tels que définis dans le Plan fédéral de surveillance de suivi de l'EIE du poisson et de l'habitat du poisson (GGM 2021a). Aucun seuil de déclenchement de la qualité des eaux souterraines n'a été dépassé au cours de cette période de déclaration.

Le plan de surveillance et de gestion du bruit et des vibrations (NVMMP) (GGM 2020c) identifie un seuil de surpression de 50 kPa dans l'eau et un seuil de vibration de 13 mm/sec (dans le substrat). Sur la base des niveaux de surpression et de vibration mesurés dans le Kenogamisis Lake et de la distance de recul calculée par rapport aux plans d'eau plus petits à proximité du site du projet, des seuils établis pour la protection du poisson et de son habitat (seuil de surpression de 50 kPa dans l'eau et un seuil de vibration de 13 mm/sec dans le substrat) n'ont pas été dépassés pendant la période de surveillance de 2022.

Un dépassement potentiel du seuil de déclenchement du mercure à la station 25 a été identifié en juin 2022. Un échantillonnage a été effectué à la station 25 en juillet, mais le mercure à faible concentration n'a pas été analysé en raison d'une erreur de soumission. Le rééchantillonnage en août 2022 n'a plus montré de dépassement du 95e centile saisonnier pour le mercure et, par conséquent, le seuil de déclenchement 1 n'a pas été confirmé pour le mercure à la station 25, et aucune autre mesure n'a été requise. Aucun autre dépassement déclencheur de la qualité des eaux de surface pour le mercure ou le méthylmercure n'a été documenté au cours de la période de surveillance de 2022.

Le nouveau réalignement de Goldfield Creek a été construit au cours de la période de rapport. La construction de l'étang de dérivation de Goldfield a commencé pendant la période de surveillance et s'est poursuivie jusqu'à l'automne 2022. Le débit n'a pas été détourné dans le chenal réaligné du ruisseau Goldfield pendant la période de surveillance actuelle et, par conséquent, la surveillance des tissus de poissons après le réalignement n'a pas encore commencé. L'écoulement dans le nouveau canal de réalignement devrait avoir lieu à l'hiver 2022, la première année de surveillance post-réalignement étant prévue pour 2023.

Les exigences de gestion et de surveillance de la condition 5.5.1 traitent spécifiquement des effets potentiels liés aux changements dans le mercure et le méthylmercure dans le doré jaune du Kenogamisis Lake. Aucune activité liée à la surveillance des tissus de poissons dans le Kenogamisis Lake n'a eu lieu au cours de la période de surveillance de 2022, et aucune activité de surveillance n'était requise.

Des hirondelles rustiques (*Hirundo rustica*), une espèce menacée (ESA 2007, SARO 2011) sont présentes dans deux bâtiments devant être enlevés par GGM dans la cour de patrouille du ministère des Transports de l'Ontario (MTO). L'élimination devrait avoir lieu en 2023 selon les procédures décrites dans le BMMP (GGM 2022a). Une structure de compensation de l'habitat de l'Hirondelle rustique a été surveillée à quatre reprises au cours de la saison de nidification 2022. La structure de compensation de l'habitat était en bon état pendant la saison de nidification de 2022, y compris la structure globale, les nids et les contrôles des prédateurs. Il n'y avait aucune preuve d'utilisation de la structure par les hirondelles rustiques ou d'autres espèces d'oiseaux ou de chauves-souris en 2022.

Une enquête préalable à la construction sur le pygargue à tête blanche a été réalisée pour aider à déterminer si le défrichage, la préparation du site et les premières activités de construction avaient le potentiel d'avoir un impact sur les nids d'aigles ou les zones tampons des nids d'aigles. Un nid de pygargue à tête blanche actif à moins de 800 m des activités de construction a également été surveillé pour documenter les impacts potentiels de la construction du projet sur le comportement de nidification et le succès de nidification du pygargue à tête blanche. Quatre nids d'aigles ont été identifiés en 2019. Des quatre nids d'aigles identifiés en 2019, il reste trois nids d'aigles (487, E-535, WP-008), qui ont tous été confirmés actifs en 2019. Le nid d'aigle 487 est à 650 m du l'IGR proposée et le nid E-535 se situent entre 217 m et 352 m de diverses composantes du projet, y compris l'IGR proposée. Nest WP-008 est à plus de 800 m de tout composant du projet. Trois nids identifiés en 2019 ne sont plus présents tandis que de nouveaux nids identifiés à l'est de la PDA (GGM11 et GGM12) sont à plus de 800 m de toute composante du projet. En résumé, deux nids (487 et E-535) observés en 2021 ont nécessité la mise en place de mesures d'atténuation en raison de leur proximité respective avec l'aménagement du site. Sur les quatre nids d'aigles identifiés en 2019, trois étaient présents en 2021 (487, E-535, WP-008). Seul le nid E-535 a montré des preuves de nidification potentielle en 2022.

Le programme de suivi de la santé des peuples autochtones est basé sur des comparaisons entre les concentrations de contaminants prévues (évaluation des risques pour la santé humaine) dans les milieux environnementaux (air, eau de surface et aliments traditionnels terrestres et aquatiques) et les concentrations de contaminants mesurées par la surveillance continue de l'environnement programmes. La surveillance de suivi sera effectuée une fois au cours de chaque phase du projet (construction, exploitation, fermeture) et sera utilisée pour déterminer quand une réévaluation plus détaillée des risques pour la santé humaine autochtone est nécessaire. Actuellement, la mine Greenstone en est aux premières étapes de la phase de construction, qui se poursuivra jusqu'en 2023. Un rapport sur le programme de suivi de la santé des peuples autochtones pour la phase de construction sera soumis l'année suivante.

La condition 6.1 de la déclaration de décision fédérale exige que GGM établisse un accès alternatif sans restriction au bras sud-ouest du Kenogamisis Lake et maintienne cet accès alternatif pendant toutes les phases du projet désigné, dans la mesure où cet accès est sûr. GGM a inclus une route d'accès publique à partir de l'autoroute 11 le long du côté est de la PDA pour maintenir l'accès au bras sud-ouest du Kenogamisis Lake. Pour l'accès au canal de dérivation du ruisseau Goldfield, le point d'accès principal du Lahtis Road est fermé pendant la construction et l'exploitation pour des raisons de sécurité (EIS/EA, Chapitre 16). Lahtis Road a été fermée au cours de la période considérée.

La mise en œuvre des programmes de suivi demeurera généralement inchangée au cours de la prochaine année de surveillance, à l'exception des modifications proposées à la surveillance du gradient hydraulique et des piézomètres des points d'entraînement, comme décrit ci-après.

1 Introduction

Greenstone Gold Mines (GGM) is planning to construct, operate and ultimately decommission/close a new open pit gold mine, process plant, and associated ancillary facilities, collectively known as the Greenstone Mine (the Mine), formerly known as the Hardrock Project (the Project).

The Minister of the Environment and Climate Change issued a Decision Statement under Section 54 of the Canadian Environmental Assessment Act, 2012 (Decision Statement, dated December 10, 2018) for the Project's Environmental Impact Statement (EIS), which included a series of conditions to be met for GGM to proceed with the Project. Note that the EIS was completed under the oversight of the Canadian Environmental Assessment Agency (CEAA), now known as the Impact Assessment Agency of Canada (IAAC).

This report has been prepared to meet the Annual Report requirements described under Condition 2.9 of the Decision Statement and describes activities undertaken by GGM to comply with each of the conditions in the Decision Statement during the reporting period of October 1, 2021 to September 30, 2022. As specified in Condition 2.10, the Annual Report is required to be submitted no later than December 31 following the reporting year to which the annual report applies.

Construction started March 1, 2021, with tree clearing activities, which allowed for the construction of a temporary camp to house mine workers, the set-up of construction trailers, and the construction of a temporary effluent treatment plant (TETP). Construction of the following features and mine components commenced during the 2022 monitoring period:

- A. New highway realignment road base
- B. MacLeod High Tailings (MHT) seepage collection system and associated pipeline to the TETP
- C. Historical tailings Containment Cell No. 1 to facilitate construction of the MHT seepage collection system
- D. Development of S4 and T2 aggregate pits
- E. Tailings Management Facility (TMF) dams
- F. Goldfield Creek Diversion Dam
- G. Goldfield Creek realignment
- H. Two grade control structures on the Southwest Arm Tributary (SWAT)
- I. Several culverts
- J. Full scale effluent treatment plant (ETP)
- K. Full scale ETP effluent discharge pipeline
- L. Water management pond M1

- M. Stockpiling of material in Waste Rock Storage Area (WRSA) C
- N. Starter pit
- O. Office buildings
- P. The mill
- Q. Other site infrastructure.

GGM has established environmental advisory committees with the local Indigenous groups, which meet regularly. These committees have agreed upon methods of communication, types of information to be provided, review timelines, and discussion of views/information.

2 Annual Report Requirements

Condition 2.9, of the Decision Statement outlines the requirements for the Annual Report as follows:

2.9 The Proponent shall, commencing in the reporting year during which the Proponent begins the implementation of the conditions set out in this Decision Statement, prepare an annual report that sets out:

- 2.9.1 the activities undertaken by the Proponent in the reporting year to comply with each of the conditions set out in this Decision Statement;*
- 2.9.2 how the Proponent complied with condition 2.1;*
- 2.9.3 for conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation;*
- 2.9.4 the information referred to in conditions 2.4 and 2.5 for each follow-up program;*
- 2.9.5 the results of the follow-up program requirements identified in conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9; and*
- 2.9.6 any modified or additional mitigation measures implemented or proposed to be implemented by the Proponent, as determined under condition 2.7.*

These requirements are addressed in Sections 2.1 through 2.6.

2.1 Activities Undertaken between October 1, 2021 to September 30, 2022 to Comply with Conditions (Condition 2.9.1)

Table 2-1 presents a list of the conditions included in the EIS Decision Statement for the Project and describes the activities that GGM carried out during the reporting period to comply with the conditions.

Table 2-1: List of Conditions and Activities Undertaken during Reporting Period to Comply with EIS Decision Statement Conditions

Condition Number	Description	Activities Undertaken
2.1	GGM shall ensure that its actions in meeting the conditions set out in the CEAA Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge available at the time the Proponent takes action, including community and Indigenous traditional knowledge, are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.	Refer to Section 2.2 of this Annual Report.
2.2	Where consultation is a requirement of a condition set out in the CEAA Decision Statement: 2.2.1 provide a written notice of the opportunity for the party or parties being consulted to present their views and information on the subject of the consultation; 2.2.2 provide all information relevant and applicable on the scope and the subject matter of the consultation and a period of time agreed upon with the party or parties being consulted, not to be less than 15 days, to prepare their views and information; 2.2.3 undertake an impartial consideration of all views and information presented by the party or parties being consulted on the subject matter of the consultation; and 2.2.4 advise in a timely manner the party or parties being consulted on how the views and information received have been considered by the Proponent.	Where consultation is a requirement, GGM provided draft documents, received written comments, which were responded to and discussed in meetings where necessary. Refer to Section 2.3 of this report for further information.
2.3	Where consultation with Indigenous groups is a requirement of a condition set out in the CEAA Decision Statement, communicate with each Indigenous group with respect to the manner to satisfy the consultation requirements referred to in condition 2.2, including methods of notification, the type of information and the period of time to be provided when seeking input, the process to be used by the Proponent to undertake impartial consideration of all views and information presented on the subject of the consultation, and the period of time and the means to advise Indigenous groups of how their views and information were considered by the Proponent.	GGM has established environmental advisory committees (EAC) with Indigenous groups. Methods of communication, types of information to be provided, review timelines and discussion of views/information have been agreed upon.

Condition Number	Description	Activities Undertaken
2.4	<p>Where a follow-up program is a requirement of a condition set out in the CEAA Decision Statement, determine, as part of the development of each follow-up program and in consultation with the party or parties being consulted during the development, the following information:</p> <p>2.4.1 the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program;</p> <p>2.4.2 the scope, content and frequency of reporting of the results of the follow-up program;</p> <p>2.4.3 the levels of environmental change relative to baseline conditions that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may require Designated Project activities to be stopped; and</p> <p>2.4.4 the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change referred to in condition 2.4.3 have been reached or exceeded.</p>	Refer to conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9 below.
2.5	Maintain the information referred to in condition 2.4 during the implementation of each follow-up program in consultation with the party or parties being consulted during the development of each follow-up program.	Refer to conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9 below.
2.6	Provide the follow-up programs referred to in conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9 to CEAA and to the party or parties being consulted during the development of each follow-up program prior to the implementation of each follow-up program. The Proponent shall also provide any update(s) made pursuant to condition 2.5 to the Agency and to the party or parties being consulted during the development of each follow-up program within 30 days of the follow-up program being updated.	Refer to conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9 below.

Condition Number	Description	Activities Undertaken
2.7	<p>Where a follow-up program is a requirement of a condition set out in the CEAA Decision Statement:</p> <p>2.7.1 conduct the follow-up program according to the information determined pursuant to condition 2.4;</p> <p>2.7.2 undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s);</p> <p>2.7.3 determine whether modified or additional mitigation measures are required based on the monitoring and analysis undertaken pursuant to condition 2.7.2; and</p> <p>2.7.4 if modified or additional mitigation measures are required pursuant to condition 2.7.3, develop and implement these mitigation measures in a timely manner and monitor them pursuant to condition 2.7.2.</p>	<p>Follow-up programs that were implemented during the reporting period are discussed in Section 2.5 of this report.</p>
2.8	<p>Where consultation with Indigenous groups is a requirement of a follow-up program, GGM shall discuss with each Indigenous group opportunities for their participation in the implementation of the follow-up program, including the analysis of the follow-up results and whether modified or additional mitigation measures are required, as set out in condition 2.7.</p>	<p>GGM has funded an environmental technician from each of five Indigenous groups, respectively, who are involved in the implementation of the follow-up programs, including the analysis of the follow-up results and whether modified or additional mitigation measures are required.</p>
2.9	<p>Commencing in the reporting year during which GGM begins the implementation of the conditions set out in the CEAA Decision Statement, prepare an annual report that sets out:</p> <p>2.9.1 the activities undertaken by the Proponent in the reporting year to comply with each of the conditions set out in the CEAA Decision Statement;</p> <p>2.9.2 how the Proponent complied with condition 2.1;</p> <p>2.9.3 for conditions set out in the CEAA Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation;</p> <p>2.9.4 the information referred to in conditions 2.4 and 2.5 for each follow-up program;</p> <p>2.9.5 the results of the follow-up program requirements identified in conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9; and</p> <p>2.9.6 any modified or additional mitigation measures implemented or proposed to be implemented by the Proponent, as determined under condition 2.7.</p>	<p>Submission of this annual report.</p>

Condition Number	Description	Activities Undertaken
2.10	Submit an annual report to CEAA, referred to in condition 2.9, including an executive summary in both official languages, no later than December 31 following the reporting year to which the annual report applies.	Submission of this annual report.
2.11	Publish on the Internet, or any medium which is publicly available, the annual reports and the executive summaries referred to in conditions 2.9 and 2.10, the information submitted to CEAA pursuant to condition 2.15, the offsetting plan(s) referred to in condition 3.12, the Community Relations Management Plan referred to in condition 5.7, the Community Relations Management Plan referred to in condition 6.4, the concerns raised pursuant to condition 6.5 and measures taken by the Proponent to address these concerns, the bald eagle (<i>Haliaeetus leucocephalus</i>) protection plan referred to in condition 7.1, the reports related to accidents and malfunctions referred to in conditions 9.4.2 and 9.4.3, the Community Relations Management Plan referred to in condition 9.5, the schedules referred to in conditions 10.1, and 10.2, and any update(s) or revision(s) to the above documents, upon submission of these documents to the parties referenced in the respective conditions. The Proponent shall keep these documents publicly available for 25 years following the end of operation, or until the end of decommissioning of the Designated Project, whichever comes first. The Proponent shall notify the CEAA and Indigenous groups of the availability of these documents within 48 hours of their publication.	This report and other finalized documents are published on the GGM website. https://www.greenstonegoldmines.com/
2.12	When the development of any plan is a requirement of a condition set out in the CEAA Decision Statement, GGM shall submit the plan to CEAA prior to construction, unless otherwise required through the condition.	Refer to conditions 3.15, 3.16, 3.17, 4.6, 4.7, 5.3, 5.4, 5.5 and 6.9 below.
2.13	GGM must notify CEAA and Indigenous groups in writing no later than 30 days after the day on which there is any transfer of ownership, care, control or management of the Designated Project in whole or in part.	N/A: no transfer of ownership, care, control or management of the Designated Project in whole or in part occurred during reporting period.
2.14	Consult with Indigenous groups and relevant authorities prior to initiating any changes to the Designated Project that may result in adverse environmental effects, and shall notify the CEAA in writing no later than 60 days prior to initiating the change(s).	Design Optimization Report sent to Indigenous groups, Ontario Ministry of the Environment, Conservation and Parks (MECP) and IAAC for review/comment in October 2019. A Project update was deemed filed and no amendment required by IAAC on April 14, 2021 regarding the clearing of additional trees in the temporary camp location.

Condition Number	Description	Activities Undertaken
2.15	In notifying CEAA pursuant to condition 2.14, GGM shall provide a description of the potential adverse environmental effects of the change(s) to the Designated Project, the proposed mitigation measures and follow-up requirements to be implemented by GGM and the results of the consultation with Indigenous groups and relevant authorities.	Design Optimization Report and Addendum provided to Indigenous groups, Ontario Ministry of the Environment, Conservation and Parks (MECP) and Impact Assessment Agency in October 2019 and April 2020. A project update was deemed filed and no amendment required by IAAC on April 14, 2021 regarding the clearing of additional trees in the temporary camp location.
3.1	Salvage and relocate fish prior to conducting any Designated Project activity requiring removal of fish habitat in a manner consistent with any authorization issued under the Fisheries Act and its regulations. The Proponent shall salvage and relocate fish in consultation with Indigenous groups and to the satisfaction of Fisheries and Oceans Canada and other relevant authorities. 3.1.1 GGM shall discuss, prior to the start of fish salvaging and relocating activities, with each Indigenous group, opportunities for their participation in these activities.	In accordance with condition 3.1, fish salvages were completed in the following water bodies during the 2022 monitoring period. <ul style="list-style-type: none"> • Goldfield Creek • Southwest Arm Tributary • Watercourse A • Watercourse D • Watercourse I GGM communicated fish salvage plans with Indigenous groups and Environmental Technicians from interested Indigenous groups participated in fish salvage activities.
3.2	Develop, prior to the start of blasting activities in or near water, and implement, during blasting activities in or near water, mitigation measures to avoid or prevent adverse effect to fish and fish habitat from the use of explosives in a manner consistent with the Fisheries Act and its regulations. When developing these measures, the Proponent shall take into account Fisheries and Oceans Canada's Measures to avoid causing harm to fish and fish habitat including aquatic species at risk as it pertains to the use of explosives in or near water. The Proponent shall submit these measures to CEAA before implementing them.	In accordance with condition 3.1, a Noise and Vibration Management and Monitoring Plan (NVMMP) (GGM 2020c) was developed and submitted to IAAC in July 2020. The plan identifies measures to mitigate potential adverse effect to fish and fish habitat from the use of explosives.

Condition Number	Description	Activities Undertaken
3.3	Design, install and operate the water intake structures in Kenogamisis Lake in a manner which reduces the incidental capture of fish by entrainment and impingement through the use of an appropriately sized fish screen, taking into account Fisheries and Oceans Canada's Freshwater Intake End-of-Pipe Fish Screen Guideline and in a manner consistent with the Fisheries Act and its regulations.	One surface water intake was installed in the Southwest Arm of Kenogamisis Lake. The intake is located north of the confluence of the Southwest Arm Tributary with the lake. Design of the water intake structure was in a manner consistent with the Fisheries Act and its regulations completed during reporting period. The pump was installed on a flotation module that is anchored to the bottom of the lake and the pipeline floats on the lake surface using buoys. The pump was submerged in a mesh cage under the floating module with a maximum opening mesh size of 2.54 mm to meet the Freshwater Intake End-of-Pipe Fish Screen Guidelines (DFO 1995).
3.4	Comply with the Metal and Diamond Mining Effluent Regulations and the pollution prevention provisions of the Fisheries Act.	GGM began sampling TETP effluent as per the effluent monitoring requirements of the Metal and Diamond Mining Effluent Regulations (MDMER, DIVISION 2 Effluent Monitoring Conditions) in September 2021, when the TETP began discharging. The Environmental Effects Monitoring (EEM) Study Design was submitted to Environment and Climate change Canada (ECCC) on September 15, 2022, to meet the requirements of the MDMER, Schedule 5 (EEM Studies), Part 2 (Biological Monitoring Studies), Section 10 (First Study Design). The biological sampling requirements of MDMER were not required in 2022, but are planned for 2023.

Condition Number	Description	Activities Undertaken
3.5	Collect and direct contact water from the waste rock storage areas (including any temporary storage location of excavated historical tailings), overburden storage area and ore stockpile to contact water collection ditches for reuse in Designated Project activities, and treat excess water that cannot be reused.	Excess soil was stored in Waste Rock Storage Area (WRSA) C. Contact water from the portion of WRSA C that was used for soil storage was collected via Pond B1 where it was sent to the TETP for treatment prior to discharge. No other WRSAs or the overburden storage area and ore stockpile were operational during the reporting period.
3.6	Collect and direct, during operation, contact water from the tailings management facility, including the final location of the excavated historical tailings, to the collection ponds associated with the tailings management facility.	N/A: project is not yet in operation phase.
3.7	Install, prior to operation, and use a cyanide destruction circuit to reduce cyanide concentrations in tailings before the tailings are directed to the tailings management facility during operation.	N/A: project is not yet in operation phase.
3.8	Maintain the contact water collection ditches around the waste rock storage areas, overburden storage area, ore stockpile and the tailings management facility after operation and as necessary to comply with the Metal and Diamond Mining Effluent Regulations and the pollution prevention provisions of the Fisheries Act.	Excess soil was stored in WRSA C. Contact water from the portion of WRSA C that was used for soil storage was collected via Pond B1 where it was sent to the TETP for treatment prior to discharge. No other WRSAs or the overburden storage area and ore stockpile were operational during the reporting period.
3.9	GGM shall not connect the pit lake to Kenogamisis Lake until such time that water in the pit lake complies with the pollution prevention provisions of the Fisheries Act.	N/A: project is not yet in operation phase.
3.10	GGM shall treat contact water taking into account the Canadian Council of Minister of the Environment's Canadian Water Quality Guidelines for Protection of Aquatic Life.	GGM began operation of the TETP in September 2021, taking into account the Canadian Council of Minister of the Environment's Canadian Water Quality Guidelines for Protection of Aquatic Life.

Condition Number	Description	Activities Undertaken
3.11	<p>GGM shall mitigate, in consultation with Indigenous groups and relevant authorities, the adverse environmental effects on water quality, including in the Southwest Arm, Central Basin and Barton Bay of Kenogamisis Lake, Goldfield Creek Tributary, Mosher Lake and the Southwest Arm Tributary, caused by the presence of unexcavated historical tailings. In doing so, the Proponent shall promote runoff and reduce infiltration by:</p> <p>3.11.1 covering the exposed portions of the in situ historical tailings. The Proponent shall complete the covering of the in situ historical tailings as soon after tailings have been excavated as technically feasible; and</p> <p>3.11.2 managing contaminated soils near the historical Hardrock and Macleod-Mosher plant sites and the unexcavated historical tailings.</p>	N/A: no historical tailings were moved during the reporting period.
3.12	<p>GGM shall develop, to the satisfaction of Fisheries and Oceans Canada and Environment and Climate Change Canada and in consultation with Indigenous groups, any offsetting plan(s) related to any residual serious harm to fish associated with the carrying out of the Designated Project. The Proponent shall implement the plan. The Proponent shall submit any approved offsetting plan(s) to the Agency prior to implementation.</p>	Offsetting plan developed in consultation with Indigenous groups, DFO and ECCC during reporting period and approved by DFO in April 2020.
3.13	<p>GGM shall, for any fish habitat offsetting measure(s) proposed in any offsetting plan(s) referred to in condition 3.12 that may cause adverse environmental effects not considered in the environmental assessment, develop and implement, following consultation with Indigenous groups, Fisheries and Oceans Canada and Environment and Climate Change Canada, measures to mitigate those effects. The Proponent shall submit these measures to the Agency before implementing them.</p>	Offsetting plan developed in consultation with Indigenous groups, DFO and ECCC during reporting period and approved in April 2020.
3.14	<p>GGM shall develop, prior to construction, and implement, during all phases of the Designated Project and in a manner consistent with the Fisheries Act and its regulations, measures to control erosion and sedimentation in the project development area. The Proponent shall submit these measures to the Agency before implementing them. Among other measures, the Proponent shall maintain stream bank stability using ditches and diversion berms.</p>	As per the requirements of Condition 3.14, GGM has developed and implemented measures to control erosion and sedimentation for the Mine (GGM 2020d). Erosion and sediment control monitoring results related to potential effects on fish and fish habitat are presented in the 2022 Fish and Fish Habitat Federal EIS Follow-Up Monitoring Report (GGM 2022b).

Condition Number	Description	Activities Undertaken
3.15	<p>GGM shall develop, prior to the start of blasting activities in or near water and in consultation with relevant authorities, a follow-up program to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects of blasting on fish and fish habitat, including aquatic listed species at risk. The Proponent shall implement the follow-up program during blasting activities. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>3.15.1 monitor instantaneous pressure and peak particle velocity during the first blasting event;</p> <p>3.15.2 if the results of the monitoring referred to in conditions 3.15.1 demonstrate that modified or additional mitigation measures are required to protect fish and fish habitat, including aquatic listed species at risk, from blasting, develop, prior to the next blasting event and in consultation with relevant authorities, modified or additional mitigation measures pursuant to condition 2.7; and</p> <p>3.15.3 implement the modified or additional mitigation measures referred to in condition 3.15.2 during all subsequent blasting events. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>A Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan was completed in March 2021, which included a follow-up program to validate the EIS and the effectiveness of the mitigation measures as it pertains to the potential effects of blasting on fish and fish habitat.</p> <p>Instantaneous pressure and peak particle monitoring have not demonstrated that modified or additional mitigation measures are required to protect fish and fish habitat.</p>

Condition Number	Description	Activities Undertaken
3.16	<p>GGM shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects on fish and fish habitat caused by changes in water quality in Kenogamisis Lake, Mosher Lake and the Southwest Arm Tributary. The Proponent shall implement the follow-up program during all phases of the Designated Project, including the environmental effects monitoring requirements set out in Schedule 5 of the Metal and Diamond Mining Effluent Regulations. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>3.16.1 monitor, at least quarterly during all phases of the Designated Project, nutrient levels, algae abundance, and dissolved oxygen levels in Kenogamisis Lake, Mosher Lake and the Southwest Arm Tributary;</p> <p>3.16.2 monitor, at least quarterly during the time that effluent is discharged in Kenogamisis Lake, concentrations of arsenic, unionized ammonia and total phosphorus in Kenogamisis Lake;</p> <p>3.16.3 monitor, at least quarterly during all phases of the Designated Project, concentrations of arsenic in Mosher Lake, Barton Bay and the Southwest Arm Tributary; and</p> <p>3.16.4 if the results of the monitoring referred to in conditions 3.16.1, 3.16.2 or 3.16.3 demonstrate that modified or additional mitigation measures are required to protect fish and fish habitat from changes to water quality, develop and implement modified or additional mitigation measures pursuant to condition 2.7. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a) was completed in February 2021 and addresses seven specific Conditions of the Decision Statement for the Project (3.14, 3.15, 3.16, 3.17, 3.2, 5.4, and 5.5.1). The first monitoring report was completed in December 2021 (GGM 2021b) and was provided to IAAC. The second monitoring report was provided to IAAC in December 2022.</p>

Condition Number	Description	Activities Undertaken
3.17	<p>GGM shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on fish and fish habitat of from changes in groundwater quality caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>3.17.1 monitor groundwater seepage flows, levels and quality at sites located upgradient, downgradient and cross-gradient of the tailings management facility, waste rock storage areas, overburden storage area, ore stockpile and historical Macleod and Hardrock tailings, using as benchmarks the concentrations predicted by the Proponent in Table 9-20 of the Environmental Impact Statement; and</p> <p>3.17.2 if the results of the monitoring referred to in condition 3.17.1 demonstrate that modified or additional mitigation measures are required to mitigate adverse environmental effects on fish and fish habitat of changes in groundwater quality caused by the Designated Project, develop and implement modified or additional mitigation measures pursuant to condition 2.7. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan was completed in February 2021 and addresses seven specific conditions of the Decision Statement for the Project (3.14, 3.15, 3.16, 3.17, 3.2, 5.4, and 5.5.1). The first monitoring report that addressed condition 3.17 and others was completed in December 2021 (GGM 2021b) and was provided to IAAC. The second monitoring report was provided to IAAC in December 2022.</p>
4.1	<p>Carry out the Designated Project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's Avoidance Guidelines and the risk of incidental take. The Proponent's actions when carrying out the Designated Project shall be in compliance with the Migratory Birds Convention Act, 1994, the Migratory Birds Regulations and the Species at Risk Act.</p>	<p>Tree clearing occurred within the appropriate timing window for the protection of migratory birds. Limited tree clearing also occurred in spring and summer, within the restrictive timing window. During this period, nest sweeps were conducted prior to tree clearing, as required. Results are presented in the Environmental Impact Statement Conditions of Approval 4 and 7, Annual Report.</p>

Condition Number	Description	Activities Undertaken
4.2	Undertake, in consultation with Indigenous groups and relevant authorities, progressive reclamation of the project development area. The Proponent shall identify, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, plant species native to the area of the Designated Project to use for revegetation as part of the progressive reclamation, including species suitable to create habitat for migratory birds.	Final Closure Plan filed January 9, 2020 Draft Revegetation Plan and draft Goldfield Creek Realignment Biodiversity Monitoring Plan (Appendices K and L, respectively of the Biodiversity Management and Monitoring Plan (BMMP) were developed and sent to Indigenous groups and MNR for review/comment in October 2019. The BMMP was finalized in 2020 and updated in 2022 (GGM 2022a).
4.3	Compensate, in consultation with relevant authorities, the loss of barn swallow (<i>Hirundo rustica</i>) nesting sites as a result of the Designated Project, taking into account Ontario's Recovery Strategy for Barn Swallow (<i>Hirundo rustica</i>). In doing so, the Proponent shall install, prior to construction, and maintain, during three years, artificial barn swallow (<i>Hirundo rustica</i>) nesting structures.	N/A: removal of barn swallow nesting sites did not occur during reporting period. Artificial barn swallow nesting structures were installed in fall 2021 and were in place during the 2022 monitoring season.
4.4	Establish, during construction, a speed limit of no more than 65 kilometres per hour on all roads within the project development area, including the portion of Highway 11 to be realigned by the Proponent located within the project development area, and shall require employees and contractors associated with the Designated Project to abide by this limit.	Within the PDA, construction of East Access Road occurred during the 2021 reporting period. The assigned speed limit to this road is 30 km/hr, which is less than the required 65 km/hr. Construction of Highway 11 was not completed during the reporting period and therefore, there was no reduction in the speed limit of Highway 11 during the reporting period.
4.5	Establish, during operation and decommissioning, a speed limit of no more than 65 kilometres per hour on all roads within the project development area, excepting the portion of Highway 11 located within the project development area, and shall require employees and contractors associated with the Designated Project to abide by this limit.	N/A: operation or decommissioning did not occur during reporting period.

Condition Number	Description	Activities Undertaken
4.6	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the use by migratory birds of surface water facilities in the project development area. As a part of the implementation of the follow-up program, the Proponent shall:</p> <p>4.6.1 monitor, at times migratory birds may be present in the project development area, the use by migratory birds of the tailings management facility, contact water collection ditches and collection ponds during all phases of the Designated Project until such time that water quality in these structures meet legislative requirements and water quality objectives. The water quality objectives are to be established using an ecological risk based approach, developed in consultation with Indigenous groups and relevant authorities;</p> <p>4.6.2 monitor, at times migratory birds may be present in the project development area, the use by migratory birds of the pit lake from the start of filling of the pit lake and until the end of decommissioning; and</p> <p>4.6.3 if results of the monitoring referred to in conditions 4.6.1 or 4.6.2 indicate that migratory birds use the tailing management facility, the contact water collection ditches, the collection ponds or the pit lake, develop and implement deterrent measures pursuant to condition 2.7. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>The plan to address condition 4.6 is presented in Appendix E of the BMMP (GGM 2022a), which has been developed based on consultation with Indigenous groups.</p>

Condition Number	Description	Activities Undertaken
4.7	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds, their eggs and nests, including the mitigation measures used to comply with conditions 4.1 to 4.5. As part of the development of the follow-up program, the Proponent shall identify performance indicators that shall be used by the Proponent to evaluate the effectiveness of the progressive reclamation referred to in condition 4.2. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>4.7.1 conduct migratory bird surveys annually for the first five years following completion of construction to assess migratory bird use of the project development area. The Proponent shall determine the methodology for the migratory bird surveys in consultation with Indigenous groups and relevant authorities. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the initial surveys, if additional surveys within the project development area are required after the first five years following completion of construction and at what frequency and in which locations these additional surveys shall occur;</p> <p>4.7.2 monitor the effectiveness of the progressive reclamation referred to in condition 4.2, including the establishment of native plant species to create habitat for migratory birds, annually during operation and during the first five years of decommissioning and every five years thereafter until the proponent has determined, in consultation with Indigenous groups and relevant authorities, that the performance indicators have been met;</p> <p>4.7.3 monitor barn swallow (<i>Hirundo rustica</i>) nesting activity and use of the artificial nesting structures referred to in condition 4.3 annually during the first three years following the installation of the nesting structures and at times barn swallow (<i>Hirundo rustica</i>) may be present in the project development area; and</p> <p>4.7.4 monitor collisions between vehicles associated with the Designated Project and migratory birds within the project development area during all phases of the Designated Project.</p>	<p>The plan to address Condition 4.7 is presented in the BMMP (GGM 2022a), which has been developed based on consultation with Indigenous groups.</p> <ul style="list-style-type: none"> • Condition 4.7.1: N/A - migratory birds surveys will be conducted post construction as required • Condition 4.7.2: N/A – progressive rehabilitation will be conducted during operation and closure as required • Condition 4.7.3: Monitoring took place in 2022 • Condition 4.7.2: Monitoring took place in 2022 • The plan to address condition 4.7.2 is presented in Appendix I of the BMMP • The plan to address condition 4.7.3 is presented in Appendix D of the BMMP

Condition Number	Description	Activities Undertaken
5.1	Develop, prior to construction and in consultation with Indigenous groups, measures to mitigate emissions of dust generated by the Designated Project, including dust from vehicles associated with the Designated Project on roads located within the project development area and dust generated during the transport of historical tailings, that take into account the standards and criteria set out in the Canadian Council of Ministers of the Environment's Canadian Ambient Air Quality Standards and Ontario's Ambient Air Quality Criteria. The Proponent shall submit these measures to the Agency before implementing them. The Proponent shall implement these measures during construction, operation and the first five years of decommissioning.	Measures to mitigate emissions of dust developed as part of the Air Quality Management and Monitoring Plan (AQMMP)(GGM 2020e) were sent to Indigenous groups for review/comment in October 2019 and ECCC in July 2020. The measures have been implemented during construction activities occurring over the reporting period.
5.2	Proponent shall install prior to operation, and use during ore crushing and transfer, crushers with dust collection systems.	N/A: crushers not used during reporting period.

Condition Number	Description	Activities Undertaken
5.3	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes to air quality. As part of the follow-up program, the Proponent shall:</p> <p>5.3.1 identify, as part of the development of the follow-up program, monitoring locations for air contaminants within areas used by Indigenous groups for traditional purposes or within areas representative of air quality in areas used by Indigenous groups for traditional purposes;</p> <p>5.3.2 monitor, during construction, operation and the first five years of decommissioning, total suspended particulates, particulate matter (PM10), fine particulate matter (PM2.5) and nitrogen dioxide at the monitoring locations identified pursuant to condition 5.3.1, using as benchmarks the standards and criteria set out in the Canadian Council of Ministers of the Environment's Canadian Ambient Air Quality Standards and Ontario's Ambient Air Quality Criteria. The Proponent shall monitor total suspended particulates, fine particulate matter (PM2.5) and nitrogen dioxide at least monthly and shall monitor particulate matter (PM10) in real-time;</p> <p>5.3.3 monitor, at least annually during construction and for the first two years of operation, airborne benzene and benzo(a)pyrene at the monitoring locations identified pursuant to condition 5.3.1. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first two years of operation and at what frequency this additional monitoring shall occur; and</p> <p>5.3.4 monitor, during construction and for the first two years of operation, silt content on roads within the project development area. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first two years of operation and at what frequency this additional monitoring shall occur.</p>	<p>The AQMMP (GGM 2020e) was developed to validate the EIS and effectiveness of the mitigation measures as it pertains to the potential for adverse environmental effects on the health of Indigenous Peoples of changes to air quality (EIS condition 5.3.1, 5.3.2, 5.3.3 and 5.3.4).</p>

Condition Number	Description	Activities Undertaken
5.4	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in water and fish. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>5.4.1 monitor, at least quarterly during construction and the first five years of operation, mercury in the Southwest Arm Tributary, using as a benchmark a concentration of 0.04 micrograms per litre. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first five years of operation and at what frequency this additional monitoring shall occur; and</p> <p>5.4.2 monitor, at least quarterly during construction and the first five years of operation, methylmercury in the Southwest Arm Tributary, using as a benchmark a concentration of 0.0001 micrograms per litre. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first five years of operation and at what frequency this additional monitoring shall occur.</p>	<p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan was completed in February 2021 and addresses Condition 5.4. The information presented in Fish and Fish Habitat Federal EIS Follow-Up Monitoring Reports will be carried forward, where necessary, and assessed in the subsequent Health of Indigenous Peoples Follow-up Reports.</p>

Condition Number	Description	Activities Undertaken
5.5	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in country foods caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the development of the follow-up program, the Proponent shall identify, in consultation with Indigenous groups and relevant authorities, species of vegetation, fish and wildlife that shall be monitored and shall determine, in consultation with Indigenous groups and relevant authorities, the sampling and analytical methodology that shall be applied for the monitoring of each species, including how samples will be collected. As part of the implementation of the follow-up program, the Proponent shall:</p> <p>5.5.1 monitor, at least every two years, during the first six years of operation, mercury, methylmercury and arsenic concentrations in walleye {Sander vitreus} tissue according to the methodology determined pursuant to condition 5.5. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first six years of operation and at what frequency this additional monitoring shall occur; and</p> <p>5.5.2 monitor, at least every two years, during the first six years of operation, concentrations of metals, including mercury and arsenic, in small mammals according to the methodology determined pursuant to condition 5.5. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first six years of operation and at what frequency this additional monitoring shall occur.</p>	<p>The Health of Indigenous Peoples Follow Up Program was finalized on January 3, 2020. The draft Program was sent to Indigenous groups for review/comment in 2019.</p> <p>Monitoring required by condition 5.5 is required during the Mine operation phase and operation did not commence during the reporting period.</p>
5.6	<p>Participate in any regional initiative that is established for the analysis of contaminants in moose (Alces alces) tissue in the region, should there be any such initiative(s) during construction or operation of the Designated Project.</p>	<p>N/A: There was no initiative that established for the analysis of contaminants in moose tissue in the region during the reporting period.</p>

Condition Number	Description	Activities Undertaken
5.7	Develop, in consultation with Indigenous groups and relevant authorities, a Community Relations Management Plan to share the results of the follow-up programs referred to in conditions 5.3, 5.4 and 5.5 with Indigenous groups and relevant authorities, including any potential health risks, in plain language, and the modified or additional mitigation measures developed and implemented by the Proponent pursuant to condition 2.7. The Proponent shall develop the Community Relations Management Plan prior to construction and shall implement and maintain it up to date during the periods of time that the follow-up programs referred to in conditions 5.3, 5.4 and 5.5 are implemented.	Draft Communications Plan developed and sent to Indigenous groups and MECP for review/comment in October 2019. Finalized and submitted to IAAC in September 2020. An updated version was produced on May 19, 2022. This latest version was subject to review by Indigenous groups.
6.1	Establish, in consultation with Indigenous groups and prior to undertaking construction activities that will restrict access to the Southwest Arm of Kenogamisis Lake, alternate unrestricted access to the Southwest Arm of Kenogamisis Lake and shall maintain that alternate access during all phases of the Designated Project, to the extent that such access is safe.	The East Access Road, was identified on the site plan and consulted on with Indigenous groups in 2019. The alternate road was constructed (in June – August 2022) and is currently open to public access.
6.2	Maintain unrestricted access along Goldfield Road during all phases of the Designated Project and to the Goldfield Creek diversion channel starting when the Proponent has completed the progressive reclamation referred to in condition 4.2 and until the end of decommissioning, to the extent that such access is safe.	Access to Goldfield Road was unrestricted during the reporting period. Construction of the Goldfield Creek diversion channel and associated progressive reclamation was not completed during the reporting period.
6.3	Only conduct blasting activities between 10:00 am and 4:00 pm and shall not conduct blasting on statutory holidays and on days of cultural importance that the Proponent shall identify in consultation with Indigenous groups, unless required for safety reasons or unless the Proponent has advised Indigenous groups pursuant to condition 6.4.2 of any update to the blasting schedule.	Blasting occurred during the reporting period). Adherence to requirements of condition 6.3 was maintained.

Condition Number	Description	Activities Undertaken
6.4	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a Community Relations Management Plan to share information related to Designated Project activities and about the adverse environmental effects of the Designated Project with Indigenous groups. The Proponent shall implement and maintain the Community Relations Management Plan up-to date during all phases of the Designated Project. The Community Relations Management Plan shall include procedures, including timing and methods, for sharing information on the following:</p> <p>6.4.1 the location and timing of Designated Project activities that may permanently or temporarily affect navigation within the project development area and in the Southwest Arm of Kenogamisis lake, including the locations of the effluent discharge location and the freshwater intakes in Kenogamisis lake; and</p> <p>6.4.2 the dates and times of all regularly-scheduled blasting events to be conducted by the Proponent and how the Proponent will notify Indigenous groups of any update to the blasting schedule on a daily basis if the Proponent must conduct blasting activities before 10:00 am or after 4:00 pm or on a statutory holiday or day of cultural importance for Indigenous groups.</p>	<p>Draft Communications Plan developed and sent to Indigenous groups and MECP for review/comment in October 2019. Finalized and submitted to IAAC in September 2020.</p>
6.5	<p>Develop, as part of the Community Relations Management Plan referred to in condition in 6.4 and in consultation with Indigenous groups, procedures for Indigenous groups to communicate to the Proponent their concerns about adverse environmental effects caused by the Designated Project related to access to and use of lands for traditional purposes, including navigation and consumption of country foods, and procedures for the Proponent to document and respond in a timely manner to the concerns received and demonstrate how issues have been addressed, including through the implementation of additional or modified mitigation measures. The Proponent shall implement these procedures during all phases of the Designated Project.</p>	<p>Draft Communications Plan developed and sent to Indigenous groups and MECP for review/comment in October 2019. Finalized and submitted to IAAC in September 2020.</p>

Condition Number	Description	Activities Undertaken
6.6	<p>As part of the progressive reclamation referred to in condition 4.2, GGM shall:</p> <p>6.6.1 identify, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, species of importance to Indigenous Peoples (including medicinal, edible and ceremonial plants) to use for revegetation as part of the progressive reclamation to create harvesting opportunities; and</p> <p>6.6.2 develop, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, and implement, during all phases of the Designated Project, measures to manage the spread of invasive species. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>Draft Revegetation Plan and draft Invasive Species Management Plans were developed and sent to Indigenous groups and the MNRF for review/comment in October 2019 and were finalized and sent to IAAC in December 2020. The Invasive Plants Management Plan is presented in Appendix B of the BMMP.</p>
6.7	<p>Develop, prior to construction and in consultation with Indigenous groups, a protocol for receiving complaints related to the exposure to noise from the Designated Project. The Proponent shall submit the protocol to the Agency prior to construction and shall implement it during all phases of the Designated Project. The Proponent shall respond to any noise complaint(s) within 48 hours of the complaint being received and shall implement corrective actions, if required to reduce exposure to noise, in a timely manner.</p>	<p>Draft Complaint Protocol developed and sent to Indigenous groups for review/comment in October 2019. Finalized and submitted to IAAC in September 2020.</p>
6.8	<p>Provide access to the project development area to Indigenous groups prior to construction, to the extent that such access is safe, to harvest traditional plants. In doing so, the Proponent shall:</p> <p>6.8.1 notify Indigenous groups at least 120 days in advance of vegetation clearing to allow Indigenous groups to harvest traditional plants within the project development area; and</p> <p>6.8.2 notify Indigenous groups and the Agency if the Proponent must prohibit access to the project development area to harvest traditional plants for safety reasons. The Proponent shall notify Indigenous groups at least 48 hours before access must be prohibited, unless access must be prohibited for emergency purposes.</p>	<p>Opportunity to harvest was provided to Indigenous groups on September 5, 2019.</p> <p>No access prohibitions occurred during reporting period.</p>

Condition Number	Description	Activities Undertaken
6.9	<p>Develop, prior to construction and in consultation with Indigenous groups, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of mitigation measures as it pertains to the adverse environmental effects of the Designated Project on the current use of lands and resources for traditional purposes, including access to the Southwest Arm of Kenogamisis Lake referred to in condition 6.1 and access along Goldfield Road and to the Goldfield Creek diversion channel referred to in condition 6.2. The Proponent shall implement the follow-up program during all phases of the Designated Project.</p>	<p>Current Use of Lands and Resources for Traditional Purposes Follow-Up Plan finalized in consultation with Indigenous groups in September 2020.</p>
7.1	<p>Develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a bald eagle (<i>Haliaeetus leucocephalus</i>) protection plan that takes into account Ontario's Management Plan for the Bald Eagle (<i>Haliaeetus leucocephalus</i>) in Ontario and Ontario's Bald Eagle Habitat Management Guidelines. The Proponent shall implement the protection plan during construction and operation. As part of the implementation of the protection plan, the Proponent shall:</p> <p>7.1.1 conduct, once prior to construction and annually until vegetation clearing is completed within the project development area, surveys of active bald eagle (<i>Haliaeetus leucocephalus</i>) nests within the project development area and within 800 meters of the project development area, and provide the results of the surveys to Indigenous groups, relevant authorities and the Agency no later than 60 days after the end of each survey; and</p> <p>7.1.2 develop, in consultation with Indigenous groups and relevant authorities, and implement measures to protect active nest(s) found pursuant to the surveys referred to in condition 7.1.1. At a minimum, these measures shall include restrictions on access and on Designated Project activities, including site preparation and vegetation clearing, that the Proponent may undertake from March 1 to August 31 within 400 metres of any active nest. The Proponent shall submit these measures to the Agency prior to implementing them, including the period(s) of time during which these measures will apply.</p>	<p>Draft Bald Eagle Protection Plan was developed and sent to Indigenous groups and the MNRF for review/comment in October 2019 and IAAC in October 2020. The Bald Eagle Protection Plan is presented in Appendix G of the BMMP. A bald eagle aerial survey was completed during the reporting period. No construction or vegetation clearing occurred within 800 m of an active eagle nest. However, vehicle traffic relating to construction of the tailings management facility occurred within 800 m of nest E-535 during active nesting. Daily monitoring was conducted to confirm continued eagle occupation of the nest from during the nesting period ending June 30, 2022. Eagles did not appear to be negatively impacted by the presence of vehicle traffic within 800 m of the active nest.</p>
8.1	<p>Close mine shaft openings prior to any drawdown works to reduce the likelihood of little brown myotis (<i>Myotis lucifugus</i>) and northern myotis (<i>Myotis septentrionalis</i>) establishing bat hibernacula in underground workings.</p>	<p>N/A: no drawdown works in mine shafts occurred during reporting period.</p>

Condition Number	Description	Activities Undertaken
9.1	Take all reasonable measures to prevent accidents and malfunctions that may result in adverse environmental effects.	Several management plans have been developed to prevent accidents and malfunctions (i.e., Spill Prevention and Contingency Plan, Erosion and Sediment Control Plan, Construction Environmental Management Plan, Site Emergency Response Plan, etc.)
9.2	Prior to construction, consult with Indigenous groups and relevant authorities on the measures to be implemented to prevent accidents and malfunctions.	Emergency Preparedness and Response Plan for Construction finalized in February 2020 (GGM 2020f).
9.3	<p>Prior to construction and in consultation with Indigenous groups and relevant authorities, develop an accident and malfunction response plan in relation to the Designated Project. The accident and malfunction plan shall include:</p> <p>9.3.1 the types of accident and malfunction that may cause adverse environmental effects; and</p> <p>9.3.2 the measures to be implemented in response to each type of accident and malfunction referred to in condition 9.3.1 to mitigate any adverse environmental effect(s) caused by the accident or malfunction.</p>	Emergency Preparedness and Response Plan for Construction finalized in February 2020 (GGM 2020f).
9.4	<p>In the event of an accident or malfunction with the potential to cause adverse environmental effects, the Proponent shall immediately implement the measures appropriate to the accident or malfunction referred to in condition 9.3.2 and shall:</p> <p>9.4.1 notify, as soon as possible, Indigenous groups and relevant authorities of the accident or malfunction, and notify CEAA in writing no later than 24 hours following the accident or malfunction. For the notification to Indigenous groups and the Agency, the Proponent shall specify:</p> <p>9.4.1.1 the date the accident or malfunction occurred;</p> <p>9.4.1.2 a summary description of the accident or malfunction;</p> <p>9.4.1.3 a list of any substances potentially released into the environment as a result of the accident or malfunction.</p> <p>9.4.2 submit a written report to the Agency no later than 30 days after the day on</p>	N/A: no accidents or malfunctions with the potential to cause adverse environmental effects occurred during reporting period, with the exception of reportable spills. IAA was emailed the spill reports when they occurred.

Condition Number	Description	Activities Undertaken
	<p>which the accident or malfunction occurred. The written report shall include:</p> <p>9.4.2.1 a detailed description of the accident or malfunction and of its adverse environmental effects and any associated potential health risks;</p> <p>9.4.2.2 a description of the measures that were taken by the Proponent to mitigate the adverse environmental effects caused by the accident or malfunction;</p> <p>9.4.2.3 any view(s) from Indigenous groups and advice from relevant authorities received with respect to the accident or malfunction, its adverse environmental effects, the associated potential health risks and the measures taken by the Proponent to mitigate these adverse environmental effects;</p> <p>9.4.2.4 a description of any residual adverse environmental effects and any modified or additional measures required by the Proponent to mitigate residual adverse environmental effects; and</p> <p>9.4.2.5 details concerning the implementation of the accident or malfunction response plan referred to in condition 9.3.</p> <p>9.4.3 submit a written report to the Agency no later than 90 days after the day on which the accident or malfunction occurred that includes a description of changes made to avoid a subsequent occurrence of the accident or malfunction and of the modified or additional measure(s) implemented by the Proponent to mitigate and monitor residual adverse environmental effects and to carry out any required progressive reclamation, taking into account the information submitted in the written report pursuant to condition 9.4.2. The report shall include all additional views from Indigenous groups and advice from relevant authorities received by the Proponent since the views and advice referred to in condition.</p>	

Condition Number	Description	Activities Undertaken
9.5	<p>The Proponent shall develop a communication plan in consultation with Indigenous groups. The Proponent shall develop the communication plan prior to construction and shall implement and keep it up to date during all phases of the Designated Project. The plan shall include:</p> <p>9.5.1 the types of accident and malfunction requiring the Proponent to notify the respective Indigenous groups;</p> <p>9.5.2 the manner by which Indigenous groups shall be notified by the Proponent of an accident or malfunction and of any opportunities for the Indigenous groups to assist in the response to the accident or malfunction; and</p> <p>9.5.3 the contact information of the representatives of the Proponent that the Indigenous groups may contact and of the representatives of the respective Indigenous groups to which the Proponent provides notification.</p>	<p>Draft Communications Plan developed and sent to Indigenous groups and MECP for review/comment in October 2019. Finalized and submitted to IAAC in September 2020.</p>
10.1	<p>Submit a schedule to CEAA for all conditions set out in the CEAA Decision Statement no later than 60 days prior to the start of construction. This schedule shall detail all activities planned to fulfill each condition set out in the Decision Statement and the commencement and estimated completion month(s) and year(s) for each of these activities.</p>	<p>Submitted to IAAC January 22, 2021. At the time of preparation of this report, there have been no updates to the schedule submitted in 2021.</p>
10.2	<p>Submit a schedule to CEAA outlining all activities required to carry out all phases of the Designated Project no later than 60 days prior to the start of construction. The schedule shall indicate the commencement and estimated completion month(s) and year(s) and duration of each of these activities.</p>	<p>Submitted to IAAC January 22, 2021. At the time of preparation of this report, there have been no updates to the schedule submitted in 2021.</p>
10.3	<p>Submit to CEAA, in writing, an update to schedules referred to in conditions 10.1 and 10.2 every year no later than December 31, until completion of all activities referred to in each schedule.</p>	<p>Submitted to IAAC January 22, 2021. At the time of preparation of this report, there have been no updates to the schedule submitted in 2021.</p>
10.4	<p>Provide revised schedules to CEAA if any change is made to the initial schedules referred to in conditions 10.1 and 10.2 or to any subsequent update(s) referred to in condition 10.3, upon revision of the schedules.</p>	<p>Submitted to IAAC January 22, 2021. At the time of preparation of this report, there have been no updates to the schedule submitted in 2021.</p>
10.5	<p>Proponent shall provide Indigenous groups with the schedules referred to in conditions 10.1 and 10.2 and the updates or revisions to the initial schedules pursuant to condition 10.3 and 10.4 at the same time the Proponent provides these documents to CEAA.</p>	<p>GGM provides Indigenous groups updates to the construction schedule referenced in 10.1 and 10.2 during each regularly scheduled EAC meeting.</p>

Condition Number	Description	Activities Undertaken
11.1	Proponent shall maintain all records required to demonstrate compliance with the conditions set out in the CEAA Decision Statement. The Proponent shall retain the records and make them available to the Agency throughout construction and operation and for 25 years following the end of operation or until the end of decommissioning of the Designated Project, whichever comes first. The Proponent shall provide the aforementioned records to the Agency upon demand within a timeframe specified by the Agency.	Records required to demonstrate compliance with the conditions are maintained in GGM's document control system and can be made available upon request.
11.2	GGM shall retain all records referred to in condition 11.1 at a facility in Canada and shall provide the address of the facility to CEAA. The Proponent shall notify the Agency at least 30 days prior to any change to the physical location of the facility where the records are retained and shall provide to the Agency the address of the new location.	GGM has maintained records relevant to the December 10, 2018 Decision Statement. In 2019, these records were retained in GGM's electronic document control system and at: Greenstone Mine 8000 Highway 11 P.O. Bag 10 Geraldton, ON POT 1M0
11.3	GGM shall notify CEAA of any change to the contact information of the Proponent included in the CEAA Decision Statement.	IAAC was updated on the following GGM contact information: Eric Lamontagne General Manager Mobile: 416-321-7877 Greenstone Mine 8000 Highway 11 P.O. Bag 10 Geraldton, ON POT 1M0

2.2 Compliance with Condition 2.1 General Conditions (Condition 2.9.2)

Condition 2.1 (General Conditions) is:

2.1 The Proponent shall ensure that its actions in meeting the conditions set out in this Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge available at the time the Proponent takes action, including community and Indigenous traditional knowledge, are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.

GGM has complied with Condition 2.1 by continuing to engage the services of several qualified consultants and engineering firms to implement activities during reporting period. GGM established EACs with Indigenous groups and their consultants to review and discuss permit applications, environmental management and monitoring plans, and other topics of interest to the Indigenous groups.

2.3 Influence of Consultation (Condition 2.9.3)

The conditions that require consultation are listed in Table 2-2 along with how views and information received during consultation have been considered in implementing the conditions.

Table 2-2: Summary of Influence of Consultation

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>2.14 The Proponent shall consult with Indigenous groups and relevant authorities prior to initiating any changes to the Designated Project that may result in adverse environmental effects, and shall notify the Agency in writing no later than 60 days prior to initiating the change(s).</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>Design optimization report reviewed by EACs, however no changes to the Project were identified that may result in adverse environmental effects.</p>
<p>3.1 The Proponent shall salvage and relocate fish prior to conducting any Designated Project activity requiring removal of fish habitat in a manner consistent with any authorization issued under the <i>Fisheries Act</i> and its regulations. The Proponent shall salvage and relocate fish in consultation with Indigenous groups and to the satisfaction of Fisheries and Oceans Canada and other relevant authorities.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN • MNRF 	<p>GGM undertook fish salvage during the reporting window. The required Licence to Collect Fish for Scientific Purposes was obtained from MNRF and distributed through the Indigenous Environmental Advisory Sub-Committees.</p>
<p>3.11 The Proponent shall mitigate, in consultation with Indigenous groups and relevant authorities, the adverse environmental effects on water quality, including in the Southwest Arm, Central Basin and Barton Bay of Kenogamis Lake, Goldfield Creek Tributary, Mosher Lake and the Southwest Arm Tributary, caused by the presence of unexcavated historical tailings.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>GGM is implementing measures to mitigate potential effects on water quality primarily through the collection, containment, and treatment of water from the mine site. Environmental Technicians that sit on the EAC are involved with the routine effluent and water quality monitoring program. GGM regularly consults with Indigenous groups through the EAC and the Indigenous Technicians that sit on the committees.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>3.12 The Proponent shall develop, to the satisfaction of Fisheries and Oceans Canada and Environment and Climate Change Canada and in consultation with Indigenous groups, any offsetting plan(s) related to any residual serious harm to fish associated with the carrying out of the Designated Project. The Proponent shall implement the plan. The Proponent shall submit any approved offsetting plan(s) to the Agency prior to implementation.</p>	<ul style="list-style-type: none"> • AFN • AZA • DFO • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>The Goldfield Creek diversion and, proposed compensatory measures have been discussed as a Project component throughout the Federal EIS and Provincial EA process. Early consultation of the offsetting concept helped shape additional field work carried out in 2016 to further evaluate flows and informed a revised approach with respect to flow management through the Southwest Arm Tributary. Additional consultation helped to inform the detailed design and the final version of the plan with a focus on habitat design features within the Goldfield Creek diversion. The comments and discussion points received from consultation, have been incorporated into the plan.</p>
<p>3.13 The Proponent shall, for any fish habitat offsetting measure(s) proposed in any offsetting plan(s) referred to in condition 3.12 that may cause adverse environmental effects not considered in the environmental assessment, develop and implement, following consultation with Indigenous groups, Fisheries and Oceans Canada and Environment and Climate Change Canada, measures to mitigate those effects. The Proponent shall submit these measures to the Agency before implementing them.</p>	<p>N/A no adverse environmental effects not considered in the environmental assessment were identified.</p>	<p>N/A</p>
<p>3.15 The Proponent shall develop, prior to the start of blasting activities in or near water and in consultation with relevant authorities, a follow-up program to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects of blasting on fish and fish habitat, including aquatic listed species at risk. The Proponent shall implement the follow-up program during blasting activities.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>Draft follow-up program for monitoring of blasting developed as part of the Noise & Vibration Management and Monitoring Plan (NVMMP) and sent to Indigenous groups and the MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made in final version (July 2020) of the NVMMP.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>3.16 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects on fish and fish habitat caused by changes in water quality in Kenogamisis Lake, Mosher Lake and the Southwest Arm Tributary. The Proponent shall implement the follow-up program during all phases of the Designated Project, including the environmental effects monitoring requirements set out in Schedule 5 of the <i>Metal and Diamond Mining Effluent Regulations</i>.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • MNRF • RSMIN 	<p>Consultation on proposed mitigation measures and methods as they pertain to adverse environmental effects on fish and fish habitat caused by changes in water quality in Kenogamisis Lake, Mosher Lake and the Southwest Arm Tributary took place prior to the current monitoring period. Comments were incorporated into the Fish and Fish Habitat Federal EIS Follow-up Monitoring Plan, which was finalized on February 16, 2021. The plan was implemented in 2021 as required during the monitoring period.</p>
<p>3.17 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on fish and fish habitat of from changes in groundwater quality caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • MNRF • RSMIN 	<p>Consultation on proposed mitigation measures and methods as they pertain to adverse environmental effects on fish and fish habitat caused by changes in groundwater quality took place prior to the current monitoring period. Comments were incorporated into the Fish and Fish Habitat Federal EIS Follow-up Monitoring Plan, which was finalized on February 16, 2021. The plan was implemented in 2021 as required during the monitoring period.</p>
<p>4.2 The Proponent shall undertake, in consultation with Indigenous groups and relevant authorities, progressive reclamation of the project development area. The Proponent shall identify, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, plant species native to the area of the Designated Project to use for revegetation as part of the progressive reclamation, including species suitable to create habitat for migratory birds.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • MNRF • MTO • RSMIN 	<p>Through the Closure Plan approval process, the Closure Plan was consulted on through written comments and responses, meetings and community open houses with Indigenous groups and provincial government agencies. Any required revisions were made in the filed Closure Plan.</p> <p>Draft Revegetation Plan and draft Goldfield Creek Realignment Biodiversity Monitoring Plan were developed and sent to Indigenous groups and MNRF for review/comment in October 2019. Comments received were responded to and discussed in meetings. Revisions based on the consultation are included in the BMMP (GGM 2022a).</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>4.3 The Proponent shall compensate, in consultation with relevant authorities, the loss of barn swallow (<i>Hirundo rustica</i>) nesting sites as a result of the Designated Project, taking into account Ontario's <i>Recovery Strategy for Barn Swallow (Hirundo rustica)</i>. In doing so, the Proponent shall install, prior to construction, and maintain, during three years, artificial barn swallow (<i>Hirundo rustica</i>) nesting structures.</p>	<p>N/A: removal of barn swallow nesting sites or installation of replacement habitat did not occur during the reporting period.</p>	<p>N/A</p>
<p>4.6 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the use by migratory birds of surface water facilities in the project development area.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Wildlife-Water Follow-up Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation are included in Appendix E of the BMMP (GGM 2022a).</p>
<p>4.7 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds, their eggs and nests, including the mitigation measures used to comply with conditions 4.1 to 4.5.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Migratory Birds Follow-up Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation are included in Appendix J of the BMMP (GGM 2022a).</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>4.7.1 conduct migratory bird surveys annually for the first five years following completion of construction to assess migratory bird use of the project development area. The Proponent shall determine the methodology for the migratory bird surveys in consultation with Indigenous groups and relevant authorities. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the initial surveys, if additional surveys within the project development area are required after the first five years following completion of construction and at what frequency and in which locations these additional surveys shall occur;</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Migratory Birds Follow-up Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation are included in Appendix H of the BMMP (GGM 2022a).</p>
<p>4.7.2 monitor the effectiveness of the progressive reclamation referred to in condition 4.2, including the establishment of native plant species to create habitat for migratory birds, annually during operation and during the first five years of decommissioning and every five years thereafter until the Proponent has determined, in consultation with Indigenous groups and relevant authorities, that the performance indicators have been met;</p>	<p>N/A: not required during construction phase.</p>	<p>N/A</p>
<p>5.1 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, measures to mitigate emissions of dust generated by the Designated Project, including dust from vehicles associated with the Designated Project on roads located within the project development area and dust generated during the transport of historical tailings, that take into account the standards and criteria set out in the Canadian Council of Ministers of the Environment's <i>Canadian Ambient Air Quality Standards</i> and Ontario's <i>Ambient Air Quality Criteria</i>. The Proponent shall submit these measures to the Agency before implementing them. The Proponent shall implement these measures during construction, operation and the first five years of decommissioning.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft AQMMP was sent to Indigenous groups and the MECP for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed during EAC meetings. Revisions based on the consultation are included in the updated AQMMP (GGM 2020e).</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>5.3 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes to air quality.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft AQMMP was sent to Indigenous groups and the MECP for review/comment in October 2019 and ECCC in July 2020. Indigenous Peoples Health Risk Assessment Follow-up Plan sent to Indigenous groups for review/comment in January 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation were made in final version of the AQMMP (GGM 2020e) and the Indigenous Peoples Health Risk Assessment Follow-up Plan (GGM 2020b).</p>
<p>5.3.3 monitor, at least annually during construction and for the first two years of operation, airborne benzene and benzo(a)pyrene at the monitoring locations identified pursuant to condition 5.3.1. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first two years of operation and at what frequency this additional monitoring shall occur;</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN • MECP • ECCC 	<p>Monthly sampling for B(a)P commenced in March 2022. Benzene monitoring commenced in July 2022.</p>
<p>5.4 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in water and fish.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>A Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan was completed in March 2021, which included a follow-up program to assess the predictions of the EIS and the effectiveness of mitigation measures that pertain to potential effects on the health of Indigenous Peoples of changes in concentrations of contaminants in water and fish.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>5.4.1. monitor, at least quarterly during construction and the first five years of operation, mercury in the Southwest Arm Tributary, using as a benchmark a concentration of 0.04 micrograms per litre. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first five years of operation and at what frequency this additional monitoring shall occur; and</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN • MECP 	<p>Baseline water quality data to support this Follow-up plan (Health of Indigenous Peoples Follow-Up Plan) were collected in 2022 with the Indigenous Technicians and reported to the EAC.</p>
<p>5.4.2 monitor, at least quarterly during construction and the first five years of operation, methylmercury in the Southwest Arm Tributary, using as a benchmark a concentration of 0.0001 micrograms per litre. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first five years of operation and at what frequency this additional monitoring shall occur.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN • MECP 	<p>Baseline water quality data to support the Health of Indigenous Peoples Follow-up plan were collected in 2022 with the Indigenous Technicians and reported to the EAC.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>5.5 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in country foods caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the development of the follow-up program, the Proponent shall identify, in consultation with Indigenous groups and relevant authorities, species of vegetation, fish and wildlife that shall be monitored and shall determine, in consultation with Indigenous groups and relevant authorities, the sampling and analytical methodology that shall be applied for the monitoring of each species, including how samples will be collected. As part of the implementation of the follow-up program, the Proponent shall:</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>Indigenous Peoples Health Risk Assessment Follow-up Plan sent to Indigenous groups for review/comment in January 2020. Comments received were responded to and discussed in meetings. The plan was finalized on November 2, 2020.</p>
<p>5.5.1 monitor, at least every two years, during the first six years of operation, mercury, methylmercury and arsenic concentrations in walleye (<i>Sander vitreus</i>) tissue according to the methodology determined pursuant to condition 5.5. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first six years of operation and at what frequency this additional monitoring shall occur; and</p>	<p>N/A: no operation activities occurred in 2021.</p>	<p>N/A</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>5.5.2 monitor, at least every two years, during the first six years of operation, concentrations of metals, including mercury and arsenic, in small mammals according to the methodology determined pursuant to condition 5.5. The Proponent shall determine, in consultation with Indigenous groups and relevant authorities and based on the results of the monitoring, if additional monitoring is required after the first six years of operation and at what frequency this additional monitoring shall occur.</p>	<p>N/A: no operation activities occurred in 2021.</p>	<p>N/A</p>
<p>5.7 The Proponent shall develop, in consultation with Indigenous groups and relevant authorities, a communication plan to share the results of the follow-up programs referred to in conditions 5.3, 5.4 and 5.5 with Indigenous groups and relevant authorities, including any potential health risks, in plain language, and the modified or additional mitigation measures developed and implemented by the Proponent pursuant to condition 2.7. The Proponent shall develop the communication plan prior to construction and shall implement and maintain it up to date during the periods of time that the follow-up programs referred to in conditions 5.3, 5.4 and 5.5 are implemented.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft Communications Plan was sent to Indigenous groups and MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made in final version of the Communications Plan submitted to IAAC in September 2020. An updated version was produced on May 19, 2022. This latest version was subject to review by Indigenous groups.</p>
<p>6.1 The Proponent shall establish, in consultation with Indigenous groups and prior to undertaking construction activities that will restrict access to the Southwest Arm of Kenogamisis Lake, alternate unrestricted access to the Southwest Arm of Kenogamisis Lake and shall maintain that alternate access during all phases of the Designated Project, to the extent that such access is safe.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>The East Access Road, was identified on the site plan and consulted on with Indigenous groups in 2019. The alternate road was constructed in 2021 and is currently open to public access.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>6.4 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a communication plan to share information related to Designated Project activities and about the adverse environmental effects of the Designated Project with Indigenous groups. The Proponent shall implement and maintain the communication plan up-to-date during all phases of the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft Communications Plan was sent to Indigenous groups and MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made in final version of the Communications Plan submitted to IAAC in September 2020.</p>
<p>6.5 The Proponent shall develop, as part of the communication plan referred to in condition in 6.4 and in consultation with Indigenous groups, procedures for Indigenous groups to communicate to the Proponent their concerns about adverse environmental effects caused by the Designated Project related to access to and use of lands for traditional purposes, including navigation and consumption of country foods, and procedures for the Proponent to document and respond in a timely manner to the concerns received and demonstrate how issues have been addressed, including through the implementation of additional or modified mitigation measures. The Proponent shall implement these procedures during all phases of the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft Communications Plan was sent to Indigenous groups and MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made in final version of the Communications Plan submitted to IAAC in September 2020.</p>
<p>6.6.1 identify, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, species of importance to Indigenous Peoples (including medicinal, edible and ceremonial plants) to use for revegetation as part of the progressive reclamation to create harvesting opportunities; and</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Revegetation Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019. Comments received were responded to and discussed in meetings. Revisions to the Revegetation Plan, if required, will be made in light of discussions with Indigenous groups.</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>6.6.2 develop, prior to the start of progressive reclamation and in consultation with Indigenous groups and relevant authorities, and implement, during all phases of the Designated Project, measures to manage the spread of invasive species. The Proponent shall submit these measures to the Agency before implementing them.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Invasive Species Management Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation will be made in final version of the Invasive Species Management Plan.</p>
<p>6.7 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, a protocol for receiving complaints related to the exposure to noise from the Designated Project. The Proponent shall submit the protocol to the Agency prior to construction and shall implement it during all phases of the Designated Project. The Proponent shall respond to any noise complaint(s) within 48 hours of the complaint being received and shall implement corrective actions, if required to reduce exposure to noise, in a timely manner.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft Complaint Protocol was sent to Indigenous groups and the MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made and it was finalized and submitted to IAAC in September 2020.</p>
<p>6.9 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of mitigation measures as it pertains to the adverse environmental effects of the Designated Project on the current use of lands and resources for traditional purposes, including access to the Southwest Arm of Kenogamisis Lake referred to in condition 6.1 and access along Goldfield Road and to the Goldfield Creek diversion channel referred to in condition 6.2. The Proponent shall implement the follow-up program during all phases of the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>A follow up program was developed in August 2020 and was sent to Indigenous groups for review/comment. Revisions based on the consultation were incorporated into the final version (GGM 2020a).</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>7.1 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a bald eagle (<i>Haliaeetus leucocephalus</i>) protection plan that takes into account Ontario's <i>Management Plan for the Bald Eagle (Haliaeetus leucocephalus) in Ontario</i> and Ontario's <i>Bald Eagle Habitat Management Guidelines</i>. The Proponent shall implement the protection plan during construction and operation.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Bald Eagle Protection Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation were incorporated into the final version, which is presented in Appendix G of the BMMP (GGM 2022a).</p>
<p>7.1.2 develop, in consultation with Indigenous groups and relevant authorities, and implement measures to protect active nest(s) found pursuant to the surveys referred to in condition 7.1.1. At a minimum, these measures shall include restrictions on access and on Designated Project activities, including site preparation and vegetation clearing, that the Proponent may undertake from March 1 to August 31 within 400 metres of any active nest. The Proponent shall submit these measures to the Agency prior to implementing them, including the period(s) of time during which these measures will apply.</p>	<ul style="list-style-type: none"> • AFN • AZA • ECCC • GFN • LLFN • MNO • MNRF • RSMIN 	<p>A draft Bald Eagle Protection Plan was sent to Indigenous groups and the MNRF for review/comment in October 2019 and ECCC in July 2020. Comments received were responded to and discussed in meetings. Revisions based on the consultation were incorporated into the final version, which is presented in Appendix G of the BMMP (GGM 2022a).</p>
<p>9.2 The Proponent shall, prior to construction, consult with Indigenous groups and relevant authorities on the measures to be implemented to prevent accidents and malfunctions.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>A draft Emergency Preparedness and Response Plan for Construction developed and sent to Indigenous groups for review/comment in October 2019. Comments received were responded to and discussed in meetings. Revisions based on the consultation were made in final version of the Emergency Preparedness and Response Plan (GGM 2020f).</p>

Condition Requiring Consultation	Communities and Agencies Consulted With	How GGM considered Views and Information Received During or as a Result of the Consultation
<p>9.3 The Proponent shall, prior to construction and in consultation with Indigenous groups and relevant authorities, develop an accident and malfunction response plan in relation to the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MNO • RSMIN 	<p>A draft Emergency Preparedness and Response Plan for Construction developed and sent to Indigenous groups for review/comment in October 2019. Comments received were responded to and discussed in meetings. Revisions based on the consultation were made in final version of the Emergency Preparedness and Response Plan (GGM 2020f).</p>
<p>9.5 The Proponent shall develop a communication plan in consultation with Indigenous groups. The Proponent shall develop the communication plan prior to construction and shall implement and keep it up to date during all phases of the Designated Project.</p>	<ul style="list-style-type: none"> • AFN • AZA • GFN • LLFN • MECP • MNO • RSMIN 	<p>A draft Communications Plan was sent to Indigenous groups and MECP for review/comment in October 2019. Comments received were responded to and discussed in meetings. Any required revisions based on the consultation were made in the final version of the Communications Plan submitted to IAAC in September 2020.</p>

2.4 Follow-up Programs (Condition 2.9.4)

Condition 2.9.4 states that the annual report must include the information referred to in Conditions 2.4 and 2.5 for each follow-up program. Condition 2.4 and 2.5 are:

2.4 The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement, determine, as part of the development of each follow-up program and in consultation with the party or parties being consulted during the development, the following information:

2.4.1 the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program;

2.4.2 the scope, content and frequency of reporting of the results of the follow-up program;

2.4.3 the levels of environmental change relative to baseline conditions that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may require Designated Project activities to be stopped; and

2.4.4 the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change referred to in condition 2.4.3 have been reached or exceeded.

2.5 The Proponent shall maintain the information referred to in condition 2.4 during the implementation of each follow-up program in consultation with the party or parties being consulted during the development of each follow-up program.

Table 2-3 presents a list of the required follow-up programs and references how GGM has included the information required by Conditions 2.4 and 2.5.

Table 2-3: Follow-up Program Requirements

Condition Requiring a Follow-up Program	Reference to Information Required as Per Condition 2.4 and 2.5
<p>3.15 The Proponent shall develop, prior to the start of blasting activities in or near water and in consultation with relevant authorities, a follow-up program to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects of blasting on fish and fish habitat, including aquatic listed species at risk. The Proponent shall implement the follow-up program during blasting activities.</p>	<p>Follow-up program for monitoring of blasting was developed as part of NVMMP and was finalized in July 2020. The NVMMP includes the methodology, location, frequency, timing, and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required; and the mitigation measures to be implemented as part of adaptive management.</p> <p>The NVMMP was implemented beginning in September 2021 when blasting commenced, and through the 2022 monitoring period.</p>

Condition Requiring a Follow-up Program	Reference to Information Required as Per Condition 2.4 and 2.5
<p>3.16 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects on fish and fish habitat caused by changes in water quality in Kenogamisis Lake, Mosher Lake and the Southwest Arm Tributary. The Proponent shall implement the follow-up program during all phases of the Designated Project, including the environmental effects monitoring requirements set out in Schedule 5 of the <i>Metal and Diamond Mining Effluent Regulations</i>.</p>	<p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a) includes the methodology, location, frequency, timing, and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required; and the mitigation measures to be implemented as adaptive management.</p> <p>This Plan includes a water quantity and quality monitoring components. The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Report was completed in December 2022. The sampling requirements identified in the Federal Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan differ from the requirements of the Environmental Effects Monitoring (EEM) requirements set out in Schedule 5 of the <i>Metal and Diamond Mining Effluent Regulations (MDMER)</i>. Both monitoring programs will be implemented, as required.</p>
<p>3.17 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on fish and fish habitat of from changes in groundwater quality caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project</p>	<p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a) includes the methodology, location, frequency, timing and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required; and the mitigation measures to be implemented as adaptive management.</p> <p>The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan includes a groundwater quantity and quality monitoring component. The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan was implemented in March 2021.</p>
<p>4.6 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the use by migratory birds of surface water facilities in the project development area.</p>	<p>Regarding the use by migratory birds of surface water facilities in the project development area, Appendix E of the BMMP (GGM, 2020) includes the methodology, location, frequency, timing and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required; and the mitigation measures to be implemented as adaptive management.</p>

Condition Requiring a Follow-up Program	Reference to Information Required as Per Condition 2.4 and 2.5
<p>4.7 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds, their eggs and nests, including the mitigation measures used to comply with conditions 4.1 to 4.5. As part of the development of the follow-up program, the Proponent shall identify performance indicators that shall be used by the Proponent to evaluate the effectiveness of the progressive reclamation referred to in condition 4.2. The Proponent shall implement the follow-up program during all phases of the Designated Project.</p>	<p>Measures to avoid harm to migratory birds, their eggs and nests are included in Appendix J of the BMMP (GGM 2022a), which includes the methodology, location, frequency, timing and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required, and the mitigation measures to be implemented as adaptive management.</p> <p>Implementation of the BMMP, with respect to Condition 4.7, commenced in spring 2021 in association with tree clearing and site preparation</p>
<p>5.3 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes to air quality.</p>	<p>The AQMMP (GGM 2020e) includes the methodology, location, frequency, timing and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program, when adaptive management is required, and the mitigation measures to be implemented as adaptive management. The Indigenous Peoples Health Risk Assessment Follow-up Plan explains how monitoring results will be compared to predictions in the EIS.</p>
<p>5.4 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in water and fish.</p>	<p>The Indigenous Peoples Health Risk Assessment and Follow-up Plan (November 2, 2020) explains how monitoring results will be compared to predictions in the EA and includes the methodology, location, frequency, timing, and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program, when adaptive management is required, and the mitigation measures to be implemented as adaptive management.</p>

Condition Requiring a Follow-up Program	Reference to Information Required as Per Condition 2.4 and 2.5
<p>5.5 The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of the mitigation measures as it pertains to the adverse environmental effects on the health of Indigenous Peoples of changes in concentrations of contaminants in country foods caused by the Designated Project. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the development of the follow-up program, the Proponent shall identify, in consultation with Indigenous groups and relevant authorities, species of vegetation, fish and wildlife that shall be monitored and shall determine, in consultation with Indigenous groups and relevant authorities, the sampling and analytical methodology that shall be applied for the monitoring of each species, including how samples will be collected.</p>	<p>The Indigenous Peoples Health Risk Assessment Follow-up Plan (GGM 2020b) includes the methodology, location, frequency, timing, and duration of monitoring; the scope, content and frequency of reporting of the results of the follow-up program; when adaptive management is required; and the mitigation measures to be implemented as adaptive management.</p>
<p>6.9 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of mitigation measures as it pertains to the adverse environmental effects of the Designated Project on the current use of lands and resources for traditional purposes, including access to the Southwest Arm of Kenogamisis Lake referred to in condition 6.1 and access along Goldfield Road and to the Goldfield Creek diversion channel referred to in condition 6.2. The Proponent shall implement the follow-up program during all phases of the Designated Project.</p>	<p>Current Use of Lands and Resources for Traditional Purposes Follow-up Plan developed (August 18, 2020). Current Use of Lands and Resources for Traditional Purposes Follow-up Plan includes the methodology and location of monitoring and the scope, content and frequency of reporting of the results of the follow-up program.</p>

2.5 Results of Follow-up Programs (Condition 2.9.5)

Follow-up programs that were undertaken during the reporting period are:

- Fish and Fish Habitat Follow-up Plan (federal conditions 3.14, 3.15, 3.16, 3.17)
- Biodiversity Management and Monitoring Plan (federal conditions 4.6 and 4.7)
- Indigenous Peoples Health Risk Assessment Follow-up Plan (federal condition 5.3, 5.4, 5.5)
- Current Use of Lands and Resources for Traditional Purposes Follow-up Plan (federal condition 6.9)
- AQMMP (federal condition 5.3).

The following paragraphs provide a summary of monitoring results for various follow-up monitoring plans. Further details are provided in the respective reports that are referenced.

2.5.1 Fish and Fish Habitat Follow-up Plan Results Summary

A Fish and Fish Habitat Follow-up Monitoring Plan (GGM 2021a) was prepared to address seven specific federal Conditions of Approval related to monitoring potential effects of the Project on fish and fish habitat (conditions 3.14, 3.15, 3.16, 3.17, 3.2, 5.4, and 5.5.1). The results of the 2022 Fish and Fish Habitat Federal EIS Follow-Up Monitoring Report are summarized below.

Condition 3.14 – Erosion and Sediment Control

As per the requirements of federal Condition 3.14, GGM has developed and implemented measures to control erosion and sedimentation in the Project Development Area (PDA) (GGM 2020d). Work that occurred in and around water during the 2022 monitoring period included the construction of the:

- New highway realignment road base
- Grade Control Structures in the SWAT
- Roads and culverts on site
- Temporary diversion channel around the Goldfield Diversion Pond work area
- Newly realigned section of Goldfield Creek
- Full scale effluent discharge pipeline.

The Erosion and Sediment Control Plan (ESCP) (GGM 2020d) was implemented to mitigate potential effects of erosion and sedimentation on fish and fish habitat. ESC measures are presented in the ESCP and include the following main components:

- Completing work in and around fish habitat during the appropriate timing window (no in-water work April 1 to June 20) to avoid spawning times and times when eggs and juvenile fish may be more susceptible to potential effects of increased turbidity and sedimentation
- Limiting the area of ground disturbance and vegetation clearing
- Reducing the duration of in-water work
- Use of silt fencing, straw bales, fiber mats, filter bags, silt curtains and other ESC tools to reduce erosion and sedimentation
- Revegetation of disturbed areas.

Erosion and sediment controls were regularly inspected to verify the effectiveness of the mitigation measures. Management practices were implemented to protect the environment, and to determine whether new management strategies and/or mitigation measures were required. The following activities were undertaken as part of the regular erosion and sediment control monitoring:

- Work sites were inspected and monitored on an on-going basis for compliance with the ESCP (GGM 2020d).
- Earthworks were inspected daily to look for evidence of erosion and sedimentation and corrective measures were taken as necessary.
- Where required, work activities ceased to address potential erosion and sediment control issues.
- Silt fence barriers were inspected daily and immediately following rainfall events.
- Silt fence was repaired or replaced if it was not functioning as intended.
- Stand-by material of prefabricated silt fence barrier was maintained on the construction site and was available for rapid deployment.
- Erosion control structures were reinforced when significant rainfall events were forecasted.

Condition 3.16 – Surface Water Quality

The following section describes the measures carried out to satisfy federal Condition 3.16 of the EIS approval by presenting surface water quality monitoring completed by GGM to support the identified mitigation measures to reduce adverse effects on fish and fish habitat. This follow-up program describes the results of the October 2021 through September 2022 water quality in Kenogamisis Lake, Mosher Lake, and the SWAT (Condition 3.16).

As defined in the Fish and Fish Habitat Follow-up Monitoring Plan (GGM 2021a), twenty-four (24) of the twenty-five (25) surface water quality monitoring stations were sampled during 2022, when safe to do so. Sampling of station 54 (located at the outlet of the GFC diversion pond) will commence once Goldfield Creek is diverted and water begins flowing into the new channel, expected in winter 2023. During the routine monthly sampling, surface water samples were completed as grab samples and were submitted to an accredited laboratory for analysis. Additionally, in-situ temperature, pH, conductivity, turbidity, and dissolved oxygen (DO) were measured at the water surface during sample collection using a multi parameter water quality meter. Temperature and DO water column profile sampling was also completed quarterly (February, June, August, October) at eight surface water monitoring locations.

Since monitoring occurred after the start of discharge from the temporary ETP on September 15, 2021, the data in the 2022 reporting period are considered to be representative of the construction period. Surface water quality data collected in the 2022 reporting period for 10 stations and parameters were compared to the seasonal surface water quality trigger thresholds calculated using available baseline data up to September 8, 2021, prior to the start of the temporary ETP discharge. The four seasonal periods were defined as winter (January – March), spring (April – June), summer (July-September), and fall (October – December).

As written in the Fish and Fish Habitat Follow-up Monitoring Plan (GGM 2021a), two trigger thresholds for surface water quality were defined, each with a varying level of sensitivity and associated level of response.

- Surface water quality Trigger Threshold 1 is defined as three consecutive monthly parameter concentration exceedances above the seasonal 95th percentile baseline concentration AND five times the detection limit. For stations and indicator parameters where the 95th percentile is less than the predicted surface water quality concentrations from the EIS/EA, Trigger Threshold 1 is defined as 10% above the predicted surface water quality concentration from the EIS/EA for the surface water feature at a given monitoring station AND five times the detection limit.
- Surface water quality Trigger Threshold 2 is defined as a confirmed exceedance of Trigger Threshold 1 and a statistically significant upward trend for a given indicator parameter, or for stations that have a statistically significant upward trend for baseline data, an increase in the magnitude of the trend compared to baseline.

Prior to January 2022, the baseline surface water quality samples were analyzed by ALS. In January 2022, GGM contracted Testmark Laboratories to complete the water analyses for the Mine. A variety of parameters concentration in surface water were elevated since January 2022 compared to baseline concentrations. In August 2022, GGM initiated an investigation into the results of the laboratory analyses. The investigation involved collecting duplicate samples for analysis by Testmark Laboratories and ALS. Preliminary analytical results received in September 2022 showed a difference in concentrations between laboratories, particularly iron which was consistently elevated in the results from Testmark Laboratories versus ALS. Given the discrepancy, GGM expanded the investigation to include triplicate sampling with analysis by Testmark Laboratories, ALS and Bureau Vertis (BV) to attempt to quantify the discrepancy in concentrations between laboratories, which occurred in October 2022. In addition, a discussion is ongoing with Testmark Laboratories to identify the source of the elevated iron concentrations and to determine a path forward. Therefore, water analytical data analyzed since January 2022 should be viewed with caution until the laboratory investigation is complete.

Data from monthly monitoring was used to monitor potential trends in surface water quality and to evaluate whether fluctuations in quality were due to natural variability or from a Project related effect. In summary, surface water quality Trigger 1 and Trigger 2 exceedances were documented in the 2022 monitoring period, and the triggers were assessed as per the Adaptive Management Plan. Ten (10) Trigger Threshold 2 investigations were undertaken in the 2022 reporting period to evaluate identified surface water quality trends and identify potential sources. Further details on the results of the 2022 surface water quality program are provided in the 2022 Fish and Fish Habitat Federal EIS Follow-Up Monitoring Report (GGM, 2021a). In summary:

- Trigger Threshold 2 investigations for uranium at Station 39, arsenic at Station 8, and iron at Stations 26 and 39 were identified to be not mine related but can be attributed to natural variability.
- Trigger Threshold 2 investigations for iron at stations 8, 24, 49 and 53 suggested that elevated concentrations of iron may be related to either natural variability or issues related to laboratory analyses. A laboratory investigation is ongoing. The investigation into the laboratory data needs to be completed prior to concluding the potential source of increased iron concentrations at these stations.
- Trigger Threshold 2 investigation for total phosphorous at station 25 concluded that no direct link of total phosphorus exceedances at Station 25 and mine related activities can be established.

- Trigger Threshold 2 investigation for arsenic at station 25 suggested that the source of the increased arsenic concentrations may be related to temporary mine construction activities around SWAT. The arsenic concentrations at station 25 declined considerably in September and October 2022 sampling in comparison to summer months during active in-water construction.

Based on the review of the 2022 surface water quality data, no changes to the existing monthly water quality monitoring stations/locations have been recommended. Therefore, existing monitoring program (stations, locations, frequency) will be continued for the 2023 reporting year. The laboratory analysis investigation described above will be concluded in winter 2023 and will inform a path forward for elevated iron source identification and subsequent recommendations.

Condition 3.17 - Groundwater

A summary of monitoring during the 2022 reporting period that was undertaken to address federal Condition 3.17 of the federal EIS approval, which relates to mitigating and monitoring potential adverse effects on fish and fish habitat with respect to groundwater, is provided in the following paragraphs. There were three main groundwater monitoring components:

- 1) Pumped Volume Monitoring
- 2) Water Level Monitoring
- 3) Water Quality Monitoring

Pumped Volume Monitoring

Pumping from MacLeod Shaft No. 1 occurred intermittently beginning August 5, 2022 and continuing to the end of the monitoring period. Available average monthly pumped volumes were below the trigger threshold of 14,860 m³/day. Pumped volume data between August 5, 2022 and September 19, 2022 was unavailable at the time of report preparation, but based on groundwater level response to pumping observed in the Mosher No. 1 Shaft daily pumped volumes were interpreted to be less than those occurring in October and November 2022. No trigger threshold exceedances were interpreted to have occurred during this reporting period.

Groundwater Level Monitoring

Of the five trigger thresholds for groundwater quantity described in the Plan, one trigger threshold is related to groundwater level and three trigger thresholds are related to horizontal hydraulic gradients. The thresholds are related to dewatering of mine features (open pit, aggregate pits, historical underground workings) and/or infrastructure such as the MHT seepage collection system and GFC diversion. During the reporting period, there were no exceedances of the groundwater level and horizontal hydraulic gradient trigger thresholds for groundwater quantity as defined in the Federal Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan (GGM 2021a).

Groundwater Quality Monitoring

Groundwater quality monitoring is to be completed in the spring, summer and fall at select locations. This reporting period covers water quality sampling results from fall 2021, spring 2022, summer 2022, and fall 2022.

Table 2-4 presents a summary of the groundwater quality trigger threshold review. Trigger Threshold 1 is defined as a statistically significant upward trend for a given indicator parameter or for stations that have a statistically significant upward trend in the baseline data, an increase in the magnitude of the trend compared to baseline.

Groundwater quality trigger threshold parameters at WRSA C monitoring locations showed a downward or neutral trend in indicator parameter concentrations, except for arsenic and iron at MW6-OB-13. Groundwater quality trigger threshold parameters with a downward or neutral trend do not require further review. Arsenic and iron concentrations at MW6-OB-13 show upward trends in both baseline dataset and the full dataset. A review for the full dataset and baseline dataset for both arsenic and iron concentrations indicate similar order of magnitude trendlines, therefore, trigger threshold 1 is not exceeded. No groundwater quality trigger thresholds were exceeded in this reporting period.

Table 2-4: Groundwater Quality Trigger Threshold Summary

WRSA C				
Monitoring Location	Trigger Threshold Parameter	Mann-Kendall Analysis Result: Baseline Data	Mann-Kendall Analysis Result: All Data	Groundwater Quality Trigger Threshold 1 Exceedance
MW6-OB-13	Sulfate	Downward trend	Downward trend	No
	Antimony	Downward trend	Decreasing trend	No
	Arsenic	Upward trend	Upward trend - similar magnitude to baseline data	No
	Cobalt	Downward trend	Downward trend	No
	Iron	Upward trend	Upward trend - similar magnitude to baseline data	No
	Uranium	Neutral trend	Neutral trend	No
MW18-BR-21	Sulfate	Insufficient baseline data to complete analysis. Monitoring location installed 24-Jun-21	Downward trend	No
	Antimony		Downward trend	No
	Arsenic		Downward trend	No
	Cobalt		Downward trend	No
	Iron		Downward trend	No
	Uranium		Downward trend	No

Condition 3.2 and 3.15 - Use of Explosives in or Near-Water

This section describes measures implemented in the 2022 monitoring period to mitigate potential adverse effects on fish and fish habitat from the use of explosives near water and to satisfy federal Condition 3.2 and 3.15 of the EIS. The Noise and Vibration Monitoring and Management Plan (NVMMP) (GGM 2020c) identifies an overpressure threshold of 50 kPa in water and a vibration threshold of 13mm/sec (in substrate).

The pressure in water and PPV in substrate at monitoring location FH02 did not exceed established thresholds (Stantec 2018b, GGM 2020d) for the protection of fish and fish habitat.

Review of the measured levels shows some anomalies in the pressure in water – specifically P1-10330-001C (0.105 kPa) and P1-10330-002C (0.125 kPa) – where these blast pressures are significantly higher than the others, and do not conform to expected reduction in pressure with increased distance (considering blast charge is consistent at 204kg/charge). These anomalies may be attributed to outdoor propagation environmental effects (e.g., wind speeds, direction, temperature gradients, etc.) but would require further investigation to confirm. However, further investigation is not warranted at this time, given that the absolute pressure values are significantly below the 50kPa threshold.

Smaller water bodies (other than Kenogamisis Lake) closer to the 2022 blast locations than the FH02 monitoring location (Kenogamisis Lake) have been identified and assessed using minimum setback distances for the 50 kPa pressure threshold and 13 mm/s PPV threshold. The nearest fish habitat identified is located approximately 500 m northeast from the blast locations. Based on an average charge size of 204 kg/delay, the setback distance is 111 m for pressure and 216 m for PPV. Therefore, the minimum setback distance is 111 m. The nearest fish habitat is located outside the minimum setback distance established the charge used for the Project.

A construction blast occurred on Sept 15 near the intersection of the realigned Highway 11. The exact location of the blast and charge details were not available at the time this report was produced.

Based on measured overpressure and vibration levels in Kenogamisis Lake and calculated setback distance to the smaller water bodies near the project site, established thresholds for the protection of fish and fish habitat (overpressure threshold of 50 kPa in water and a vibration threshold of 13mm/sec in substrate) were not exceeded during the 2022 monitoring period.

As required by the NVMMP's blasting monitoring plan, vibration monitoring (PPV) is to be conducted during the restrictive timing window for work in and around fish habitat (i.e., between April 1 to June 20). Although measured PPV levels at location FH02 were well below the 13 mm/s threshold in 2022, PPV will be monitored between April 1 and June 20, 2023. The NVMMP states (Table 7-3) that blast monitoring is to be re-initiated if there is potential to exceed 10 mm/s PPV in fish habitat. PPV monitoring should occur for any blasts that are closer to fish habitat than blasts measured to date and/or for any blast location within 216 m from fish habitat for the same charge size of 204 kg), and/or if larger blast charges are used.

The existing blast monitoring requirements identified in the Federal Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan will continue throughout the 2022 reporting year.

Condition 5.4 (water) - Concentration of Mercury and Methylmercury in Water

The realignment of Goldfield Creek is planned to facilitate siting of the TMF and to offset for potential effects on fish and fish habitat. Goldfield Creek will be diverted into the existing SWAT, which will increase flow in the SWAT and result in an increase of the permanently inundated area by approximately 15 ha. The management and monitoring requirements of Condition 5.4 deal specifically with potential effects related to changes in mercury and methylmercury concentrations in the realigned section of Goldfield Creek.

Surface water quality at Stations 25, 39, 52, and 55 was monitored monthly in 2022 and was assessed for potential changes to mercury and methylmercury as a result of construction, the GFC diversion and associated inundated areas. Data from monthly monitoring was also used to evaluate whether fluctuations in quality were due to natural variability or from a Project related effect.

A potential Trigger Threshold 1 exceedance of mercury at Station 25 was identified in June 2022. Sampling was conducted at Station 25 in July however low-level mercury was not analysed due to a submission error. Resampling in August 2022 showed no more exceedance of the seasonal 95th percentile for mercury and therefore Trigger Threshold 1 was not confirmed for mercury at Station 25, and no further action was required. No other mercury or methyl-mercury surface water quality trigger exceedances were documented in the 2022 monitoring period. As such, the existing plan for monitoring mercury and methylmercury concentrations in the SWAT will be continued for the 2023 reporting year. Consideration should be given to harmonizing provincial and federal monitoring requirements related to monitoring mercury and methylmercury in the SWAT.

Condition 5.4 (fish) - Fish Tissue Monitoring in the SWAT

The management and monitoring requirements of Condition 5.4 deal specifically with potential effects related to changes in mercury and methylmercury concentrations in the realigned section of Goldfield Creek. The realignment of Goldfield Creek will facilitate siting of the TMF and offset potential effects on fish and fish habitat. The new Goldfield Creek realignment was constructed during the reporting period. Construction of the Goldfield Diversion Pond was initiated during the monitoring period and continued into fall 2022. Flow was not diverted into the realigned Goldfield Creek channel during the current monitoring period and, as such, post-realignment fish tissue monitoring has not yet begun. Flow into the new realignment channel is expected to occur in winter 2022, with the first year of post-realignment monitoring planned for 2023. There are no recommended changes to the existing plan for monitoring mercury and methylmercury in fish tissue in the SWAT.

Condition 5.5.1 - Fish Tissue Monitoring in Kenogamisis Lake

The management and monitoring requirements of Condition 5.5.1 deal specifically with potential effects related to changes in mercury and methylmercury in Walleye from Kenogamisis Lake. No activities related to monitoring fish tissue in Kenogamisis Lake occurred in the 2022 monitoring period, nor were monitoring activities required. The first phase of monitoring is required after there has been a period of potential exposure to mine effluent or potentially changing water quality conditions in Kenogamisis Lake. Monitoring is required within 24 months from when the mine first began discharging effluent via the TETP, which occurred on September 15, 2021. The monitoring cycle is scheduled for every two years for the first six years of operation, after which time the need for additional monitoring will be evaluated.

Since fish tissue monitoring in Kenogamisis Lake was not required during the 2022 reporting period, modifications to the Plan related to sampling fish tissue in Kenogamisis Lake are not recommended. GMM will continue to implement the Kenogamisis Lake fish tissue monitoring program as scheduled.

2.5.2 Environmental Impact Statement Conditions of Approval 4 and 7 (Migratory Birds and Bald Eagle) Management and Monitoring Results Summary

Three specific Conditions of Approval related to monitoring potential effects of the Project on biodiversity are addressed including:

- Condition 4.1, avoidance of incidental take of migratory birds through nest sweeps of areas to be cleared during the breeding season.
- Condition 4.3, barn swallow habitat compensation.
- Condition 7.1, (including subsections 7.1.1, and 7.1.2), monitoring of bald eagle nests within 800 m of the PDA and implementation of a mitigation plan to avoid disturbance of bald eagle nests from Project activities during the breeding season.

Management plans for these conditions have been developed as part of the BMMP (GGM 2022a) and a report was submitted to IAAC under separate cover to address conditions 4.1, 4.3 and 7.1, collectively. That report confirms compliance and also the performance and/or effectiveness of the conditions to maintain the function of the valued ecosystem components (VECs).

Condition 4.1

In 2022, nest sweeps were completed in three areas within the PDA. Sweeps were conducted according to methods outlined in the BMMP (GGM 2022a) and Stantec's Low Intensity Nest Search protocol (Stantec 2019) under the supervision of a qualified biologist. Surveys for bird nests were completed in 13.75 ha of forested and naturally vegetated areas along Michael Power Boulevard (Area 1) at waste rock stockpile 3 (Area 3) on May 18, 2022, and along a 6 m buffer along a power corridor on August 8, 2022 (Area 2).

Two active nests were located during the nest sweeps. An American kestrel (*Falco sparverius*) nest was found within 30 m of the power corridor and an unknown bird species along Michael Power Boulevard. Each tree containing a nest was flagged with a 30 m buffer and locations communicated to GGM and clearing operators via UTM coordinates and mapping. The flagged areas were cleared after the nesting period (September 1st).

Condition 4.3

Barn swallows (*Hirundo rustica*), a threatened species (ESA 2007, SARO 2011) are present in two buildings requiring removal by GGM in the Ministry of Transportation of Ontario (MTO) Patrol Yard. Removal is expected to occur in 2023 following procedures outlined in the BMMP (GGM 2022a).

Barn Swallow populations at the MTO buildings were monitored on July 14 by GGM staff and on August 7, 2022, by a Stantec biologist. The MTO structures are expected to be removed during the winter of 2023. To avoid the risk of killing, harming, or harassing barn swallow populations it is recommended that removal occur outside the Barn Swallow nesting period of May 1 to August 31 of any year.

2.5.2.1 Monitoring of Habitat Compensation

The Barn Swallow habitat compensation structure was monitored four times during the 2022 nesting season (Table 2-5). The habitat compensation structure was in good condition during the 2022 nesting season, including the overall structure, nest cups, and predator controls. There was no evidence of use of the structure by Barn Swallows or other bird or bat species in 2022.

Table 2-5: Barn Swallow Habitat Compensation Structure Monitoring

Survey Date	Is the Barn Swallow structure in good condition? (Y/N)	Are nest cups in good condition? (Y/N)	Evidence of Barn Swallow nesting? (Y/N)	Are predator controls in good condition? (Y/N)	Other Birds/Bats Using Structure? (Y/N)
June 1, 2022	Y	Y	N	Y	N
June 16, 2022	Y	Y	N	Y	N
June 30, 2022	Y	Y	N	Y	N
August 30, 2022	Y	Y	N	Y	N

In preparation for removal of barn swallow habitat, and in accordance with federal EIS Condition 4.3 habitat compensation was provided in 2021 through installation of a nesting structure with artificial nesting cups following nesting habitat guidelines provided by the Ontario Ministry of Natural Resources (MNR 2016). The structure is located approximately 500 m east of the MTO Patrol Yard, immediately outside the PDA, near suitable foraging habitat over Kenogamisis Lake (GGM 2022a). As detailed in the BMMP, a Notice of Activity will be filed with the Ministry of Environment, Conservation and Parks (MECP) in 2022. The filing of the Notice is in process.

Condition 7.1.1 and 7.1.2

A Bald Eagle nest survey was completed on April 21, 2022, by a Stantec biologist and GGM drone operator using a Mavic Air 2¹ drone, a small quad-rotor drone. The drone survey targeted areas where Bald eagle nests were known to be present and most likely active during surveys conducted in 2019 and 2021 along the Kenogamisis Lake shoreline from Barton Bay to the southwest arm (Northern Bioscience 2019, Stantec 2021). The survey took place during leaf-off with snow cover exceeding 50-cm. Heavy snow in winter 2022 inhibited identification of nests using the drone.

Four eagle nests were identified in 2019. Of the four eagle nests identified in 2019, three eagle nests (487, E-535, WP-008) remain, all of which were confirmed active in 2019. Eagle nest 487 is 650 m from the proposed TMF and nest E-535 is between 217 m and 352 m of various project components, including the proposed TMF. Nest WP-008 is greater than 800 m from any project component. Three nests identified in 2019 are no longer present while new nests identified to the east of the PDA (GGM11 and GGM12) are greater than 800 m from any project component. Only nest E-535 showed evidence of potential nesting in 2022. Given their locations, Nest 487 and E-535 (potentially active in 2022) continue to be subject to precautionary mitigation measures.

In 2022 a pre-construction Bald Eagle survey was completed to help determine if clearing, site preparation and early construction activities had potential to impact eagle nests or eagle nest buffer zones. One active Bald Eagle nest within 800 m of construction activities was also monitored to document potential impacts of project construction on Bald Eagle nesting behaviour and nest success.

Eagles were confirmed to be present on or near nest E-535 from April 4, 2022, to June 27, 2022. Bald Eagle activity near the nest declined after June with only one observation of eagles in the vicinity of nest E-535 in July (July 13) and no observations in August. No juvenile Bald Eagles or active feeding was observed. As a result, nesting behaviour or success was not confirmed in 2022 at this location.

The Bald Eagle Habitat Management Guidelines (MNR 1987) identify three buffer zones that should be applied to Bald Eagle nests. Varying levels of activity restrictions apply to each buffer zone:

- Primary zone: the first 100 m around the nest and carries the highest level of restriction.
- Secondary zone: extends from 100 to 200 m around the nest and activities significantly altering the landscape are prohibited within this zone.

Tertiary zone: extends from 200 to 800 m around the nest; this is the least restrictive zone and allows some activities except during the most critical life cycle period for nesting eagles.

Mitigation measures during construction are as follows:

- No vegetation removal or Project activities will occur within 200 m (i.e., the primary and secondary zones, as defined by MNR, 1987) of an active nest.

¹<https://www.dji.com/ca/mavic-air-2>

- The limits of the vegetation removal and construction area within 800 m of an active nest will be staked in the field. Activities will occur inside the marked limit of work.
- A 120 m vegetated buffer zone will be retained along the shoreline of the lake; and vegetation that is present between each nest and the lakeshore will be retained.
- Large and mature trees will be retained between each nest and the closest Project components to maintain a visibility barrier to Project activities to the extent possible
- Vegetation clearing activities and site preparation activities between 400 m and 800 m of active nests will not occur from March 1 to June 30 (the incubation and nestling period for bald eagle [MNR 1987; MNR 2010]).
- If vegetation clearing or site preparation activities are required within 200- 400 m of the nest, they should occur outside of the incubation, nestling, and fledging period (March 1 to August 31 [MNR 2010]).

These mitigation measures are specific to construction activities which are currently being undertaken. Operations mitigation for raptor nests will be implemented when Operations activity commences.

In summary, two nests (487 and E-535) observed in 2021 required implementation of mitigation measures due to their respective proximities to site development. Of the four eagle nests that were identified in 2019, three were present in 2021 (487, E-535, WP-008). Only nest E-535 showed evidence of potential nesting in 2022. Based on result of the 2022 Bald Eagle monitoring, the following recommendations are made to reduce the likelihood of impacts of GGM Project activity on Bald Eagle nests in the PDA:

1. It is recommended that all known Bald Eagle nests in the PDA be visited annually to visually confirm the presence of eagle nests and their activity status in the PDA. Assessing status of nests may require use of a larger drone to better assess eagle activity.
2. Nest E-535 should be monitored regularly for nesting activity from the ground beginning in April each year.

Construction mitigation measures be adhered to, and anticipated non-compliance be communicated to regulators (ECCC and MNRF).

2.5.3 Indigenous Peoples Health Risk Assessment Follow-up Plan Results Summary

To satisfy EIS conditions 5.3, 5.4 and 5.5, The Indigenous Peoples Health Risk Assessment Follow-up Plan was developed (November 2, 2020), reviewed by Indigenous communities, submitted to IAAC and was accepted by IAAC.

The Health of Indigenous Peoples Follow-up Program is based on comparisons between the predicted contaminant concentrations (Human Health Risk Assessment) in environmental media (air, surface water, and terrestrial and aquatic country foods) and the contaminant concentrations measured by the ongoing environmental monitoring programs.

The follow up monitoring will be carried out once during each phase of the project (construction, operation, closure) and will be used to determine when a more detailed reassessment of Indigenous human health risk is required. Results will be assembled into a formal report and made available to interested parties on an annual basis during years when the program is carried out.

No activities related to monitoring fish tissue in Kenogamisis Lake occurred in the 2022 reporting period, nor were monitoring activities required by the Plan. The monitoring cycle is scheduled for every two years for the first six years of operation, after which time the need for additional monitoring will be evaluated.

Small mammal tissue and browse vegetation sample collection is not required during construction and will commence during the site operations phase, as outlined in the Indigenous Peoples Health Risk Assessment Follow-up Plan (GGM 2020b).

Currently, the Greenstone Mine is in the early stages of the construction phase, which will continue through 2023. A report for the follow up monitoring program reflecting the construction phase will be submitted in a subsequent year, which represents the latter portion of the construction phase.

2.5.4 Current Use of Lands and Resources for Traditional Purposes Follow-up Plan Results Summary

As specified in Condition 6.1 of the federal Decision Statement:

“The Proponent shall establish, in consultation with Indigenous groups and prior to undertaking construction activities that will restrict access to the Southwest Arm of Kenogamisis Lake, alternate unrestricted access to the Southwest Arm of Kenogamisis Lake and shall maintain that alternate access during all phases of the Designated Project, to the extent that such access is safe”.

In follow up to a commitment made in the EIS/EA, GGM has included a public access road from Highway 11 along the east side of the PDA to maintain access to the Southwest Arm of Kenogamisis Lake. This EA commitment outcome was documented in the Outcome of Detailed Engineering Design Optimization Report (April 30, 2019). The Optimization Report was circulated to Indigenous groups and no concerns were identified.

As specified in Condition 6.2 of the federal Decision Statement:

“The Proponent shall maintain unrestricted access along Goldfield Road during all phases of the Designated Project and to the Goldfield Creek diversion channel starting when the Proponent has completed progressive reclamation referred to in condition 4.2 and until the end of decommissioning, to the extent that such access is safe”.

Goldfield Road is located outside of the PDA and no effects on Goldfield Road access have occurred as a result of the Project.

For the Goldfield Creek diversion channel, the main access point of Lahtis Road is closed during construction and operation due to safety reasons (EIS/EA, Chapter 16). Lahtis Road was closed during the reporting period. Signage was posted by GGM around the perimeter of the PDA, including the shoreline of Kenogamisis Lake, to alert local land and resource users of the presence of the Project. At Closure, Lahtis Road is planned to be re-opened to public traffic up to the point of the Goldfield Creek diversion (Closure Plan, Section 9.7 and 11.1). GGM will work with the Indigenous groups via their respective EACs to determine more precisely when Lahtis Road will be re-opened. During construction and operations, GGM will facilitate site tours for representatives of the Indigenous groups to access the Goldfield Creek diversion channel to observe its establishment and progress.

2.6 Adaptive Management (Condition 2.9.6)

Implementation of the follow-up programs will remain generally unchanged in the upcoming monitoring year, with exception of proposed changes to monitoring of the hydraulic gradient and drive point piezometers as described below.

2.6.1 Groundwater Sampling - Hydraulic Gradient

The Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan had a placeholder for the timing of a groundwater trigger threshold (Table 2.8 of GGM 2021a). The reversal of the horizontal hydraulic gradient between the historical Hardrock and MacLeod tailings and Kenogamisis Lake as a result of open pit dewatering was identified as a trigger threshold monitoring location for groundwater quantity. The frequency of measurement and comparison to trigger threshold was to be determined, as transient groundwater flow modelling needed to be completed to predict the timing of the reversal of the horizontal hydraulic gradient. Transient groundwater flow modelling was completed and the reversal in the horizontal hydraulic gradient between the historical MacLeod and Hardrock tailings and Kenogamisis Lake was predicted to occur at the end of year 4 of open pit development. Therefore, the reversal of the horizontal hydraulic gradient should be evaluated and compared to the trigger threshold beginning in year 5 of open pit development. If the reversal had not occurred by year 5 of open pit development, then the groundwater quantity trigger response plan presented in the Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan will be implemented. As presented in the Fish and Fish Habitat Federal EIS Follow-Up Monitoring Plan, the horizontal hydraulic gradient will be interpreted based on water level measurements at monitoring wells completed within the historical MacLeod and Hardrock tailings and surrounding area that will be monitored as per the groundwater monitoring program.

2.6.2 Groundwater Sampling - Additional Drive-Point Piezometer

To harmonize federal and provincial compliance monitoring plans, it is recommended that drive-point piezometer DP-C be added to the groundwater quality monitoring program, to monitor shallow groundwater quality within Goldfield Creek for potential effects of seepage from the TMF on groundwater quality.

3 References

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