

Table 3.41 Indigenous Socio-Economic Conditions Effect Pathways

Valued Component	Potential effect assessed in Related VC	Effect pathways carried forward for Indigenous Socio-Economic conditions
Land and Resource Use (Chapter 15.0, Sections 15.5.2-15.5.4)	Change in land use	Project construction and operation activities have the potential to affect Indigenous socio-economic conditions through disturbance and nuisance effects (noise, dust, visuals).
	Change in recreation	Project construction and operation activities may change Indigenous socio-economic conditions by resulting in loss of area available for recreational use, access to or quality of recreational use.
	Change in resource use	Project construction and operation activities may change Indigenous socio-economic conditions by affecting commercial activities that Indigenous peoples engage in, such as fishing, hunting, trapping, gathering.
Community Services, Infrastructure, and Wellbeing (Chapter 14.0, Sections 14.5.2-14.5.5)	Change in housing and temporary accommodations	Construction activities for the Project may result in increased workforce demand for temporary housing and accommodations, affecting off-reserve members of Indigenous Nations.
	Change in local services and infrastructure	The workforce required for construction and operation of the Project may increase demand for services that Indigenous peoples use, such as fire and police, roads and medical.
	Change in transportation services and infrastructure	Project-related construction and operation will increase traffic on roadways, including PR 391, which is used by Indigenous Nations.
	Change in community wellbeing	The Project-related employment may increase disposable income, reduce financial barriers to beneficial health practices, change the demographics of nearby communities and result in changes of sense of place, alter participation in recreational, subsistence, and family-related activities.
Labour and Economy (Chapter 13.0, Sections 13.4.2, 13.4.3)	Change in regional labour force	An increased workforce associated with the Project could lead fewer workers available for local positions and an increase in wages.
	Change in regional business	Project spending could affect local and regional businesses, including those owned or operated by Indigenous Nations.



3.3.14.2.3 *Change in Current Use*

Please refer to Section 3.3.12 for a description of the potential effects of the Project on current use.

3.3.14.2.4 *Change to Indigenous Physical and Cultural Heritage*

The effect pathways carried forward for Indigenous physical and cultural heritage were addressed in the heritage resources (Chapter 16.0) and current use (Chapter 17.0) assessments of the EIS. Effects to Indigenous physical and cultural heritage can include indirect changes, as would occur through increases in noise, light, dust (and other emissions) and sensory changes, and direct changes, such as could occur through physical loss of, or loss of access to, resources due to Project activities. These are tabulated below with reference to relevant section of the EIS, the potential effect, and the effect pathways.

Table 3.42 *Indigenous Physical and Cultural Heritage Effects Pathways*

Valued Component	Potential Effect assessed in Related VC	Effect pathways carried forward for Indigenous Physical and Cultural Heritage
Heritage Resources (Chapter 16.0, Section 16.4.2)	Change to the number of heritage sites	Project construction and operation could affect or reduce the number of heritage sites important to Indigenous Nations.
Current Use (Chapter 17.0, Sections 17.4.2, 17.4.4)	Change in access to resources currently used for traditional purposes	Project construction and operation has the potential to affect Indigenous physical and cultural heritage through changing access to plant and animal species of value to Indigenous Nations, as well as areas and sites of cultural value.
	Change to traditional cultural and spiritual sites and areas	Project construction and operation has the potential to affect cultural and spiritual sites, such that their value to Indigenous peoples is compromised or reduced.

3.3.14.3 *Summary of Mitigation Measures*

Mitigation measures proposed to avoid or reduce potential adverse effects on Indigenous health conditions include those identified in the current use (Chapter 17.0) and human health (Chapter 18.0) assessments of the EIS and are discussed in the Management and Monitoring Plans (Version 0, January 2025).

Mitigation measures proposed to avoid or reduce potential adverse effects on Indigenous socio-economic conditions include those identified in the land and resource use (Chapter 15.0), community services, infrastructure, and wellbeing (Chapter 14.0), and labour and economy (Chapter 13.0) assessments of the EIS and are discussed in the Management and Monitoring Plans (Version 0, January 2025).



Mitigation measures proposed to avoid or reduce potential adverse effects on Indigenous physical and cultural heritage include those identified in the current use (Chapter 17.0, Sections 17.4.2.2, 17.4.3.2, and 17.4.4.2) and heritage resources chapters (Chapter 16.0, Section 16.4.2.2) assessments of the EIS and are discussed in the Management and Monitoring Plans (Version 0, January 2025).

3.3.14.4 Residual Effects

Residual effects will act upon Indigenous peoples harvesting and consuming country foods within the Indigenous health conditions LAA and RAA. It is anticipated that residual effects will primarily be experienced by Marcel Colomb First Nation, whose reserve is within the Indigenous health conditions LAA and RAA. Nevertheless, other Indigenous Nations may also experience residual effects of the Project, through members traveling to the Lynn Lake area to harvest and consume country foods. Indigenous health conditions may be affected by changes in the availability of country foods and value or perceived quality of country foods, as assessed in current use (Chapter 17.0 of the EIS). The availability of country foods within the PDA is currently limited by the former mine sites. The Project is anticipated to increase wildlife mortality and habitat loss for wildlife, fish, and plants within the PDA during construction and operation (Chapters 9.0, 10.0, and 12.0 of the EIS), but the residual effects are not anticipated to cause population-level effects to plant, animal, or fish species, including those harvested as country foods within the Indigenous health conditions RAA.

Residual effects to Indigenous socio-economic conditions are anticipated for Indigenous peoples living and working within the Indigenous socio-economic conditions LAA and RAA. Effects are anticipated to include change to the use of and access to road infrastructure, medical, and other public services, as well as effects to economic and financial conditions through changes to commercial trapline harvest and employment with the Project. These effects are anticipated to be positive and adverse, and to primarily affect Marcel Colomb First Nation with its reserve within the Indigenous socio-economic conditions LAA. Effects may extend to other Indigenous Nations through members who live, work, or harvest in the Lynn Lake area. Project construction may affect, restrict, or change the land base available for recreational activities, including hunting and fishing.

Residual effects to traditional cultural and spiritual sites are anticipated. These effects will be on Indigenous peoples that undertake traditional practices and visit cultural or spiritual sites in the Indigenous physical and cultural heritage LAA. Effects are anticipated to primarily affect Indigenous Nations within the Indigenous physical and cultural heritage LAA (i.e., Marcel Colomb First Nation), but other Indigenous Nations engaged on the Project may also experience residual effects to cultural and spiritual sites.

Project residual environmental effects on current use are assessed in Chapter 17.0 (Section 17.4) of the EIS. With the application of mitigation, Project residual effects on current use will be adverse through construction, operation, and decommissioning/closure. Because the PDA is within the disturbed context of an existing mine and the current use LAA includes an existing road, magnitude is anticipated to be low with indirect effects, especially sensory disturbance, extending into the current use LAA. The effects will be long term, extending beyond the Project life until the PDA returns to its pre-Project state, except for the open pits and mine rock, which will be permanent features. While the timing of construction, operation,



and decommissioning/closure may affect current use dependent on seasonal resources and access, effects on land-based cultural sites and areas are not seasonal. Effects on current use will be reversible with decommissioning/closure, except for the open pits and mine rock, which will be permanent features.

The IAAC's Information Request (IR) IAAC-R2-57 for the Project directed Alamos to describe baseline conditions for each Indigenous Nation participating in the Project. Citing the Federal EIS Guidelines, IAAC required baseline information for each Indigenous Nation to inform the assessment of potential Project effects to Indigenous peoples. In response to IAAC-R2-57, Alamos provided a review and summary of the record of engagement with Indigenous Nations in one document. The intention of the review and summary was to report on engagement with each Indigenous Nation, describe baseline conditions, and demonstrate how Alamos has responded to the concerns and issues raised by each Indigenous Nation. Section 10 of the response presented Indigenous Nation-specific sections that consolidated available baseline information for each Indigenous Nation engaged on the Project with respect to the current use of lands and resources for traditional purposes, Indigenous health and socioeconomic conditions, Indigenous or Treaty Rights, including intangible aspects of rights such as governance rights, and physical and cultural heritage. The intention for each Indigenous Nation-specific section was to provide a stand-alone summary of information obtained by Alamos for each Indigenous Nation and review of how it has been considered in the assessment of potential effects of the Project. The response to IAAC-R2-57 supported the original conclusions of the EIS.

The proposed alterations totaling a 21.84 ha expansion of the PDA described in this report will not result in additional adverse effects within the current use LAA as addressed above at the Gordon site and there is no change to EIS conclusions (Stantec 2020a).



4 Conclusion

Stantec has prepared this report on behalf of Alamos in support of the NOA/NOC application for alterations to the approved Gordon site (Licence No. 3390) and the federal Decision Statement for the Lynn Lake Gold Project. The NOA/NOC application is filed in accordance with Section 14(1) of *The Environment Act* (which requires a proponent to notify the Director [for Class 1 and 2 developments] if the proponent intends to alter a licensed development [MECP 2022]) and filed in accordance with conditions 2.16 and 2.17 of the federal Decision Statement (which require notification of IAAC if the proponent is proposing to carry out the Designated Project in a manner other than described in the Decision Statement).

The proposed alterations encompass an increase to the mine tonnage and modifications to the approved Gordon site, inclusive of the adjustment of footprints of several of the Project components, the removal of the development of the planned diversion ditch (no longer required) and the addition of one new Project component. Those components that have been modified through engineering detailed design include the MRSA, facility area (including buildings), ore and overburden stockpiles, and water management structures (sumps, collections ponds, discharge pipeline). The new Project component is use of the non-acid generating historical MRSA to the north of the open pit as a source of construction borrow material (borrow source).

Potential interactions of the proposed alterations and the environment were evaluated with likely interactions examined to assess residual effects on the assumption of typical mitigation measures representative of best practices and previous construction methods employed at the Gordon site. Based on information available to date and as presented in this NOA/NOC, residual effects of the proposed alterations are characterized following the same approach and criteria as presented in the EIS (Stantec 2020a) and the EAP Report (Stantec 2020b) for the following VCs:

- Atmospheric Environment
- Noise and Vibration
- Groundwater
- Vegetation and Wetlands*
- Wildlife and Wildlife Habitat
- Labour and Economy
- Community Services, Infrastructure, and Wellbeing
- Land and Resource Use
- Heritage Resources
- Current Use of Lands and Resources for Traditional Purposes by Indigenous Peoples



- Human Health
- Indigenous Peoples

**The proposed alterations will not result in additional adverse effects on vegetation and wetlands at the Gordon site and there is no change to the EIS (Stantec 2020a) and the EAP Report (Stantec 2020b) conclusions for vegetation and wetlands, however, the vegetation and wetlands LAA has changed from what was presented in the EIS and EAP Report because of groundwater drawdown and changes in the PDA. The vegetation and wetlands LAA is based on a 100 m buffer around the furthest expected groundwater drawdown contour, a 1 km buffer around the updated NOA/NOC PDA extent, and also a 1 km buffer around the PR 391 highway. The changes decrease the vegetation and wetlands LAA by 123.5 ha from that presented in the EIS and EAP Report.*

Based on information available to date and as presented in this NOA/NOC, residual effects characterizations in this NOA/NOC differ from the residual effects characterizations presented in the EIS (Stantec 2020a) and the EAP Report (Stantec 2020b) for the following VCs:

- Surface Water
- Fish and Fish Habitat

Results of the updated surface water balance model do not change the characterization of residual effects to surface water quantity (i.e., stream flows and lake levels) from those presented in the EIS. However, results of the updated surface water quality model do change the characterization of residual effects to surface water quality from those presented in the EIS. This is because of updates to the groundwater and surface water quality models that address the proposed alterations to the Gordon site for this NOA/NOC and the use of more stringent FEQGs (total iron only) resulted in changes to the magnitude and frequency of guideline exceedances, the location and timing of guideline exceedances, and two new POPCs compared with the EIS. With the exception of the following differences, the characterization of residual effects to surface water quality for this NOA/NOC are the same as the EIS.

- Negligible magnitude residual effects to surface water quality are predicted to occur in Gordon Lake, West Farley Lake, and East Farley Lake during construction in consideration of the proposed alterations. This is because, with the change to pump water from the existing pit lakes (East and Wendy pits) to the Hughes River instead of Farley Lake, there are no parameters predicted to exceed baseline concentrations by more than 20% and any provincial or federal water quality guideline in Gordon Lake, West Farley Lake, or East Farley Lake during construction.



- Moderate magnitude residual effects to surface water quality are predicted to occur during operation in consideration of the proposed alterations. This is because maximum nitrite concentrations are predicted to exceed baseline concentrations by more than 20% and the CWQG-FAL in West Farley Lake during operation, but adverse effects to fish and other aquatic biota in West Farley Lake are not expected to occur because the assumptions used to predict nitrite concentrations in West Farley Lake are conservative and because the predicted nitrite concentrations are below the sub-lethal effect concentrations for the most abundant fish and benthic invertebrate species present in West Farley Lake.
- Moderate magnitude residual effects to surface water quality are predicted to occur during the decommissioning/closure phase in consideration of the proposed alterations. This is because total iron concentrations are predicted to exceed baseline concentrations by more than 20% and the FEQG for total iron in Gordon Lake during closure, but adverse effects to fish and other aquatic biota in Gordon Lake are not expected to occur because the surface water quality model did not account for any reduction in total iron concentrations resulting from aeration of groundwater prior to pumping to Gordon Lake and because high DOC concentrations in Gordon Lake are expected to attenuate sub-lethal toxicological effects to fish and other aquatic biota. The duration of the residual effect to surface water quality during decommissioning/closure is long-term because total iron concentrations are predicted to remain elevated in perpetuity in Gordon Lake post-closure.

Changes to the approved Gordon site and changes to the updated surface water quality model change the characterization of residual effects to fish habitat at the Gordon site. Due to the smaller changes in flow predicted in Farley Creek during construction and operation for this NOA/NOC, and because the flow reductions now predicted to occur in Farley Creek during decommissioning/closure are relatively small compared with the volume of water within the wetted channel of Farley Creek at any time, the magnitude of residual effects to fish habitat at the Gordon site is expected to be moderate (i.e., a measurable change in habitat area, monthly flows or lake surface area that is greater than the range of natural variability, but that does not affect the ability of fish to use the habitat to carry out one or more of their life processes).

Changes to the approved Gordon site and changes to the updated surface water quality model change the characterization of residual effects to fish health, growth, or survival at the Gordon site. Like in the EIS, fluoride and total phosphorus are also predicted to be POPCs in Gordon and Farley lakes for this NOA/NOC, but it is the identification of total iron as a POPC in Gordon Lake during closure and post-closure and nitrite as a POPC in Farley Lake during operation that has resulted in a change in the characterization of residual effects to fish health, growth, or survival for this NOA/NOC. If modelled water quality predictions in Gordon and Farley lakes are proven accurate by the SWMMP and no other mitigation measures are implemented, the magnitude of residual effects on fish health, growth, or survival would be expected to be moderate (i.e., a measurable change in the abundance, structure, or health metrics in focal fish populations that is greater than the range of natural variability but not large enough to affect the productivity of the focal fish populations). The geographic extent, duration, timing, frequency, reversibility, and ecological context of the residual effects on fish health, growth, or survival would be expected to remain unchanged from the EIS (i.e., local, long-term, applicable, multiple regular event, irreversible, and resilient, respectively).



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Overall, the proposed alterations described in this NOA/NOC are not significant, and changes to the characterization of residual effects are limited. All changes are either fully captured and mitigated under the existing management and monitoring plans or reflect removals (i.e., such as the elimination of the diversion channel) rather than additions. As such, while these changes may warrant administrative updates to the federal Decision Statement and the provincial Environment Act Licence No. 3390, they do not result in new or unmitigated impacts and therefore would not require additional conditions or changes to existing conditions requiring additional requirements.

Alamos remains committed to developing and operating the Project inclusive of the proposed alterations in a manner that provides environmental protection for VCs and long-term benefits for the region. The additional mitigation measures identified in Section 3.3, which are beyond those identified in the EIS (Stantec 2020a) and the EAP Report (Stantec 2020b) will be incorporated (change from Version 0 to Version 1) into the applicable Management and Monitoring Plans, which are living documents following approval of this NOA/NOC.

A draft of this NOA/NOC was shared with all Indigenous Nations involved in the Project. No feedback has been received to date. If any feedback is received, Alamos will address it with the respective Indigenous Nation(s) and share this information with the Province and IAAC.



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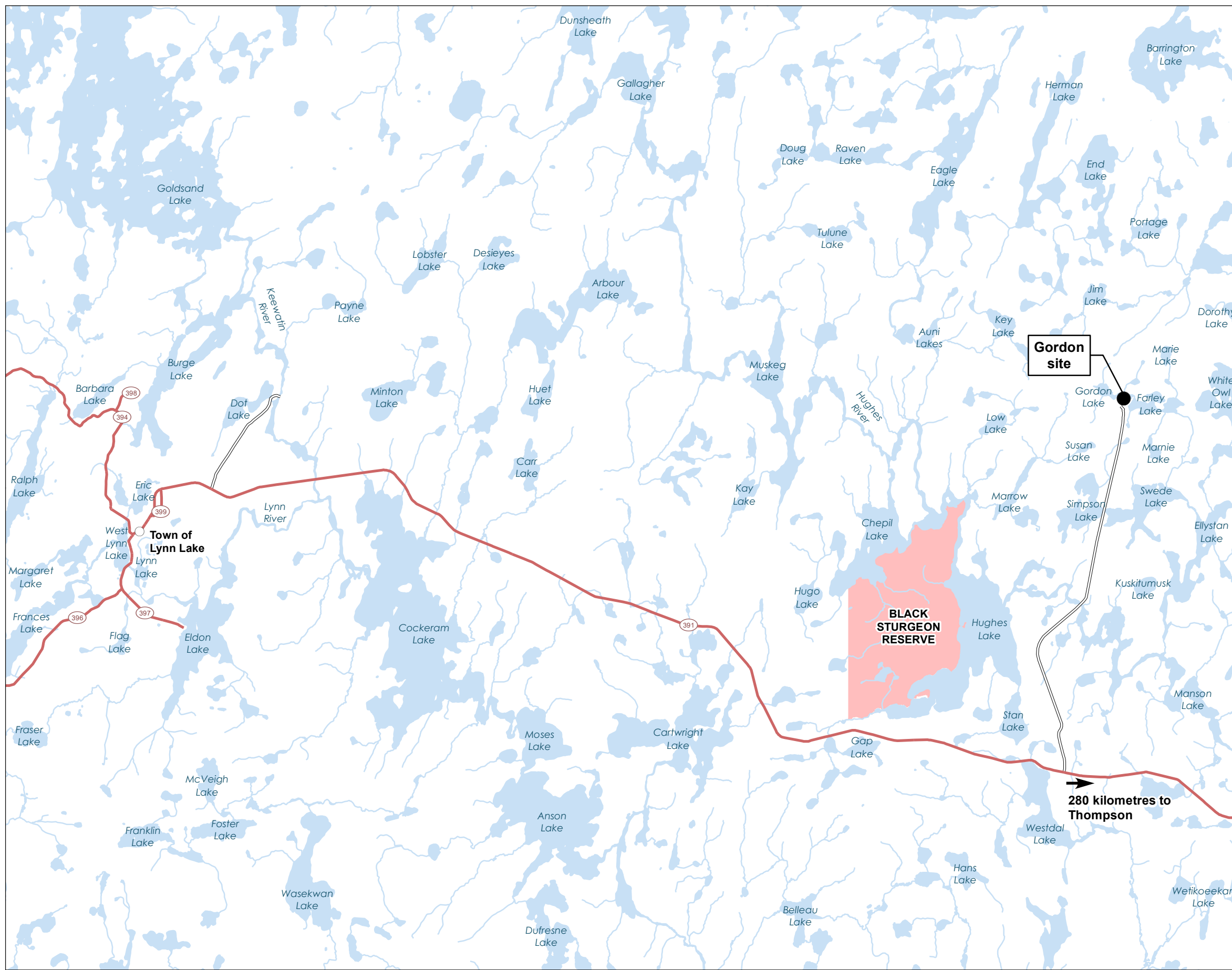
Appendices



Appendix A Maps



G:_GIS Project_ Folder\111473058_LGFP_EA\RA\Hughes River_NQA\Map-11_ProjectLocation_GordonSite_20240131.mxd Revised: 2024-01-31 By: A.Campigotto

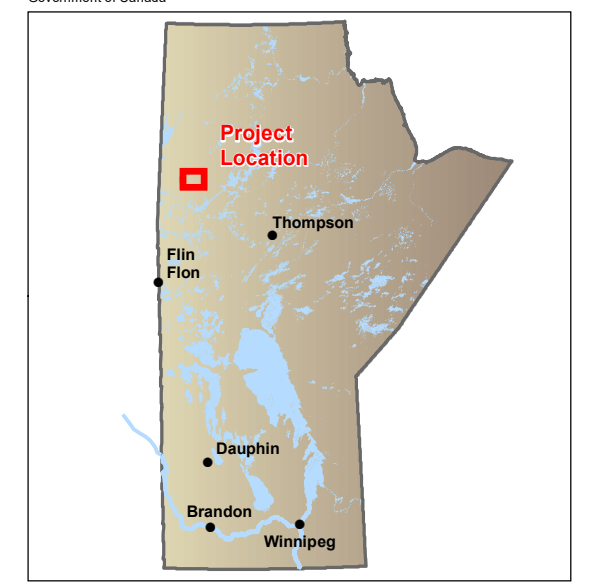


- Landbase**
- Site Location
 - Existing Access Road
 - Highway
 - Watercourse
 - Waterbody
 - First Nation Reserve



0 2.5 5 Kilometres
 (At original document size of 11x17)
 1:150,000

Notes
 1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada



Project Location
 Lynn Lake, Manitoba
 Prepared by A.Campigotto on 2024-01-31
 Technical Review by B.Krawchuk on 2024-01-31

Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project
 111473054

Map No.
 1
Title

General Location of Gordon Site

Gordon site

280 kilometres to Thompson

BLACK STURGEON RESERVE

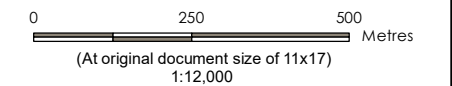
Town of Lynn Lake

Project Infrastructure (NOA)

- Interceptor Well
- Communication Tower
- Contact Water Ditch
- Mine Site Road
- Diversion Ditch
- Discharge Pipeline
- Fresh Water Intake
- Effluent Diffuser
- Collection Pond/Sumps
- Facility
- Gen Set
- Mine Rock Storage Area
- Open Pit
- Ore Storage
- Overburden Storage
- Topsoil Storage
- Stockpile Borrow Source
- NOA Project Development Area (PDA)

Landbase

- Existing Access
- Existing Diversion Channel
- Watercourse
- Waterbody
- Remnant Historical Mine Rock Pile



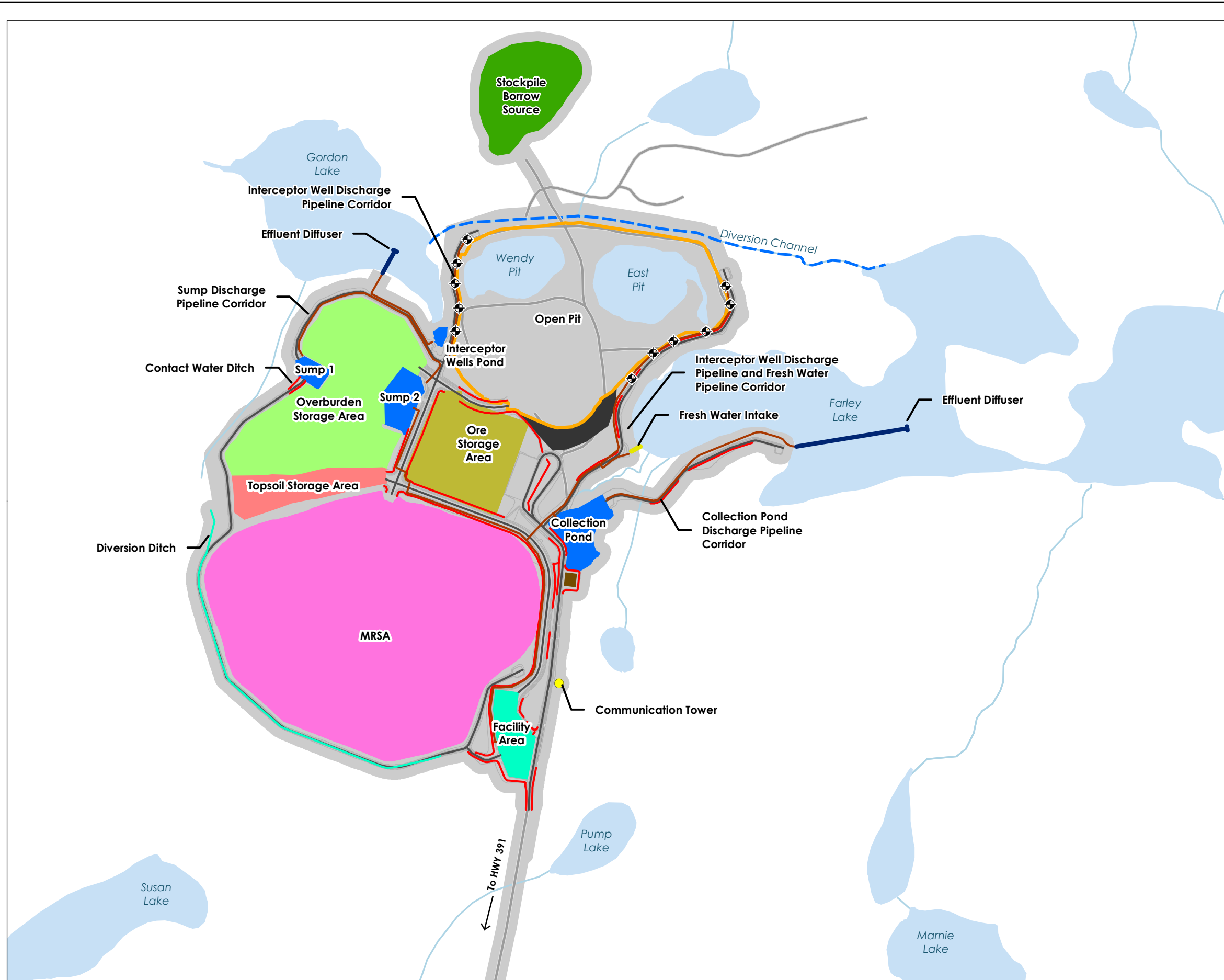
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada.
 3. NOA Project Infrastructure features provided by Worley via Alamos.

Project Location
Lynn Lake, Manitoba
Prepared by ACampigotto on 2025-04-02
Technical Review by KMathers on 2025-04-02

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project
111473084

Map No.
2

Title
NOA Footprint Files - Gordon site

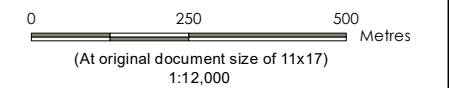


Project Infrastructure

- Proposed Open Pit
 - Potential Ore Stockpile
 - Potential Mine Rock Storage Area
 - Potential Overburden Stockpile
 - Project Development Area
 - Buildings
 - Pond
 - Proposed Site Access Road
 - Drainage Road
- Other Infrastructure**
 - Construction Temporary Facility
 - Parking
 - Diversion Channel
 - Fresh Water Pipe
 - Sewer
 - Potable Water
 - Drainage Ditch - Clean water
 - Drainage Ditch - Potentially Contaminated
 - Drainage Pipe
 - Fire Water

Landbase

- Existing Access Road
- Watercourse
- Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada.
 3. Project Infrastructure features provided by QPit and Ausenco.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2019-12-03
Technical Review by CAnseeuw on 2019-12-03
Senior GIS Review by GKroupa on 2019-12-11

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473008

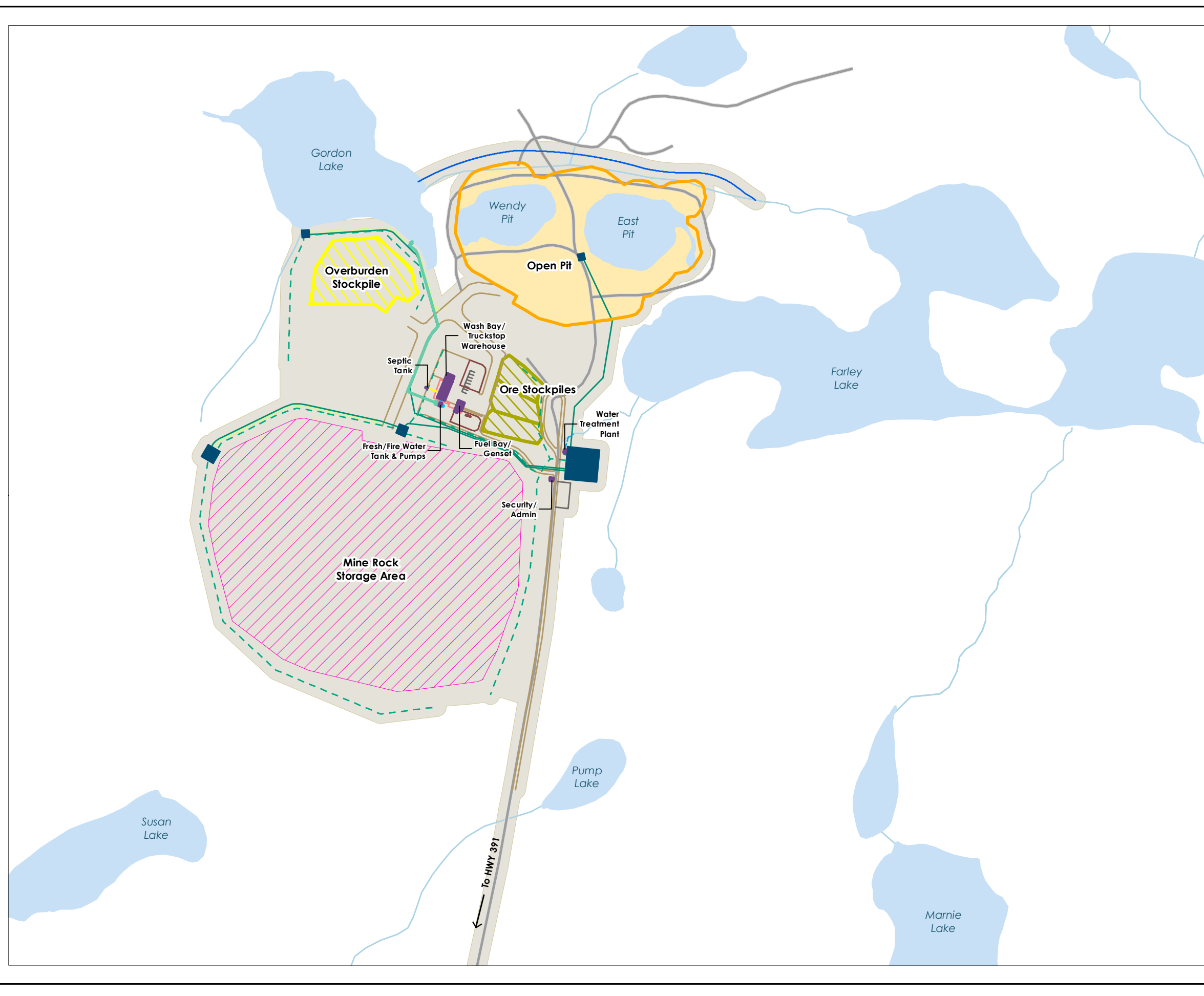
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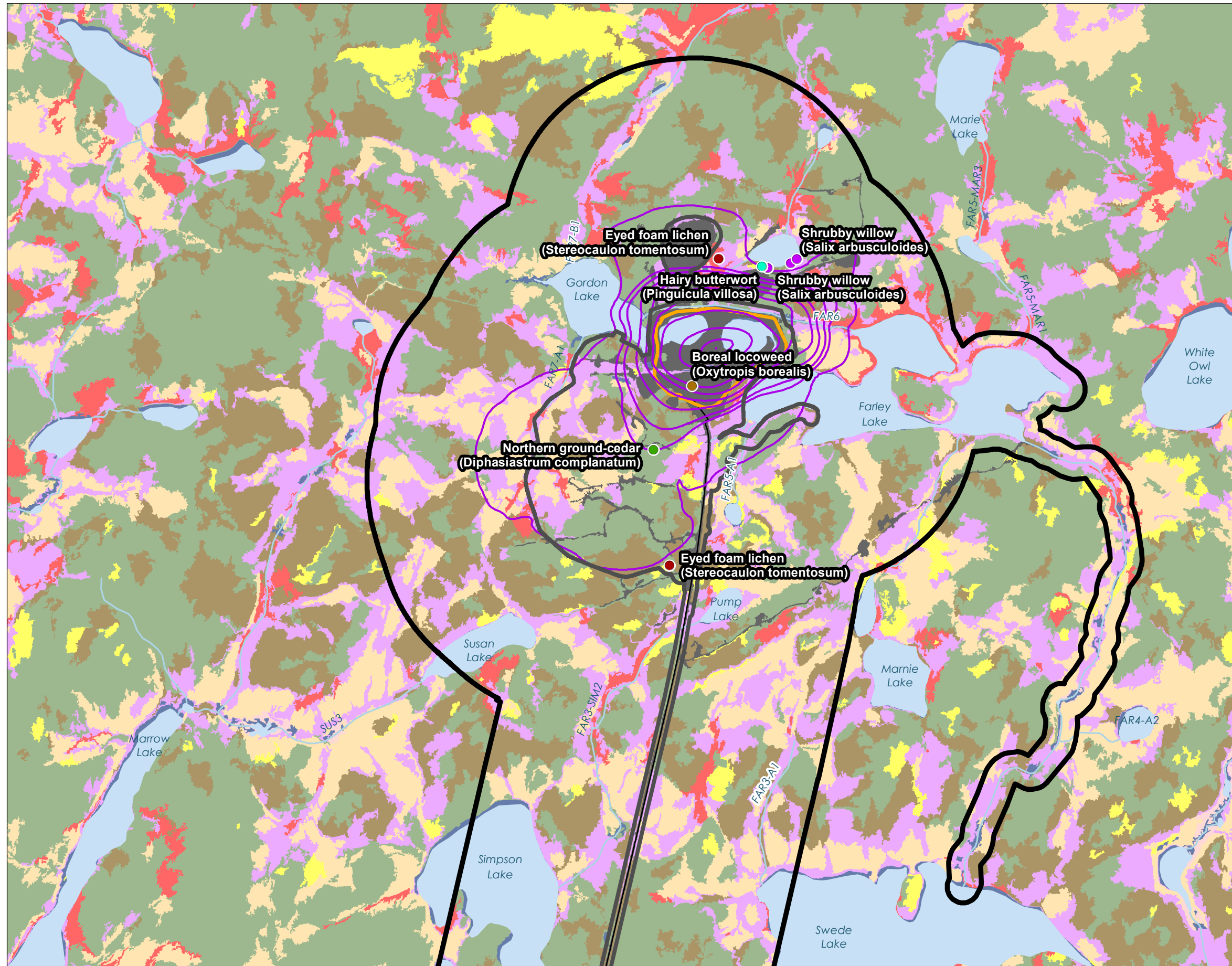
3

Title

**EIS Footprint (PDA)
- Gordon site**

G:_GIS_Protect_Folder\111473008_LIGP_EA\figures\CH2_Protect_Description\For_Review\Map21_PD_GordonDevelopment_20200117.mxd - Reviset: 2020-05-11 by: ACampigotto





Project Infrastructure

- Open Pit
- Project Development Area

Study Area

- Vegetation and Wetlands Local Assessment Area (LAA)

Survey Locations

- Predicted Water Table Drawdown Contours

SOCC Locations

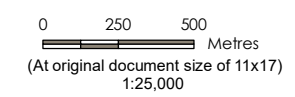
- Shrubby Willow (*Salix arbusculoides*)
- Boreal locoweed (*Oxytropis borealis*)
- Eyed foam lichen (*Stereocaulon tomentosum*)
- Hairy butterwort (*Pinguicula villosa*)
- Northern ground-cedar (*Diphasiastrum complanatum*)

Land Use/Land Cover

- | | |
|------------|-------------|
| Barren | Bog |
| Coniferous | Fen |
| Deciduous | Marsh |
| Mixedwood | Swamp |
| Shrubland | Development |
| Water | |

Landbase

- Existing Access Road
- Watercourse
- Waterbody



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.

Project Location
Lynn Lake,
Manitoba

Prepared by ACampigotto on 2025-05-15
Technical Review by NKearns on 2025-05-15

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473084

Map No.
4

Title
**Area of Potential Indirect Wetland
Affects from Groundwater Drawdown -
Gordon Site**

Appendix B Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design



To: Alamos Gold Inc.
Project/File: 111473076.301.104

From: Stantec Consulting Ltd.
Date: June 19, 2025

**Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project
Revised 2023 Mine Design**

The Lynn Lake Gold Project (LLGP; the Project) consists of two primary deposit sites, the MacLellan site and Gordon site, which are both located near the Town of Lynn Lake, Manitoba. Alamos Gold Inc. (Alamos) will construct (redevelop), operate and eventually close/reclaim open-pit gold mines at both historical mine sites. The Project will be built as two open pit mines with a centralized processing plant facility and a tailings management facility (TMF). The processing plant, located at the MacLellan site has an expected nominal processing throughput of 8,000 tonnes/day with an estimated 17-year production life.

Stantec Consulting Ltd. (Stantec) completed an Environmental Impact Statement (EIS) for the Project that included Light as a Valued Component (Stantec 2020). The EIS was completed to fulfill a requirement of the “Guidelines for the Preparation of an Environmental Impact Statement” (2017) pursuant to the *Canada Environmental Assessment Act* (2012) for the Project. The assessment provides an overview of the existing conditions in the Project area and identifies the changes in ambient light at key receptor locations for the Project to determine potential residual and cumulative changes to lighting in support of the EIS.

The Project was approved under the *Canadian Environmental Assessment Act* (2012) with a federal Decision Statement issued March 5, 2023 (subsequently revised July 28, 2024). It was approved under *The Environment Act* of Manitoba with two provincial licences issued March 6, 2023 (Licence No. 3390 relating to the Gordon site and Licence No. 3391 relating to the MacLellan site).

Since Project approval, Alamos has completed a 2023 Feasibility Study Update (FSU) NI 43-101 Technical Report (Alamos 2023) that includes design updates. The design updates include, but are not necessarily limited to the following:

- The processing plant and TMF at the MacLellan site
- General infrastructure at both sites; and
- Major development area layouts.

Stantec has been engaged by Alamos to prepare an update of the light assessment for the Project based on the 2023 Feasibility Study Update or FSU. This update includes a review of the changes to the Project design, and changes/updates to the light model to assess how these Project design changes may affect the conclusions of the light assessment completed back in 2020. This memo summarizes the findings and results of the light assessment updates for the Project.

Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

1 Summary of Major Changes to Project Design

Stantec reviewed and compared the Project design parameters for 2019, and the update published in 2023. Mine design changes, relevant to lighting, are based on the following design information provided by Alamos for the Project:

- Feasibility Study Update, NI 43-101 Technical Report for the Lynn Lake Project. Issue date: August 22, 2023 (Alamos 2023).
- Updated lighting plan design documents (Worley 2024; pers comm 2024).

The lighting design at the Gordon site has not been updated. Since the lighting design used for the original assessment for Gordon was based on conservative assumptions that are likely to overestimate the lighting required for mining, the initial lighting assessment at Gordon is still considered representative of the final design.

The lighting design at the MacLellan site includes refined designs for the parking area, process area, and primary crushing area. Marked up drawings of the luminaires for these areas as provided by Worley are provided in Appendix A. The exterior lighting design is still being finalized at the MacLellan site, and therefore lighting designs have not been updated for the administrative building, warehouse, assay lab, truck shop, and truck wash area. In these cases, the previous lighting design was also based on conservative assumptions for the anticipated lighting requirements for the activities occurring in those areas, and so the previous lighting design for those areas was still considered representative of the final design (pers comm 2024).

A summary of the relevant changes to the lighting design at MacLellan is listed as follows:

- The parking lot to the north of the process area required a re-alignment of the parking spaces and resulted in a relocation of the luminaires.
- The updated design of the process area shifted a conveyor system and refined the lighting plan for the Fine Ore Bin, Leach Tanks, Oxygen Plant, Thickener, and Primary Crushing. The updated lighting plan resulted in changes in the location and type of some luminaires in those areas.

2 Lighting Modelling Update Results

The light modelling methodology used to assess the potential effects of the 2023 design changes on lighting noted above is identical to the methodology used in the EIS (Stantec 2020). Light modelling focused on changes in illuminance and glare for nearby receptors. The changes in illuminance and glare were assessed using criteria established by the Commission Internationale de l'Éclairage (CIE 2017). A summary of the guideline levels for light trespass and glare are provided in Table 1. The threshold for glare is based on distance between the source and receptor and so the glare threshold in Table 1 is related to the nearest receptor location (Receptor 87).

Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Table 1 Guideline Threshold Criteria for Lighting Assessment (Based on CIE 2017)

Threshold	Value
Light Trespass	1 lux
Glare *	754 cd

Note:

* The threshold for glare is related to the distance between the source and receptor and so the value shown is based on the distance between the nearest luminaire and Receptor 87

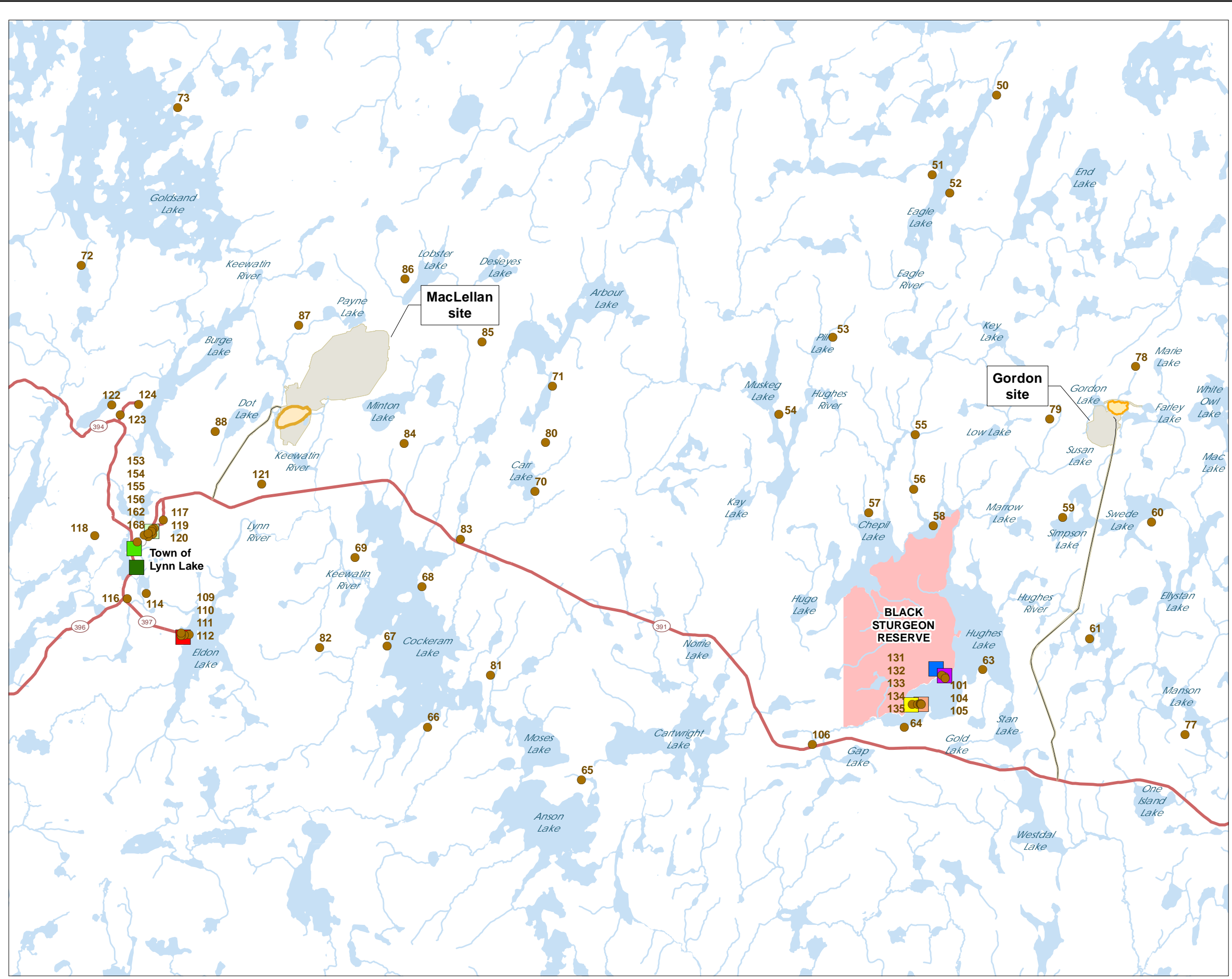
Nearby receptors are shown in Figure 1 and are the same as those considered in the EIS (Stantec 2020). Figure 1 includes receptors that are nearby but that do not have a direct line of sight to project components. Only receptors with a direct line of sight to project components were included in the light modelling update.

A summary of the modelling results for light trespass and glare is provided in Table 2. Light levels were still predicted to be low at nearby receptors. Receptor 87 was predicted to have some glare; however the glare value was still well below the CIE threshold.

The updated lighting design is therefore predicted to comply with the guideline levels for trespass and glare established by the CIE.

Table 2 Predicted Levels of Light Trespass and Glare at nearby Receptors

Receptor ID	Light Trespass (lux)	Glare (cd)
84	<0.0001	<0.001
85	<0.0001	<0.001
86	<0.0001	<0.001
87	0.0002	12
88	0.0001	<0.001
121	0.0005	<0.001
Cluster 1	<0.0001	<0.001
Cluster 2	0.0002	<0.001
Cluster 3	<0.0001	<0.001
Cluster 4	0.0001	<0.001
Cluster 5	0.0001	<0.001
Lynn Lake Cluster North	<0.0001	<0.001
Lynn Lake Cluster Central	<0.0001	<0.001
Lynn Lake Cluster South	<0.0001	<0.001

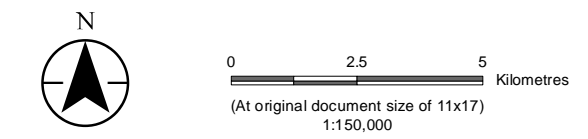


Project Infrastructure
 Proposed Open Pit
 Project Development Area

Receptors
 Individual Receptor

Receptor Groups
 Cluster 1
 Cluster 2
 Cluster 3
 Cluster 4
 Cluster 5
 Lynn Lake Cluster North
 Lynn Lake Cluster Central
 Lynn Lake Cluster South

Landbase
 Existing Access Road
 Highway
 Watercourse
 Waterbody
 First Nation Reserve



Notes
 1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba
 Prepared by A Campigotto on 2019-11-27
 Technical Review by GHatcher on 2019-11-27
 Senior GIS Review by XXXXXXX on XXXX-xx-xx

Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project
 111473073

Map No.
1
Title

Receptor Locations Considered for Predictive Modelling

G:_Project_Folders\111473073\UGP_EA\Figures\Chk_Ammoniac\Environment\YDR\Report\LightMap\2.3_UGP_ReceptorLocations_20191127.mxd - Revised: 2019-12-04 By: ACumbeo

Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

3 Conclusion

This update of the lighting assessment focused on the potential changes of the Project lighting effects due to the updated Project 2023 design during the operation phase. Changes to the Project design include updates to the parking and road access, along with the location and size of the main process area, the truck wash and truck shop, and the administration building. The lighting model for the operation phase of the Project was updated using the same approach and receptor locations as the previous Stantec 2020 assessment.

The predicted lighting levels from the updated project activities are not expected to change significantly from the previous assessment completed in 2020. Further, the estimated illuminance and glare are not predicted to exceed the guideline levels recommended by the Commission Internationale de l'Éclairage. **In conclusion, the results of the updated lighting assessment do not change the characterization of residual effects, or the significance ratings summarized as presented in the EIS (Stantec 2020).**

4 Limitations and Sign-off

This document entitled was prepared by *Stantec Consulting Ltd.* ("Stantec") for the account of *Alamos Gold Inc.* (the "Client") to support the permitting process for its Lynn Lake Gold Project (the "Project"). In connection therewith, this document may be reviewed and used by the *Impact Assessment Agency of Canada* and *Manitoba Conservation and Climate* participating in the review process in the normal course of its duties. Except as set forth in the previous sentence, any reliance on this document by any other party or use of it for any other purpose is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The information and conclusions in the document are based on the conditions existing at the time the document was published and does not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by the Client or others, unless expressly stated otherwise in the document. Any use which another party makes of this document is the responsibility and risk of such party. Such party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other party as a result of decisions made or actions taken based on this document.

Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

If you have any questions or require additional information, please do not hesitate to contact us

Regards,

Stantec Consulting Ltd.

Prepared by: 
Signature

Brian Bylhouwer
Printed Name

Reviewed by: 
Signature

Michael Murphy, Ph.D., P.Eng.
Printed Name

Approved to transmit by: 
Signature

Karen Mathers
Printed Name

Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

5 References

Alamos. 2023. Feasibility Study Update (FSU). NI 43-101 Technical Report for the Lynn Lake Project, Lynn Lake, Manitoba, Canada. August 22, 2023.

Pers comm. 2024. November 1 and November 11, 2024 email correspondence from Robert Halas, (Alamos Gold Inc. Sr. Project Engineer, Lynn Lake, Projects) to Karen Mathers (Stantec Senior Principal - Environmental Services).

Stantec (Stantec Consulting Inc.). 2020. Lynn Lake Gold Project Environmental Impact Statement, May 2020.

Worley 2024. AGL Design Review Navisworks Drawing.

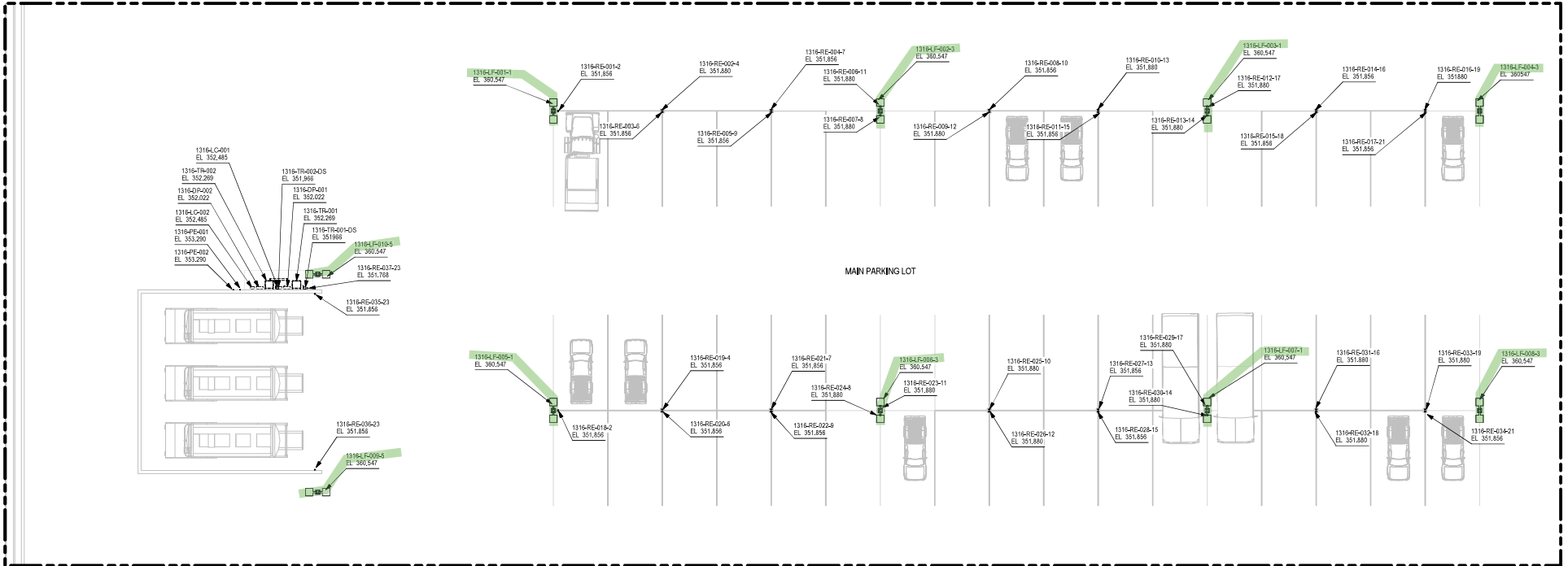
Reference: Summary of Light Modelling Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Appendix A Updated Light Plans from Worley



NOTES:

- FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-DAL-0010 THRU 0013.
- ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
- ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
- CONTRACTOR MAY USE MANUFACTURER PART NUMBERS SPECIFIED ON DRAWING OR APPROVED EQUAL.
- ALL THE MATERIALS FOR OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER REINFORCED POLYESTER FOR CORROSIVE AREAS.
- ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.



ITEM	DESCRIPTION	QTY.
1	LIGHTING CONTROL PANEL, 30A, 120V, 60Hz, GE#WR6316BAJ23AD	2
	1316-LC-001	1
	1316-LC-002	1
2	LIGHTING PANEL, 30CCTs, 208Y/120V, 60Hz	2
	1316-CP-001	1
	1316-CP-002	1
3	LIGHTING TRANSFORMER, 45KVA, 600/208Y-120V, DRY TYPE, 3PH, 6-Hz	2
	1316-TS-001	1
	1316-TS-002	1
4	SAFETY SWITCH, 60A, 600V, 3PH, EATON #DHO82UWVW	2
	1316-TS-001 DS	1
	1316-TS-002 DS	1

ITEM	TAG NUMBER	QTY.	UNIT	Tag Number
1	1316-RE-000-1, 1316-RE-002-4, 1316-RE-003-8, 1316-RE-004-7, 1316-RE-005-8, 1316-RE-006-11, 1316-RE-007-8, 1316-RE-009-02, 1316-RE-009-12, 1316-RE-010-18, 1316-RE-011-15, 1316-RE-012-11, 1316-RE-013-04, 1316-RE-014-06, 1316-RE-015-18, 1316-RE-016-19, 1316-RE-017-21, 1316-RE-018-2, 1316-RE-019-4, 1316-RE-020-6, 1316-RE-021-9, 1316-RE-022-9, 1316-RE-023-11, 1316-RE-024-4, 1316-RE-025-10, 1316-RE-026-13, 1316-RE-027-13, 1316-RE-028-15, 1316-RE-029-17, 1316-RE-030-16, 1316-RE-031-16, 1316-RE-032-18, 1316-RE-033-19, 1316-RE-034-19, 1316-RE-035-21, 1316-RE-036-21, 1316-RE-037-13	37	ea.	2-GANG WATERPROOF GPO RECEPTACLE, 120V, 20A, HEAVY DUTY DIE-CAST AL BORN & COVER, HUBBELL, TAYMAC MKX300
	1316-UF-001-1, 1316-UF-002-3, 1316-UF-003-3, 1316-UF-004-3, 1316-UF-005-2, 1316-UF-006-3, 1316-UF-007-2, 1316-UF-008-3	10	ea.	LED STREET LIGHT, 2x30W, 120V, AIOOK, 3957(LUM), COOPER #GLEON-SAGC-745-UL-DM-SK, w/ POLE #R556MS522X
	1316-PE-001, 1316-PE-002	2	ea.	PHOTOCELL, 3.3A, 120V, 60Hz, CROUSE-HINDS #D2520

DRAFT

REV	DATE	ISSUED FOR	AW	FO	SH	ES	CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
A	07.07.24	ISSUED FOR IIR/CR									

Worley
 WORLEY PROJECT No:
 317045-00108

ENGINEERING AND PERMIT STAMPS (As Required)

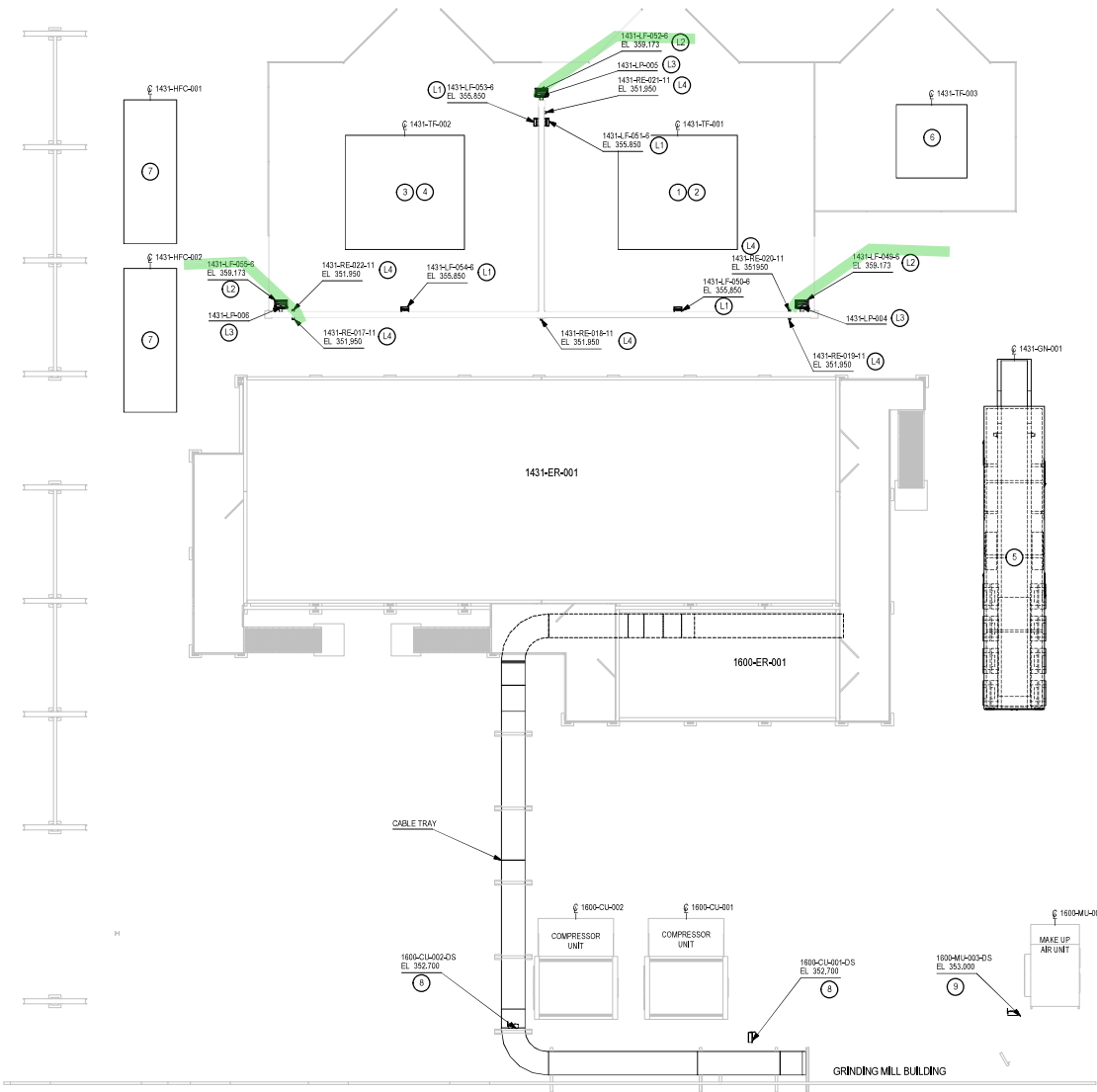
CUSTOMER

DRG TITLE
 LYNN LAKE GOLD PROJECT
 MACLELLAN SITE
 MAIN PARKING LOT
 LIGHTING, RECEPTACLE AND EQUIPMENT
 PLAN

DRG No
 LLGP-1316-EL-DAL-0031

REV
 A

USER NAME: mackmurphy
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 04/28/2024 10:43:00 AM



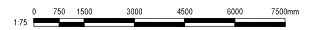
NOTES:

1. FOR STANDARD ELECTRICAL NOTES SEE DRAWING LLGP-000-EL-D-010 THRU 0103.
2. FOR STANDARD EQUIPMENT NOTES SEE DRAWING LLGP-000-EL-DAL-001 THRU 0006
3. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
4. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
5. CONTRACTOR MAY USE MANUFACTURER PART NUMBERS SPECIFIED ON THE DRAWING OR APPROVED EQUAL.
6. ALL MATERIALS FOR OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENTS AND 316L STAINLESS STEEL OR FIBER REINFORCED POLYESTER FOR CORROSIVE AREAS.
7. ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.

EQUIPMENT LIST						
ITEM	TAG NUMBER	QTY	DESCRIPTION	WEIGHT (kg)	HEAT DISSIPATION (kW)	DIMENSIONS (mm, INCHES)
1	1431-TF-001	1	LIQUID IMMERSED POWER TRANSFORMER, 25000VA, DRYWOUND, 34.5/10KV, 3PH, 60HZ	2050	4.25	2400x1800x2300
2	1431-NGR-001	1	NEUTRAL GROUNDING RESISTOR, 25A FOR 10 SECONDS, 15KV, 60HZ	4650	TBD	4800x1800x2000
3	1431-TF-002	1	LIQUID IMMERSED POWER TRANSFORMER, 25000VA, DRYWOUND, 34.5/10KV, 3PH, 60HZ	2050	4.25	2400x1800x2300
4	1431-NGR-002	1	NEUTRAL GROUNDING RESISTOR, 25A FOR 10 SECONDS, 15KV, 60HZ	4650	TBD	4800x1800x2000
5	1431-GN-001	1	STANDBY DIESEL GENERATOR SET, 2000KVA, 6000W, GENERATOR, 1000A CIRCUIT BREAKER	TBD	TBD	TBD
6	1431-TF-003	1	DRY TYPE STEP UP TRANSFORMER, 2.5MVA, 10KV/33KV, 3PH, 60HZ, OUTDOOR TYPE	7354	TBD	TBD
7	1431-FC-001, 1431-HFC-002	2	10.5KV WORKING FLOOR & POWER FACTOR CORRECTION SET, 4.8MVAR	TBD	TBD	TBD
8	1600-CU-001, 1600-CU-002	2	SAFETY SWITCH, 200A, 600V, 3PH, EATON, 4000A/1000V	TBD	TBD	TBD
9	1600-MU-001, 1600-MU-002	2	SAFETY SWITCH, 200A, 600V, 3PH, EATON, 4000A/1000V	TBD	TBD	TBD

LIGHTING BILL OF MATERIALS		
ITEM	DESCRIPTION	QTY
L1	1431-F-053-4, 1431-F-054-4, 1431-F-053-4, 1431-F-054-4	4
L2	1431-F-053-4, 1431-F-054-4, 1431-F-053-4, 1431-F-054-4	3
L3	1431-F-053-4, 1431-F-054-4, 1431-F-053-4, 1431-F-054-4	3
L4	1431-F-053-4, 1431-F-054-4, 1431-F-053-4, 1431-F-054-4	3

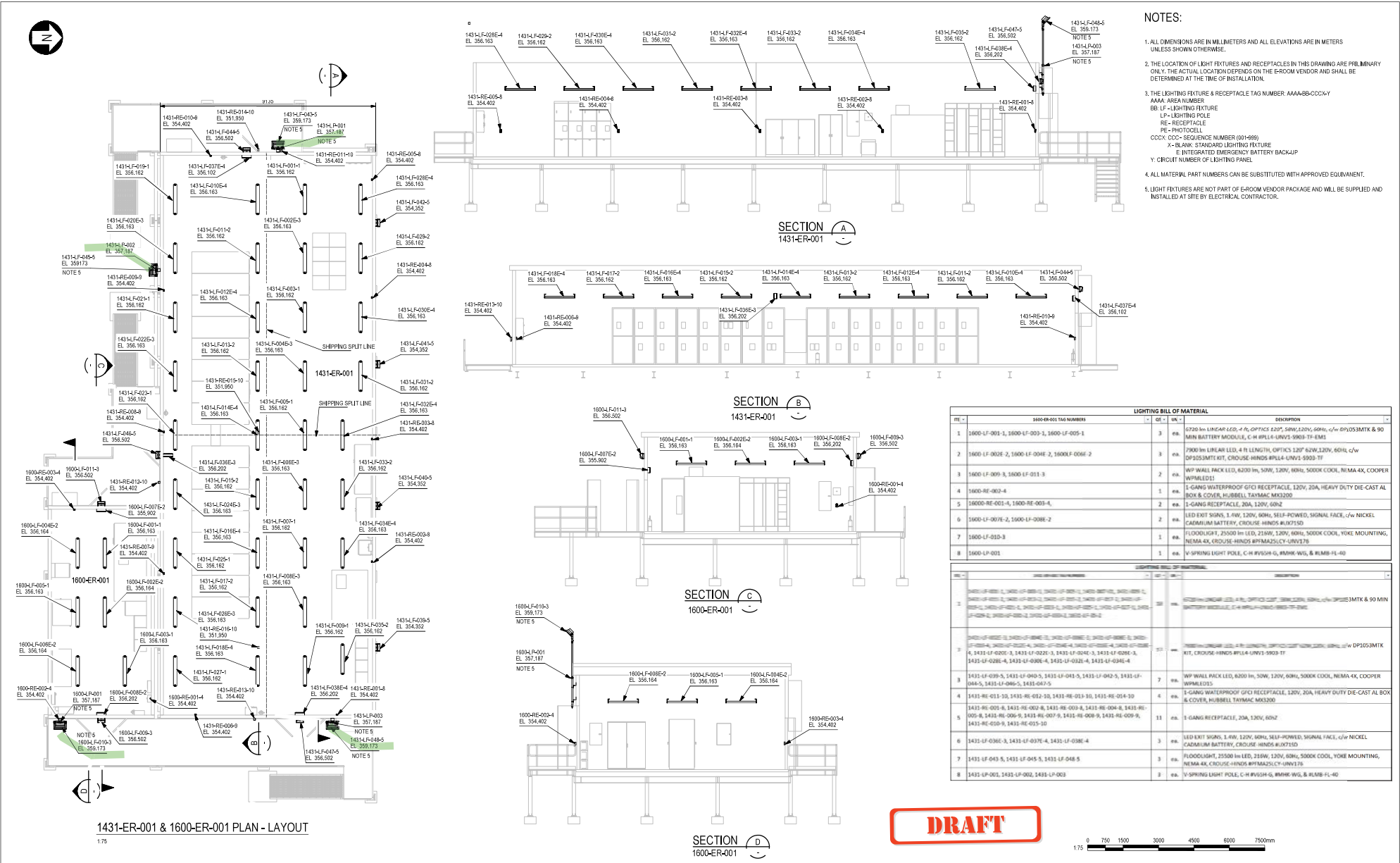
DRAFT



REV	DATE	ISSUED FOR	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
A	23/04/24	ISSUED FOR IIR/CR								LLGP-143-EL-DAL-005	MAIN PLANT SUBSTATION & MAU ELECTRICAL RM. CABLE TRAY LAYOUT
										LLGP-143-EL-DAL-001	MAIN PLANT SUBSTATION & MAU ELECTRICAL RM. CABLE TRAY LAYOUT

<p>A1 SHEET SCALE 1/75</p> <p>WORLEY PROJECT No: 317045-00108</p>	<p>ENGINEERING AND PERMIT STAMPS (As Required)</p>	<p>CUSTOMER</p>	<p>DRG TITLE</p> <p>LYNN LAKE GOLD PROJECT MACLELLAN SITE MAIN PLANT SUBSTATION (1431-ER-001) & MAU ELECTRICAL ROOM (1600-ER-001) YARD EQUIPMENT & LIGHTING LAYOUTS</p>
<p>DRG No: LLGP-1431-EL-DAL-0001</p>			<p>REV: A</p>

USER NAME: alamos
 FILE NAME: 17-04-2024 09:39
 SAVE DATE & TIME: 17-04-2024 09:39



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SHOWN OTHERWISE.
2. THE LOCATION OF LIGHT FIXTURES AND RECEPTACLES IN THIS DRAWING ARE PRELIMINARY ONLY. THE ACTUAL LOCATION DEPENDS ON THE E-Room VENDOR AND SHALL BE DETERMINED AT THE TIME OF INSTALLATION.
3. THE LIGHTING FIXTURE & RECEPTACLE TAG NUMBER: AAAA-BB-CCCC-YY
 AAAA - AREA NUMBER
 BB - LIGHTING FIXTURE
 LP - LIGHTING POLE
 RE - RECEPTACLE
 PE - PHOTOCELL
 COCK - COCK-SEQUENCE NUMBER (001-999)
 X - BLANK STANDARD LIGHTING FIXTURE
 E - INTEGRATED EMERGENCY BATTERY BACKUP
 Y - CIRCUIT NUMBER OF LIGHTING PANEL
4. ALL MATERIAL PART NUMBERS CAN BE SUBSTITUTED WITH APPROVED EQUIPMENT.
5. LIGHT FIXTURES ARE NOT PART OF E-ROOM VENDOR PACKAGE AND WILL BE SUPPLIED AND INSTALLED AT SITE BY ELECTRICAL CONTRACTOR.

1431-ER-001		1600-ER-001		1600-ER-001	
RE #	1600-ER-001 TAG NUMBER	QTY	UNIT	DESCRIPTION	REMARKS
1	1600-LF-001-1, 1600-LF-002-1, 1600-LF-005-1	3	#	2220 mm LINEAR LED, 4 ft OPTICS E205, 5000K, 6000h, c/w DP1053MTR & 90 MIN BATTERY MODULE, C-H HPL-L-UNV3-9903-TF-EM	
2	1600-LF-002E-2, 1600-LF-004E-2, 1600LF-006E-2	3	#	7000 mm LINEAR LED, 4 ft LENGTH, OPTICS 1207 820V, 1200V, 6000h, c/w DP1053MTR KIT, CROUSE-HINDS #PML4-UNV3-9903-TF	
3	1600-LF-009-3, 1600-LF-011-3	2	#	WP WALL PACK LED, 6200 lm, 5000, 120V, 6000h, 5000K COOL, NEMA 4X, COOPER WPMML012	
4	1600-RE-002-4	1	#	1-GANG WATERPROOF GFCI RECEPTACLE, 120V, 20A, HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TAYMEX MKX200	
5	1600-RE-001-4, 1600-RE-003-4	2	#	1-GANG RECEPTACLE, 20A, 120V, 60HZ	
6	1600-LF-007E-2, 1600-LF-008E-2	2	#	LED EXIT SIGN, 1.4W, 120V, 6000h, SELF-POWERED, SIGNAL FACE, c/w NICKEL CADMIUM BATTERY, CROUSE-HINDS #RXT5150	
7	1600-LF-010-3	1	#	FLOODLIGHT, 25500 lm LED, 215W, 120V, 6000h, 5000K COOL, YOKE MOUNTING, NEMA 4X, CROUSE-HINDS #PMA25LCY-UNV378	
8	1600-LP-001	1	#	V-SPRING LIGHT POLE, C-H #V35H-G, #MMK-W3, & #LMB-FL-40	

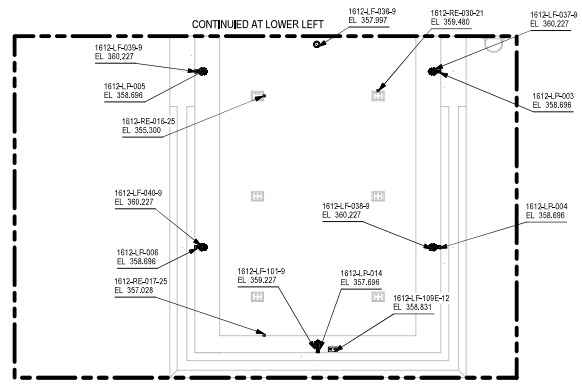
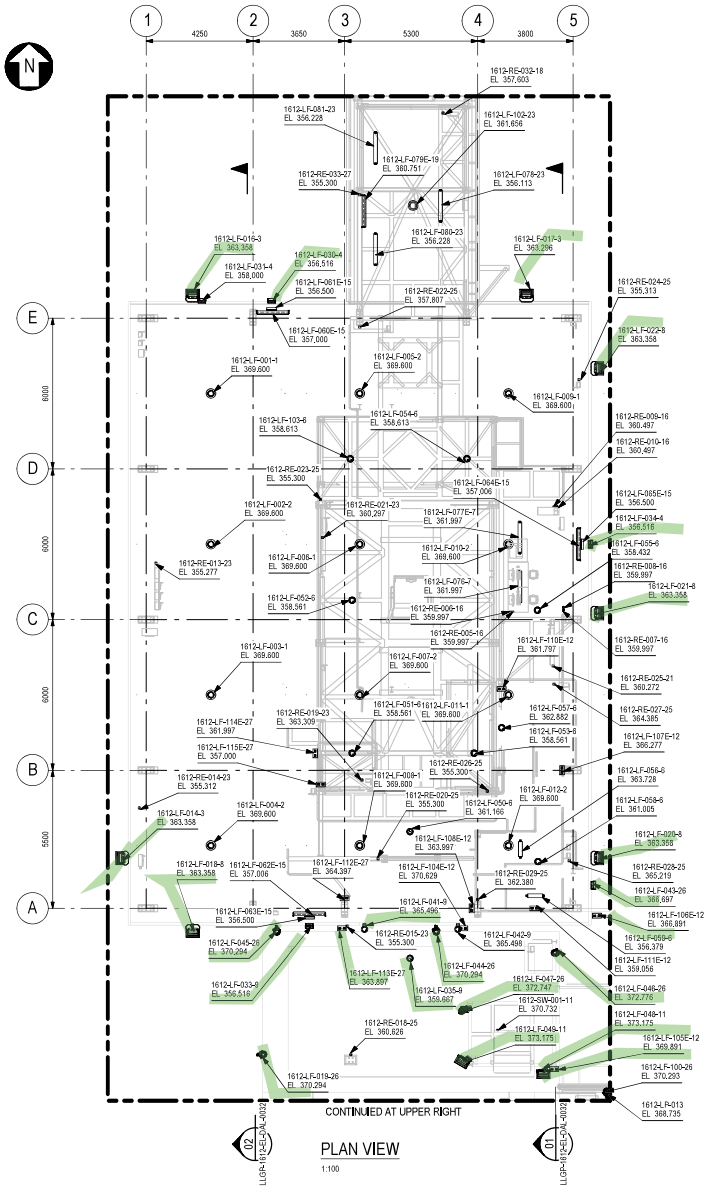
1431-ER-001 & 1600-ER-001 PLAN - LAYOUT
1/75

DRAFT



REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE	Worley PROJECT No: 317045-00108	ENGINEERING AND PERMIT STAMPS (As Required)	CUSTOMER	DRG TITLE	DRG No	REV	
B	10/04/24	ISSUED FOR IRR/CR	AW	FO	SH	ES	YM		LLGP-143-EL-DAL-0200	MAIN PLANT SUBSTATION & MAU ELECTRICAL ROOM GROUNDING LAYOUT			LYNN LAKE GOLD PROJECT MACLELLAN SITE MAIN PLANT SUBSTATION (1431-ER-001) & MAU ELECTRICAL ROOM (1600-ER-001) LIGHTING LAYOUT & ELEVATIONS	LLGP-1431-EL-0220	B		
A	23/02/24	ISSUED FOR IRR/CR	AW	FO	SH	ES	YM		LLGP-143-EL-DAL-0210	MAIN PLANT SUBSTATION & ELECTRICAL ROOM CABLE TRAY LAYOUTS							

USER NAME: ALAMOS
 PROJECT NAME: LYNN LAKE GOLD PROJECT
 SHEET NO: 1431-EL-0220



DRAFT



NOTES:

- FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-001-010 THRU 0013.
- ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
- ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
- CONTRACTOR MAY USE MANUFACTURER AND PART NUMBER SPECIFIED ON DRAWING OR APPROVED EQUIVALENT.
- ALL THE MATERIALS FOR THE OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER REINFORCED POLYESTER FOR CORROSIVE AREAS.
- ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.

ITEM	QTY	UNIT	DESCRIPTION
1	25000	mm	25000 mm LED, 20W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, PENDANT MOUNTING, NEMA 4X, CROUSE-HINDS MPVHL-25-2A-UNV
2	1	mm	1-GANG GFCI RECEPTACLE, 20A, 120V, 60Hz
3	1	mm	1-GANG WATERPROOF GFCI RECEPTACLE, 120V, 30A, HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TARMAC M303
4	5	mm	3250 mm LED, 28W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, NEMA 4X, CROUSE-HINDS MPVHL-3-UNV
5	2	mm	3958 mm LINEAR LED, 2 R LENGTH, OPTICS 120° 38W, 120V, 60Hz, f/w DP1053MTK KIT, CROUSE-HINDS MPVHL-UNV1-3803-17
6	13	mm	V-SPIRING LIGHT POLE, C-H HYVESH-G, 8MM-HTS & HMS
7	7	mm	5537 mm LED, 45W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS MPVHL-5-2C-UNV
8	2	mm	1612-F-041-9, 1612-F-042-9
9	3	mm	1612-F-060E-15, 1612-F-062E-15, 1612-F-064E-15
10	2	mm	1612-F-077E-7, 1612-F-079E-19
11	4	mm	1612-F-076-7, 1612-F-078-23, 1612-F-080-23, 1612-F-081-23
12	9	mm	1612-F-035-9, 1612-F-036-9, 1612-F-050-6, 1612-F-057-9, 1612-F-038-9, 1612-F-039-9, 1612-F-040-9, 1612-F-047-26, 1612-F-101-9
13	9	mm	1612-F-014-3, 1612-F-016-3, 1612-F-017-5, 1612-F-018-8, 1612-F-020-8, 1612-F-021-8, 1612-F-022-8, 1612-F-048-11, 1612-F-049-11
14	3	mm	1612-F-061E-15, 1612-F-063E-15, 1612-F-065E-15
15	12	mm	1612-F-104E-12, 1612-F-105E-12, 1612-F-104E, 1612-F-107E-12, 1612-F-108E-12, 1612-F-109E-12, 1612-F-110E-12, 1612-F-111E-12, 1612-F-112E-27, 1612-F-113E-27, 1612-F-114E-27, 812-F-115E-27
16	1	mm	1612-F-102-23
17	5	mm	1612-F-030-4, 1612-F-031-4, 1612-F-033-9, 1612-F-034-4, 1612-F-043-26
18	1	mm	1612-SW-001-11

REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	29 Apr 24	REISSUED FOR IIR/ICR	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0001	LIGHTING PANEL SCHEDULE AND WIRING DIA
B	3 Nov 2023	ISSUED FOR IR AND ICR	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0051	PRIMARY CRUSHER GROUNDING LAYOUT
A	25 Jul 2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0032	PRIMARY CRUSHER LIGHTING SECTIONS

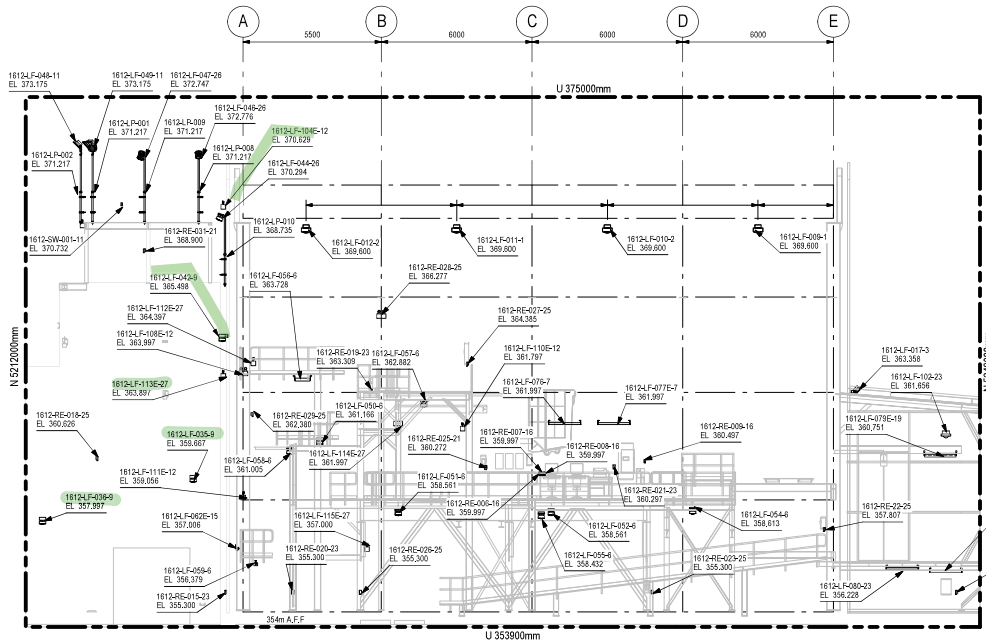
<p>Worley</p> <p>WORLEY PROJECT No: 317045-00108</p>	<p>ENGINEERING AND PERMIT STAMPS (As Required)</p>	<p>CUSTOMER</p> <p>ALAMOS GOLD INC.</p> <p><small>The drawing is provided for the use of the contractor/owner of the Client/Service. It is the responsibility of the Contractor/Owner to verify the accuracy of the information contained herein.</small></p>	<p>DRG TITLE</p> <p>LYNN LAKE GOLD PROJECT MACLELLAN SITE PRIMARY CRUSHER LIGHTING LAYOUT</p> <p>DRG No: LLGP-1612-EL-DAL-0031</p> <p>REV C</p>
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 SAVE DATE & TIME

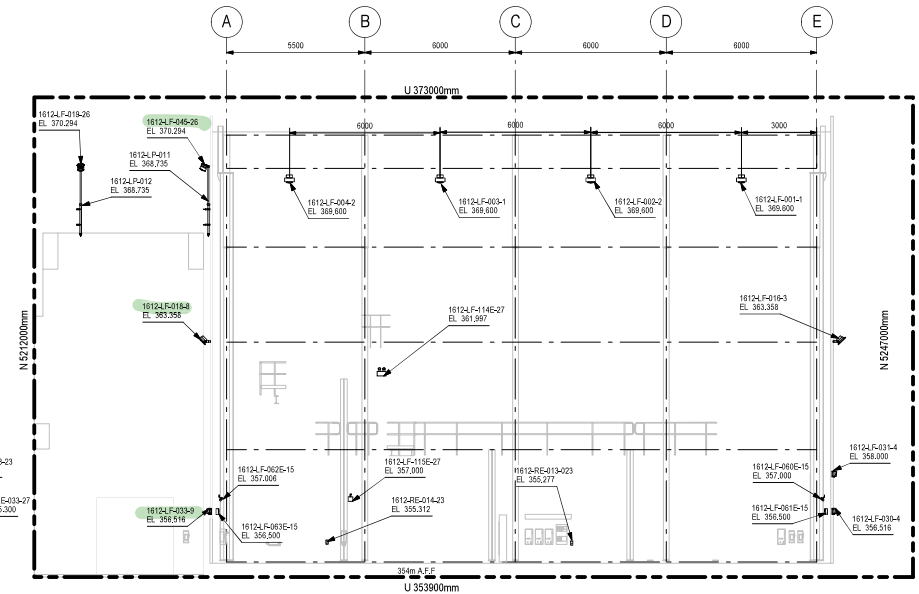


NOTES:

- FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-010-010 THRU 0013.
- ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
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- ALL THE MATERIALS FOR THE OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER REINFORCED POLYESTER FOR CORROSIVE AREAS.
- ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.



SECTION 01
LLGP-1612-EL-DAL-0031



SECTION 02
LLGP-1612-EL-DAL-0031

DRAFT



REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	29 Apr 24	REISSUED FOR IIR/ICR	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0001	LIGHTING PANEL SCHEDULE AND WIRING DIA.
B	30 Nov 2023	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0051	PRIMARY CRUSHER GROUNDING LAYOUT
A	25 Jul 2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM		LLGP-1612-EL-DAL-0031	PRIMARY CRUSHER LIGHTING LAYOUT

A1 SHEET SCALE 1:100

Worley PROJECT No. 317045-00108

ENGINEERING AND PERMIT STAMPS (As Required)

CUSTOMER

ALAMOS GOLD INC.

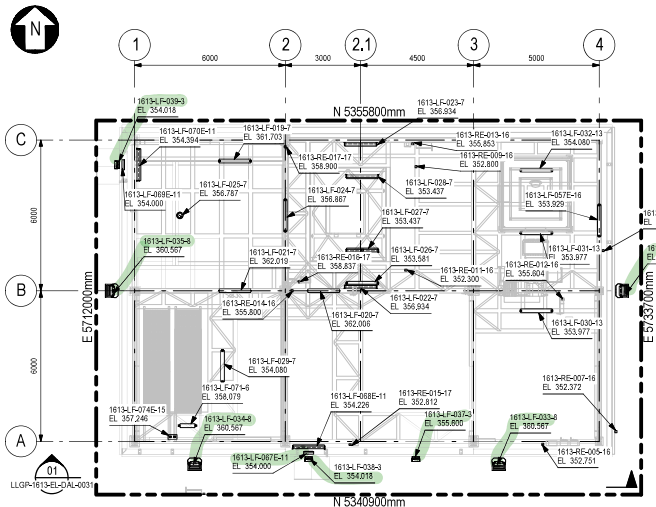
DRG TITLE

LYNN LAKE GOLD PROJECT
MACLELLAN SITE
PRIMARY CRUSHER
LIGHTING
SECTIONS

DRG No. LLGP-1612-EL-DAL-0032

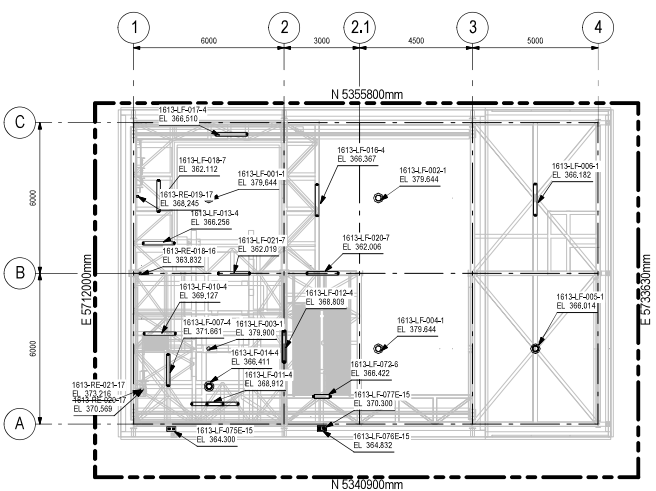
REV C

- NOTES:**
- FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-010-010 THRU 013.
 - ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
 - ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
 - CONTRACTOR MAY USE MANUFACTURER AND PART NUMBER SPECIFIED ON DRAWING OR APPROVED EQUAL.
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 - ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.



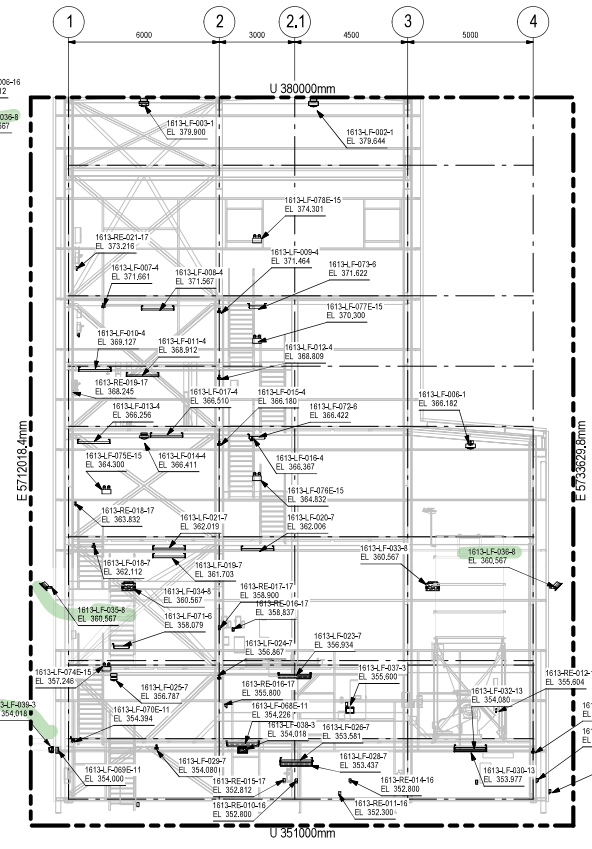
PLAN VIEW LOWER LEVEL

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PLAN VIEW UPPER LEVEL

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SECTION 01

LLGP-1613-EL-DAL-0031

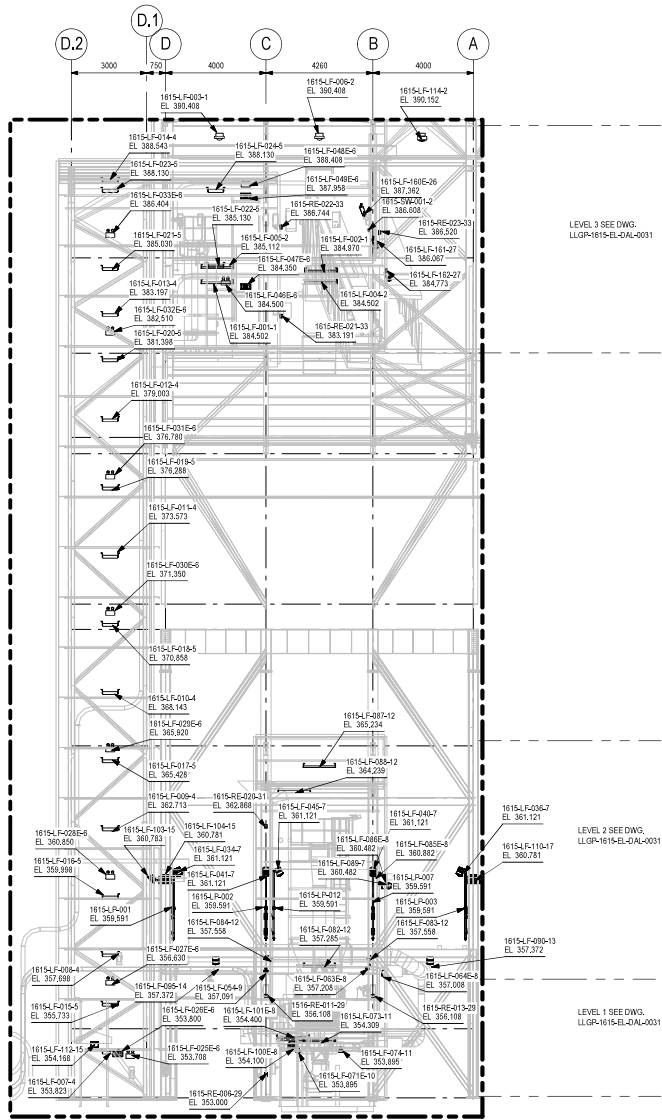
ITEM	TAG NUMBER	QTY	UNIT	DESCRIPTION
1	1613-LF-003-1	1	ea	12000 mm LED, 50W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PML6-25-2C UNVLS
2	1613-LF-014-2	1	ea	17800 mm LED, 147W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PML6-25-2C UNVLS
3	1613-LF-001-1, 1613-LF-002-1, 1613-LF-004-1, 1613-LF-005-1	4	ea	25000 mm LED, 200W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PML6-25-2C UNVLS
4	1613-LF-071-14, 1613-LF-072-14, 1613-LF-072-14	3	ea	3958 mm LINEAR LED, 2 ft LENGTH, OPTICS 120° 62W, 60Hz, /w DP1053MTK KIT, CROUSE-HINDS #PML4-UNVLS 5903 FT-EM1
5	1613-LF-068-13, 1613-LF-070-13	2	ea	6720 mm LINEAR LED, 4 ft, OPTICS 120°, 60W, 120V, 60Hz, /w DP1852MTK & 90 MIN BATTERY MODULE, C-H #PML4-UNVLS 5903 FT-EM1
6	1613-LF-076-12, 1613-LF-076-12	1	ea	6720 mm LINEAR LED, 4 ft, OPTICS 120°, 60W, 120V, 60Hz, /w DP1852MTK & 90 MIN BATTERY MODULE, C-H #PML4-UNVLS 5903 FT-EM1
7	1613-LF-022-3, 1613-LF-023-3, 1613-LF-027-3, 1613-LF-028-3	4	ea	7900 mm LINEAR LED, 4 ft LENGTH, OPTICS 120° 62W, 120V, 60Hz, /w DP1053MTK KIT, CROUSE-HINDS #PML4-UNVLS 5903 FT
8	1613-LF-006-1, 1613-LF-007-2, 1613-LF-008-2, 1613-LF-009-2, 1613-LF-010-2, 1613-LF-011-2, 1613-LF-012-2, 1613-LF-013-2, 1613-LF-014-2, 1613-LF-015-2, 1613-LF-016-2, 1613-LF-017-2, 1613-LF-018-2, 1613-LF-019-3, 1613-LF-020-3, 1613-LF-021-3, 1613-LF-024-3, 1613-LF-025-3, 1613-LF-029-3, 1613-LF-030-3, 1613-LF-031-1, 1613-LF-032-1	21	ea	7900 mm LINEAR LED, 4 ft LENGTH, OPTICS 120° 62W, 120V, 60Hz, /w DP1053MTK KIT, CROUSE-HINDS #PML4-UNVLS 5903 FT
9	1613-LF-019-3	1	ea	9234 mm LED, 73W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PML6-25-2C UNVLS
10	1613-LF-074E-15, 1613-LF-075E-15, 1613-LF-076E-15, 1613-LF-077E-15, 1613-LF-078E-15	5	ea	EMERGENCY LIGHT LED, 289W, 120V, 60Hz, 2x3W LED LAMP, 90 MIN BATTERY MODULE, CROUSE-HINDS #PML6-25-2C UNVLS
11	1613-LF-033-4, 1613-LF-034-4, 1613-LF-035-4, 1613-LF-036-4	4	ea	FLOODLIGHT, 25500 mm LED, 210W, 120V, 60Hz, 5000K COOL, YONE MOUNTING, NEMA 4X CROUSE-HINDS #PML6-25-2C UNVLS
12	1613-LF-067E-13, 1613-LF-068E-13	2	ea	LED EXIT SIGN, 1.4W, 120V, 60Hz, SELF-POWERED, SIGNAL FACE, C/W NICKEL CADMIUM BATTERY, CROUSE-HINDS #PML6-25-2C UNVLS
13	1613-LF-005, 1613-LF-032	2	ea	V-SPRING LIGHT POLE, C-H #PML6-25-2C UNVLS, 8' H, 1.5" DIA
14	1613-LF-037-5, 1613-LF-038-5, 1613-LF-039-5	3	ea	WP WALL PAK LED, 6200 mm, 50W, 120V, 60Hz, 5000K COOL, NEMA 4X, COOPER WPMLED15
15	1613-RE-009-16, 1613-RE-009-16, 1613-RE-009-16, 1613-RE-009-16, 1613-RE-009-16, 1613-RE-010-16, 1613-RE-011-16, 1613-RE-012-16, 1613-RE-013-16, 1613-RE-014-16, 1613-RE-015-16, 1613-RE-016-17, 1613-RE-017-17, 1613-RE-018-17, 1613-RE-019-17, 1613-RE-020-17, 1613-RE-021-17	16	ea	1 GANG GFI RC RECEPTACLE, 20A, 120V, HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TAYNAC M23200

DRAFT



<p>20 May 24 REISSUED FOR IIR/ICR</p> <p>15 Nov 2023 ISSUED FOR IIR AND ICR</p> <p>25 Jul 2023 ISSUED FOR INTERNAL REVIEW</p>		<p>AW</p> <p>FO</p> <p>SH</p> <p>ES</p> <p>YM</p>	<p>LLGP-1613-EL-DAL-0001</p> <p>LLGP-1613-EL-DAL-0051</p> <p>LLGP-1613-EL-DAL-0011</p>	<p>SECONDARY CRUSHER LIGHTING PANEL SCHEDULE & WIRING DIAGRAM</p> <p>SECONDARY CRUSHER GROUNDING LAYOUT</p> <p>SECONDARY CRUSHER CABLE TRAY LAYOUT</p>	<p>Worley</p> <p>WORLEY PROJECT No:</p> <p>317045-00108</p>	<p>ENGINEERING AND PERMIT STAMPS (As Required)</p>	<p>CUSTOMER</p> <p>ALAMOS GOLD INC.</p>	<p>DRG TITLE</p> <p>LYNN LAKE GOLD PROJECT MACLELLAN SITE SECONDARY CRUSHER & ELECTRICAL RM LIGHTING LAYOUTS AND SECTION</p>	<p>DRG No</p> <p>LLGP-1613-EL-DAL-0031</p>	<p>REV</p> <p>C</p>
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USER NAME: dm...
 FILE NAME: LLGP-1613-EL-DAL-0031
 DATE: 15 Nov 2023 08:13:13
 SHEET: 1 of 1



SECTION 01
LLGP-1615-EL-DAL-0031

NOTES:

1. FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-DAL-0001 THRU 0006.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SHOWN OTHERWISE.

NOTE:
THIS TABLE ONLY REFLECTS LIGHT FIXTURES SHOWN ON DRAWINGS LLGP-1615-EL-DAL-0031, 22 AND 33.
FOR FULL FINE ORE BIN AREA BILL OF MATERIALS REFER TO DRAWING LLGP-1615-EL-DAL-0034.
DUPLICATION OF FIXTURE TAGS MAY BE REFERRED TO ON MULTIPLE DRAWINGS

ITEM	QTY	UNIT	DESCRIPTION
1	2	ea.	13100 m LED, 15W, 120V, 60Hz 5000K COOL TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PVM1-13-2C-INV1
2	1	ea.	25000 m LED, 100W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PVM1-23-2C-UNV1
3	18	ea.	1615-F-007-4, 1615-F-008-4, 1615-F-009-4, 1615-F-010-4, 1615-F-011-4, 1615-F-012-4, 1615-F-013-4, 1615-F-014-4, 1615-F-015-4, 1615-F-016-4, 1615-F-017-4, 1615-F-018-4, 1615-F-019-4, 1615-F-020-4, 1615-F-021-4, 1615-F-022-4, 1615-F-023-4, 1615-F-024-4
4	2	ea.	6720 In LINEAR LED, 4 FT, OPTICS 120°, 38W, 120V, 60Hz, c/w DP1052MT1 & 90 MIN BATTERY MODULE, C H #LL4 UNV1-S903 TF-SM1
5	4	ea.	6720 In LINEAR LED, 4 FT, OPTICS 120°, 38W, 120V, 60Hz, c/w DP1052MT1 & 90 MIN BATTERY MODULE, C H #LL4 UNV1-S903 TF-SM1
6	3	ea.	7900 In LINEAR LED, 4 FT LENGTH, OPTICS 120° 42W, 120V, 60Hz, c/w DP1052MT1 KIT, CROUSE-HINDS #PIL4-INNV1-S903-3F
7	10	ea.	7900 In LINEAR LED, 4 FT LENGTH, OPTICS 120° 42W, 120V, 60Hz, c/w DP1052MT1 KIT, CROUSE-HINDS #PIL4-INNV1-S903-3F
8	2	ea.	9234 In LED, 7W, 120V, 60Hz, 3000K COOL TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X CROUSE-HINDS #PVM1-9-2C-UNV1
9	5	ea.	9234 In LED, 7W, 120V, 60Hz, 3000K COOL TYPE V OPTICAL, NEMA 4X, CROUSE-HINDS #PVM1-9-UNV1
10	10	ea.	EMERGENCY LIGHT LED, 28W, 120V, 60Hz, 2x3W LED LAMP, 30 MIN BATTERY MODULE, CROUSE-HINDS #HNS1222255
11	3	ea.	FLOODLIGHT, 2500 lumen LED, 213W, 120V, 60Hz, 3000K COOL TYPE MOUNTING, NEMA 4X, CROUSE-HINDS #PMA2SLV-UNV176
12	6	ea.	LED EXT SIGNS, 1-AW, 120V, 60Hz, SELF POWEED, SIGNAL FACE, c/w NICKEL CADMIUM BATTERY, CROUSE-HINDS #UX12SD
13	1	ea.	umet
16	5	ea.	V-SPRING LIGHT PCIE, 2-H INVESH-CC, #MHE-W5 & #M5
17	2	ea.	W/ WALL FACI LED, 6220 In, 50W, 120V, 60Hz, 3000K COOL NEMA 4X, COOPER #PML1615
18	7	ea.	1-6ANS GRG RECPTACLE, 20A 120V, HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TAYMAC M93200

DRAFT



REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	20.05.2024	ISSUED FOR IIR/ICR	AW	FO	SH	ES	YM		LLGP-1615-EL-DAL-0034	FINE ORE BIN COMPLETE BILL OF MATERIALS
B	16.10.2023	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM		LLGP-1615-EL-DAL-0033	FINE ORE BIN SECTION AND BILL OF MATERIALS
									LLGP-1615-EL-DAL-0031	FINE ORE BIN LIGHTING LAYOUTS
A	16.10.2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM		LLGP-1615-EL-DAL-0051	FINE ORE BIN GROUNDING LAYOUT
									LLGP-1615-EL-DAL-0011	FINE ORE BIN CABLE TRAY LAYOUTS

Worley
PROJECT No: 317045-00108

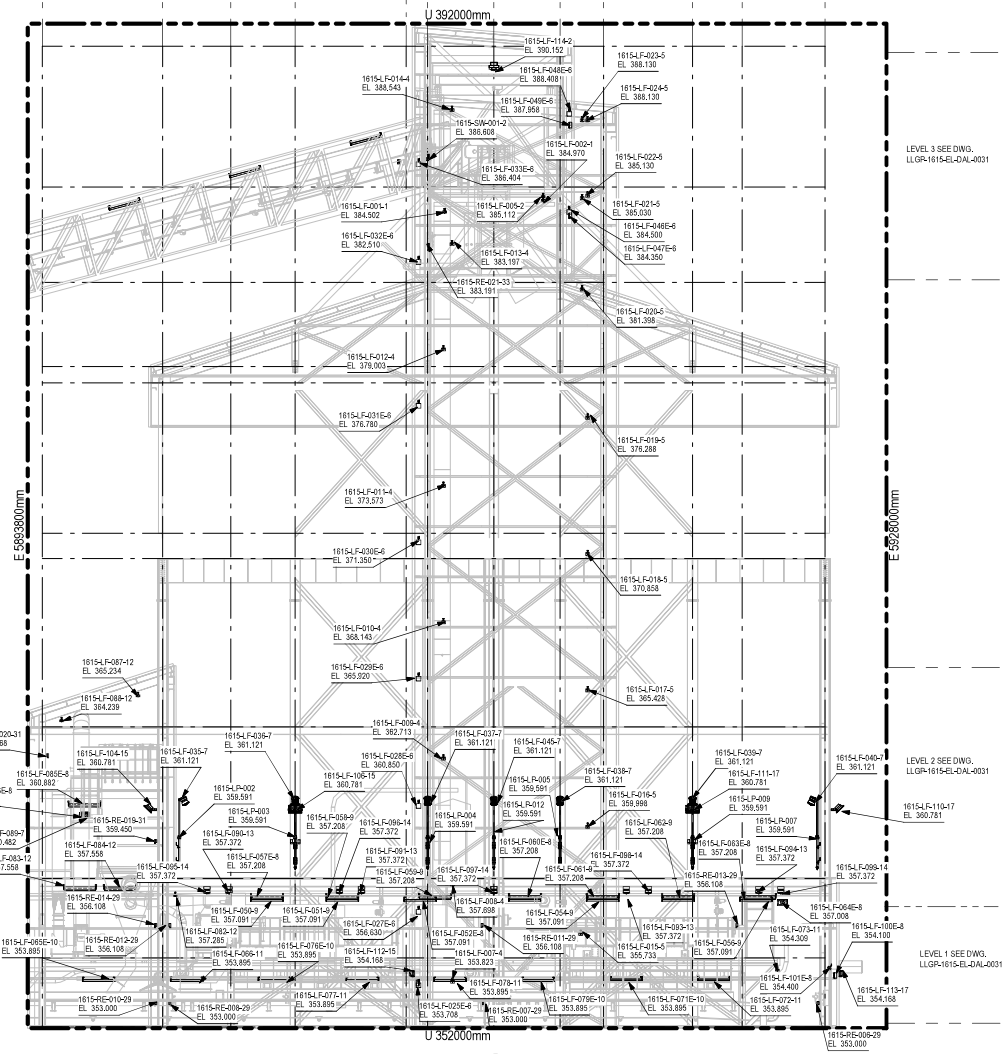
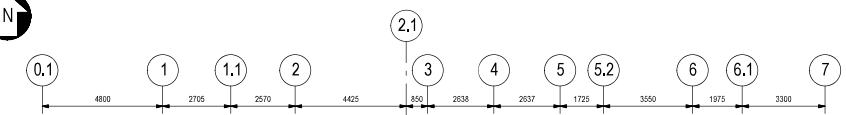
ENGINEERING AND PERMIT STAMPS (As Required)

CUSTOMER
ALAMOS GOLD INC.

DRG TITLE
**LYNN LAKE GOLD PROJECT
MACLELLAN SITE
FINE ORE BIN
LIGHTING
SECTION AND BILL OF MATERIAL**

DRG No
LLGP-1615-EL-DAL-0032

REV
C



SECTION 01
LLGP-1615-EL-DAL-0033

NOTES:
1. FOR STANDARD NOTES SEE DRAWING LLGP-0005-EL-001 THRU 0006.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SHOWN OTHERWISE.

NOTE:
THIS TABLE ONLY REFLECTS LIGHT FIXTURES AS RECEPTILES SHOWN ON THIS DRAWINGS.
FOR FULL FINE ORE BIN AREA BILL OF MATERIALS REFER TO DRAWING LLGP-1615-EL-DAL-0034.
DUPLICATION OF FIXTURE TAGS MAY BE REFERRED TO ON MULTIPLE DRAWINGS.

DRAFT



REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
C	20.05.2024	REISSUED FOR IIR/ICR	AW	FO	SH	ES	YM			
B	16.11.2023	ISSUED FOR IR AND ICR	AW	FO	SH	ES	YM			
A	16.10.2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM			

LLGP-1615-EL-ST-2002	FINE ORE BIN LIGHTING WIRING DIAGRAM
LLGP-1615-EL-ST-0001	FINE ORE BIN LIGHTING PANEL SCHEDULE & SCHEMATIC DIAGRAM
LLGP-1615-EL-DAL-0034	FINE ORE BIN LIGHTING COMPLETE BILL OF MATERIALS
LLGP-1615-EL-DAL-0032	FINE ORE BIN LIGHTING SECTION AND BILL OF MATERIAL
LLGP-1615-EL-DAL-0031	FINE ORE BIN LIGHTING LAYOUTS AND BILL OF MATERIAL
LLGP-1615-EL-DAL-0051	FINE ORE BIN GROUNDING LAYOUT
LLGP-1615-EL-DAL-0011	FINE ORE BIN CABLE TRAY LAYOUTS

X1 SHEET SCALE 1:100	ENGINEERING AND PERMIT STAMPS (As Required)	CUSTOMER
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Worley PROJECT No: 317045-00108

DRG TITLE	LYNN LAKE GOLD PROJECT MACLELLAN SITE FINE ORE BIN LIGHTING SECTION AND BILL OF MATERIAL
DRG No	LLGP-1615-EL-DAL-0033
REV	C

USER NAME: alamos
16 Nov 2023 10:07 AM
16 Nov 2023 10:07 AM



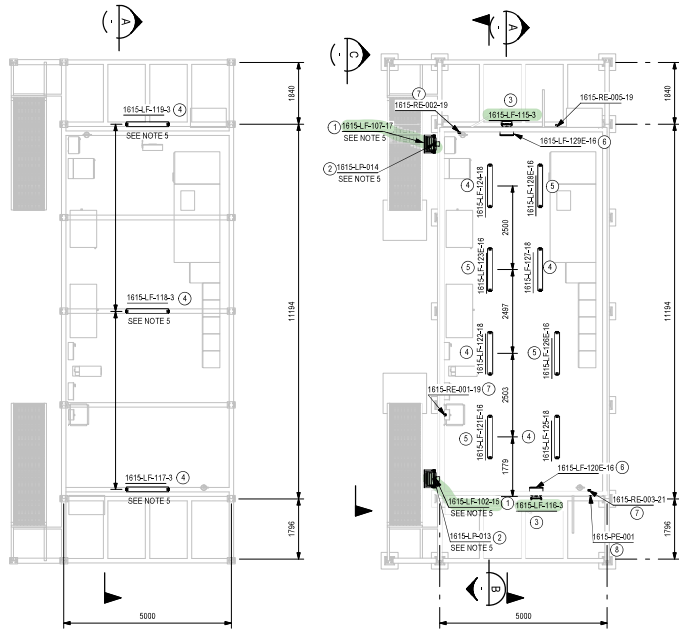
NOTES:
1. FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-001 THRU 0006.

REF	TAG NUMBER	QTY	UNIT	DESCRIPTION
1	1615-LF-003-1, 1615-LF-006-2	2	ea.	13100 lm LED, 95W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PVM1-13-2C-UNV1
2	1615-LF-1-2-4	1	ea.	25300 lm LED, 206W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PVM1-25-2C-UNV1
3	1615-LF-007-4, 1615-LF-008-4, 1615-LF-009-4, 1615-LF-010-4, 1615-LF-011-4, 1615-LF-012-4, 1615-LF-013-4, 1615-LF-014-4, 1615-LF-015-5, 1615-LF-016-5, 1615-LF-017-5, 1615-LF-018-5, 1615-LF-019-5, 1615-LF-020-5, 1615-LF-021-5, 1615-LF-022-5, 1615-LF-023-5, 1615-LF-024-5	18	ea.	3958 lm LINEAR LED, 2 ft LENGTH, OPTICS 120° 32W, 120V, 60Hz, c/w DP1053MTK KIT, CROUSE-HINDS #PLL2-UNV1-S903-TF
4	1615-LF-057E-8, 1615-LF-060E-8, 1615-LF-063E-8, 1615-LF-101E-8	4	ea.	6720 lm LINEAR LED, 4 ft, OPTICS 120°, 58W, 120V, 60Hz, c/w DP1052MTK & 90 MIN BATTERY MODULE, C-H #PLL4-UNV1-S903-TF-EM1
5	1615-LF-052E-8, 1615-LF-055E-8, 1615-LF-056E-10, 1615-LF-068E-10, 1615-LF-071E-10, 1615-LF-076E-10, 1615-LF-079E-10	7	ea.	6720 lm LINEAR LED, 4 ft, OPTICS 120°, 58W, 120V, 60Hz, c/w DP1053MTK & 90 MIN BATTERY MODULE, C-H #PLL4-UNV1-S903-TF-EM1
6	1615-LF-058-9, 1615-LF-059-9, 1615-LF-061-9, 1615-LF-062-9, 1615-LF-083-12, 1615-LF-084-12, 1615-LF-085E-8	7	ea.	7900 lm LINEAR LED, 4 ft LENGTH, OPTICS 120° 62W, 120V, 60Hz, c/w DP1052MTK KIT, CROUSE-HINDS #PLL4-UNV1-S903-TF
7	1615-LF-003-1, 1615-LF-002-1, 1615-LF-004-2, 1615-LF-005-2, 1615-LF-050-9, 1615-LF-051-9, 1615-LF-053-9, 1615-LF-054-9, 1615-LF-056-9, 1615-LF-066-11, 1615-LF-067-11, 1615-LF-069-11, 1615-LF-070-11, 1615-LF-072-11, 1615-LF-073-11, 1615-LF-074-11, 1615-LF-075-11, 1615-LF-077-11, 1615-LF-078-11, 1615-LF-080-11, 1615-LF-081-11, 1615-LF-082-12, 1615-LF-087-12, 1615-LF-088-12	24	ea.	7900 lm LINEAR LED, 4 ft LENGTH, OPTICS 120° 62W, 120V, 60Hz, c/w DP1053MTK KIT, CROUSE-HINDS #PLL4-UNV1-S903-TF
8	1615-LF-090-13, 1615-LF-091-13, 1615-LF-092-13, 1615-LF-093-13, 1615-LF-094-13, 1615-LF-095-14, 1615-LF-096-14, 1615-LF-097-14, 1615-LF-098-14, 1615-LF-099-14	10	ea.	5234 lm LED, 76W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, CEILING MOUNTING, NEMA 4X, CROUSE-HINDS #PVM1-9-2C-UNV1
9	1615-LF-034-7, 1615-LF-035-7, 1615-LF-036-7, 1615-LF-037-7, 1615-LF-038-7, 1615-LF-039-7, 1615-LF-040-7, 1615-LF-041-7, 1615-LF-042-7, 1615-LF-043-7, 1615-LF-044-7, 1615-LF-045-7	12	ea.	5234 lm LED, 76W, 120V, 60Hz, 5000K COOL, TYPE V OPTICAL, NEMA 4X, CROUSE-HINDS #PVM1-9-UNV1
10	1615-LF-025E-6, 1615-LF-027E-6, 1615-LF-028E-6, 1615-LF-029E-6, 1615-LF-030E-6, 1615-LF-031E-6, 1615-LF-032E-6, 1615-LF-033E-5, 1615-LF-046E-6, 1615-LF-048E-6	10	ea.	EMERGENCY LIGHT LED, 28W, 120V, 60Hz, 2x3W LED LAMP, 90 MIN BATTERY MODULE, CROUSE-HINDS #N2LPS12222 SS
11	1615-LF-102-15, 1615-LF-103-15, 1615-LF-104-15, 1615-LF-105-15, 1615-LF-106-15, 1615-LF-107-17, 1615-LF-108-17, 1615-LF-109-17, 1615-LF-110-17, 1615-LF-111-17, 1615-LF-187-28	11	ea.	FLOOD LIGHT, 25500 lm LED, 216W, 120V, 60Hz, 5000K COOL, YOKE MOUNTING, NEMA 4X, CROUSE-HINDS #PFMA2SLCY-UNV176
12	1615-LF-026E-6, 1615-LF-047E-6, 1615-LF-049E-6, 1615-LF-054E-8, 1615-LF-085E-8, 1615-LF-100E-8	6	ea.	LED EXIT SIGNS, 1.4W, 120V, 60Hz, SELF-POWED, SIGNAL FACE, c/w NICKEL CADMIUM BATTERY, CROUSE-HINDS #UX71SD
13	1615-SW-001-2	1	ea.	unset
14	1615-PL-001, 1615-PL-002, 1615-PL-009, 1615-PL-004, 1615-PL-005, 1615-PL-006, 1615-PL-007, 1615-PL-008, 1615-PL-009, 1615-PL-010, 1615-PL-011, 1615-PL-012, 1615-PL-015	13	ea.	V-SFRING LIGHT POLE, C-H #V65H-GC, #MHK-WG, & #JMS
17	1615-LF-085-7, 1615-LF-112-15, 1615-LF-113-17	3	ea.	WP WALL PACK LED, 6200 lm, 50W, 120V, 60Hz, 5000K COOL, NEMA 4X, COOPER WPMLED15
18	1615-RE-016-29, 1615-RE-017-29, 1615-RE-018-29, 1615-RE-019-29, 1615-RE-020-29, 1615-RE-021-29, 1615-RE-022-29, 1615-RE-023-29, 1615-RE-024-29, 1615-RE-025-29, 1615-RE-026-29, 1615-RE-027-29, 1615-RE-028-29, 1615-RE-029-29, 1615-RE-030-29, 1615-RE-031-29, 1615-RE-032-29, 1615-RE-033-29, 1615-RE-034-29, 1615-RE-035-29, 1615-RE-036-29, 1615-RE-037-29, 1615-RE-038-29, 1615-RE-039-29, 1615-RE-040-29, 1615-RE-041-29, 1615-RE-042-29, 1615-RE-043-29, 1615-RE-044-29, 1615-RE-045-29, 1615-RE-046-29, 1615-RE-047-29, 1615-RE-048-29, 1615-RE-049-29, 1615-RE-050-29, 1615-RE-051-29, 1615-RE-052-29, 1615-RE-053-29, 1615-RE-054-29, 1615-RE-055-29, 1615-RE-056-29, 1615-RE-057-29, 1615-RE-058-29, 1615-RE-059-29, 1615-RE-060-29, 1615-RE-061-29, 1615-RE-062-29, 1615-RE-063-29, 1615-RE-064-29, 1615-RE-065-29, 1615-RE-066-29, 1615-RE-067-29, 1615-RE-068-29, 1615-RE-069-29, 1615-RE-070-29, 1615-RE-071-29, 1615-RE-072-29, 1615-RE-073-29, 1615-RE-074-29, 1615-RE-075-29, 1615-RE-076-29, 1615-RE-077-29, 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HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TAYMAC MX3200

DRAFT

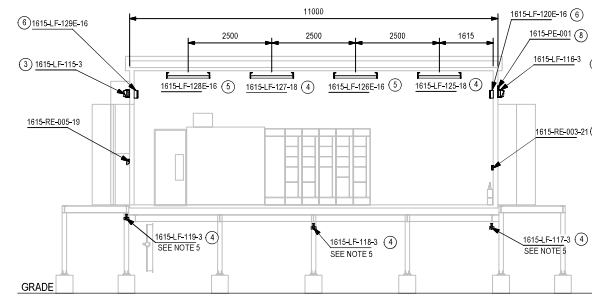
										A1 SHEET SCALE	1:100	ENGINEERING AND PERMIT STAMPS (As Required)	CUSTOMER	DRG TITLE	LYNN LAKE GOLD PROJECT MACLELLAN SITE FINE ORE BIN LIGHTING COMPLETE BILL OF MATERIALS
														DRG No: LLGP-1615-EL-DAL-0034 REV: C	
C	16 May 24	ISSUED FOR IIR/ICR	AW	FO	SH	ES	YM	LLGP-1615-EL-DAL-0031	FINE ORE BIN LIGHTING LAYOUTS AND BILL OF MATERIALS						
B	8 Nov 2023	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM	LLGP-1615-EL-DAL-0033	FINE ORE BIN LIGHTING SECTION AND BILL OF MATERIAL						
A	16.10.2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM	LLGP-1615-EL-DAL-0051	FINE ORE BIN LIGHTING SECTION AND BILL OF MATERIAL						
A	16.10.2023	ISSUED FOR INTERNAL REVIEW	AW	FO	SH	ES	YM	LLGP-1615-EL-DAL-0051	FINE ORE BIN LIGHTING SECTION AND BILL OF MATERIAL						
REV	DATE	DESCRIPTION	DRAWN	DRAFT	CHK	DESIGNED	ENG	CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE	WORLDWIDE PROJECT No:	317045-00108	

USER NAME: dm...
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 SAVE DATE & TIME

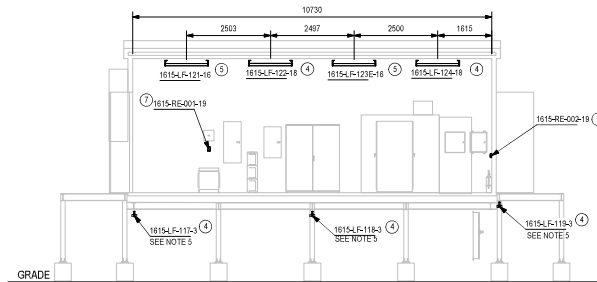


PLAN VIEW UNDER E-ROOM
1:75

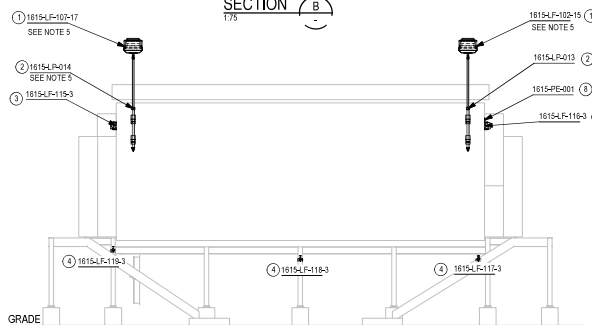
PLAN VIEW E-ROOM
1:75



SECTION A
1:75



SECTION B
1:75



SECTION C
1:75

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SHOWN OTHERWISE.
- THE LOCATION OF LIGHT FIXTURES AND RECEPTACLES IN THIS DRAWING ARE PRELIMINARY ONLY. THE ACTUAL LOCATION DEPENDS ON THE E-ROOM VENDOR AND SHALL BE DETERMINED AT THE TIME OF INSTALLATION.
- THE LIGHTING FIXTURE & RECEPTACLE TAG NUMBER: AAAA-BB-CCXX-Y
AAAA AREA NUMBER
BB- LF- LIGHTING FIXTURE
LF- LIGHTING POLE
RE- RECEPTACLE
PE- PHOTOCELL
CCXX- COC- SEQUENCE NUMBER (001-499)
X- BLANK STANDARD LIGHTING FIXTURE
E- INTEGRATED EMERGENCY BATTERY BACK-UP
Y- CIRCUIT NUMBER OF LIGHTING PANEL.
- ALL MATERIAL PART NUMBERS CAN BE SUBSTITUTED WITH APPROVED EQUIPMENT.
- LIGHT FIXTURES ARE NOT PART OF E-ROOM VENDOR PACKAGE AND WILL BE SUPPLIED AND INSTALLED AT SITE BY ELECTRICAL CONTRACTOR.

ITEM	TAG NUMBER	QTY.	DESCRIPTION
1	1615-LF-102-15, 1615-LF-107-17	2	FLOODLIGHT, 25000 LUMEN LED, 218W, 120VAC, 60Hz, 5000K COOL WHITE LIGHT, YOKE MOUNTING, NEMA-4X, CROUSE-HINDS CHAMP PRO #PFM2R2LCY-UNV1-75
2	1615-LP-013, 1615-LP-014	2	V-SPRING LIGHT POLE, C-H FVSH-GL, #8X#K #80, & #LMB-FL-40
3	1615-LF-115-3, 1615-LF-116-3	2	W/ WALL PACK LED, 4000 LUMEN, 60W, 120V, 60Hz, 5000K COOL, NEMA 4X, DOOPER WPALED15
4	1615-LF-121-16, 1615-LF-122-18, 1615-LF-123-18, 1615-LF-124-18, 1615-LF-125-18, 1615-LF-126-18, 1615-LF-127-18	6	720mm LINEAR LED, 4 ft, OPTICS 120°, 50W, 120V, 60Hz, c/w DP1003M1K X1, CROUSE-HINDS #PL4-UNV1-5083-37
5	1615-LF-121-16, 1615-LF-122-18, 1615-LF-125-18, 1615-LF-126-18	4	720mm LINEAR LED, 4 ft, OPTICS 120°, 50W, 120V, 60Hz, c/w DP1003M1K X 90 WH BATTERY MODULE, CROUSE-HINDS #PL4-UNV1-5083-37-EM1
6	1615-LF-120E-16, 1615-120E-16	2	EXIT SIGN, 1.4W, 120V, 60Hz, SELF-POWERED, SIGNAL FACE, c/w NICKEL ALUMINUM BATTERY, CROUSE-HINDS #J071SD
7	1615-RE-001-19, 1615-RE-002-19, 1615-RE-003-21	4	3-GANG RECEPTACLE, 20A, 120V, 60Hz
8	1615-PE-001	1	PHOTOCELL, 3 SA, 120V/60Hz, CROUSE-HINDS #025D

DRAFT

REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	14.3.24	RE-ASSUED FOR IIR/ICR	AW	FO	SH	ES	YM		LLGP-1615-EL-DAL-0210	FINE ORE BIN AREA E-ROOM 1615ER-001 CABLE TRAY LAYOUT
A	15.11.23	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM		LLGP-1615-EL-DAL-0200	FINE ORE BIN AREA E-ROOM 1615ER-001 EQUIPMENT LAYOUT
									LLGP-1615-EL-DAL-0001	FINE ORE BIN PANEL SCHEDULE & WIRING DIAGRAM
									LLGP-1615-EL-DAL-0051	FINE ORE BIN GROUNDING LAYOUT
									LLGP-1615-EL-DAL-0012	FINE ORE BIN CABLE TRAY SECTIONS
									LLGP-1615-EL-DAL-0011	FINE ORE BIN CABLE TRAY LAYOUT

A1 SHEET SCALE 1:75

WORLEY PROJECT No: 317045-00108

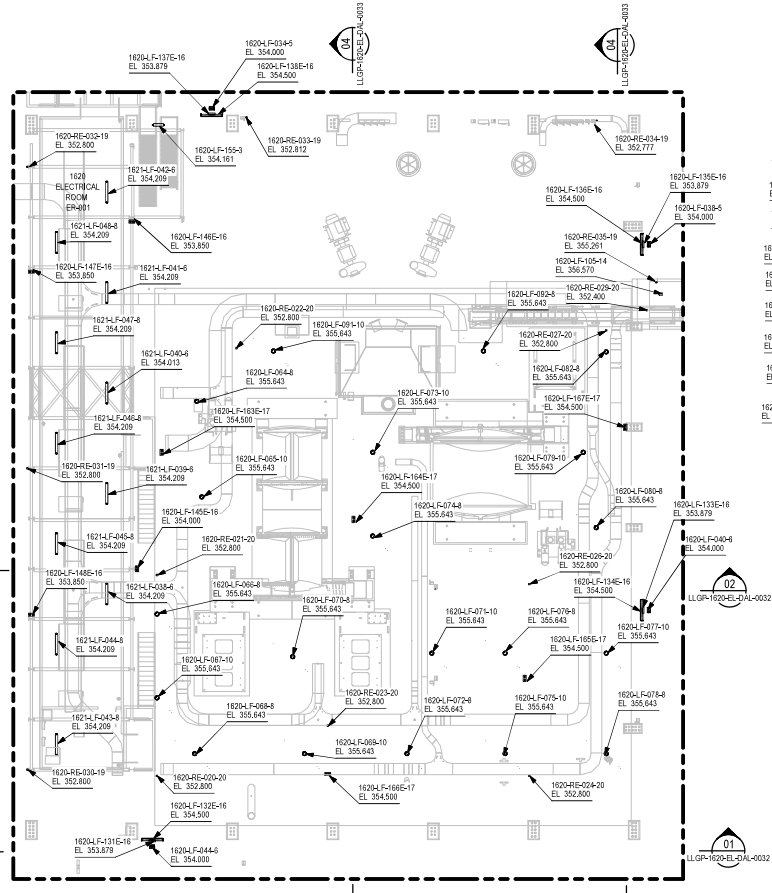
ENGINEERING AND PERMIT STAMPS (As Required)

CUSTOMER

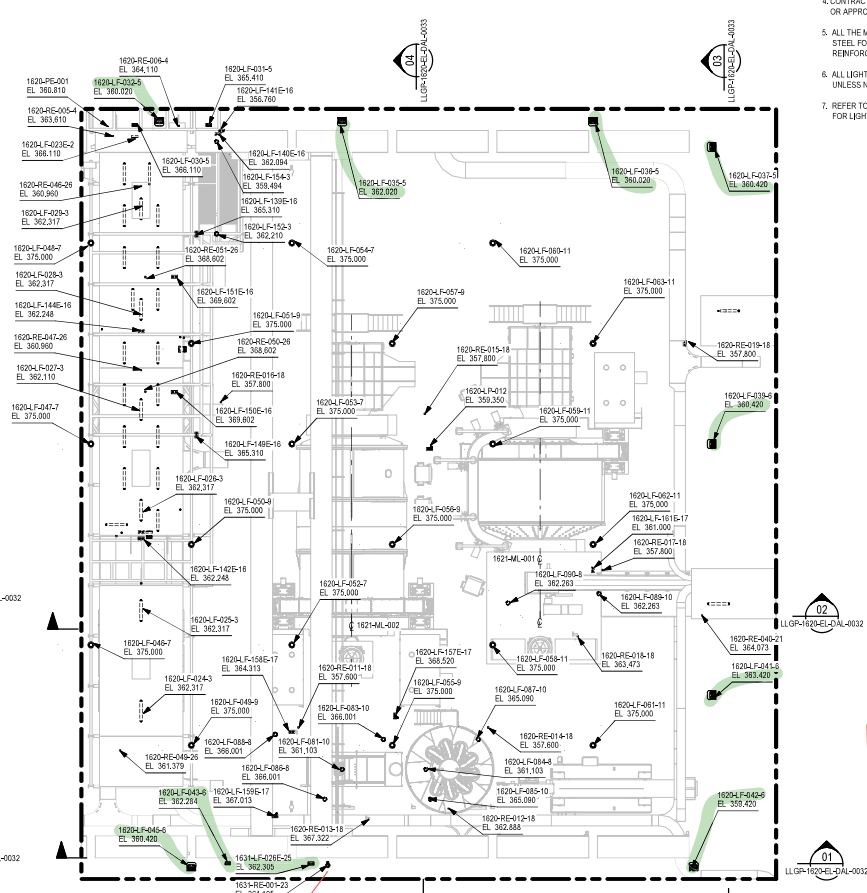
DRG TITLE
LYNN LAKE GOLD PROJECT
MACLELLAN SITE
FINE ORE BIN AREA
ELECTRICAL ROOM 1615-ER-001
LIGHTING LAYOUT

DRG No
LLGP-1615-EL-DAL-0220

REV
B



PLAN VIEW LOWER LEVEL
1:150



PLAN VIEW UPPER LEVEL
1:150
1631-LF-001-22 IS MISSING

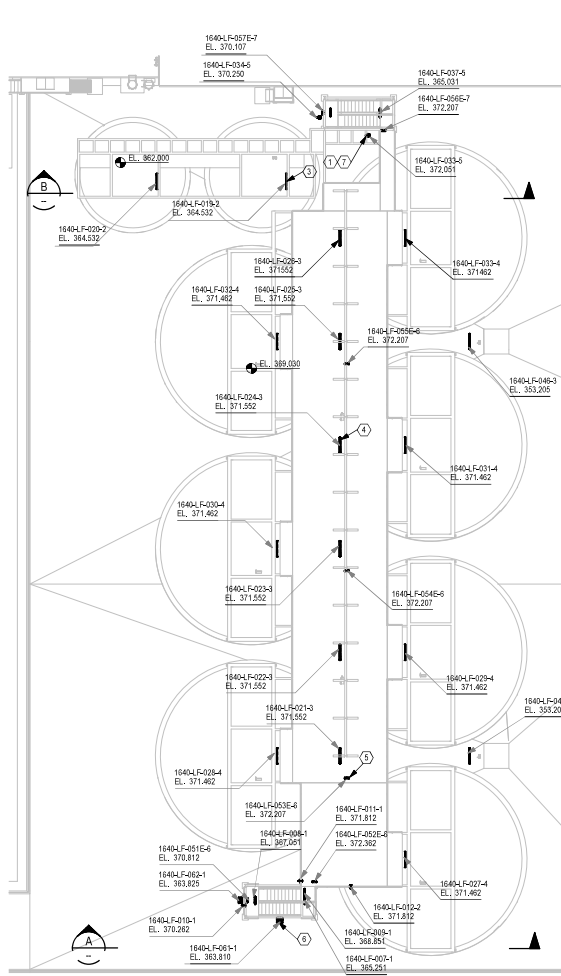
NOTES:

1. FOR STANDARD NOTES SEE DRAWING LLGP-0000-EL-001-010 THRU 013.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
3. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
4. CONTRACTOR MAY USE MANUFACTURER PART NUMBERS SPECIFIED ON THE DRAWING OR APPROVED EQUAL.
5. ALL THE MATERIALS FOR THE OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENTS AND 316L STAINLESS STEEL OR FIBER REINFORCED POLYESTER FOR CORROSIVE AREAS.
6. ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.
7. REFER TO DRAWING LLGP-EL-DAL-0032, GRINDING MILL AREA LIGHTING SECTIONS FOR LIGHTING BILL OF MATERIALS.

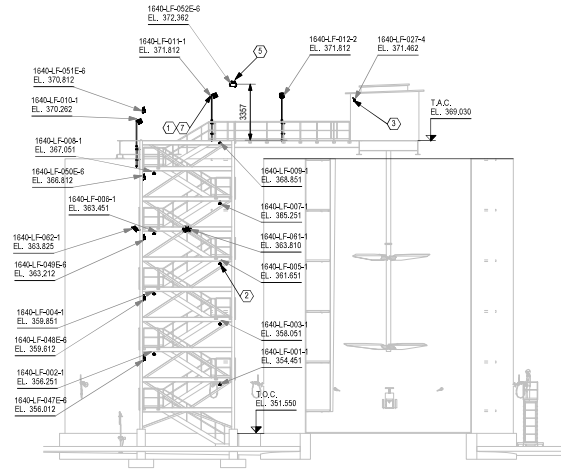
DRAFT



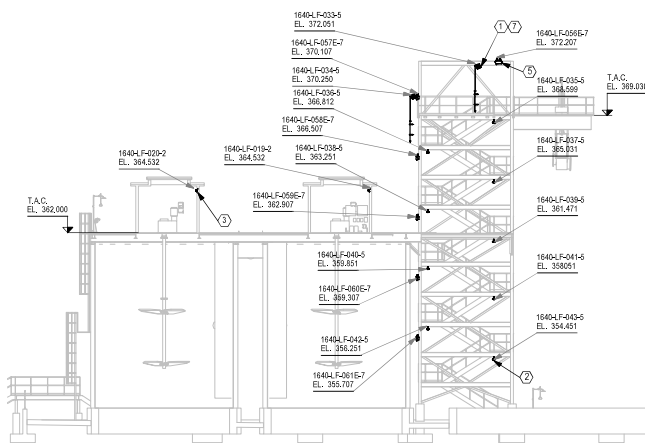
										A1 SHEET SCALE 1:150		ENGINEERING AND PERMIT STAMPS (As Required)		CUSTOMER		DRG TITLE																																
														LYNN LAKE GOLD PROJECT MACLELLAN SITE GRINDING MILL AREA LIGHTING LAYOUT		DRG No																																
																317045-00108		LLGP-1620-EL-DAL-0031		REV B																												
<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRAWN</th> <th>DRAFT CHK</th> <th>DESIGNED</th> <th>ENG CHK</th> <th>APPROVED</th> <th>CUSTOMER</th> <th>REF DRAWING No</th> <th>REFERENCE DRAWING TITLE</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>23 May 24</td> <td>REISSUED FOR IIR/ICR</td> <td>AW</td> <td>FO</td> <td>SH</td> <td>ES</td> <td>YM</td> <td></td> <td>LLGP-1620-EL-DAL-0033</td> <td>GRINDING MILL LIGHTING SECTIONS</td> </tr> <tr> <td>A</td> <td>26.11.2023</td> <td>ISSUED FOR IIR AND ICR</td> <td>AW</td> <td>FO</td> <td>SH</td> <td>ES</td> <td>YM</td> <td></td> <td>LLGP-1600-AME-DK-N-0001</td> <td>PROCESS PLANT & SERVICES - KEY PLAN & DRAWING INDEX</td> </tr> </tbody> </table>										REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE	B	23 May 24	REISSUED FOR IIR/ICR	AW	FO	SH	ES	YM		LLGP-1620-EL-DAL-0033	GRINDING MILL LIGHTING SECTIONS	A	26.11.2023	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM		LLGP-1600-AME-DK-N-0001	PROCESS PLANT & SERVICES - KEY PLAN & DRAWING INDEX						
REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE																																						
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A	26.11.2023	ISSUED FOR IIR AND ICR	AW	FO	SH	ES	YM		LLGP-1600-AME-DK-N-0001	PROCESS PLANT & SERVICES - KEY PLAN & DRAWING INDEX																																						



LIGHTING LAYOUT PLAN VIEW
SCALE 1:200



SECTION A-A
1:150



SECTION B-B
1:150

- NOTES:**
- FOR STANDARD NOTES SEE DRAWING LLGP-1641-EL-DAL-001 & 002.
 - ALL DIMENSIONS SHALL BE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNDO.
 - ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2021 EDITION.
 - CONTRACTOR MAY USE MANUFACTURER AND PART NUMBER SPECIFIED ON DRAWINGS OR AN APPROVED EQUAL.
 - ALL THE MATERIALS FOR THE OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER-REINFORCED POLYESTER FOR CORROSIVE AREAS.
 - ALL LIGHTING ELEVATIONS ARE REFERENCE, REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.
 - FOR LIGHTING CONTROL PANEL, SEE DRAWING LLGP-1641-EL-DAL-001.

LIGHTING BILL OF MATERIAL				
ITEM	TAG NUMBER	QTY	DESCRIPTION	NOTES
1	1640-LF-010-1; 1640-F-011-1 1640-LF-012-2; 1640-F-003-5 1640-LF-034-5	5	3250 lm LED, 28W, 120V, 60Hz, 5000K COOL, TYPE Y OPTICAL, NEMA 4X, CROUSE-HINDS #FV1ML-3-UNV1	
2	1640-LF-001-1; 1640-F-002-1 1640-LF-003-1; 1640-F-004-1 1640-LF-005-1; 1640-F-006-1 1640-LF-007-1; 1640-F-008-1 1640-LF-009-1; 1640-F-005-5 1640-LF-036-5; 1640-F-007-5 1640-LF-038-5; 1640-F-009-5 1640-LF-040-5; 1640-F-041-5 1640-LF-042-5	18	3658 lm LINEAR LED, 2 # LENGTH OPTICS 120° 32W, 120V, 60Hz, c/w DP1033MTK KIT, CROUSE-HINDS #P4LL-UNV1-S9G3-TF	
3	1640-LF-016-2; 1640-F-002-2 1640-LF-027-4; 1640-F-020-4 1640-LF-029-4; 1640-F-000-4 1640-LF-031-4; 1640-F-002-4 1640-LF-033-4	9	8720 lm LINEAR LED, 4 # OPTICS 120°, 58W/120V, 60Hz, c/w DF1052MTK & 90 MIN BATTERY MODULE, CH #P4LL-UNV1-S9G3-TF-EM1	
4	1640-LF-021-3; 1640-F-022-3 1640-LF-023-3; 1640-F-024-3 1640-LF-025-3; 1640-F-026-3 1640-LF-045-5; 1640-F-049-3 1640-LF-047E-5; 1640-LF-048E-5 1640-LF-049E-5; 1640-LF-050E-5 1640-LF-051E-5; 1640-LF-052E-5 1640-LF-053E-5; 1640-LF-054E-5 1640-LF-055E-5; 1640-LF-056E-7 1640-LF-057E-7; 1640-LF-058E-7 1640-LF-059E-7; 1640-LF-059E-7 1640-LF-081E-7	8	7900 lm LINEAR LED, 4 # LENGTH OPTICS 120° 52W, 120V, 60Hz, c/w DP1033MTK KIT, CROUSE-HINDS #P4LL-UNV1-S9G3-TF	
5	1640-LF-001E-6; 1640-LF-002E-6 1640-LF-003E-6; 1640-LF-004E-6 1640-LF-005E-6; 1640-LF-006E-6 1640-LF-007E-6; 1640-LF-008E-6 1640-LF-009E-6; 1640-LF-010E-6 1640-LF-011E-6; 1640-LF-012E-6 1640-LF-013E-6; 1640-LF-014E-6 1640-LF-015E-6; 1640-LF-016E-6 1640-LF-017E-6; 1640-LF-018E-6 1640-LF-019E-6; 1640-LF-020E-6 1640-LF-021E-6; 1640-LF-022E-6 1640-LF-023E-6; 1640-LF-024E-6 1640-LF-025E-6; 1640-LF-026E-6 1640-LF-027E-6; 1640-LF-028E-6 1640-LF-029E-6; 1640-LF-030E-6 1640-LF-031E-6; 1640-LF-032E-6 1640-LF-033E-6; 1640-LF-034E-6 1640-LF-035E-6; 1640-LF-036E-6 1640-LF-037E-6; 1640-LF-038E-6 1640-LF-039E-6; 1640-LF-040E-6 1640-LF-041E-6; 1640-LF-042E-6 1640-LF-043E-6; 1640-LF-044E-6 1640-LF-045E-6; 1640-LF-046E-6 1640-LF-047E-6; 1640-LF-048E-6 1640-LF-049E-6; 1640-LF-050E-6 1640-LF-051E-6; 1640-LF-052E-6 1640-LF-053E-6; 1640-LF-054E-6 1640-LF-055E-6; 1640-LF-056E-6 1640-LF-057E-6; 1640-LF-058E-6 1640-LF-059E-6; 1640-LF-060E-6 1640-LF-061E-6; 1640-LF-062E-6 1640-LF-063E-6; 1640-LF-064E-6 1640-LF-065E-6; 1640-LF-066E-6 1640-LF-067E-6; 1640-LF-068E-6 1640-LF-069E-6; 1640-LF-070E-6 1640-LF-071E-6; 1640-LF-072E-6 1640-LF-073E-6; 1640-LF-074E-6 1640-LF-075E-6; 1640-LF-076E-6 1640-LF-077E-6; 1640-LF-078E-6 1640-LF-079E-6; 1640-LF-080E-6 1640-LF-081E-6; 1640-LF-082E-6 1640-LF-083E-6; 1640-LF-084E-6 1640-LF-085E-6; 1640-LF-086E-6 1640-LF-087E-6; 1640-LF-088E-6 1640-LF-089E-6; 1640-LF-090E-6 1640-LF-091E-6; 1640-LF-092E-6 1640-LF-093E-6; 1640-LF-094E-6 1640-LF-095E-6; 1640-LF-096E-6 1640-LF-097E-6; 1640-LF-098E-6 1640-LF-099E-6; 1640-LF-100E-6	15	EMERGENCY LIGHT LED, 28W, 130V, 60Hz, 3x3W LED LAMP, 90 MIN BATTERY MODULE, CROUSE-HINDS #N2LFS12222 SS	
6	1640-LF-081-1; 1640-F-082-1	2	FLOODLIGHT, 25500 lm LED, 216W, 120V, 60Hz, 5000K COOL, YOKE MOUNTING, NEMA 4X, CROUSE-HINDS #PFM25-CY-LIN/176	
7	1640-LF-001; 1640-LF-010; 1640-LF-011	5	V-SPRING LIGHT POLE, CH #V8SH-C, #MHKRTG, & #JMS	

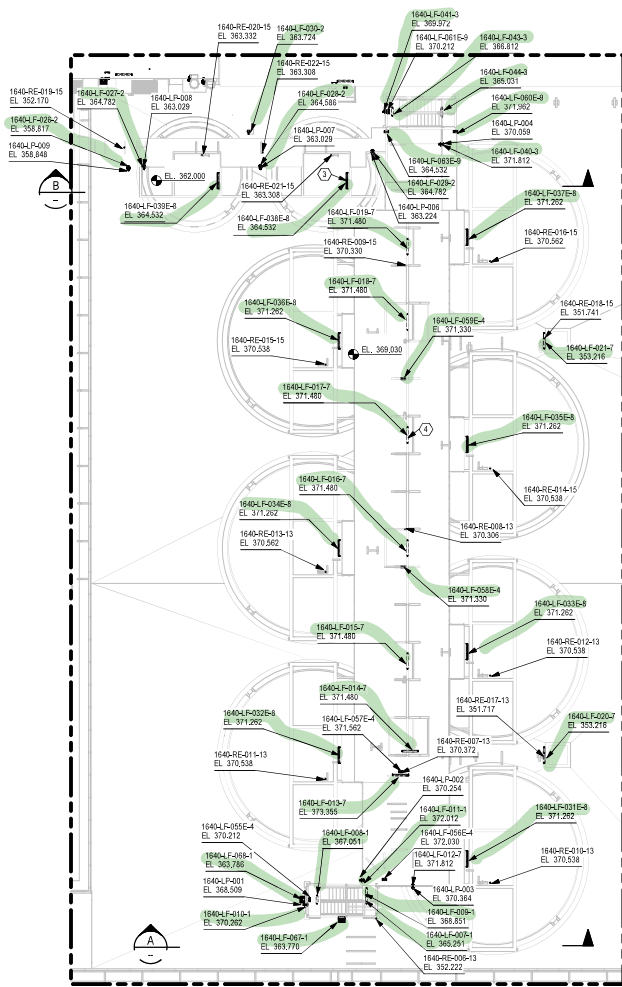
DRAFT



				DRG TITLE: LYNN LAKE GOLD PROJECT MACLELLAN SITE LEACHING TANKS LIGHTING LAYOUT	
WORLEY PROJECT No.: 317045-00108		DRG No: LLGP-1642-EL-DAL-0031		REV: A	

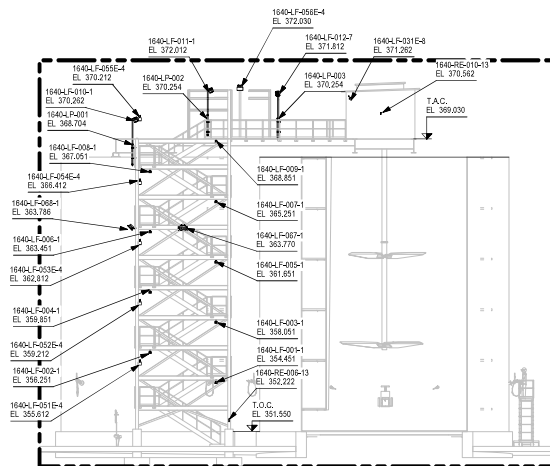
REV	DATE	ISSUED FOR INTERNAL REVIEW	REVISION DESCRIPTION	DRAWN	CHECK	DESIGN	ENG CHK	APPROVE	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
A	26.06.2023	ISSUED FOR INTERNAL REVIEW		RM							

USER NAME: rasmilmm
 FILE NAME: 1642-EL-DAL-0031.dwg
 SAVE DATE & TIME: 27/06/2023 10:27:54

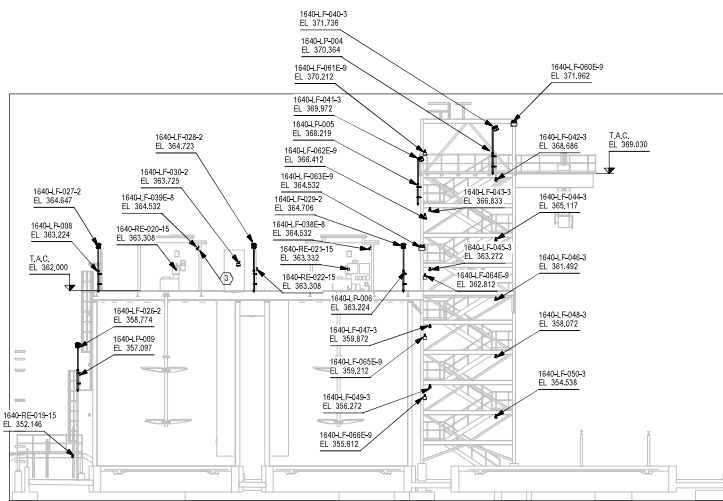


LIGHTING LAYOUT PLAN VIEW

1:200



SECTION A
1:150



SECTION B
1:150

NOTES:

1. FOR STANDARD NOTES SEE DRAWING LLGP-039-EL-03-001 & 002.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
3. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC), PART 1, 2024 EDITION.
4. CONTRACTOR MAY USE MANUFACTURER AND PART NUMBERS SPECIFIED ON DRAWINGS OR AN APPROVED EQUAL.
5. ALL MATERIALS FOR THE OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER-REINFORCED POLYESTER FOR CORROSIVE AREAS.
6. ALL LIGHTING ELEVATIONS ARE REFERENCE, REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.
7. FOR LIGHTING CONTROL PANEL, SEE DRAWING LLGP-164-EL-ST-001.

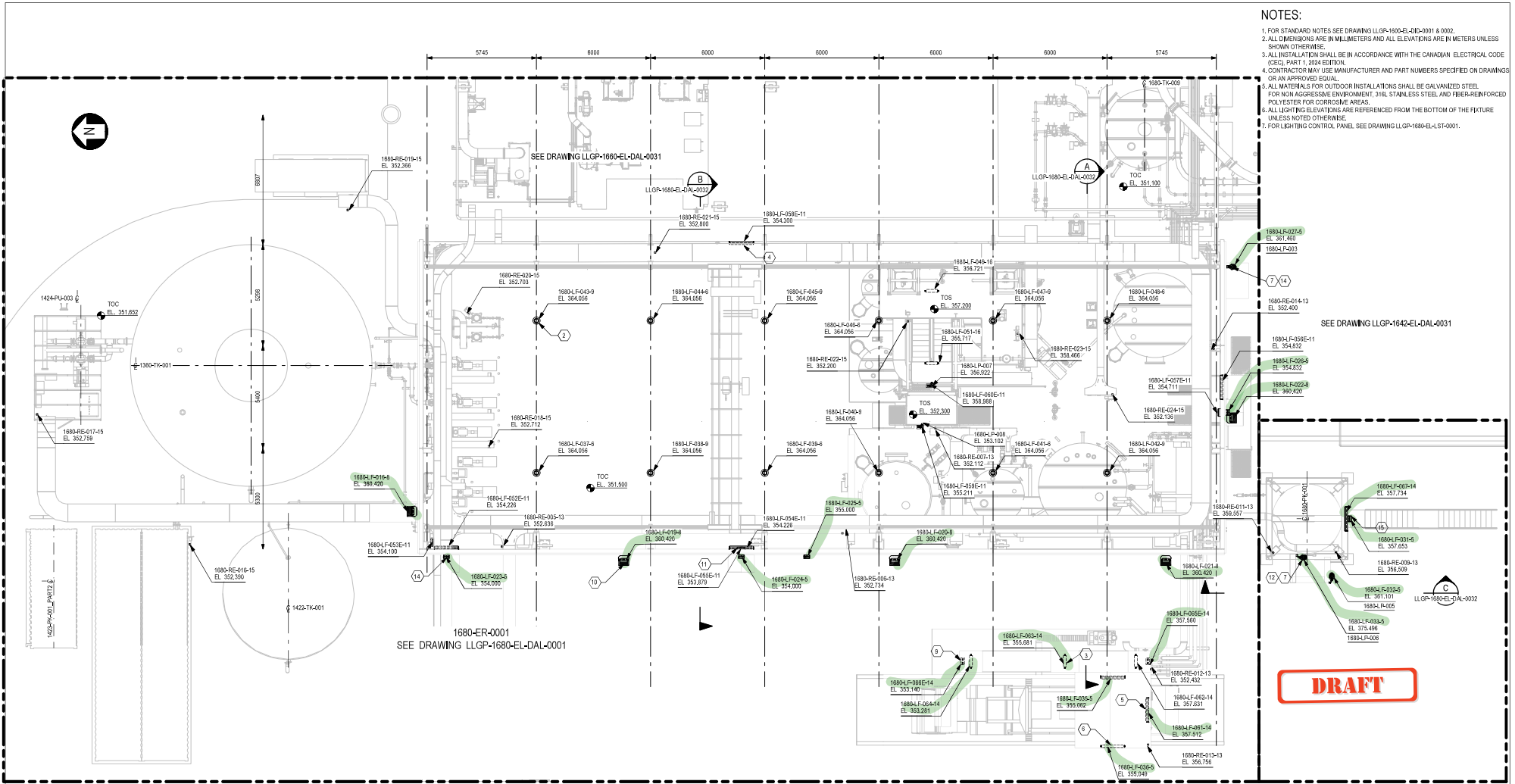
LIGHTING BILL OF MATERIAL

ITEM	TAG NUMBER	QTY	DESCRIPTION
1	1640-LF-015-1, 1640-LF-011-1, 1640-LF-012-7, 1640-LF-028-2, 1640-LF-029-2, 1640-LF-040-3, 1640-LF-041-3, 1640-LF-042-3, 1640-LF-043-3, 1640-LF-043-3, 1640-LF-044-3	10	3250 lm LED, 28W, 120V, 60Hz, 5000K COOL, TYPE V, NEMA 4X, CROUSE-HINDS #FVMI-3UNV1
2	1640-LF-001-1, 1640-LF-002-1, 1640-LF-003-1, 1640-LF-004-1, 1640-LF-005-1, 1640-LF-006-1, 1640-LF-007-1, 1640-LF-008-1, 1640-LF-009-1, 1640-LF-010-1, 1640-LF-011-1, 1640-LF-012-1, 1640-LF-013-1, 1640-LF-014-1, 1640-LF-015-1, 1640-LF-016-1, 1640-LF-017-1, 1640-LF-018-1, 1640-LF-019-1, 1640-LF-020-1, 1640-LF-021-1, 1640-LF-022-1, 1640-LF-023-1, 1640-LF-024-1, 1640-LF-025-1, 1640-LF-026-1, 1640-LF-027-1, 1640-LF-028-1, 1640-LF-029-1, 1640-LF-030-1, 1640-LF-031-1, 1640-LF-032-1, 1640-LF-033-1, 1640-LF-034-1, 1640-LF-035-1, 1640-LF-036-1, 1640-LF-037-1, 1640-LF-038-1, 1640-LF-039-1, 1640-LF-040-1, 1640-LF-041-1, 1640-LF-042-1, 1640-LF-043-1, 1640-LF-044-1, 1640-LF-045-1, 1640-LF-046-1, 1640-LF-047-1, 1640-LF-048-1, 1640-LF-049-1, 1640-LF-050-1, 1640-LF-051-1, 1640-LF-052-1, 1640-LF-053-1, 1640-LF-054-1, 1640-LF-055-1, 1640-LF-056-1, 1640-LF-057-1, 1640-LF-058-1, 1640-LF-059-1, 1640-LF-060-1, 1640-LF-061-1, 1640-LF-062-1, 1640-LF-063-1, 1640-LF-064-1, 1640-LF-065-1, 1640-LF-066-1, 1640-LF-067-1, 1640-LF-068-1, 1640-LF-069-1, 1640-LF-070-1, 1640-LF-071-1, 1640-LF-072-1, 1640-LF-073-1, 1640-LF-074-1, 1640-LF-075-1, 1640-LF-076-1, 1640-LF-077-1, 1640-LF-078-1, 1640-LF-079-1, 1640-LF-080-1, 1640-LF-081-1, 1640-LF-082-1, 1640-LF-083-1, 1640-LF-084-1, 1640-LF-085-1, 1640-LF-086-1, 1640-LF-087-1, 1640-LF-088-1, 1640-LF-089-1, 1640-LF-090-1, 1640-LF-091-1, 1640-LF-092-1, 1640-LF-093-1, 1640-LF-094-1, 1640-LF-095-1, 1640-LF-096-1, 1640-LF-097-1, 1640-LF-098-1, 1640-LF-099-1, 1640-LF-100-1	20	3958 lm LINEAR LED, 2 FT LENGTH, OPTICS 120° 32W, 120V, 60Hz, c/w DP1053MTK KIT, CROUSE-HINDS #PFL2-UNV1-S903-TF
3	1640-LF-019-2, 1640-LF-020-2, 1640-LF-021-2, 1640-LF-022-2, 1640-LF-023-2, 1640-LF-024-2, 1640-LF-025-2, 1640-LF-026-2, 1640-LF-027-2, 1640-LF-028-2, 1640-LF-029-2, 1640-LF-030-2, 1640-LF-031-2, 1640-LF-032-2, 1640-LF-033-2, 1640-LF-034-2, 1640-LF-035-2, 1640-LF-036-2, 1640-LF-037-2, 1640-LF-038-2, 1640-LF-039-2, 1640-LF-040-2, 1640-LF-041-2, 1640-LF-042-2, 1640-LF-043-2, 1640-LF-044-2, 1640-LF-045-2, 1640-LF-046-2, 1640-LF-047-2, 1640-LF-048-2, 1640-LF-049-2, 1640-LF-050-2, 1640-LF-051-2, 1640-LF-052-2, 1640-LF-053-2, 1640-LF-054-2, 1640-LF-055-2, 1640-LF-056-2, 1640-LF-057-2, 1640-LF-058-2, 1640-LF-059-2, 1640-LF-060-2, 1640-LF-061-2, 1640-LF-062-2, 1640-LF-063-2, 1640-LF-064-2, 1640-LF-065-2, 1640-LF-066-2, 1640-LF-067-2, 1640-LF-068-2, 1640-LF-069-2, 1640-LF-070-2, 1640-LF-071-2, 1640-LF-072-2, 1640-LF-073-2, 1640-LF-074-2, 1640-LF-075-2, 1640-LF-076-2, 1640-LF-077-2, 1640-LF-078-2, 1640-LF-079-2, 1640-LF-080-2, 1640-LF-081-2, 1640-LF-082-2, 1640-LF-083-2, 1640-LF-084-2, 1640-LF-085-2, 1640-LF-086-2, 1640-LF-087-2, 1640-LF-088-2, 1640-LF-089-2, 1640-LF-090-2, 1640-LF-091-2, 1640-LF-092-2, 1640-LF-093-2, 1640-LF-094-2, 1640-LF-095-2, 1640-LF-096-2, 1640-LF-097-2, 1640-LF-098-2, 1640-LF-099-2, 1640-LF-100-2	15	5720 lm LINEAR LED, 4 FT, OPTICS 120° 58W, 120V, 60Hz, c/w DP1053MTK & 90 MIN BATTERY MODULE, C-H #PFL4-UNV1-S903-TF-EM
4	1640-LF-013, 1640-LF-014, 1640-LF-015, 1640-LF-016, 1640-LF-017, 1640-LF-018, 1640-LF-019, 1640-LF-020, 1640-LF-021, 1640-LF-022, 1640-LF-023, 1640-LF-024, 1640-LF-025, 1640-LF-026, 1640-LF-027, 1640-LF-028, 1640-LF-029, 1640-LF-030, 1640-LF-031, 1640-LF-032, 1640-LF-033, 1640-LF-034, 1640-LF-035, 1640-LF-036, 1640-LF-037, 1640-LF-038, 1640-LF-039, 1640-LF-040, 1640-LF-041, 1640-LF-042, 1640-LF-043, 1640-LF-044, 1640-LF-045, 1640-LF-046, 1640-LF-047, 1640-LF-048, 1640-LF-049, 1640-LF-050, 1640-LF-051, 1640-LF-052, 1640-LF-053, 1640-LF-054, 1640-LF-055, 1640-LF-056, 1640-LF-057, 1640-LF-058, 1640-LF-059, 1640-LF-060, 1640-LF-061, 1640-LF-062, 1640-LF-063, 1640-LF-064, 1640-LF-065, 1640-LF-066, 1640-LF-067, 1640-LF-068, 1640-LF-069, 1640-LF-070, 1640-LF-071, 1640-LF-072, 1640-LF-073, 1640-LF-074, 1640-LF-075, 1640-LF-076, 1640-LF-077, 1640-LF-078, 1640-LF-079, 1640-LF-080, 1640-LF-081, 1640-LF-082, 1640-LF-083, 1640-LF-084, 1640-LF-085, 1640-LF-086, 1640-LF-087, 1640-LF-088, 1640-LF-089, 1640-LF-090, 1640-LF-091, 1640-LF-092, 1640-LF-093, 1640-LF-094, 1640-LF-095, 1640-LF-096, 1640-LF-097, 1640-LF-098, 1640-LF-099, 1640-LF-100	7600	7600 lm LINEAR LED, 4 FT LENGTH, OPTICS 120° 62W, 120V, 60Hz, c/w DP1053MTK KIT, CROUSE-HINDS #PFL4-UNV1-S903-TF
5	1640-LF-016-4, 1640-LF-017-4, 1640-LF-018-4, 1640-LF-019-4, 1640-LF-020-4, 1640-LF-021-4, 1640-LF-022-4, 1640-LF-023-4, 1640-LF-024-4, 1640-LF-025-4, 1640-LF-026-4, 1640-LF-027-4, 1640-LF-028-4, 1640-LF-029-4, 1640-LF-030-4, 1640-LF-031-4, 1640-LF-032-4, 1640-LF-033-4, 1640-LF-034-4, 1640-LF-035-4, 1640-LF-036-4, 1640-LF-037-4, 1640-LF-038-4, 1640-LF-039-4, 1640-LF-040-4, 1640-LF-041-4, 1640-LF-042-4, 1640-LF-043-4, 1640-LF-044-4, 1640-LF-045-4, 1640-LF-046-4, 1640-LF-047-4, 1640-LF-048-4, 1640-LF-049-4, 1640-LF-050-4, 1640-LF-051-4, 1640-LF-052-4, 1640-LF-053-4, 1640-LF-054-4, 1640-LF-055-4, 1640-LF-056-4, 1640-LF-057-4, 1640-LF-058-4, 1640-LF-059-4, 1640-LF-060-4, 1640-LF-061-4, 1640-LF-062-4, 1640-LF-063-4, 1640-LF-064-4, 1640-LF-065-4, 1640-LF-066-4, 1640-LF-067-4, 1640-LF-068-4, 1640-LF-069-4, 1640-LF-070-4, 1640-LF-071-4, 1640-LF-072-4, 1640-LF-073-4, 1640-LF-074-4, 1640-LF-075-4, 1640-LF-076-4, 1640-LF-077-4, 1640-LF-078-4, 1640-LF-079-4, 1640-LF-080-4, 1640-LF-081-4, 1640-LF-082-4, 1640-LF-083-4, 1640-LF-084-4, 1640-LF-085-4, 1640-LF-086-4, 1640-LF-087-4, 1640-LF-088-4, 1640-LF-089-4, 1640-LF-090-4, 1640-LF-091-4, 1640-LF-092-4, 1640-LF-093-4, 1640-LF-094-4, 1640-LF-095-4, 1640-LF-096-4, 1640-LF-097-4, 1640-LF-098-4, 1640-LF-099-4, 1640-LF-100-4	17	EMERGENCY LIGHT LED, 28W, 120V, 60Hz, 2x3W LED LAMP, 90 MIN BATTERY MODULE, CROUSE-HINDS #N2LPS12222 SS
6	1640-LF-001, 1640-LF-002, 1640-LF-003, 1640-LF-004, 1640-LF-005, 1640-LF-006, 1640-LF-007, 1640-LF-008, 1640-LF-009, 1640-LF-010, 1640-LF-011, 1640-LF-012, 1640-LF-013, 1640-LF-014, 1640-LF-015, 1640-LF-016, 1640-LF-017, 1640-LF-018, 1640-LF-019, 1640-LF-020, 1640-LF-021, 1640-LF-022, 1640-LF-023, 1640-LF-024, 1640-LF-025, 1640-LF-026, 1640-LF-027, 1640-LF-028, 1640-LF-029, 1640-LF-030, 1640-LF-031, 1640-LF-032, 1640-LF-033, 1640-LF-034, 1640-LF-035, 1640-LF-036, 1640-LF-037, 1640-LF-038, 1640-LF-039, 1640-LF-040, 1640-LF-041, 1640-LF-042, 1640-LF-043, 1640-LF-044, 1640-LF-045, 1640-LF-046, 1640-LF-047, 1640-LF-048, 1640-LF-049, 1640-LF-050, 1640-LF-051, 1640-LF-052, 1640-LF-053, 1640-LF-054, 1640-LF-055, 1640-LF-056, 1640-LF-057, 1640-LF-058, 1640-LF-059, 1640-LF-060, 1640-LF-061, 1640-LF-062, 1640-LF-063, 1640-LF-064, 1640-LF-065, 1640-LF-066, 1640-LF-067, 1640-LF-068, 1640-LF-069, 1640-LF-070, 1640-LF-071, 1640-LF-072, 1640-LF-073, 1640-LF-074, 1640-LF-075, 1640-LF-076, 1640-LF-077, 1640-LF-078, 1640-LF-079, 1640-LF-080, 1640-LF-081, 1640-LF-082, 1640-LF-083, 1640-LF-084, 1640-LF-085, 1640-LF-086, 1640-LF-087, 1640-LF-088, 1640-LF-089, 1640-LF-090, 1640-LF-091, 1640-LF-092, 1640-LF-093, 1640-LF-094, 1640-LF-095, 1640-LF-096, 1640-LF-097, 1640-LF-098, 1640-LF-099, 1640-LF-100	2	FLOODLIGHT, 2x6000 lm LED, 216W, 120V, 60Hz, 5000K COOL, YOKO MOUNTING, NEMA 4X, CROUSE-HINDS #H2LPS12222 SS
7	1640-LP-001, 1640-LP-002, 1640-LP-003, 1640-LP-004, 1640-LP-005, 1640-LP-006, 1640-LP-007, 1640-LP-008, 1640-LP-009	8	V-SPRING LIGHT POLE, C-H #V05H-3, #8WxR-RTG, & #JM5
8	1640-RE-006-13, 1640-RE-007-13, 1640-RE-008-13, 1640-RE-009-13, 1640-RE-010-13, 1640-RE-011-13, 1640-RE-012-13, 1640-RE-013-13, 1640-RE-014-13, 1640-RE-015-13, 1640-RE-016-13, 1640-RE-017-13, 1640-RE-018-13, 1640-RE-019-13, 1640-RE-020-13, 1640-RE-021-13, 1640-RE-022-13	17	1-GANG WATERPROOF GFCI RECEPTACLE 120V, 20A, HEAVY DUTY DIE-CAST AL BOX & COVER, HUBBELL TAYMAC M3200

DRAFT

REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE	AT SHEET SCALE AS SHOWN 	ENGINEERING AND PERMIT STAMPS (As Required) WORLEY PROJECT No: 317045-00108	CUSTOMER 	DRG TITLE LYNN LAKE GOLD PROJECT MACLELLAN SITE LEACHING LEACHING TANKS LIGHTING LAYOUT	DRG No LLGP-1642-EL-DAL-0031	REV B
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USER NAME: mshahmuneer
 FILE NAME: LLGP-1642-EL-DAL-0031.dwg
 SAVE DATE & TIME: 27 Jun 2024 10:05



- NOTES:**
1. FOR STANDARD NOTES SEE DRAWING LLGP-1680-EL-DAL-0001 & 0002.
 2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS SHOWN OTHERWISE.
 3. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC) PART 1, 2024 EDITION.
 4. CONTRACTOR MAY USE MANUFACTURER AND PART NUMBERS SPECIFIED ON DRAWINGS OR AN APPROVED EQUAL.
 5. ALL MATERIALS FOR OUTDOOR INSTALLATIONS SHALL BE GALVANIZED STEEL FOR NON AGGRESSIVE ENVIRONMENT, 316L STAINLESS STEEL AND FIBER-REINFORCED POLYESTER FOR CORROSIVE AREAS.
 6. ALL LIGHTING ELEVATIONS ARE REFERENCED FROM THE BOTTOM OF THE FIXTURE UNLESS NOTED OTHERWISE.
 7. FOR LIGHTING CONTROL PANEL SEE DRAWING LLGP-1680-EL-ST-0001.

LIGHTING LAYOUT REAGENTS & SERVICES PLAN

1:100



REV	DATE	DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
B	24 Jun 24	REISSUED FOR IIR/CR	AW	FO	SH	ES	YM		LLGP-1680-EL-DAL-0032	REAGENTS & SERVICES PLAN - LIGHTING
A	23 Nov 2022	ISSUED FOR IIR/CR	BM	FO	SH	ES	YM		LLGP-1680-EL-DAL-0001	PROCESS PLANT & SERVICES KEY PLAN & DRAWING INDEX

A1 SHEET SCALE 1:100

Worley
Engineering & Construction

WORLEY PROJECT No:
317045-00108

ENGINEERING AND PERMIT STAMPS (As Required)

CUSTOMER

ALAMOS GOLD INC.

This drawing is prepared solely for the use of the contractor and is not to be used for any other purpose without the written consent of Alamos Gold Inc. The contractor shall be responsible for any and all requirements contained in this drawing.

DRG TITLE	LYNN LAKE GOLD PROJECT MACLELLAN SITE REAGENTS & SERVICES PLANT LIGHTING LAYOUT
DRG No	LLGP-1680-EL-DAL-0031
REV	B

USER NAME: mackmurmer
27 Jun 2024 10:08 AM

Appendix C

Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design



To: Alamos Gold Inc. From: Stantec Consulting Ltd.
Project/File: Lynn Lake Gold Project Date: November 18, 2024
111473076 task 301.104a

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

The Lynn Lake Gold Project (LLGP; the Project) consists of two primary deposit sites, the MacLellan site and Gordon site, which are both located near the Town of Lynn Lake, Manitoba. Alamos Gold Inc. (Alamos) will construct (redevelop), operate and eventually close/reclaim open-pit gold mines at both historical mine sites. The Project will be built as two open pit mines with a centralized processing plant facility and a tailings management facility (TMF). The processing plant, located at the MacLellan site has an expected nominal processing throughput of 8,000 tonnes/day with an estimated 17-year production life.

Stantec Consulting Ltd. (Stantec) completed an Environmental Impact Statement (EIS) for the Project (Stantec 2020). The corresponding Air Quality Valued Component section included Chapter 6, Volume 1 of the EIS and a Technical Modelling Report (TMR) in Appendix A, Volume 5 of the EIS. Stantec 2020 was completed to fulfill a requirement of the "Guidelines for the Preparation of an Environmental Impact Statement" (2017) pursuant to the *Canada Environmental Assessment Act* (2012) for the Project. The assessment provides an overview of the existing conditions in the Project area and identifies the changes in ambient air quality at key receptor locations for the Project to determine potential residual and cumulative changes to air quality in support of the EIS.

The Project was approved under the *Canadian Environmental Assessment Act* (2012) with a federal Decision Statement issued March 5, 2023 (subsequently revised July 28, 2024). It was approved under *The Environment Act* of Manitoba with two provincial licences issued March 6, 2023 (Licence No. 3390 relating to the Gordon site and Licence No. 3391 relating to the MacLellan site).

Since Project approval, Alamos has completed a 2023 Feasibility Study Update (FSU) NI 43-101 Technical Report (Alamos 2023) that includes design updates. The design updates include, but are not necessarily limited to the following:

- The processing plant and TMF at the MacLellan site
- General infrastructure at both sites;
- Major development area layouts;
- Major equipment lists
- Mine production capacities.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Stantec has been engaged by Alamos to conduct an update of the air quality assessment for the Project based on the 2023 FSU. The assessment update focused on the Project design changes, updating the air quality model for the operation phase of the Project, and predicting the potential air quality effects on the receptors. As an amendment to Stantec 2020, this memo summarizes the findings and results of the air quality assessment updates for the Project.

1 Summary of Major Changes to Project Design

The air quality modelling updates focused on the Project operation phase and considered air emissions from the mobile and stationary equipment during operation activities at the MacLellan site and Gordon site. The mobile equipment included the trucks and equipment moving around the Project area (e.g., haul trucks, loaders, excavators). The stationary equipment included the processing equipment (e.g., crushers, mills, pumps, compressors). The air dispersion model update also considered air emissions from the open pit production blast.

Stantec reviewed and compared the Project design parameters for 2019 and 2023. The design changes that may affect the air quality assessment are summarized in the subsections below.

Mine design changes, relevant to air emissions, are based on the following design information provided by Alamos for the Project:

- Feasibility Study Update, NI 43-101 Technical Report for the Lynn Lake Project. Issue date: August 22, 2023 (Alamos 2023).
- Capital and Operating Cost Estimate – MacLellan 13Apr2023 V1.9 update 13Aug2023 (Excel Spreadsheet, pers comm 2024).
- Capital and Operating Cost Estimate – Gordon 13Apr2023 V1.9 update 13Aug2023 (Excel Spreadsheet, pers comm 2024).
- Gordon Highway Haul Calculator 26Apr2023 Plan V1.9 (Excel Spreadsheet, pers comm 2024).
- Schedule MacLellan 13Apr2023 V1.9 (Excel Spreadsheet, pers comm 2024).
- Schedule Gordon 13Apr2023 V1.9 (Excel Spreadsheet, pers comm 2024).
- Process Design Criteria – Process Plant (Worley document issued 12-April-2023), Process Plant Plot Plan and Elevation Drawings showing the building heights (pers comm 2024).

Table 1 summarizes the changes in total years of mine operations between the 2019 and 2023 designs. These changes were determined to possibly alter the air quality effects at the receptors, necessitating the re-assessment.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Table 1 Comparison of Years of Mine Operations between 2019 Design and 2023 Design

Parameter	Unit	AQ Model 2019	Feasibility Study 2023
Gordon Operation	year	5 (mining)	5 (mining) + 2 (stockpile reclaim)
MacLellan Operation	year	13 (mining)	11 (mining) + 6 (stockpile reclaim)

1.1 Project Development Area and Project Layouts

Comparison of the updated drawings of the Project Development Area (PDA) at the MacLellan site and the Gordon site for the 2019 and 2023 designs shows that there are some changes to the Project footprint and the detailed layouts of the Project components, including access road and haul road, the open pit, mine rock storage areas (MRSA), overburden stockpiles, and ore stockpiles at both sites. Additionally, there are changes to the TMF and ore milling and processing plant at the MacLellan site. Although there are changes to the Project components within the PDA, the air quality local assessment area (LAA) does not change from what was included for the 2020 Air Quality Valued Component section and TMR (Stantec 2020).

Table 2 summarizes the major changes to the Project layouts between the 2019 and 2023 designs. These changes will alter the Project equipment layouts and the spatial distribution of the air emission sources and will therefore have potential effects on the maximum model predicted air quality concentrations.

Table 2 Comparison of Project Layouts between the 2019 Design and 2023 Design

Mine Site	Project Major Components	2019 Design	2023 Design
MacLellan	PDA	- ¹	Changes
	LAA	-	No Changes
	Open Pit	-	Changes
	Satellite Pit	N/A ²	Located at south of Open Pit, new component
	TMF and MRSA	-	Changes – changes to the extents of the MRSA, TMF pond, and TMF bank area
	Overburden Stockpile	-	Changes – the new area is larger
	Topsoil Storage Area	-	Changes – the location is moved from south to north of the Overburden Stockpile

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Mine Site	Project Major Components	2019 Design	2023 Design
MacLellan (cont'd.)	Process Plant	-	Plant building and equipment layouts are different
	Haul Road	-	Road routes change with change to location or extents of stockpiles and pits
	Access Road	-	No significant changes
Gordon	PDA	-	Changes
	LAA	-	No changes
	Open Pit	-	Changes – new area is larger
	MRSA	-	Changes
	Overburden Stockpile	-	Changes – new area is larger
	Topsoil Storage Area	N/A	Added to site
	Ore Storage Area	-	Changes – location is moved
	Diesel Generators	-	Location of diesel generator changed
	Disel Generator (Power output)	300 kW (Tier 2)	1 MW (Tier 4)
	Facility Area	-	Changes – location is moved from center to southeast of the MRSA
	Stockpile Borrow Source	N/A	Added to site but not relevant to air quality assessment
	Haul Road	-	Road routes change with change to location or extents of the stockpiles and pit
	Access Road	-	No significant changes

Notes:

"-": as a comparison base

"N/A": not included or not shown on design drawings of the 2019 design

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

1.2 Mining Production

Based on the review of the Project mine production data during the operation phase, the years with the highest production rates are different from the 2019 design at both sites. Table 3 compares the highest production rate year for the 2019 design with the 2023 design.

Table 3 Comparison of Mining Production between 2019 Design and 2023 Design

Mine Site	Unit	2019 Design		2023 Design	
		Total Material Mined	Highest Year	Total Material Mined	Highest Year
MacLellan	kt/y ¹	28,000	7	33,941	5
Gordon	kt/y ¹	16,000	2	16,001	3

Notes:

¹ kt/y: thousands of tonnes per year

In the air quality dispersion model, the production years with the highest production rates are considered representative of the worst-cases for air emissions. Therefore, in the assessment update, Year 5 of the MacLellan site operation and Year 3 of the Gordon site operation are selected. These years differ from the 2019 design, which used Year 7 for the MacLellan site and Year 2 for the Gordon site.

1.3 Ore Transport from Gordon to the Mill

Table 4 compares the 2019 design for ore transportation from the Gordon site along Provincial Road (PR) 391 to the Mill at the MacLellan site with the 2023 design. The maximum tonnage of ore transported from the Gordon site to the Mill in a year of operation has changed. In the 2019 design, the maximum tonnage of ore transported from the Gordon site to the Mill was 1,500 kt/y in Year 2. In the 2023 design, a maximum of 1,696 kt of ore will be transported from the Gordon site to the Mill in Year 4.

Table 4 Comparison of Ore Transport from the Gordon Site to the Mill – 2019 Design to 2023 Design

Mine Site	Unit	2019 Design		2023 Design	
		Total Material Mined	Highest Year	Total Material Mined	Highest Year
Ore	kt/y ¹	1,500	2	1,696	4

Notes:

¹ kt/y: thousands of tonnes per year

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

1.4 Mining Equipment

The number of pieces of mining equipment and make/model have changed from the 2019 design. Table 5 summarizes the mining equipment and quantities associated with the 2023 design in the years with the highest production rates for the MacLellan and Gordon sites.

Table 5 Mining Equipment of 2023 Design

Equipment	Number of Units		
	MacLellan Site (Year 5)	Gordon Site (Year 3)	PR 391 (Year 4)
Open Pit Mining			
Hydraulic Electric Shovel (PC4000 shovel)	2	-	-
Hydraulic Excavator (PC1250LC-8)	-	4	-
Ore Haul Truck (HD1500-7)	16	-	-
Ore Haul Truck (HD605-8)	-	15	-
Crawler Dozer (D375-6)	5	4	-
Small Water Truck (15,000 L)	2	2	-
Waste Rock Removal	-	-	-
Hydraulic Excavator (PC1250LC-8)	1	1	-
Hydraulic Excavator (PC490LC-11)	1	1	-
Dump Truck - 20 ton	3	2	-
Drilling and Blasting	-	-	-
Production HP Electric Drill (PV275)	4		-
Drill (Epiroc SmartRoc D65)	1	3	-
Forklift/Telehandler (Blasting Loader)	1	1	-
Stockpile Rehandle	-	-	-
Transfer Loader	2		-
Transfer Loader (WA600)	-	1	-
Articulated Dump Truck (ADT) 40 tonne (t)	2	-	-
General Equipment	-	-	-
Lube/Fuel Truck (20,000 litres (L))	1	1	-
Welding Service Truck	1	1	-
Explosives Delivery Truck (20 t) (Blaster Truck)	1	1	-
Mechanic Truck	1	1	-
Super B Train Fuel Truck (40,000 L)	1	1	-

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Equipment	Number of Units		
	MacLellan Site (Year 5)	Gordon Site (Year 3)	PR 391 (Year 4)
Grinding Media Delivery Truck (40 t)	1	0	-
Reagents Delivery Truck (20 t)	1	0	-
Crew Change Vehicle	2	2	-
Pickup Trucks	14	10	-
Small Water Truck (15,000 L)	1	1	-
Pump Truck	1	1	-
Maintenance and Other Supporting Equipment			-
Crane 50 t	1	-	-
Crane 30 t	1	1	-
Integrated Tool Carrier WA200-7	1	1	-
Grader (GD655-6)	2	2	-
Loader (Tire Manipulator (WA500-8))	1	1	-
Loader (Road maintenance) WA500-8	1	1	-
Compactor (BW211)	1	1	-
Lighting Plant	8	6	-
ADT 40 t	-	1	-
Provincial Road			
Highway Haul Truck (122SD)	-	-	15
Explosives Delivery Truck (14 t)	-	-	1
Super B Train Fuel Truck (40,000 L)	-	-	1
Grinding Media Delivery Truck (40 t)	-	-	1
Reagents Delivery Truck (20 t)	-	-	1
Tow Truck/Flatbed (55 t)	-	-	1
Pickup Trucks	-	-	10
Intercity Bus	-	-	1

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

1.5 Processing Plant

The 2023 FSU provided new design and layouts for the processing plant at the MacLellan site. The processing plant consists of several buildings housing the mine processing equipment, including:

- Main Process Building
- Reagent Storage Building
- Primary Crushing Facility
- Secondary Crushing Building
- Fine Ore Storage Facility
- Oxygen Plant

The processing plant also includes other auxiliary buildings, such as warehouse and workshop, truck shop and truck wash, assay laboratory and administration building.

There are some changes to the buildings layout when compared to the 2019 design. The number of leach tanks increased from five in the 2019 design to seven in the 2023 design. The layout of the fine ore storage building has changed.

Section 7.3.3 in Stantec (2020) summarized the buildings and equipment in the processing plant. Map 7 in Appendix A in Stantec (2020) shows the processing plant layout. Compared with the 2019 design, the buildings in the 2023 design have different layouts, sizes, and equipment setups. Maps 1 and 2 show the plant layout based on 2023 design for the Gordon site and the MacLellan site, respectively. The gold room was a separate building in the 2019 design but is housed inside the main building in the 2023 design. The locations of the reagent building, and oxygen plant have also changed.

The capacity of the crushing plant and processing plant has changed from the 2019 design. Table 6 compares the crushing plant and processing plant capacity between the 2019 and 2023 designs.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Table 6 Comparison of Processing Plant Buildings between 2019 and 2023 Designs at the MacLellan Site

Parameter	Unit	2019 Design	2023 Design
Crushing Plant Capacity	kt/y	2,738	2,920
	t/d	7,500	8,000
	t/h	474	481
Processing Plant Capacity	kt/y	2,738	2,920
	t/d	7,500	8,000
	t/h	474	362

kt/y: thousands of tonnes per year; t/d: tonnes per day; t/h: tonnes per hour

1.6 Blasting Parameters

During the operation phase, there are air emissions due to blasting activities within the open pit at the Gordon site and the MacLellan site. The primary factors affecting the air emissions due to blasting are the mass of explosives used for each hole, number of holes per blast, and the frequency of blasts.

Table 7 summarizes the differences for the blasting parameters between the 2019 design and the 2023 design.

Table 7 Comparison of Blasting Parameters in 2019 Design and 2023 Design

Blasting Parameter	2019 Design		2023 Design	
	MacLellan Site	Gordon Site	MacLellan Site	Gordon Site
Highest Explosive Charge	208 kg/hole	208 kg/hole	230 kg/hole	230 kg/hole
Holes per Blast	213	154	241	119
Frequency	Every third day	Every third day	3-4 times a week	3-4 times a week

kg: kilograms

2 Air Quality Modeling Update Results

The dispersion modelling methodology used to assess the potential effects of the 2023 design changes on air quality is identical to the methodology used in the EIS (Stantec 2020). The details of CALPUFF model setup, CALMET meteorological data, receptor grid, nitric oxide (NO) to nitrogen dioxide (NO₂) conversion, and particulate matter deposition can be found in the Air Quality TMR, Volume 5 Attachment A in the EIS (Stantec 2020).

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

The model predicted 1-hour and 8-hour average concentrations are based on the maximum hourly emission rates. The model predicted 24-hour, monthly and average concentrations are based on the daily average emission rates that consider the actual operating hours per day for each mining activity. Baseline concentrations are added to the model predicted maximum concentrations to account for other existing emission sources (natural and anthropogenic) that are not directly included in the model simulation. The model predicted maximum concentrations with the baseline contribution are compared to the Manitoba Ambient Air Quality Criteria (AAQC) and the Canadian Ambient Air Quality Standards (CAAQS). The CAAQS are reference values for regional air quality management and are applicable to measured ambient concentrations at human receptor locations away from the industrial facility boundaries. The maximum predicted concentrations in the LAA are compared to the CAAQS in this context and do not imply compliance with the AAQC at the Project Boundary. The maximum predicted concentrations are based on areas along and outside the Project Boundary (i.e., locations where public access is not restricted). The predicted maximum concentrations and dustfall are discussed separately for the Gordon site and MacLellan site in the following sections. The corresponding concentration contour maps are presented in Attachment A.

2.1 Gordon Site Operations

The model predicted maximum ground-level concentrations and dustfall from operation of the Gordon site are summarized in Table 8 and are compared with maximum predicted concentrations presented in the EIS TMR (Stantec 2020). The associated concentration and dustfall contours in the LAA are presented in Map 1 to Map 24 in Attachment A.

2.1.1 Maximum NO₂ Concentrations

The maximum predicted 1-hour NO₂ concentration, 415 micrograms per cubic metre (µg/m³), is greater than the Manitoba AAQC (400 µg/m³). The maximum predicted 24-hour and annual NO₂ concentrations are 74.2 and 10.4 µg/m³, respectively and are less than the Manitoba AAQC and the annual CAAQS. The maximum predicted 1-hour average NO₂ concentration in the metric of the CAAQS (284 µg/m³) is greater than the 1-hour CAAQS (79 µg/m³). The maximum predicted NO₂ concentrations at human health (HH) receptors for all averaging periods are less than the Manitoba AAQC. The maximum predicted NO₂ concentrations are greater than the 1-hour CAAQS at three HH receptors (receptor ID 73, 76 and 77 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted 1-hour NO₂ concentration, 415 µg/m³, is 10% less than the maximum predicted value in the EIS TMR (Stantec 2020) and the maximum frequency of exceedance changed from 2 hours per year (h/y) to 1 h/y. The maximum predicted 1-hour CAAQS NO₂ concentration is 27% greater than the maximum predicted value in the EIS TMR and the maximum frequency of exceedance increases from 99 d/y to 101 d/y.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

2.1.2 Maximum CO Concentrations

The maximum predicted 1-hour, and 8-hour carbon monoxide (CO) concentrations are 14,832 and 4,345 $\mu\text{g}/\text{m}^3$, respectively and are less than the Manitoba AAQC. The predicted concentrations are 8 to 12% lower than the than maximum predicted values in EIS TMR (Stantec 2020).

2.1.3 Maximum SO₂ Concentrations

The maximum predicted 1-hour, 24-hour, and annual sulphur dioxide (SO₂) concentration are 422, 42.6, and 2.60 $\mu\text{g}/\text{m}^3$, respectively, and are less than the Manitoba AAQC and annual CAAQS. The maximum predicted 1-hour average SO₂ concentration in the metric of the CAAQS (382 $\mu\text{g}/\text{m}^3$) is greater than the 1-hour CAAQS (170 $\mu\text{g}/\text{m}^3$). The maximum predicted SO₂ concentrations at HH receptors for all averaging periods are less than the Manitoba AAQC and CAAQS.

The maximum predicted 1-hour SO₂ CAAQS concentration, 415 $\mu\text{g}/\text{m}^3$, is 12% greater than the maximum predicted value in the EIS TMR (Stantec 2020) and the maximum frequency of exceedance increases from 5 days per year (d/y) to 12 d/y.

2.1.4 Maximum Total Suspended Particulate (TSP) Concentrations

The maximum predicted 24-hour TSP concentration, 734 $\mu\text{g}/\text{m}^3$, is greater than the Manitoba AAQC (120 $\mu\text{g}/\text{m}^3$). The maximum predicted annual TSP concentration, 15.8 $\mu\text{g}/\text{m}^3$, is less than the Manitoba AAQC. The maximum predicted TSP concentrations are greater than the Manitoba 24-hour AAQC at three HH receptors (receptors ID 73, 76, and 77 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted TSP concentrations are 7% to 21% greater than the maximum predicted TSP concentrations in the EIS TMR (Stantec 2020). The maximum frequency of exceedance increases from 73 d/y to 94 d/y.

2.1.5 Maximum PM₁₀ Concentrations

The maximum predicted 24-hour particulate matter <10 microns (PM₁₀) concentration, 406 $\mu\text{g}/\text{m}^3$, is greater than the Manitoba AAQC (50 $\mu\text{g}/\text{m}^3$). The maximum predicted PM₁₀ concentrations are greater than the Manitoba 24-hour AAQC at four HH receptors (receptors ID 72, 73, 76, and 77 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted PM₁₀ concentration is 12% greater than the maximum predicted PM₁₀ concentrations in the EIS TMR (Stantec 2020). The maximum frequency of exceedance increases from 110 d/y to 119 d/y.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

2.1.6 Maximum PM_{2.5} Concentrations

The maximum predicted 24-hour and annual particulate matter less than 2.5 microns (PM_{2.5}) concentrations are 25.7 µg/m³ and 7.40 µg/m³, respectively, and are less than the CAAQS. The maximum predicted PM_{2.5} concentrations at HH receptors for all averaging periods are less than the CAAQS.

The maximum predicted PM_{2.5} concentrations are 8% to 9% greater than the maximum predicted PM_{2.5} concentrations in the EIS TMR (Stantec 2020).

2.1.7 Maximum Dustfall

The maximum predicted 30-day and annual average dustfall are 6.50 grams per square metre per 30-day period (g/m²/30-day) and 4.51 g/m²/30-day, respectively, and are less than the Ontario AAQC.

The maximum predicted 30-day and annual average dustfall at HH receptors are less than the dustfall criteria.

The maximum predicted dustfall values are 33% to 36% greater than the maximum predicted dustfall concentrations in the EIS TMR (Stantec 2020).

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Table 8 Predicted Maximum Ground-Level Concentrations from Gordon Site Operation (EIS vs 2023 Design)

Substance	Averaging Period	Existing/ Baseline Conditions (µg/m³)	Maximum Ground-level Concentration (µg/m³) (includes Baseline Conditions)											Ambient Air Quality Criteria a (µg/m³)
			Max. Value in LAA (EIS)	Max. Value in LAA (2023 Design)	% Change in Max Value in LAA from EIS	Max. Value at Human Receptors (EIS)	Max. Value at Human Receptors (2023 Design)	% Change in Max. Value at Human Receptors from EIS	Max. No. of Exceedances per Year (EIS)	Max. No. of Exceedances per Year (2023 Design)	% Change Max No. of Exceedances from EIS	% Max. Value of AAQC (EIS)	% Max. Value of AAQC (2023 Design)	
Gaseous CAC														
NO ₂	1-hour ^b	7.5	459	415	-10%	180	287	59%	2 h/y	1 h/y	-50%	115%	104%	400
	1-hour ^c	7.5	224	284	27%	95.5	91.1	-5%	99 d/y	101 d/y	2%	283%	360%	79 ^{c,d}
	24-hour ^e	5.6	74.1	74.2	0.1%	34	36.2	6%	0	0	—	37%	37%	200
	Annual	1.9	11.2	10.4	-7%	3.61	3.42	-5%	0	0	—	19%	17%	60
CO	1-hour ^b	406	16,096	14,832	-8%	6,040	8,643	43%	1 h/y	0	-100%	107%	99%	15,000
	8-hour	406	4,952	4,345	-12%	1,192	1,669	40%	0	0	—	83%	72%	6,000
SO ₂	1-hour ^b	6	460	422	-8%	168	240	43%	1 h/y	0	-100%	102%	94%	450
	1-hour ^g	6	342	382	12%	44.7	44.9	0%	5 d/y	12 d/y	140%	201%	224%	170 ^{d,g}
	24-hour ^e	6	48.7	42.6	-13%	13.5	17.4	29%	0	0	—	32%	28%	150
	Annual	1.5	2.45	2.60	6%	1.60	1.63	2%	0	0	—	8%	9%	30
Other Gaseous Species														
HCN	1-hour ^b	—	—	—	—	—	—	—	—	—	—	—	—	40
	24-hour ^d	—	—	—	—	—	—	—	—	—	—	—	—	8 ⁱ
	Annual	—	—	—	—	—	—	—	—	—	—	—	—	3
Particulate CAC														
TSP	24-hour ^e	10.5	606	734	21%	162	228	41%	73 d/y	94 d/y	29%	505%	611%	120
	Annual ^j	10.5	14.8	15.8	7%	11.9	12.0	1%	0	0	—	25%	26%	60 ^j
PM ₁₀	24-hour ^e	4.6	361	406	12%	100	129	29%	110 d/y	119 d/y	8%	721%	811%	50
PM _{2.5}	24-hour ^k	2.9	23.5	25.7	9%	8.45	9.79	16%	0	0	—	87%	95%	27 ^{d,k}
	Annual ^l	2.9	6.87	7.40	8%	3.54	3.67	4%	0	0	—	78%	84%	8.8 ^{d,l}
Dustfall	30-day	0.99	4.90	6.50	33%	1.72	2.00	16%	0	0	—	61%	93%	7
(g/m²/30-day)	Annual ^j	0.99	3.32	4.51	36%	1.34	1.52	13%	0	0	—	26%	98%	4.6 ^j

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Notes:

µg/m³: micrograms per cubic metre; EIS: Environmental Impact Statement; LAA: Local Assessment Area; AAQC: ambient air quality criteria; NO₂: nitrogen dioxide; CO: carbon monoxide; SO₂: sulphur dioxide; HCN: hydrogen cyanide; TSP: total suspended particulate; PM₁₀: particulate matter <10 microns; PM_{2.5}: particulate matter <2.5 microns; g/m²/30-day: grams per square metre per 30 days.

- a. Manitoba Ambient Air Quality Criteria (MSD 2005) unless otherwise noted
- b. The maximum 1-hour concentration after eliminating 8 highest meteorological hours in each year
- c. The 1-hour CAAQS for NO₂ is referenced to the three-year average of the annual 98th percentile of the NO₂ daily maximum 1-hour average concentrations (effective 2025) (CCME 2017).
- d. CAAQS (CCME 2017)
- e. The maximum 24-hour concentration after eliminating the 1st highest meteorological day in each year
- f. The annual CAAQS for NO₂ is referenced to the arithmetic average over a single calendar year of all 1-hour average NO₂ concentrations (effective 2025) (CCME 2017).
- g. The 1-hour CAAQS for SO₂ is referenced to the three-year average of the annual 99th percentile of the SO₂ daily maximum 1-hour average concentrations (effective 2025) (CCME 2017).
- h. The annual CAAQS for SO₂ is referenced to the arithmetic average over a single calendar year of all 1-hour average SO₂ concentrations (effective 2025) (CCME 2017).
- i. Ontario AAQC (MOECC 2012)
- j. Annual geometric mean
- k. The CAAQS for 24-hour PM_{2.5} is referenced to the annual 98th percentile of daily 24-hour average concentrations, averaged over three years (effective 2020) (CCME 2017).
- l. The CAAQS for annual PM_{2.5} is referenced to the three-year mean of annual average concentrations (effective 2020) (CCME, 2017).

Predicted maximum 1-hour and 8-hour average concentrations are based on maximum hourly emission rates.

Predicted maximum 24-hour, 30-day and annual average concentrations are based on daily average emission rates.

“—” not applicable

Values in **BOLD** exceed the ambient air quality criteria

2.2 MacLellan Site Operations

The model predicted maximum ground-level concentrations and dustfall from operation of the MacLellan site are summarized in Table 9 and are compared with maximum predicted concentrations in the EIS TMR (Stantec 2020). The associated concentration and dustfall contours in the LAA are presented in Map 1 to Map 24 in Attachment A.

2.2.1 Maximum NO₂ Concentrations

The maximum predicted 1-hour NO₂ concentration, 435 µg/m³, is greater than the Manitoba AAQC (400 µg/m³). The maximum predicted 24-hour and annual NO₂ concentrations are 72.9 and 7.91 µg/m³, respectively and are less than the Manitoba AAQC and the annual CAAQS. The maximum predicted 1-hour average NO₂ concentration in the metric of the CAAQS (186 µg/m³) is greater than the 1-hour CAAQS (79 µg/m³). The maximum predicted NO₂ concentrations at HH receptors for all averaging periods are less than the Manitoba AAQC. The maximum predicted NO₂ concentrations are greater than the 1-hour CAAQS at six HH receptors (receptors ID 82, 85, 86, 117, 123, and 156 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted 1-hour NO₂ concentration, 435 µg/m³, is 8% greater than maximum predicted value in the EIS TMR (Stantec 2020) and the maximum frequency of exceedance stays the same at 1 h/y. The maximum predicted 1-hour CAAQS NO₂ concentration is 27% greater than maximum predicted value in the EIS TMR (Stantec 2020) and the maximum frequency of exceedance decreases from 79 d/y to 70 d/y.

2.2.2 Maximum CO Concentrations

The maximum predicted 1-hour CO concentration is 15,406 µg/m³ and is 3% greater than the Manitoba AAQC. The maximum predicted 8-hour CO concentration is 4,567. The predicted concentrations are 10 to 16% higher than the than maximum predicted values in EIS TMR (Stantec 2020).

2.2.3 Maximum SO₂ Concentrations

The maximum predicted 1-hour, 24-hour, and annual SO₂ concentration are 437, 44.6, and 2.18 µg/m³, respectively, and are less than the Manitoba AAQC and annual CAAQS. The maximum predicted 1-hour average SO₂ concentration in the metric of the CAAQS (256 µg/m³) is greater than the 1-hour CAAQS (170 µg/m³). The maximum predicted SO₂ concentrations at HH receptors for all averaging periods are less than the Manitoba AAQC and CAAQS.

The maximum predicted 1-hour SO₂ CAAQS concentration, 256 µg/m³, is 74% greater than maximum predicted value in the EIS TMR (Stantec 2020) and the maximum frequency of exceedance increases from 0 d/y to 3 d/y. The increase is attributable to an increase in the blasting frequency and the amount of explosives used per blast associated with the 2023 design.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

2.2.4 Maximum HCN Concentrations

The maximum predicted 1-hour, 24-hour and annual hydrogen cyanide (HCN) concentrations are 17.6, 6.79, and 0.553 $\mu\text{g}/\text{m}^3$, respectively, and are less than the Manitoba AAQC and the 24-hour Ontario AAQC. The maximum predicted HCN concentrations at HH receptors for all averaging periods are less than the ambient criteria.

2.2.5 Maximum TSP Concentrations

The maximum predicted 24-hour TSP concentration, 437 $\mu\text{g}/\text{m}^3$, is greater than the Manitoba AAQC (120 $\mu\text{g}/\text{m}^3$). The maximum predicted annual TSP concentration, 14.1 $\mu\text{g}/\text{m}^3$, is less than the Manitoba AAQC. The maximum predicted TSP concentrations are greater than the Manitoba 24-hour AAQC at three HH receptors (receptors ID 85, 86, and 117 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted TSP concentrations are 1% to 15% less than the maximum predicted TSP concentrations EIS TMR (Stantec 2020). The maximum frequency of exceedance decreases from 64 d/y to 50 d/y.

2.2.6 Maximum PM₁₀ Concentrations

The maximum predicted 24-hour PM₁₀ concentration, 247 $\mu\text{g}/\text{m}^3$, is greater than the Manitoba AAQC (50 $\mu\text{g}/\text{m}^3$). The maximum predicted PM₁₀ concentrations are greater than the Manitoba 24-hour AAQC at six HH receptors (receptors ID 82, 85, 86, 117, 123, and 156 in TMR Appendix E Table E-2 (Stantec 2020)).

The maximum predicted PM₁₀ concentration is 21% less than the maximum predicted PM₁₀ concentrations in the EIS TMR (Stantec 2020). The maximum frequency of exceedance decreases from 89 d/y to 70 d/y.

2.2.7 Maximum PM_{2.5} Concentrations

The maximum predicted 24-hour and annual PM_{2.5} concentrations are 18.6 $\mu\text{g}/\text{m}^3$ and 5.57 $\mu\text{g}/\text{m}^3$, respectively, and are less than the CAAQS. The maximum predicted PM_{2.5} concentrations at HH receptors for all averaging periods are less than the CAAQS.

The maximum predicted PM_{2.5} concentrations are 11% to 23% less than the maximum predicted PM_{2.5} concentrations in the EIS TMR (Stantec 2020).

2.2.8 Maximum Dustfall

The maximum predicted 30-day and annual average dustfall are 5.57 $\text{g}/\text{m}^2/30\text{-day}$ and 3.95 $\text{g}/\text{m}^2/30\text{-day}$ and are less than the Ontario AAQC. The maximum predicted 30-day and annual average dustfall at HH receptors are less than the dustfall criteria.

The maximum predicted dustfall values are 1% to 3% greater than the maximum predicted dustfall concentrations in the EIS TMR (Stantec 2020).

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Table 9 Predicted Maximum Ground-Level Concentrations from MacLellan Site Operation (EIS vs 2023 Design)

Substance	Averaging Period	Existing/ Baseline Conditions (µg/m³)	Maximum Ground-level Concentration (µg/m³) (includes Baseline Conditions)										Ambient Air Quality Criteria a (µg/m³)	
			Max. Value in LAA (EIS)	Max. Value in LAA (2023 Design)	% Change in Max Value in LAA from EIS	Max. Value at Human Receptors (EIS)	Max. Value at Human Receptors (2023 Design)	% Change in Max. Value at Human Receptors from EIS	Max. No. of Exceedances per Year (EIS)	Max. No. of Exceedances per Year (2023 Design)	% Change Max No. of Exceedances from EIS	% Max. Value of AAQC (EIS)		% Max. Value of AAQC (2023 Design)
NO2	1-hour ^b	7.5	404	435	8%	223	241	8%	1 h/y	1 h/y	0%	101%	109%	400
	1-hour ^c	7.5	146	186	27%	91.5	96.9	6%	79 d/y	70 d/y	-11%	185%	236%	79 ^{c,d}
	24-hour ^e	5.6	84.5	72.9	-14%	48.5	45.4	-6%	0	0	—	42%	36%	200
	Annual	1.9	9.03	7.91	8%	3.96	3.63	-8%	0	0	—	15%	13%	60
CO	1-hour ^b	406	13,328	15,406	16%	6,282	7,284	16%	0	1 h/y	—	89%	103%	15,000
	8-hour	406	4,144	4,567	10%	1,445	1,686	17%	0	0	—	69%	76%	6,000
SO2	1-hour ^b	6	370	437	18%	173	205	18%	0	0	—	82%	97%	450
	1-hour ^g	6	147	256	74%	36.2	54.1	49%	0	3 d/y	—	86%	150%	170 ^{d,g}
	24-hour ^e	6	39.0	44.6	14%	15.7	17.9	14%	0	0	—	26%	30%	150
	Annual	1.5	1.95	2.18	12%	1.60	1.67	5%	0	0	—	7%	7%	30
									0	0	—	20%	22%	10 ^{d,h}
Other Gaseous Species														
HCN	1-hour ^b	0	14.4	17.6	22%	7.15	9.20	29%	0	0	—	36%	44%	40
	24-hour ^d	0	6.5	6.79	4%	2.92	3.11	7%	0	0	—	81%	85%	8 ⁱ
	Annual	0	0.55	0.553	0.5%	0.22	0.233	6%	0	0	—	18%	18%	3
Particulate CAC														
TSP	24-hour ^e	10.5	513	437	-15%	205	194	-6%	64 d/y	50 d/y	-22%	428%	364%	120
	Annual ⁱ	10.5	14.2	14.1	-1%	12.0	12.0	0%	0	0	—	24%	23%	60 ^j
PM10	24-hour ^e	4.6	315	247	-21%	132	112	-15%	89 d/y	70 d/y	-21%	630%	495%	50
PM2.5	24-hour ^k	2.9	24.1	18.6	-23%	8.4	8.20	-2%	0	0	—	89%	69%	27 ^{d,k}
	Annual ^l	2.9	6.23	5.57	-11%	3.74	3.71	-1%	0	0	—	71%	63%	8.8 ^{d,l}
Dustfall (g/m²/30-day)	30-day	0.99	5.51	5.57	1%	2.02	1.82	-10%	0	0	—	69%	80%	7
	Annual ⁱ	0.99	3.84	3.95	3%	1.52	1.46	-4%	0	0	—	28%	86%	4.6 ^j

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Notes:

µg/m³: micrograms per cubic metre; EIS: Environmental Impact Statement; LAA: Local Assessment Area; AAQC: ambient air quality criteria; NO₂: nitrogen dioxide; CO: carbon monoxide; SO₂: sulphur dioxide; HCN: hydrogen cyanide; TSP: total suspended particulate; PM₁₀: particulate matter <10 microns; PM_{2.5}: particulate matter <2.5 microns; g/m²/30-day: grams per square metre per 30 days.

- a. Manitoba Ambient Air Quality Criteria (MSD 2005) unless otherwise noted
- b. The maximum 1-hour concentration after eliminating 8 highest meteorological hours in each year
- c. The 1-hour CAAQS for NO₂ is referenced to the three-year average of the annual 98th percentile of the NO₂ daily maximum 1-hour average concentrations (effective 2025) (CCME 2017).
- d. CAAQS (CCME 2017)
- e. The maximum 24-hour concentration after eliminating the 1st highest meteorological day in each year
- f. The annual CAAQS for NO₂ is referenced to the arithmetic average over a single calendar year of all 1-hour average NO₂ concentrations (effective 2025) (CCME 2017).
- g. The 1-hour CAAQS for SO₂ is referenced to the three-year average of the annual 99th percentile of the SO₂ daily maximum 1-hour average concentrations (effective 2025) (CCME 2017).
- h. The annual CAAQS for SO₂ is referenced to the arithmetic average over a single calendar year of all 1-hour average SO₂ concentrations (effective 2025) (CCME 2017).
- i. Ontario AAQC (MOECC 2012)
- j. Annual geometric mean
- k. The CAAQS for 24-hour PM_{2.5} is referenced to the annual 98th percentile of daily 24-hour average concentrations, averaged over three years (effective 2020) (CCME 2017).
- l. The CAAQS for annual PM_{2.5} is referenced to the three-year mean of annual average concentrations (effective 2020) (CCME, 2017).

Predicted maximum 1-hour and 8-hour average concentrations are based on maximum hourly emission rates.

Predicted maximum 24-hour, 30-day and annual average concentrations are based on daily average emission rates.

“—” not applicable

Values in **BOLD** exceed the ambient air quality criteria

3 Conclusion

This update of the air quality assessment focused on the potential changes of the Project air quality effects due to the updated Project 2023 design during the operation phase. Changes to the Project design include updates to the PDA, Project layouts, mining production quantities, major mine equipment, and operation blast parameters. The air quality model for the operation phase of the Project was updated, based on the same approach (i.e., receptor locations, regulatory framework, baseline conditions, and modelling method) as to the previous Stantec 2020 assessment.

For the 2023 mine design the air quality effects were assessed for NO₂, CO, SO₂, HCN, TSP, PM₁₀, PM_{2.5} and dustfall. The predicted air quality during the operation phase on the air quality receptors were presented and summarized in isopleth maps and in summary tables with comparison to the ambient air quality criteria.

Compared with the results in Stantec 2020, the air quality effects from the Project activities marginally increased at some receptors. When there was an increase in the model predicted concentrations, the associated increase in the frequency of exceedance was low. In conclusion, the results of the updated air quality assessment do not change the characterization of residual effects, or the significance ratings summarized as presented in the EIS (Stantec 2020).

4 Limitations and Sign-off

This document entitled was prepared by *Stantec Consulting Ltd.* (“Stantec”) for the account of *Alamos Gold Inc.* (the “Client”) to support the permitting process for its Lynn Lake Gold Project (the “Project”). In connection therewith, this document may be reviewed and used by the *Impact Assessment Agency of Canada* and *Manitoba Conservation and Climate* participating in the review process in the normal course of its duties. Except as set forth in the previous sentence, any reliance on this document by any other party or use of it for any other purpose is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The information and conclusions in the document are based on the conditions existing at the time the document was published and does not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by the Client or others, unless expressly stated otherwise in the document. Any use which another party makes of this document is the responsibility and risk of such party. Such party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other party as a result of decisions made or actions taken based on this document.

Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

If you have any questions or require additional information, please do not hesitate to contact us

Regards,

Stantec Consulting Ltd.

Prepared by: _____
Signature

Kanwardeep Bajwa

Printed Name

Reviewed by: _____
Signature

Dan Jarratt

Printed Name

Approved to
transmit by: _____
Signature

Karen Mathers

Printed Name

5 References

Alamos. 2023. Feasibility Study Update (FSU). NI 43-101 Technical Report for the Lynn Lake Project, Lynn Lake, Manitoba, Canada. August 22, 2023.

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Pers comm. 2024. February 27 and April 10 and 11, 2024 email correspondence from Robert Halas, (Alamos Gold Inc. Sr. Project Engineer, Lynn Lake, Projects) to Karen Mathers (Stantec Senior Principal - Environmental Services).

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Reference: Summary of Air Dispersion Model Results for the Lynn Lake Gold Project Revised 2023 Mine Design

Attachment A Isopleths 2024

Project Infrastructure

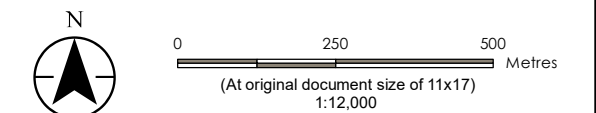
- Infrastructure Features
- Project Development Area (PDA)

Emission Source Type

- Point Source**
- Diesel Generator
- Volume Source**
- Material Handling at MRSA
 - Material Handling at Ore Stockpile
 - Material Handling at Overburden Stockpile
- Haul Road Source**
- Haul Road from the Open Pit to the MRSA
 - Haul Road from the Open Pit to the Ore Stockpile
 - Haul Road from the Open Pit to the Overburden Stockpile
- Access Road Source**
- Access Road to Gordon Site
- Open Pit Source**
- Open Pit at Gordon Site
- Area Source**
- Ore Stockpile Wind Erosion
 - Overburden Wind Erosion
 - MRSA Wind Erosion
 - General Area

Landbase

- Existing Access
- Waterbody
- Watercourse



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada.
 3. NOA Project Infrastructure features provided by Worley via Alamos.

Project Location
Lynn Lake, Manitoba

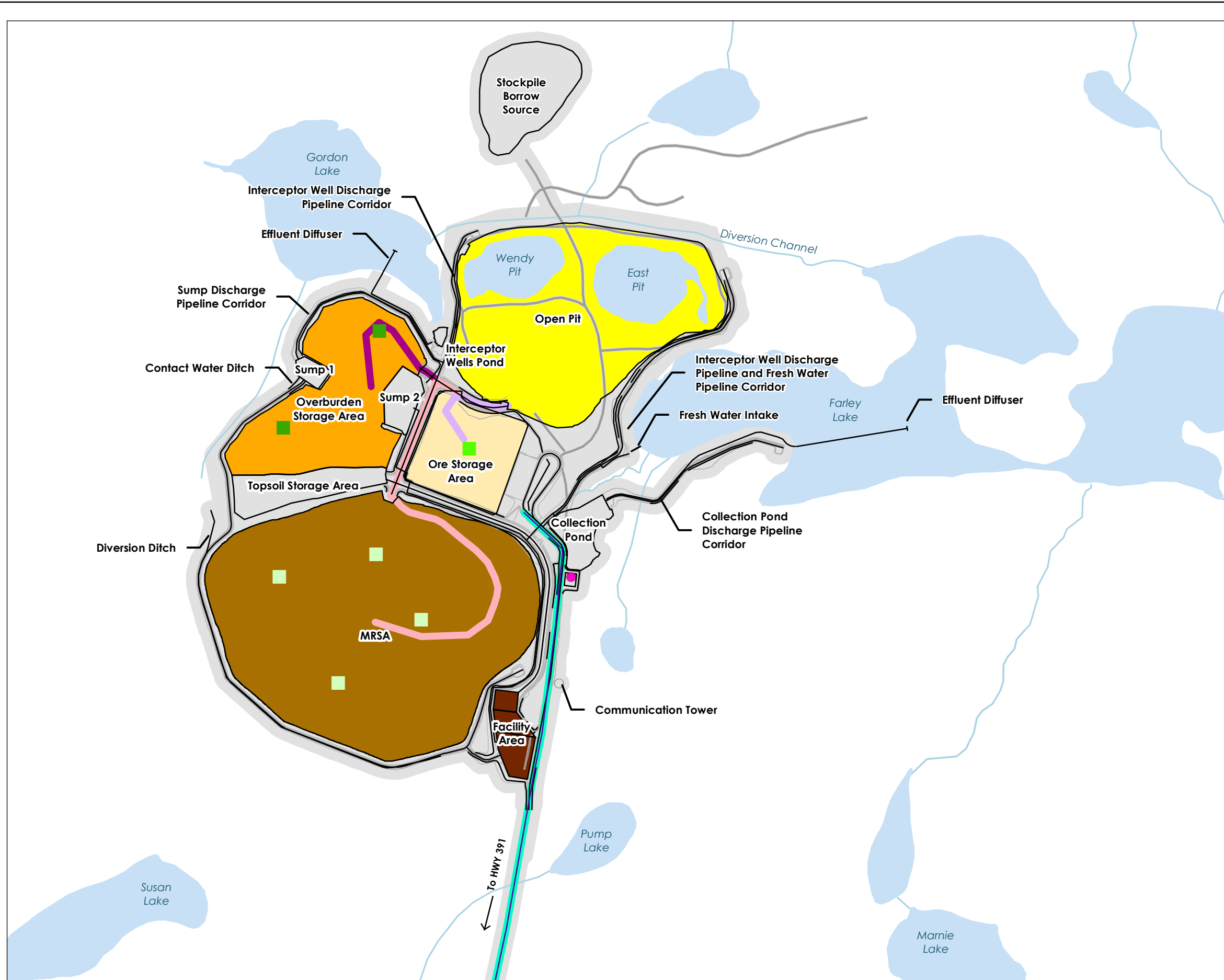
Prepared by ACampigotto on 2025-05-14
Technical Review by DJarratt on 2025-05-14

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473084

Map No.
A

Title
Modelled Emission Sources for Gordon Site Operation

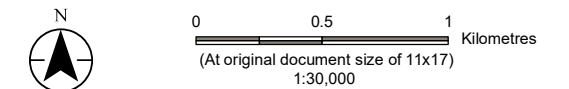


Project Infrastructure

- Infrastructure Features
- Project Development Area (PDA)

Emission Source Type

- Point Source**
- Gold Room Drying Oven Stack/Gold Room Dust Collector
 - Primary Crusher Dust Collector
 - Secondary Crusher Wet Scrubber
- Volume Source**
- Material handling at overburden stockpile
 - Material handling at MRSA
 - Material handling at primary crusher
 - Material handling at Ore Stockpile
 - Processing plant HCN fugitive emission
- Haul Road Source**
- Haul Road from Open Pit to MRSA
 - Haul Road from Open Pit to Ore Stockpile
 - Haul Road from Open Pit to Overburden Stockpile
 - Haul Road from Open Pit to the Primary Crusher
 - Haul Road from Ore Stockpile to the ROM Stockpile
- Access Road Source**
- Access Road to Mill at MacLellan Site
 - Access Road to Explosives Facilities
 - Access Road to Worker's Camp
- PR 391 Source**
- Provincial Road 391
- Open Pit Source**
- Open Pit and Satellite Pit
- Area Source**
- Topsoil Stockpile/ROM Wind Erosion
 - TMF Pond and HCN Fugitive Emissions
 - TMF Dry Banks Wind Erosion
 - MRSA Wind Erosion
 - Ore Stockpile Wind Erosion
 - General Area



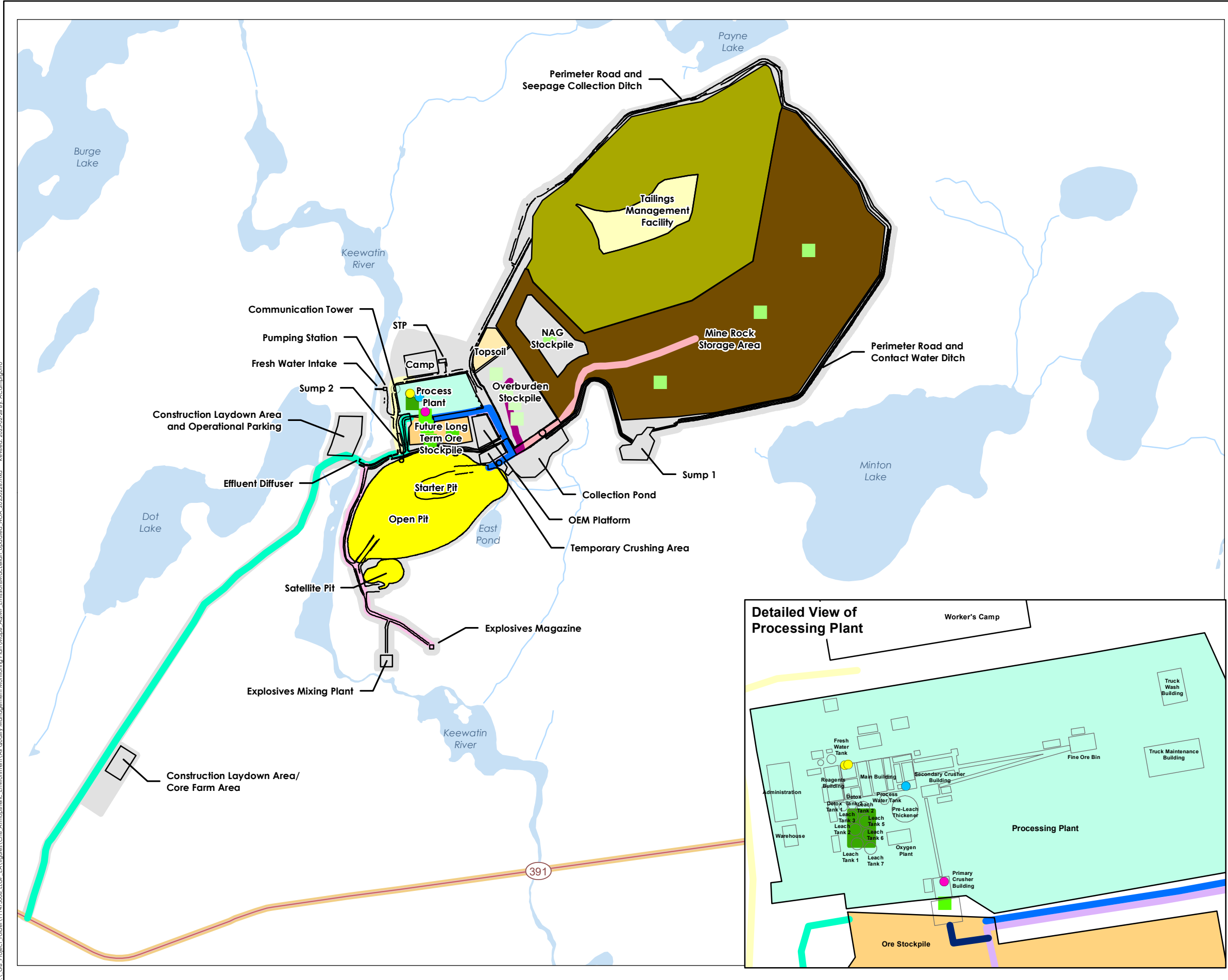
Notes
 1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada.
 3. Project Infrastructure features provided by QPit and Ausenco.

Project Location
 Lynn Lake, Manitoba
 Prepared by ACampigotto on 2025-02-26
 Technical Review by Yankova on 2025-02-26

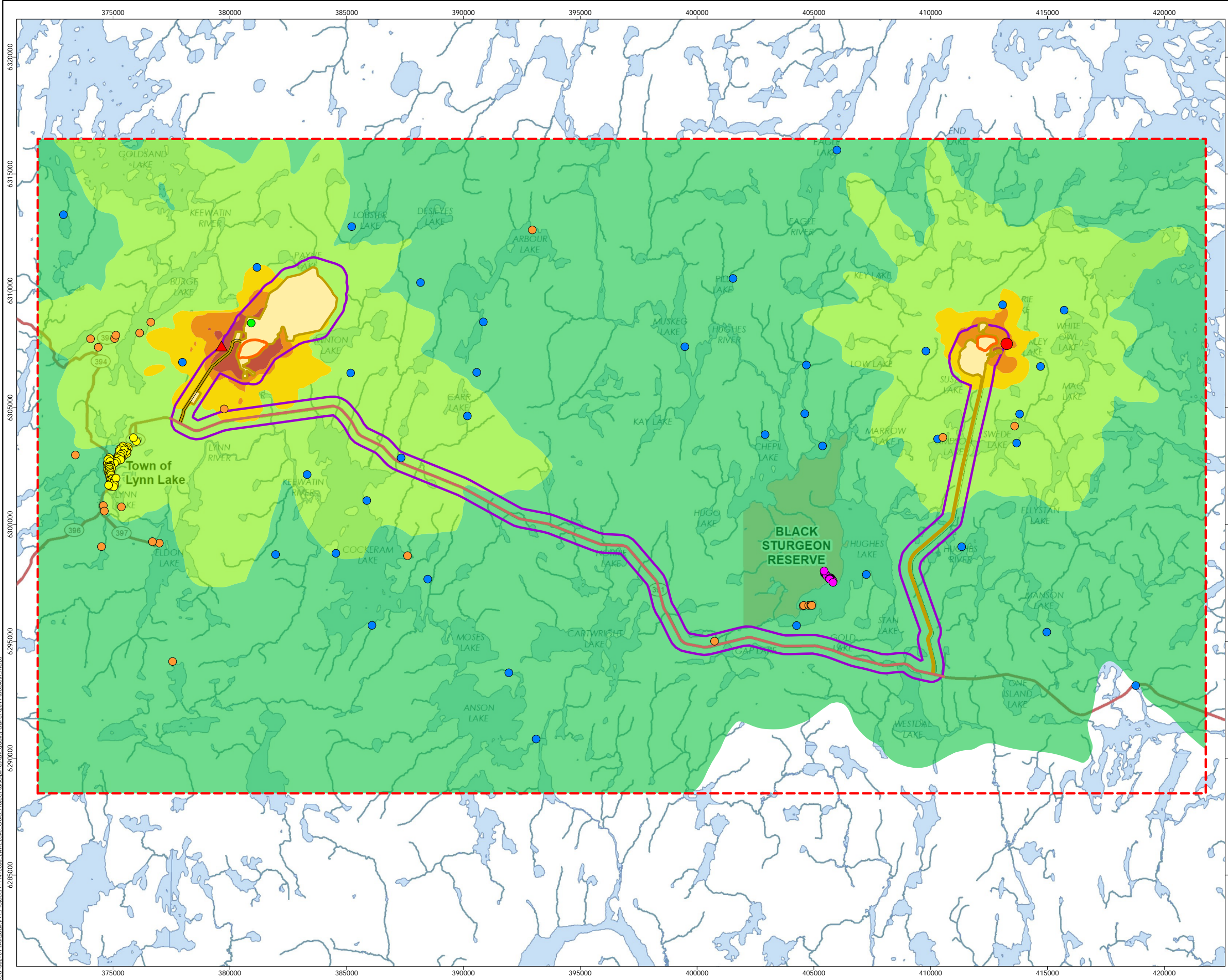
Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project
 111473084

Map No.
B
Title

Modelled Emission Sources for MacLellan Site Operation



G:_CS_Project_Folder\111473088_LGPF_EA\Figures\CH4_Atmospheric_Environment\Air Quality Management Monitoring Plan\Map8_AQMP_EmissionsMacLellan_Updated_NOA_20250226.mxd Review: 2025-02-26 By: ACampigotto

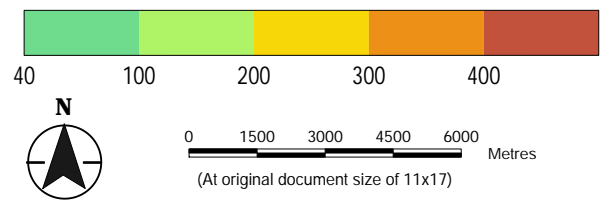


- Study Area**
- Proposed Open Pit
 - Project Development Area
 - Project Boundary
 - Air Quality Local Assessment Area

- Human Receptors**
- Lynn Lake Receptors
 - Black Sturgeon Reserve Receptors
 - Human Receptors
 - Potential Indigenous Receptor
 - Worker Camp

- Landbase**
- Highway
 - Access Road
 - Watercourse
 - Waterbody
 - First Nation Reserve

- Maximum Concentrations**
- Maximum Concentration (Gordon Site): 415 µg/m³
 - ▲ Maximum Concentration (MacLellan Site): 435 µg/m³
- Background Concentration: 7.5 µg/m³
- 1-hour NO₂ MAAQC: 400 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

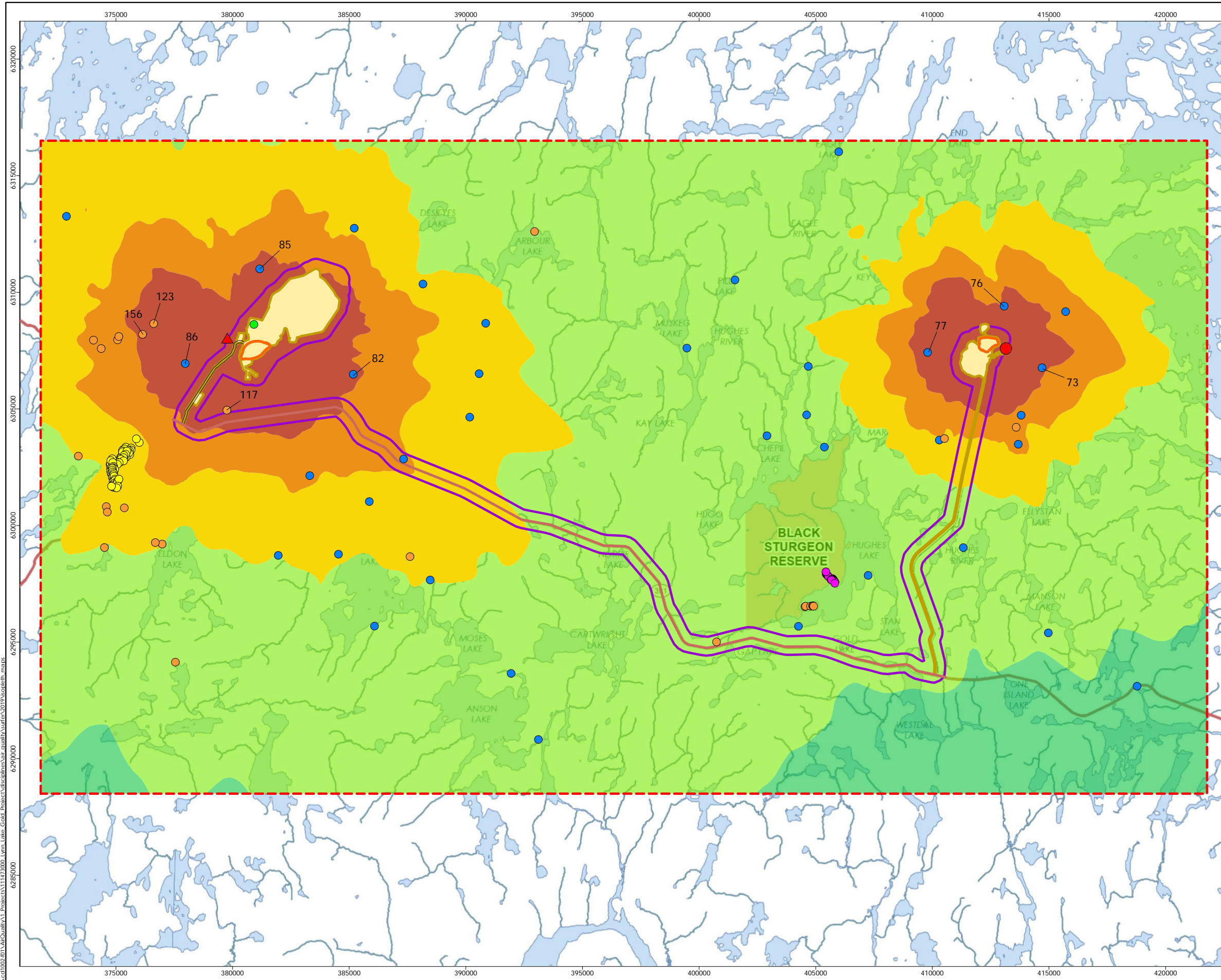
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project





111473076






Map No.
1






Title
Maximum Predicted 1-hour Average NO₂ Concentrations (µg/m³) (Project Operation + Baseline Conditions)



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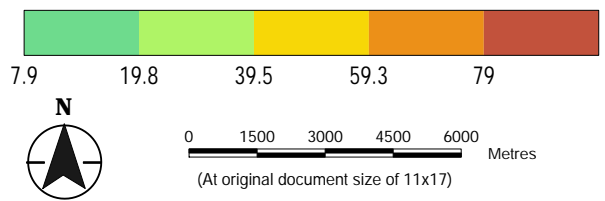


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 284 µg/m³
 -  Maximum Concentration (MacLellan Site): 186 µg/m³
 - Background Concentration: 7.5 µg/m³
 - 1-hour NO₂ CAAQS: 79 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by IYankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

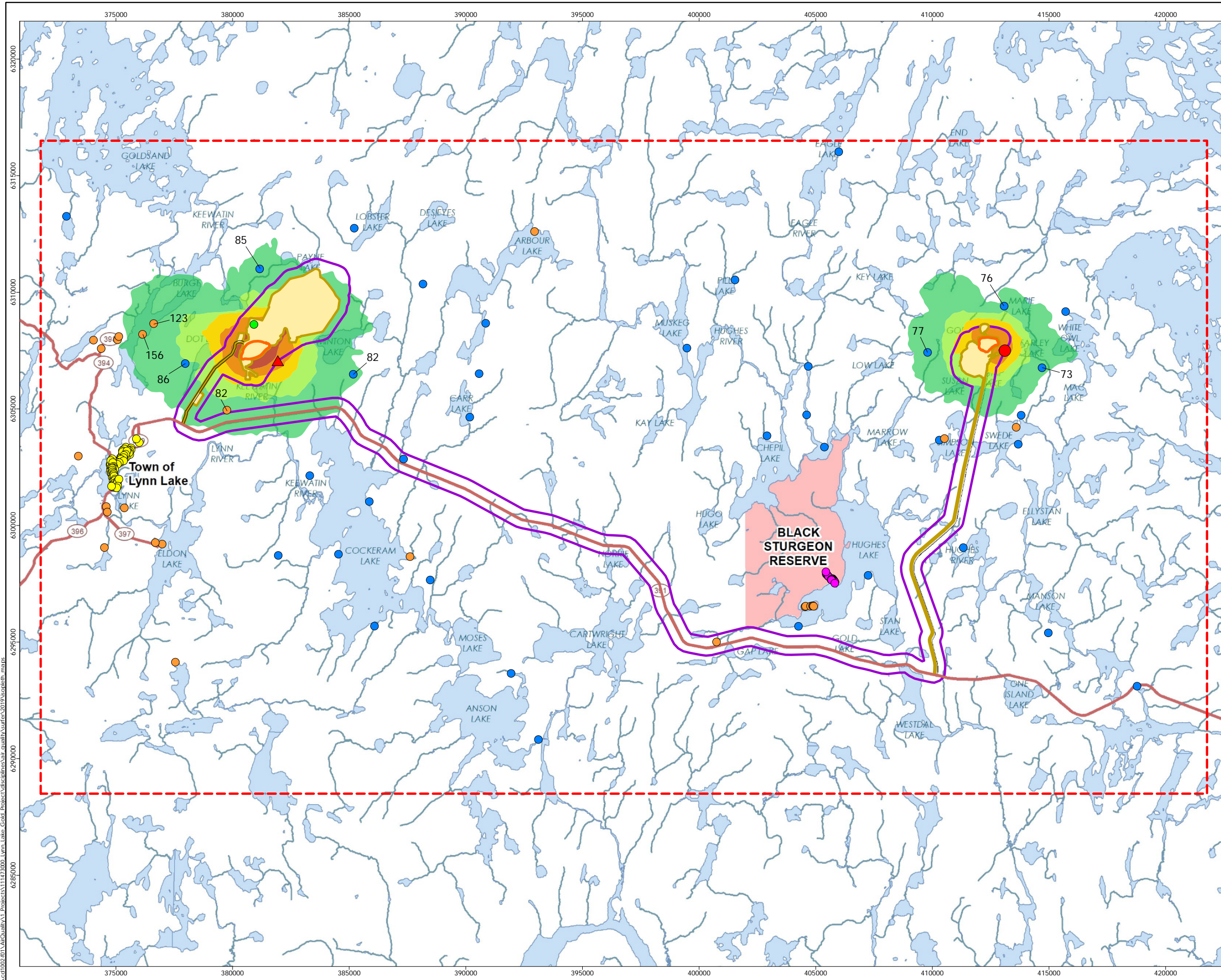
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473076





Map No.
2

Title






Maximum Predicted 98% Daily 1-hour Average NO₂ Concentrations (Project Operation + Baseline Conditions)








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

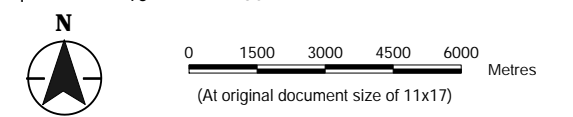
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Exceedances (Gordon Site): 101 days/year
-  Maximum Exceedances (MacLellan Site): 70 days/year
- Background Concentration: 7.5 µg/m³
- 1-hour NO₂ CAAQS: 79 µg/m³



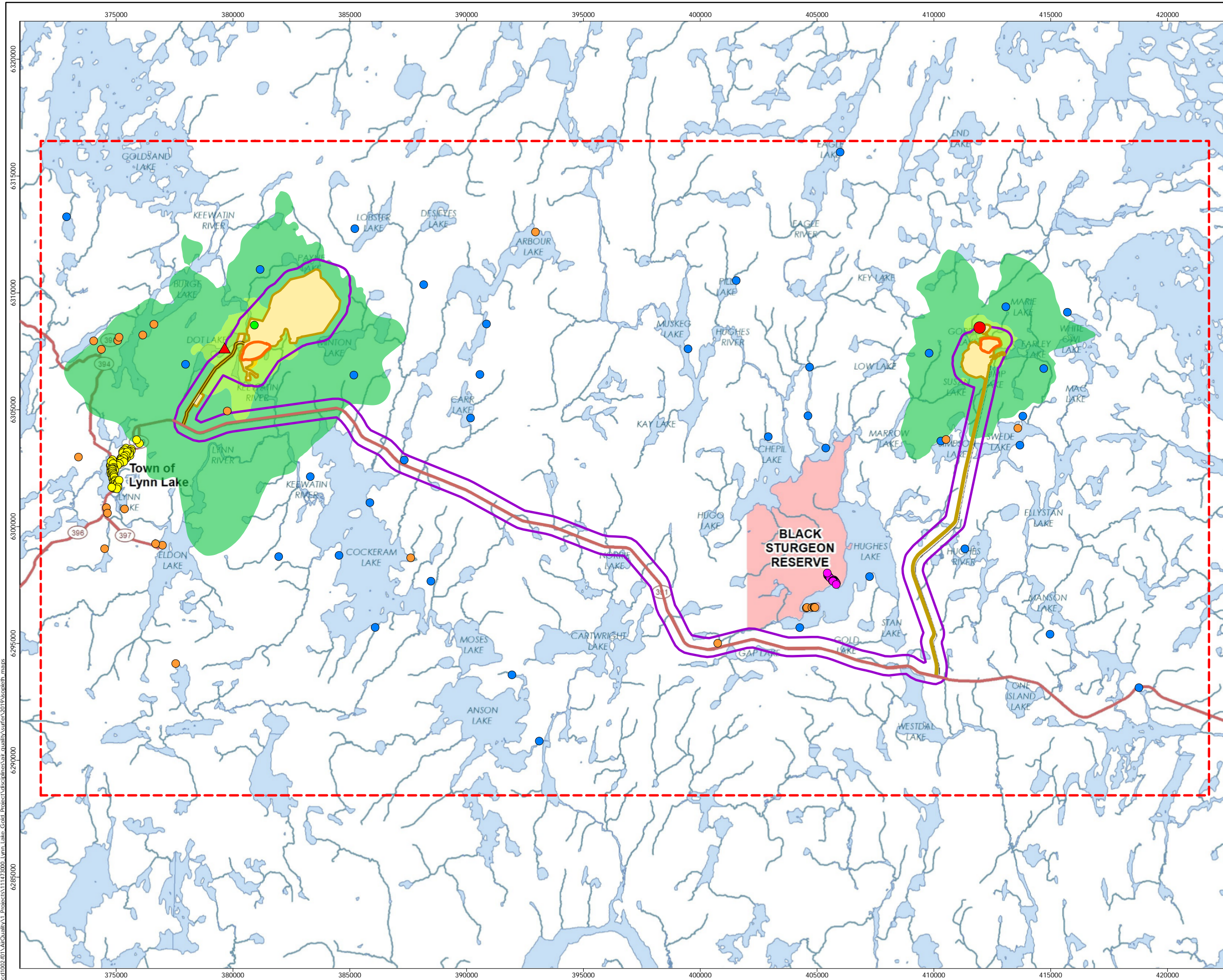
Notes
 1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarratt on 2024-07-11





Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project
 111473076

Map No.
3






Title
Maximum Frequency Exceedance of 98% Daily 1-hour Average NO₂ Concentrations (Project Operation + Baseline Conditions)








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

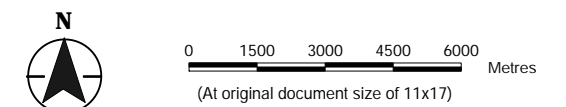
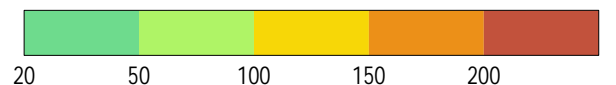
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Concentration (Gordon Site): 74.2 µg/m³
-  Maximum Concentration (MacLellan Site): 72.9 µg/m³
- Background Concentration: 5.6 µg/m³
- 24-hour NO₂ MAAQC: 200 µg/m³



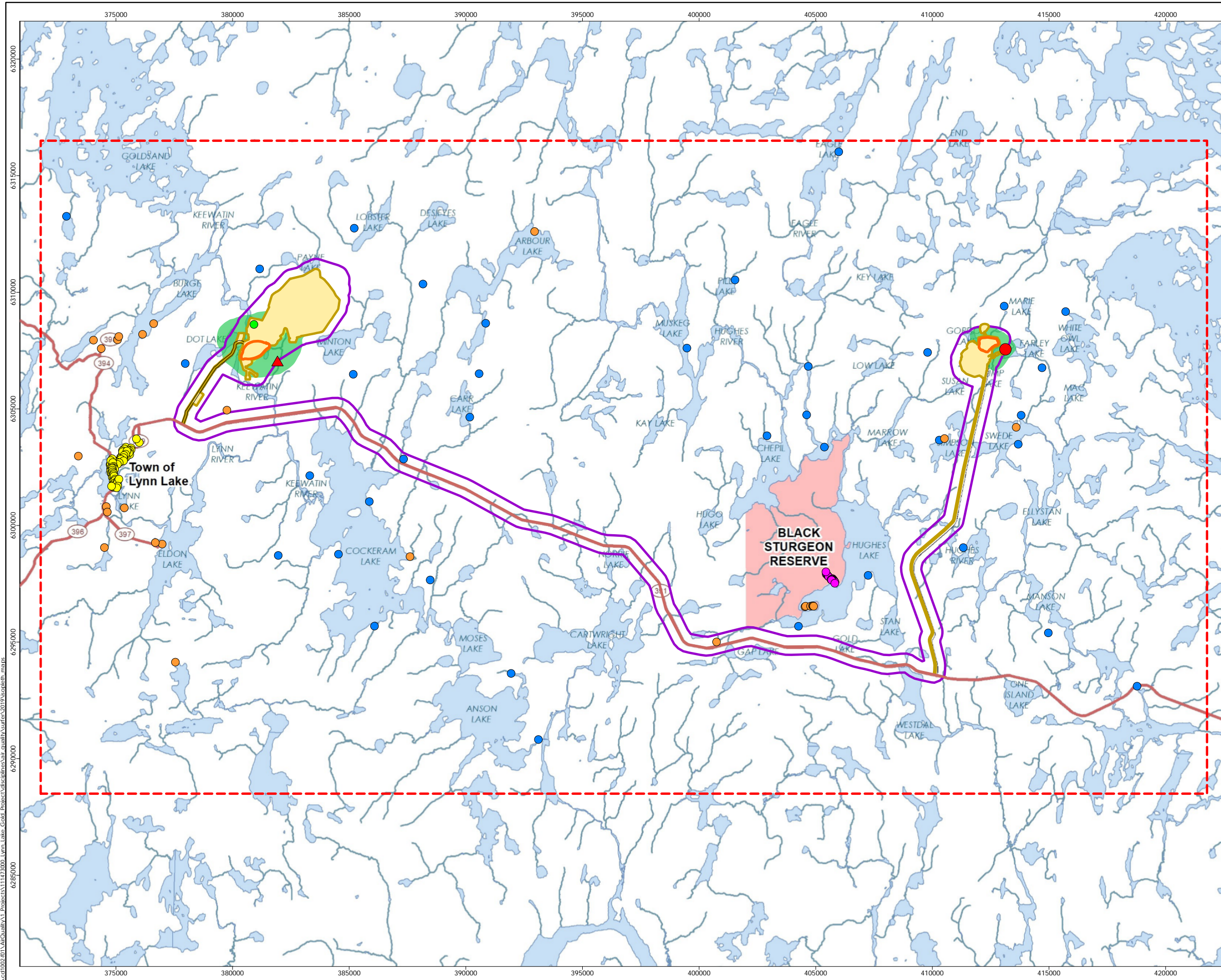
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
 2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location: Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrett on 2024-07-11

Client/Project: ALAMOS GOLD INC. Lynn Lake Gold Project
 111473076

Map No. **4**
 Title

**Maximum Predicted 24-hour Average
 NO₂ Concentrations (µg/m³)
 (Project Operation + Baseline Conditions)**

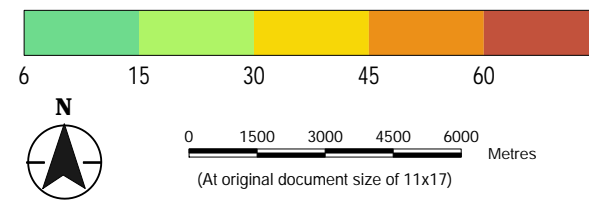


- Study Area**
- Proposed Open Pit
 - Project Development Area
 - Project Boundary
 - Air Quality Local Assessment Area

- Human Receptors**
- Lynn Lake Receptors
 - Black Sturgeon Reserve Receptors
 - Human Receptors
 - Potential Indigenous Receptor
 - Worker Camp

- Landbase**
- Highway
 - Access Road
 - Watercourse
 - Waterbody
 - First Nation Reserve

- Maximum Concentrations**
- Maximum Concentration (Gordon Site): 10.4 µg/m³
 - ▲ Maximum Concentration (MacLellan Site): 7.91 µg/m³
 - Background Concentration: 1.9 µg/m³
 - Annual NO₂ MAAQC: 60 µg/m³



Notes

- Coordinate System: NAD 1983 UTM Zone 14N
- Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

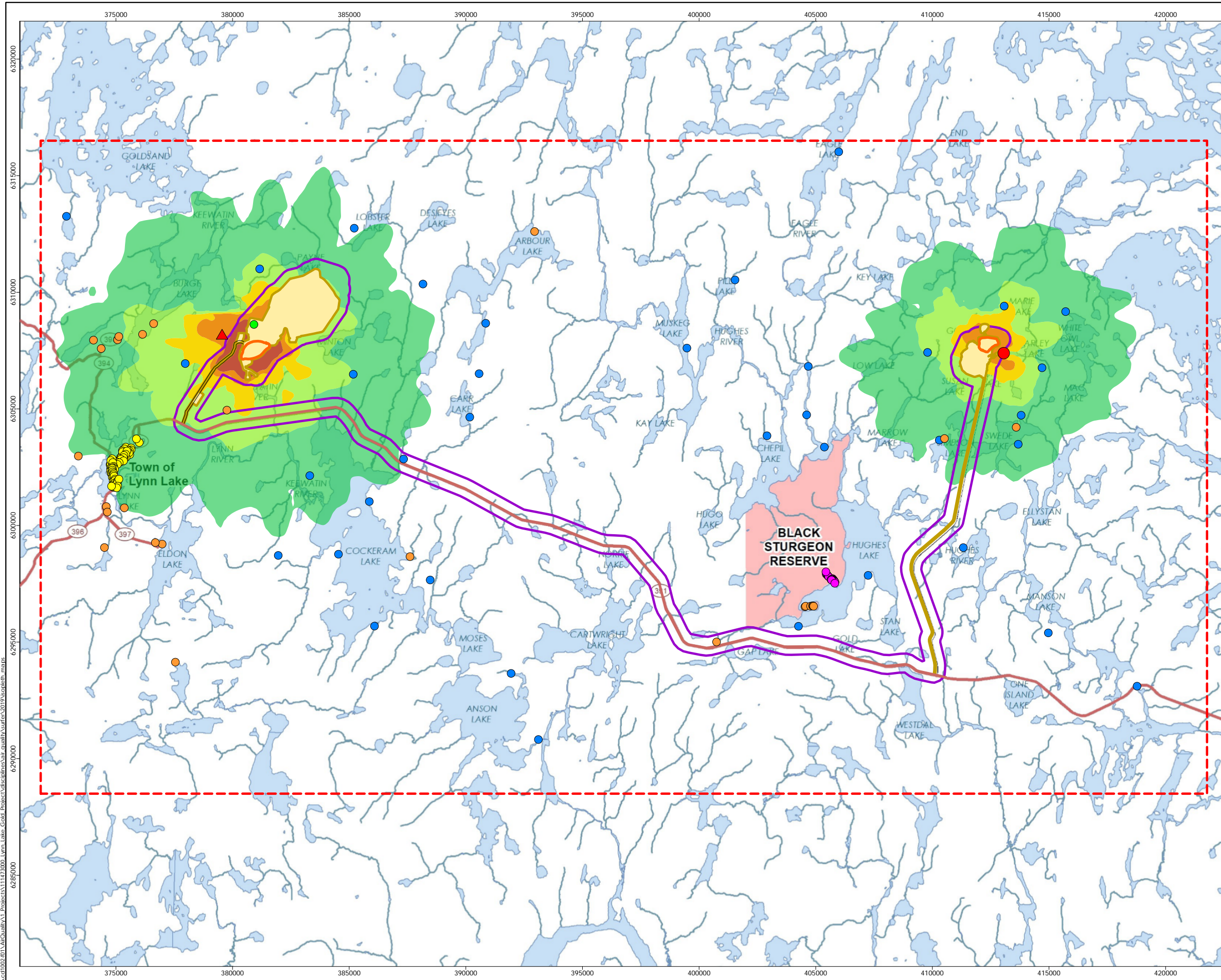
Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarrrat on 2024-07-11





Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project






111473076






Map No.
5



Title
Maximum Predicted Annual Average NO₂ Concentrations (µg/m³) (Project Operation + Baseline Conditions)

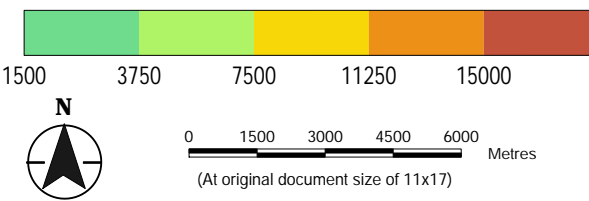


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 14832 µg/m³
 -  Maximum Concentration (MacLellan Site): 15406 µg/m³
 - Background Concentration: 406 µg/m³
 - 1-hour CO MAAQC: 15000 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrratt on 2024-07-11

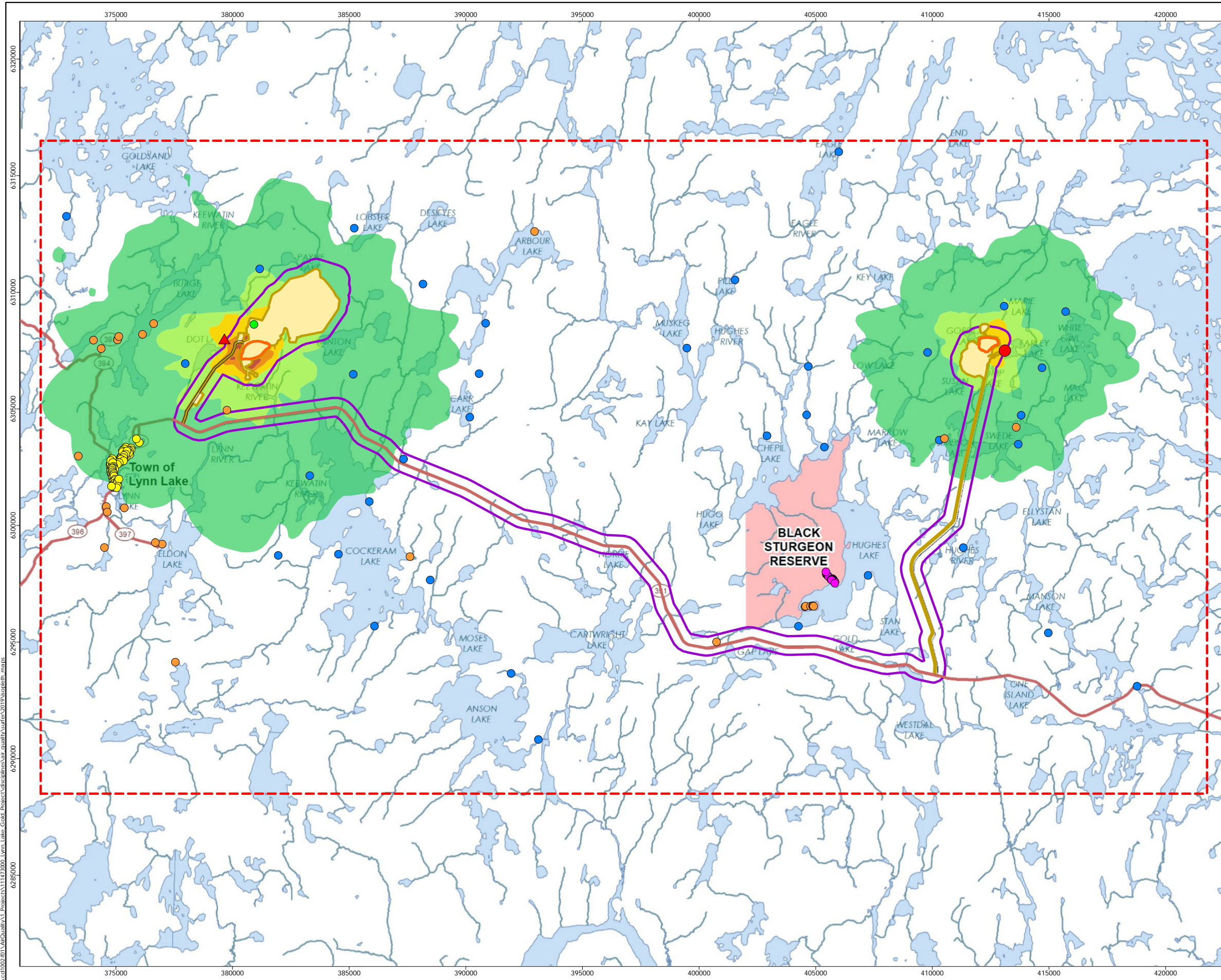
Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project





111473076






Map No.
6






Title



**Maximum Predicted 1-hour Average
 CO Concentrations (µg/m³)
 (Project Operation + Baseline Conditions)**

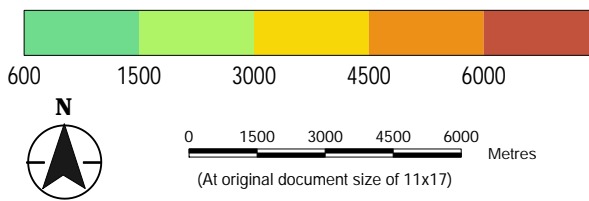


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 4345 µg/m³
 -  Maximum Concentration (MacLellan Site): 4567 µg/m³
 - Background Concentration: 406 µg/m³
 - 8-hour CO MAAQC: 6000 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

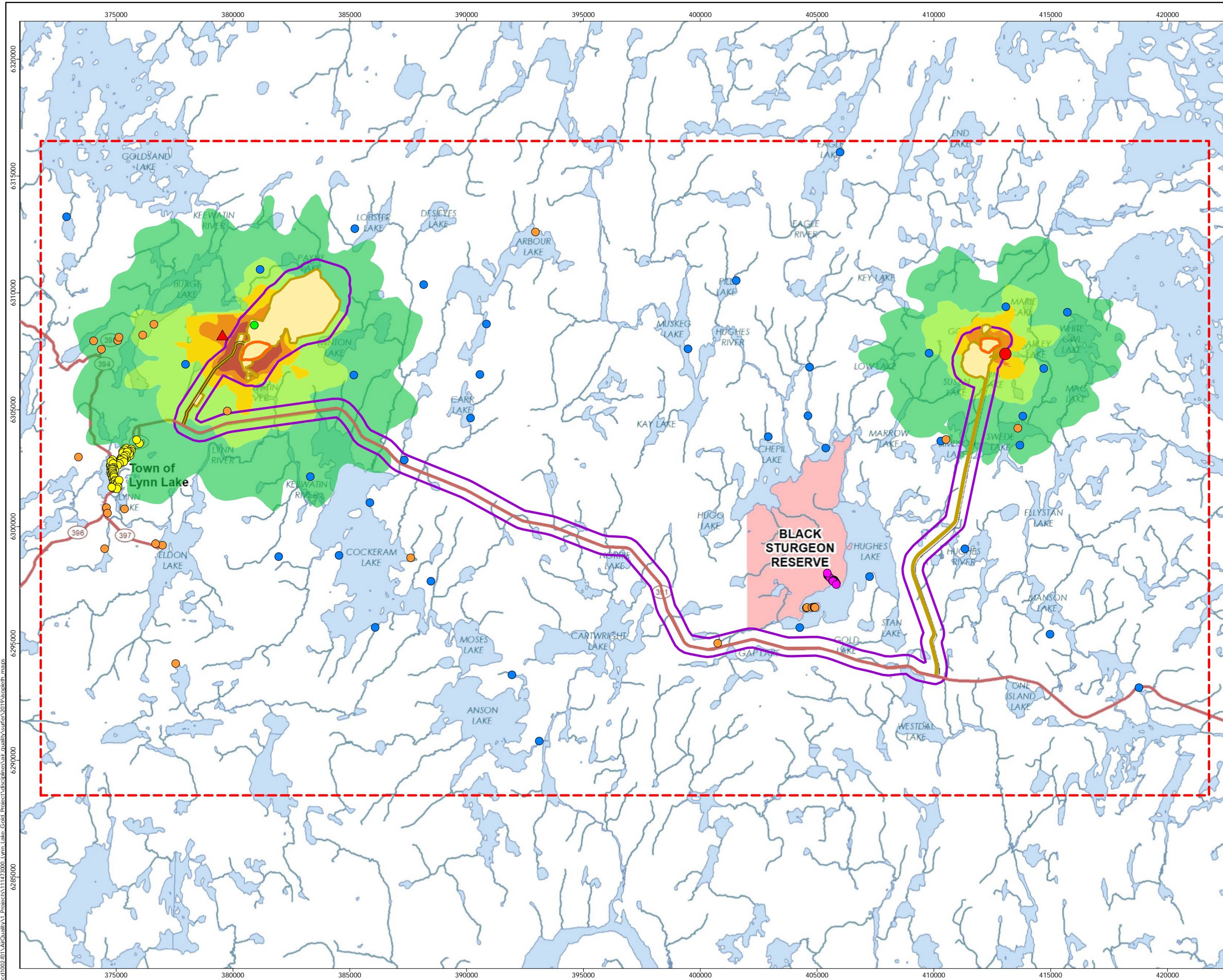
Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarrrat on 2024-07-11

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project





111473076

Map No.
7






Title
Maximum Predicted 8-hour Average CO Concentrations (µg/m³) (Project Operation + Baseline Conditions)








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

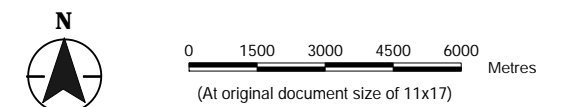
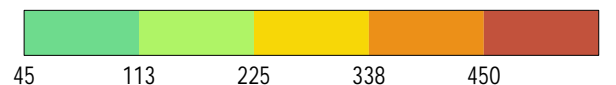
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Concentration (Gordon Site): 422 µg/m³
-  Maximum Concentration (MacLellan Site): 437 µg/m³
- Background Concentration: 6 µg/m³
- 1-hour SO₂ MAAQC: 450 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location

Lynn Lake,
Manitoba

Prepared by KBajwa on 2024-07-11

Technical Review by Yankova on 2024-07-12

Senior Review by DJarratt on 2024-07-11

Client/Project

ALAMOS GOLD INC.
Lynn Lake Gold Project

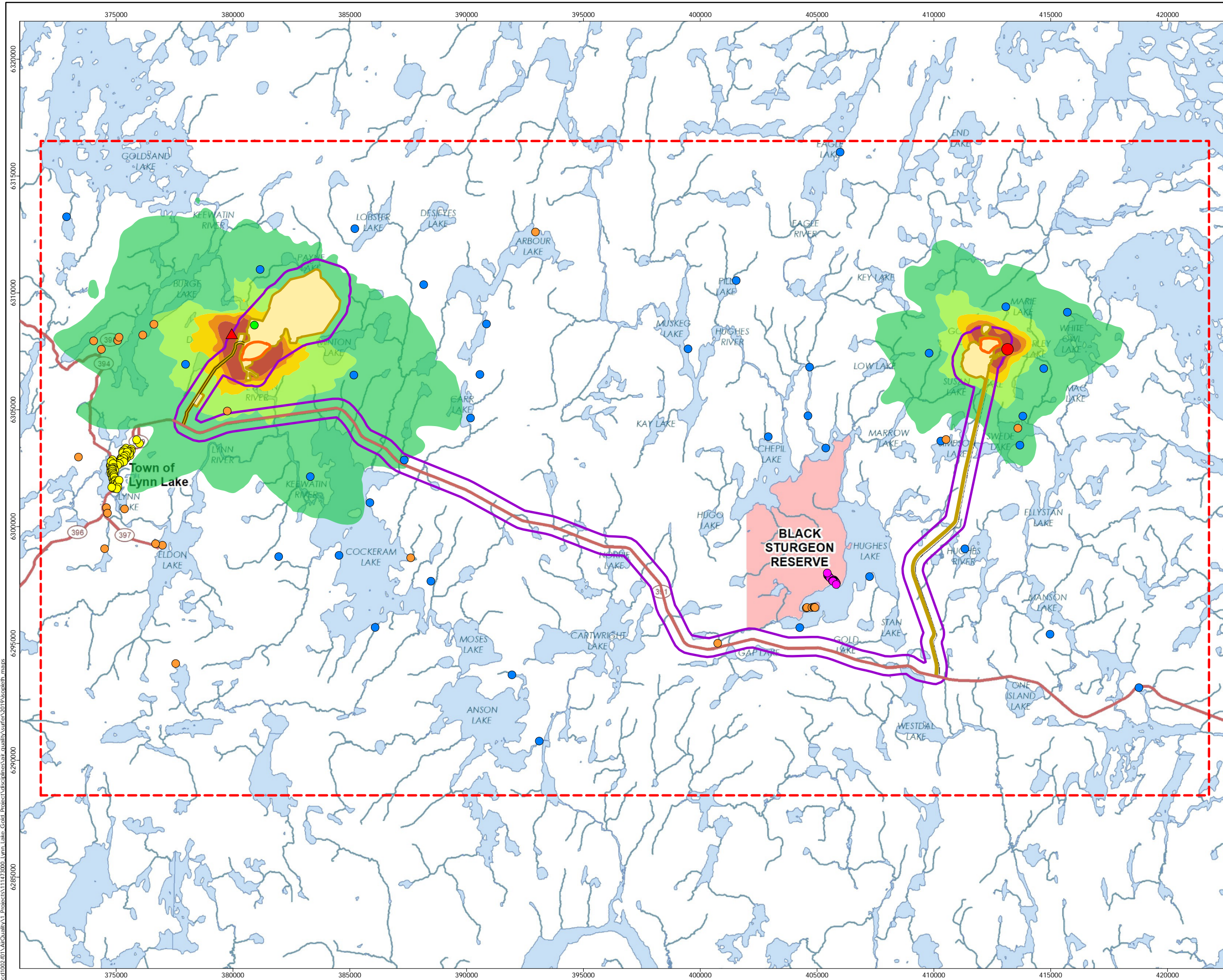
111473076

Map No.





8

Title






**Maximum Predicted 1-hour Average
SO₂ Concentrations (µg/m³)
(Project Operation + Baseline Conditions)**








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

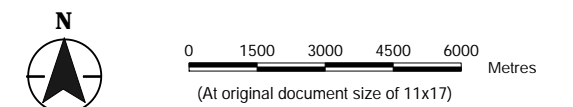
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Concentration (Gordon Site): 382 µg/m³
-  Maximum Concentration (MacLellan Site): 256 µg/m³
- Background Concentration: 6 µg/m³
- 1-hour SO₂ CAAQS: 170 µg/m³



Notes

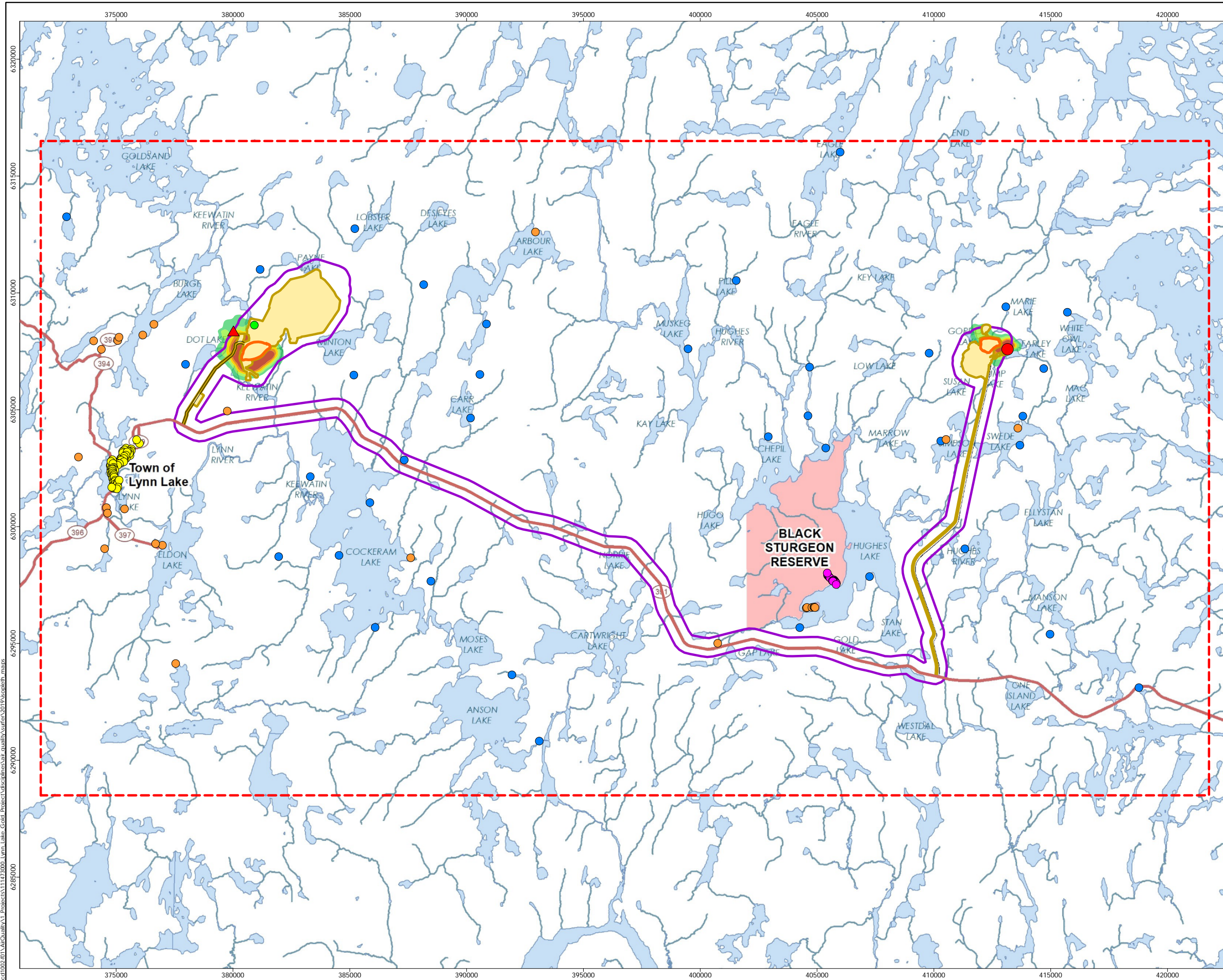
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location: Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarratt on 2024-07-11





Client/Project: ALAMOS GOLD INC. Lynn Lake Gold Project
 111473076

Map No. **9**






Maximum Predicted 99% Daily 1-hour Average SO₂ Concentrations (Project Operation + Baseline Conditions)








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

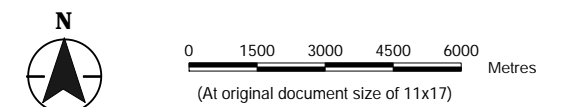
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Exceedances (Gordon Site): 12 days/year
-  Maximum Exceedances (MacLellan Site): 3 days/year
- Background Concentration: 6 µg/m³
- 1-hour SO₂ CAAQS: 170 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

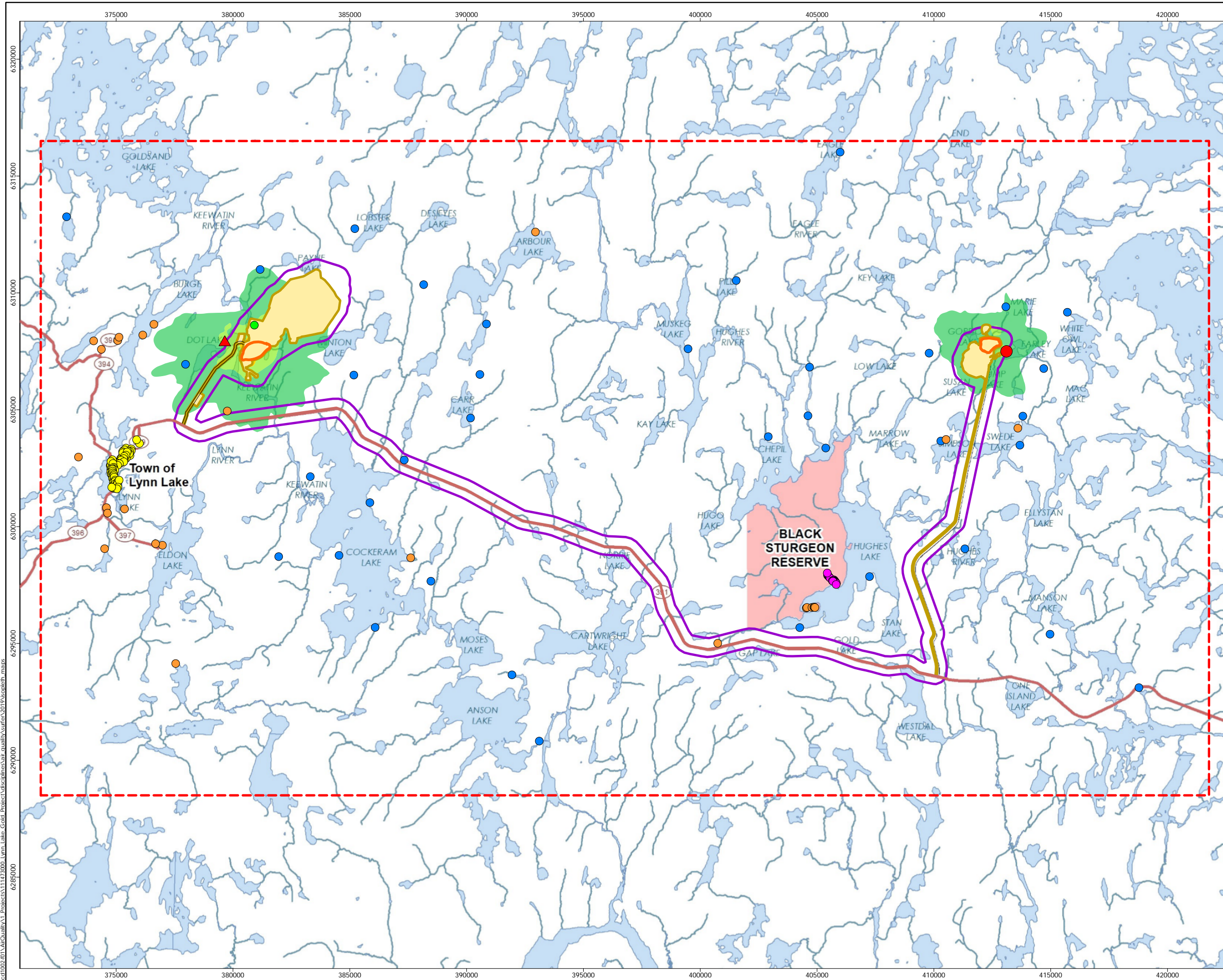
Project Location: Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrratt on 2024-07-11





Client/Project: ALAMOS GOLD INC. Lynn Lake Gold Project
 111473076






Map No. **10**
 Title



Maximum Frequency Exceedance of 99% Daily 1-hour Average SO₂ Concentrations (Project Operation + Baseline Conditions)



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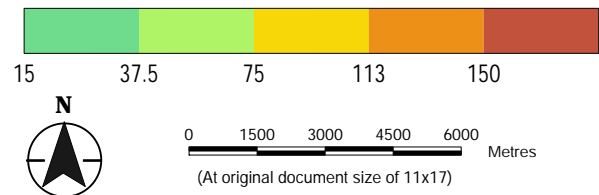


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 42.6 µg/m³
 -  Maximum Concentration (MacLellan Site): 44.6 µg/m³
 - Background Concentration: 6 µg/m³
 - 24-hour SO₂ MAAQC: 150 µg/m³



Notes

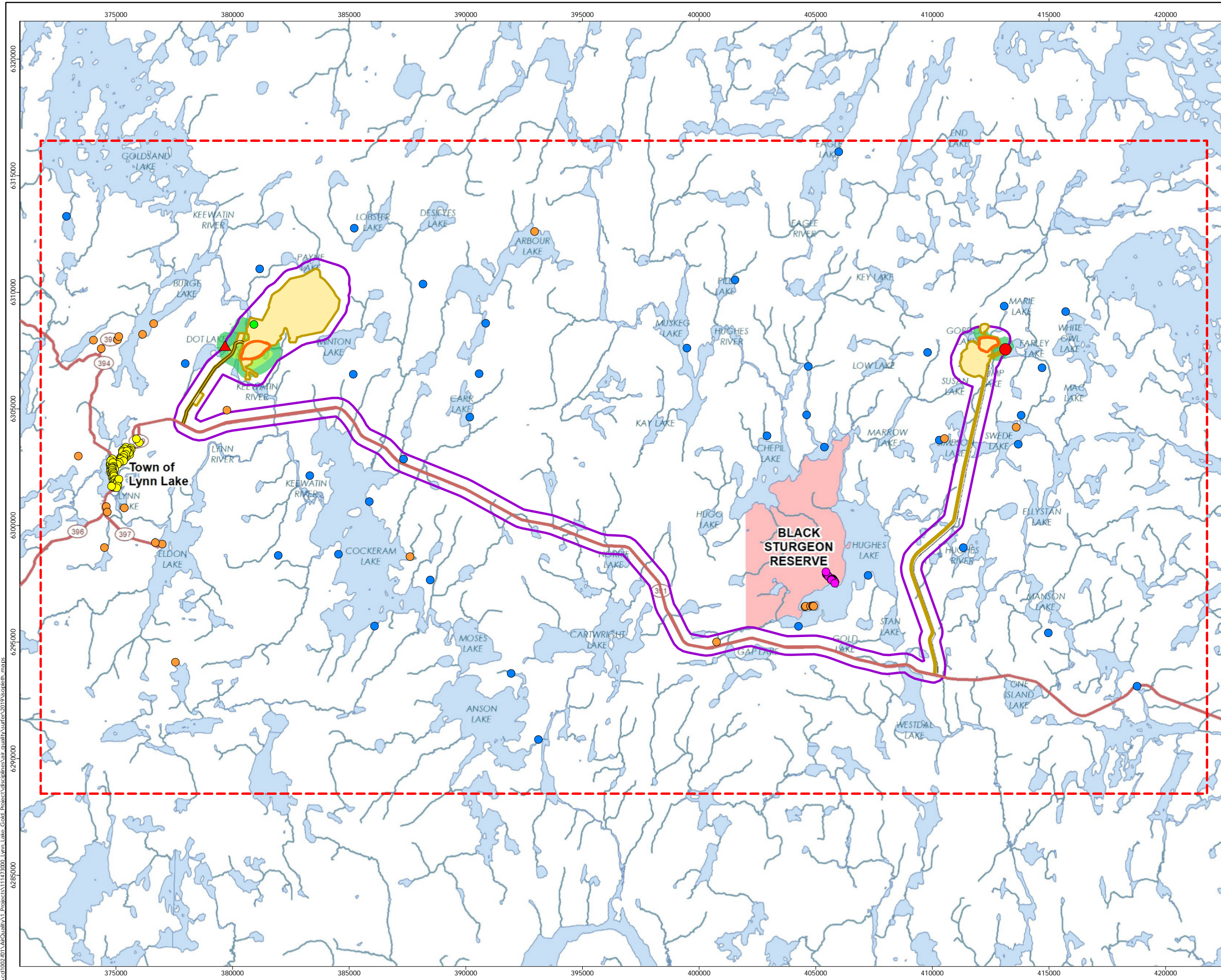
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada





Project Location: Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarratt on 2024-07-11






Client/Project: ALAMOS GOLD INC. Lynn Lake Gold Project
 111473076






Map No. **11**
 Title



Maximum Predicted 24-hour Average SO₂ Concentrations (µg/m³)
(Project Operation + Baseline Conditions)

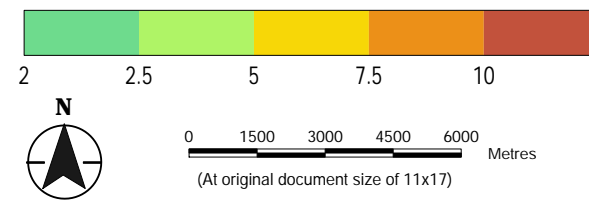


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 2.60 µg/m³
 -  Maximum Concentration (MacLellan Site): 2.18 µg/m³
 - Background Concentration: 1.5 µg/m³
 - Annual SO₂ CAAQS: 10 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrett on 2024-07-11

Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project

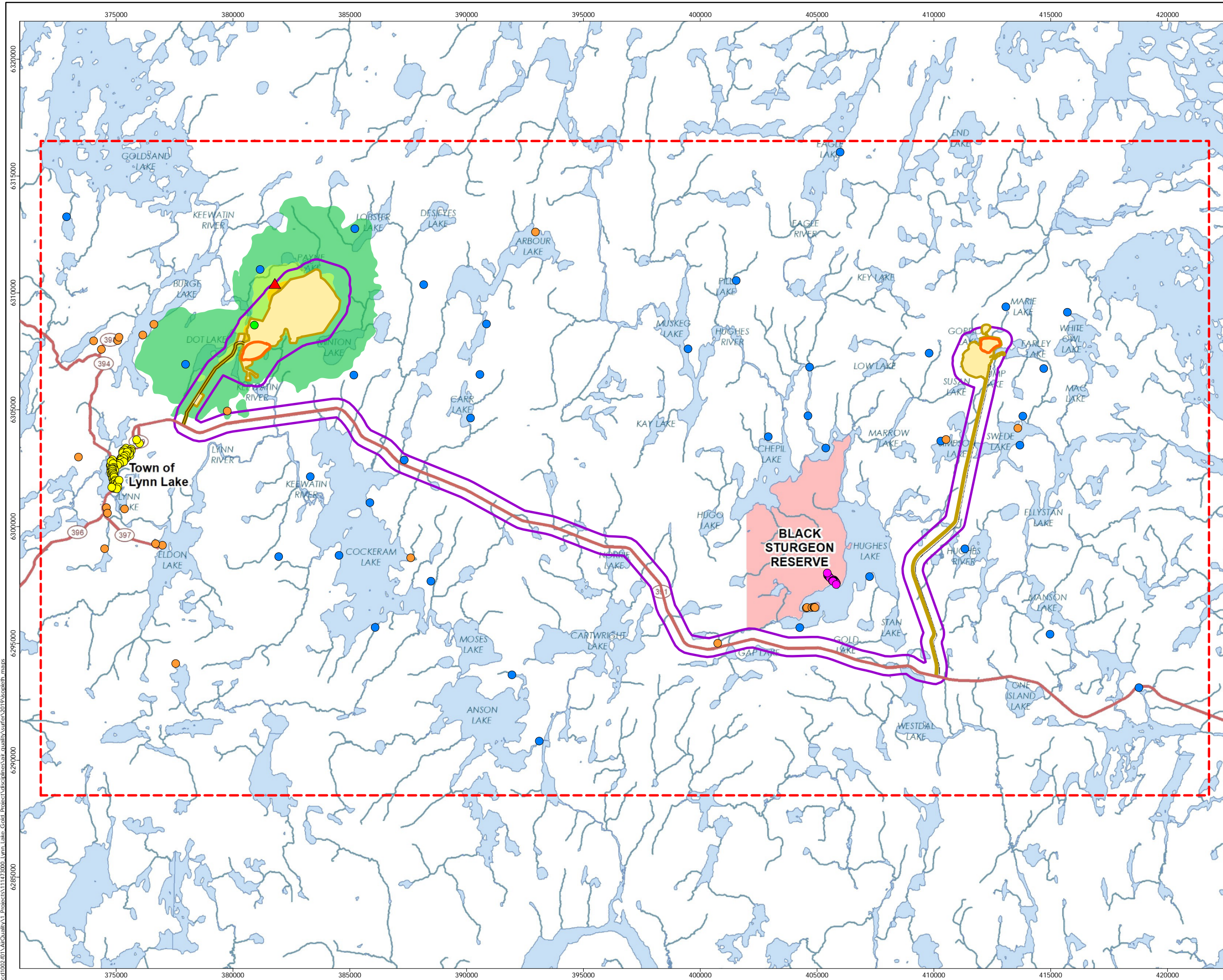
111473076

Map No.
12





Title

**Maximum Predicted Annual Average
 SO₂ Concentrations (µg/m³)
 (Project Operation + Baseline Conditions)**






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Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

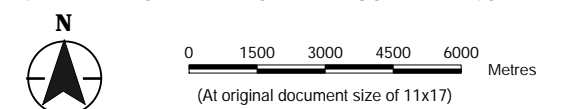
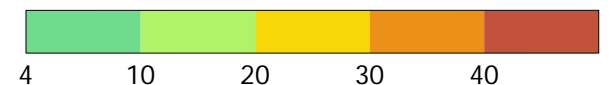
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Concentration (Gordon Site): 0 µg/m³
-  Maximum Concentration (MacLellan Site): 17.6 µg/m³
- Background Concentration: 0 µg/m³
- 1-hour HCN MAAQC: 40 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location

Lynn Lake,
Manitoba

Prepared by KBajwa on 2024-07-11

Technical Review by Yankova on 2024-07-12

Senior Review by DJarratt on 2024-07-11

Client/Project

ALAMOS GOLD INC.
Lynn Lake Gold Project

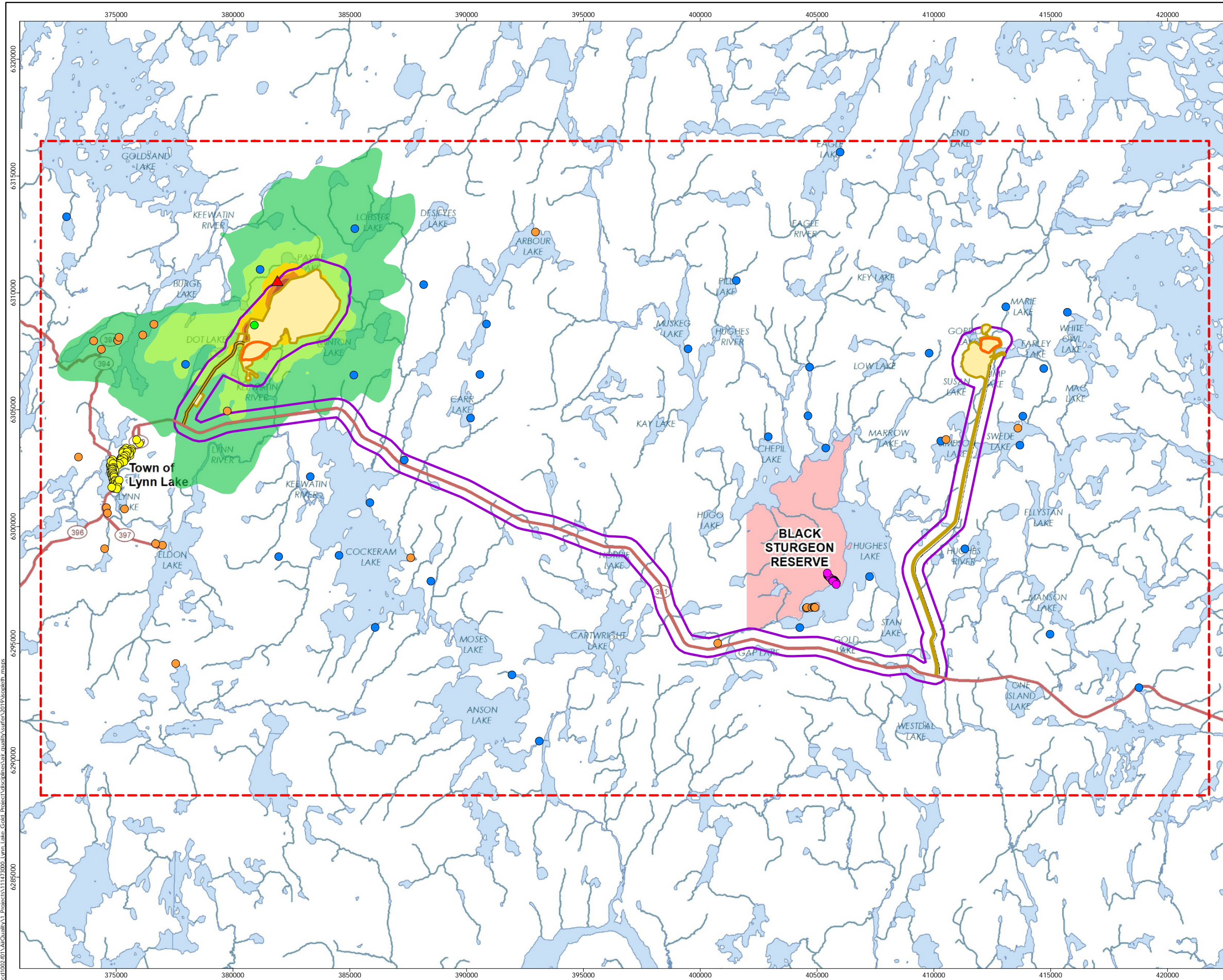
111473076

Map No.





13

Title






**Maximum Predicted 1-hour Average
HCN Concentrations (µg/m³)
(Project Operation + Baseline Conditions)**








Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

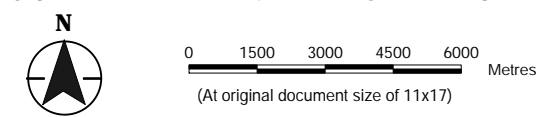
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Concentration (Gordon Site): 0 µg/m³
-  Maximum Concentration (MacLellan Site): 6.79 µg/m³
- Background Concentration: 0 µg/m³
- 24-hour HCN OAAQC: 8 µg/m³



Notes

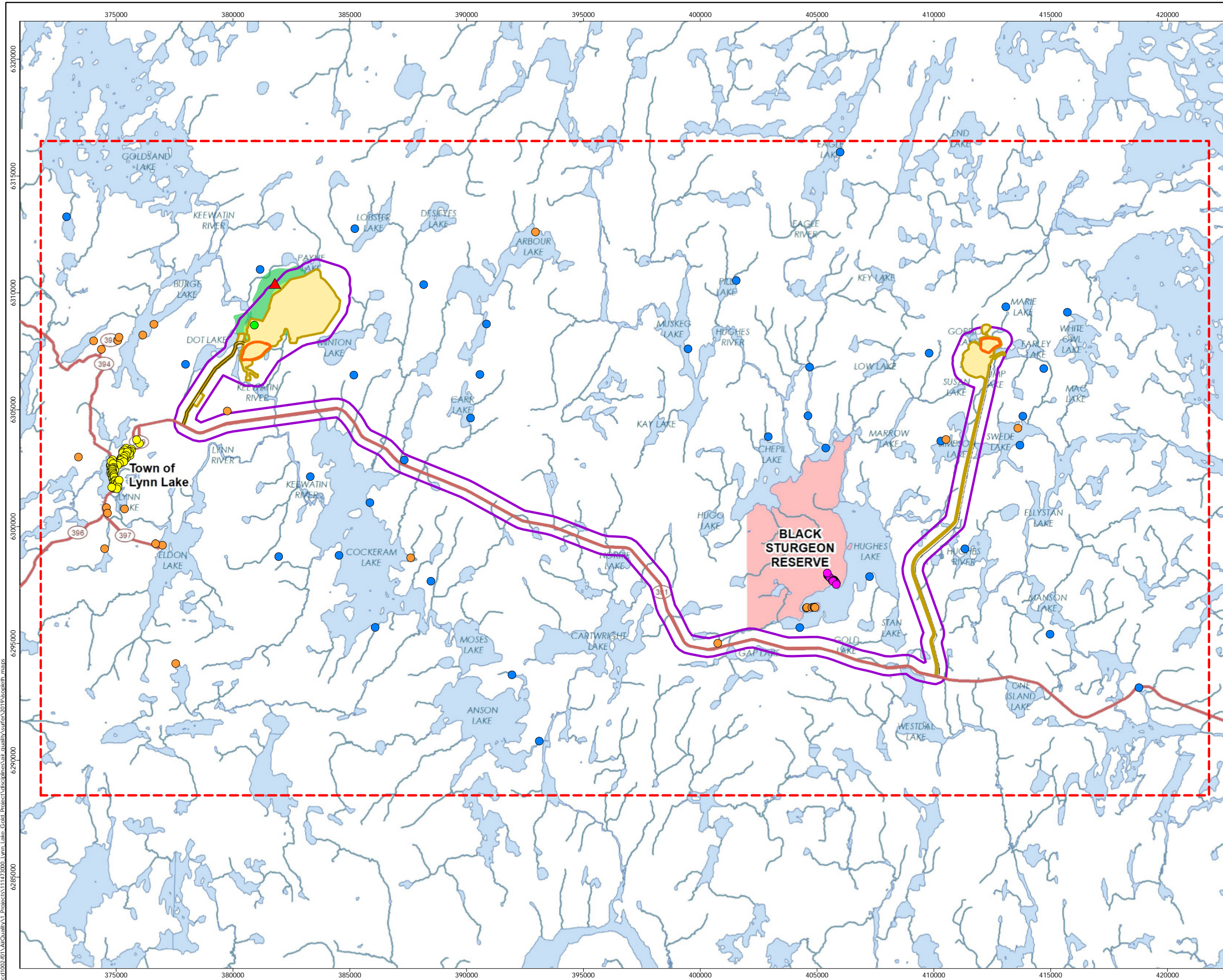
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location: Lynn Lake, Manitoba
 Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrett on 2024-07-11

Client/Project: ALAMOS GOLD INC.
 Lynn Lake Gold Project
 111473076

Map No. **14**
 Title

**Maximum Predicted 24-hour Average
 HCN Concentrations (µg/m³)
 (Project Operation + Baseline Conditions)**

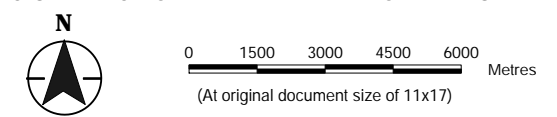
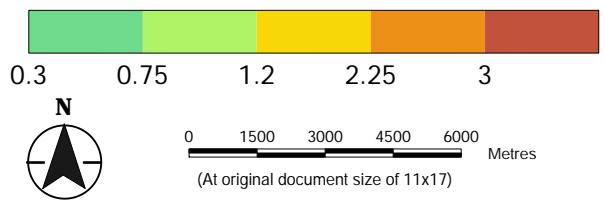


- Study Area**
- Proposed Open Pit
 - Project Development Area
 - Project Boundary
 - Air Quality Local Assessment Area

- Human Receptors**
- Lynn Lake Receptors
 - Black Sturgeon Reserve Receptors
 - Human Receptors
 - Potential Indigenous Receptor
 - Worker Camp

- Landbase**
- Highway
 - Access Road
 - Watercourse
 - Waterbody
 - First Nation Reserve

- Maximum Concentrations**
- Maximum Concentration (Gordon Site): 0 µg/m³
 - ▲ Maximum Concentration (MacLellan Site): 0.553 µg/m³
 - Background Concentration: 0 µg/m³
 - Annual HCN MAAQC: 3 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

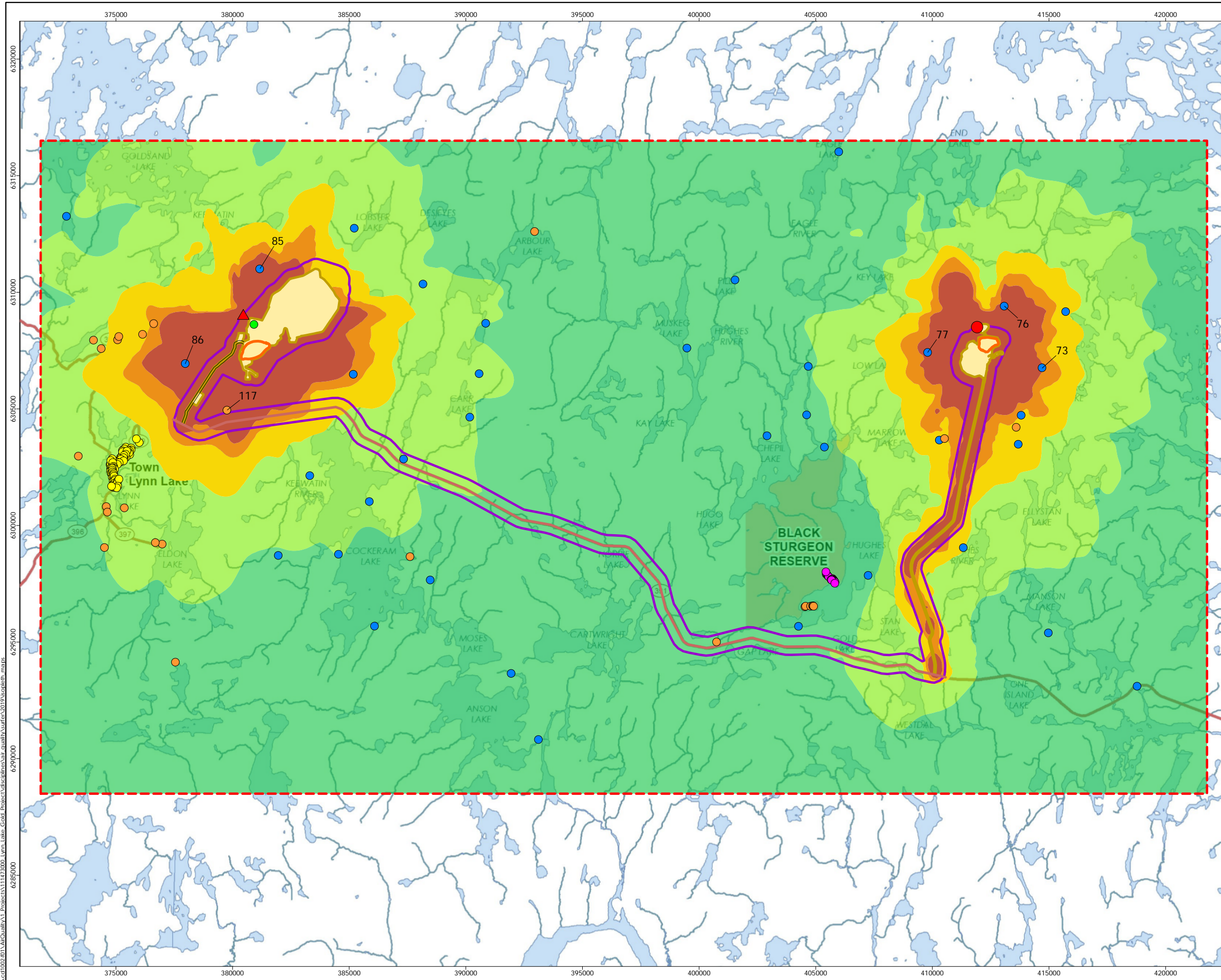
Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarrrat on 2024-07-11





Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project






111473076






Map No.
15



Title
Maximum Predicted Annual Average HCN Concentrations (µg/m³) (Project Operation + Baseline Conditions)

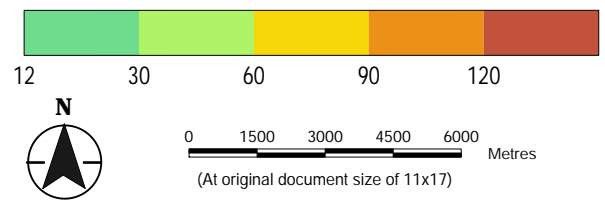


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 734 µg/m³
 -  Maximum Concentration (MacLellan Site): 437 µg/m³
- Background Concentration: 10.5 µg/m³
- 24-hour TSP MAAQC: 120 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

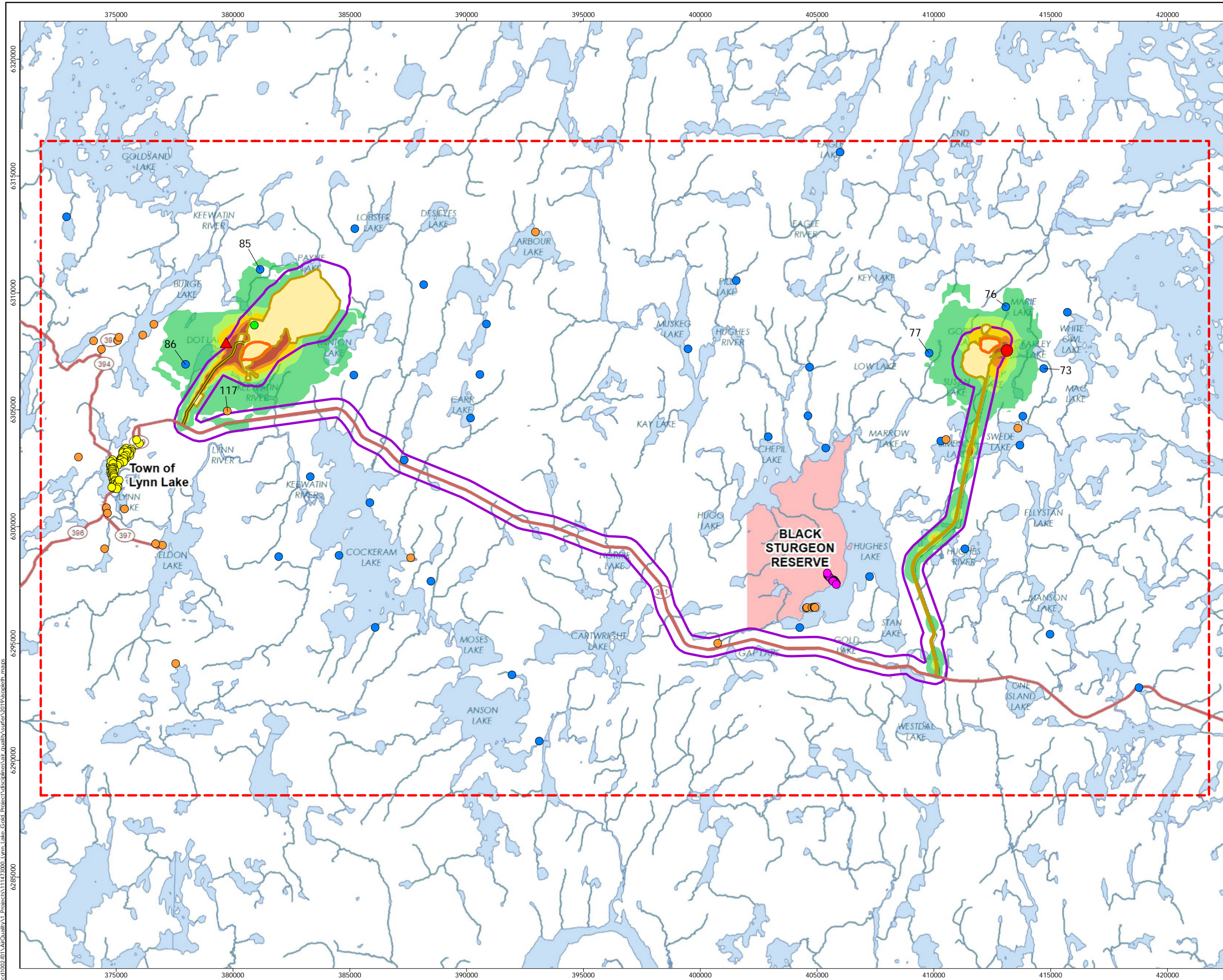
Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarrett on 2024-07-11

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473076

Map No.
16

Title
Maximum Predicted 24-hour Average TSP Concentrations (µg/m³) (Project Operation + Baseline Conditions)

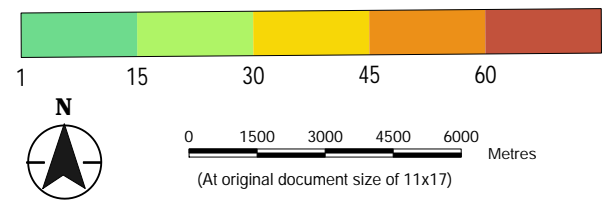


- Study Area**
- Proposed Open Pit
 - Project Development Area
 - Project Boundary
 - Air Quality Local Assessment Area

- Human Receptors**
- Lynn Lake Receptors
 - Black Sturgeon Reserve Receptors
 - Human Receptors
 - Potential Indigenous Receptor
 - Worker Camp

- Landbase**
- Highway
 - Access Road
 - Watercourse
 - Waterbody
 - First Nation Reserve

- Maximum Concentrations**
- Maximum Exceedances (Gordon Site): 94 days/year
 - Maximum Exceedances (MacLellan Site): 50 days/year
- Background Concentration: 10.5 µg/m³
 24-hour TSP MAAQC: 120 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrett on 2024-07-11

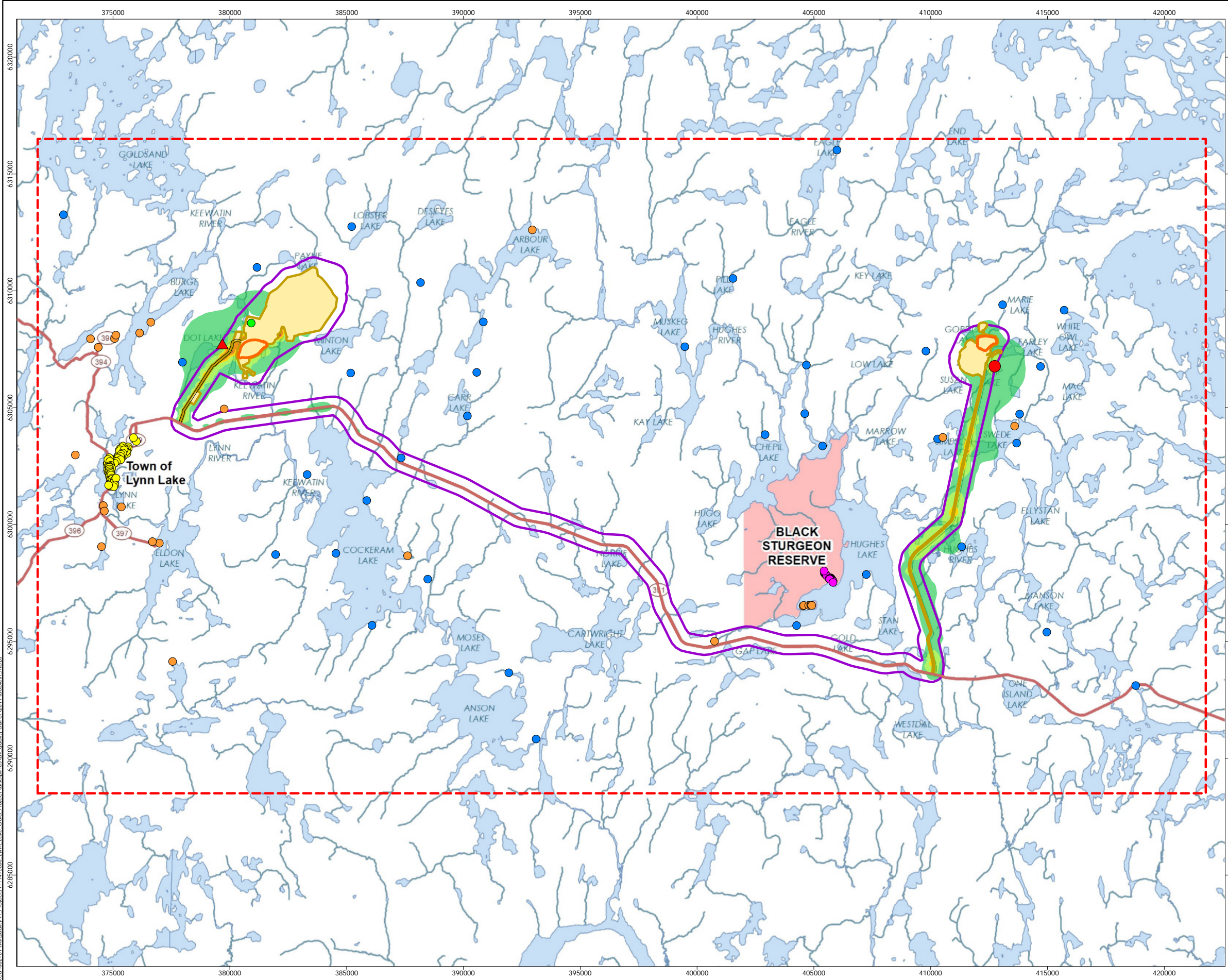
Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project





111473076






Map No.
17






Title



Maximum Frequency Exceedance of 24-hour Average Level TSP Concentrations (Project Operation + Baseline Conditions)

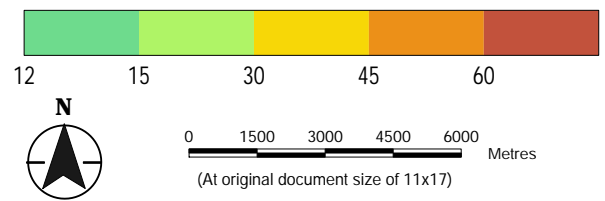


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 15.8 µg/m³
 -  Maximum Concentration (MacLellan Site): 14.1 µg/m³
 - Background Concentration: 10.5 µg/m³
 - Annual TSP MAAQC: 60 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
 Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
 Technical Review by Yankova on 2024-07-12
 Senior Review by DJarrett on 2024-07-11

Client/Project
 ALAMOS GOLD INC.
 Lynn Lake Gold Project

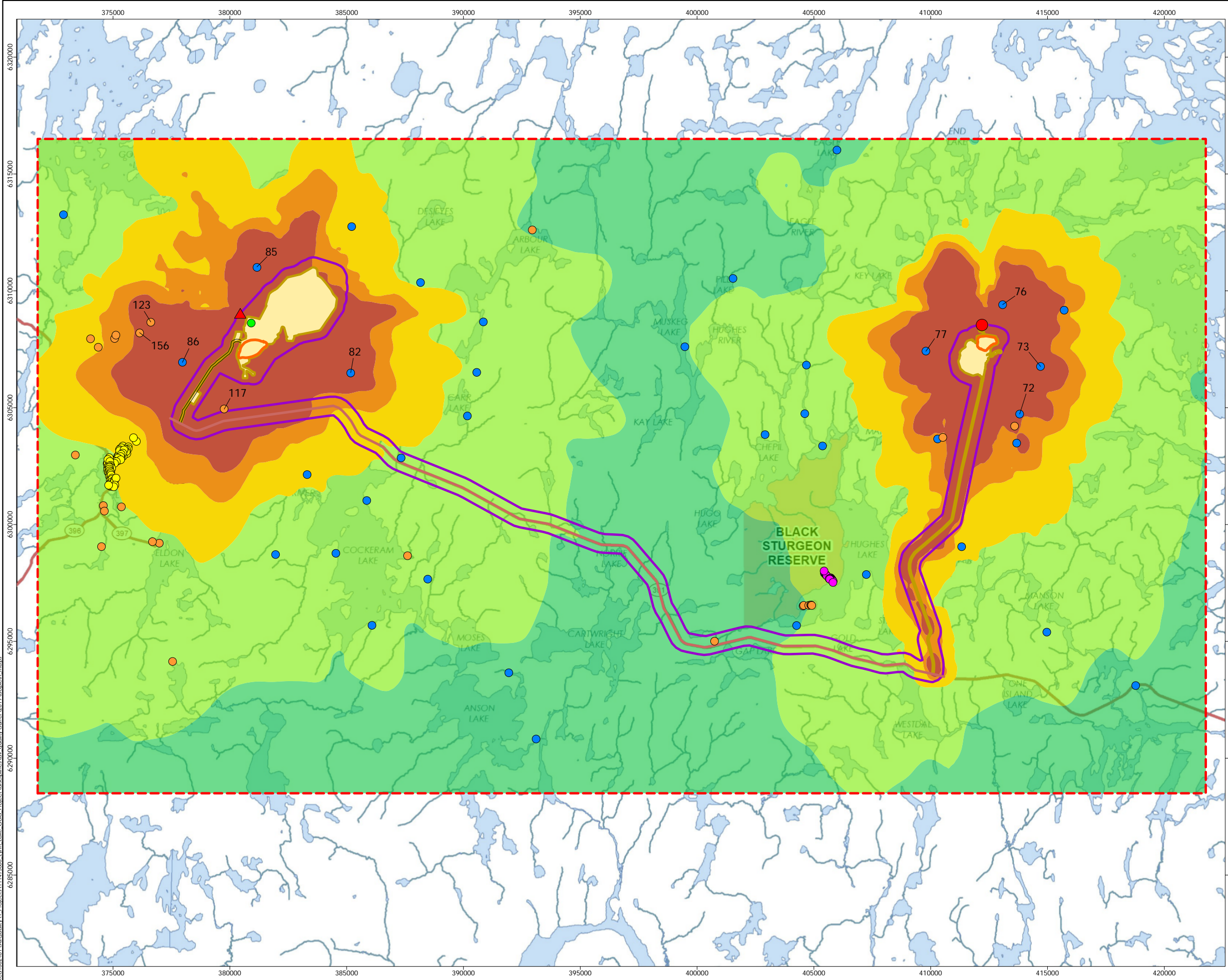
111473076





Map No.
18






Title






**Maximum Predicted Annual Average
 TSP Concentrations (µg/m³)
 (Project Operation + Baseline Conditions)**



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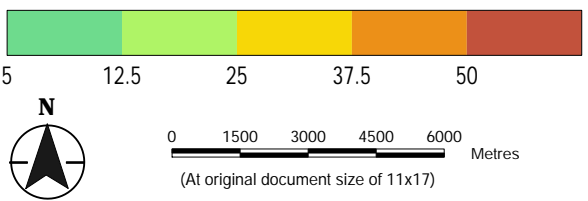


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 406 µg/m³
 -  Maximum Concentration (MacLellan Site): 247 µg/m³
- Background Concentration: 4.6 µg/m³
- 24-hour PM₁₀ MAAQC: 50 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by IYankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

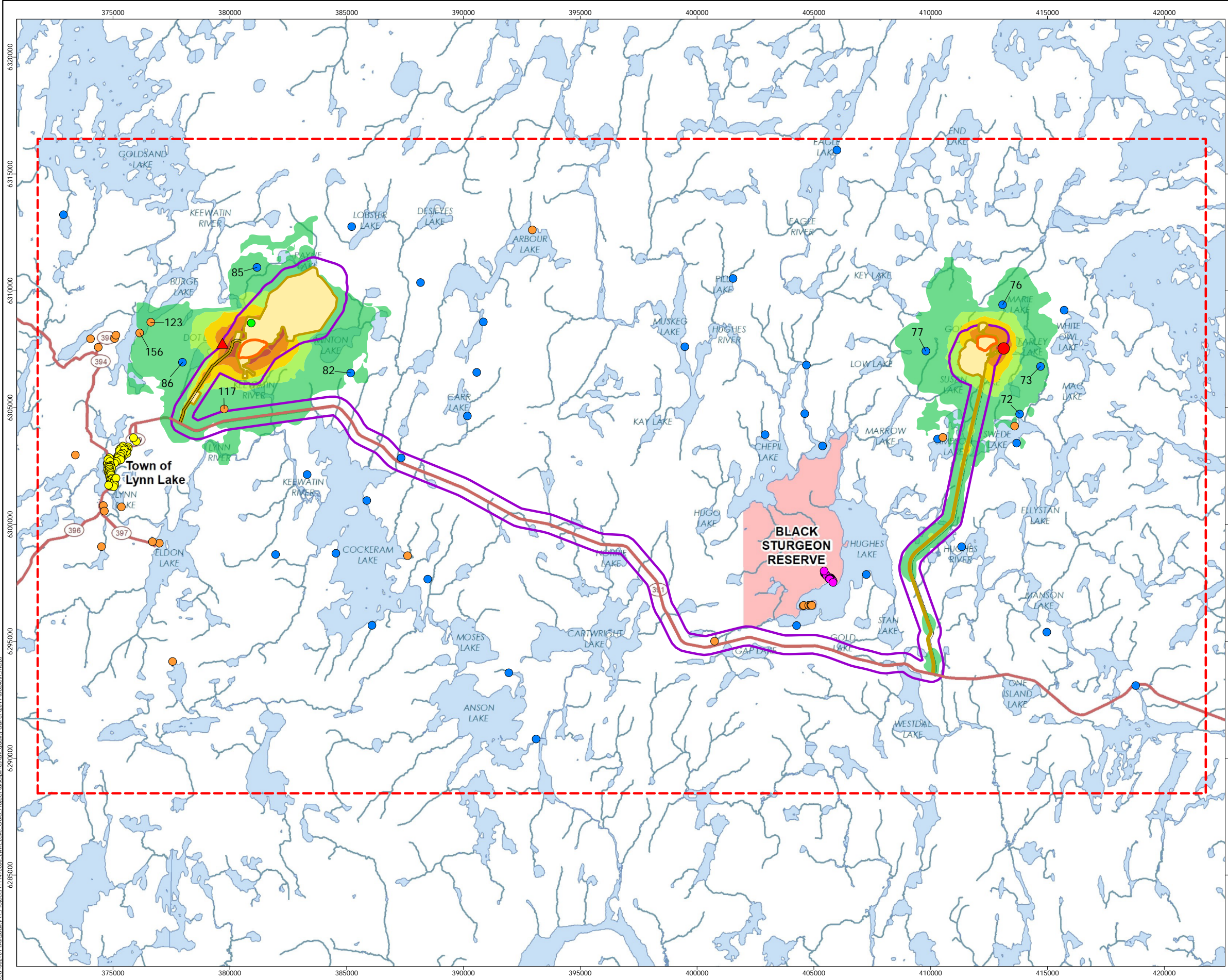
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project





111473076






Map No.
19






Title



Maximum Predicted 24-hour Average PM₁₀ Concentrations (µg/m³)
(Project Operation + Baseline Conditions)

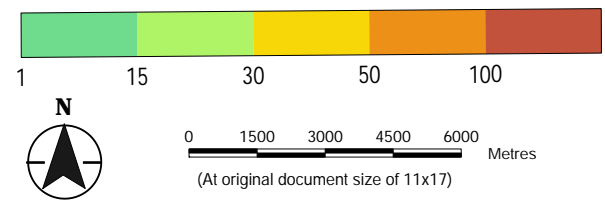


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Exceedances (Gordon Site): 119 days/year
 -  Maximum Exceedances (MacLellan Site): 70 days/year
- Background Concentration: 4.6 µg/m³
- 24-hour PM₁₀ MAAQC: 50 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

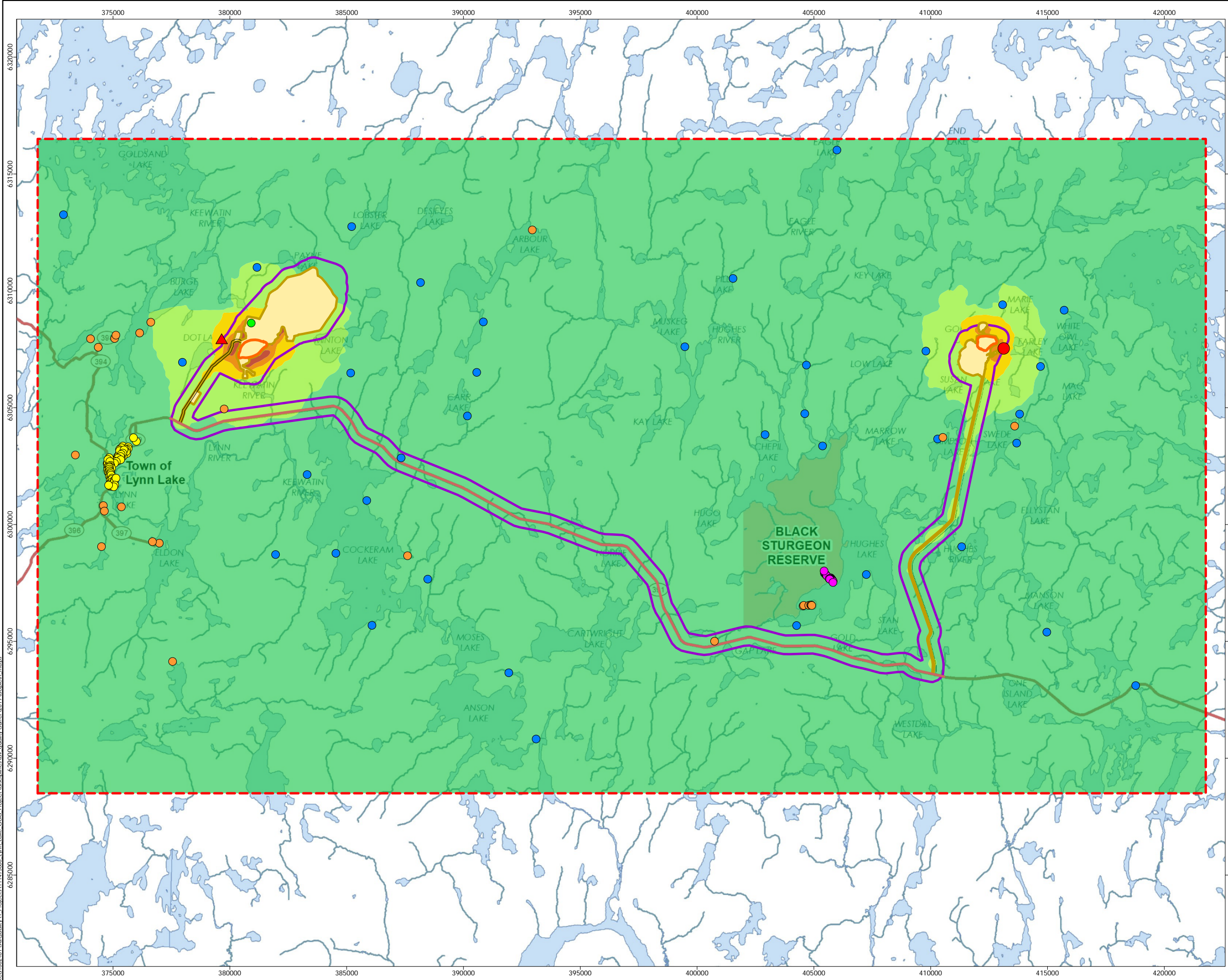
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project





111473076






Map No.
20






Title



Maximum Frequency Exceedance of 24-hour Average Level PM₁₀ Concentrations (Project Operation + Baseline Conditions)

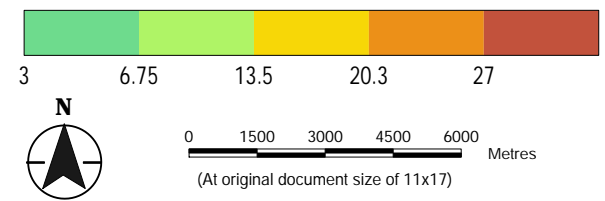


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 25.7 µg/m³
 -  Maximum Concentration (MacLellan Site): 18.6 µg/m³
 - Background Concentration: 2.9 µg/m³
 - 24-hour PM_{2.5} CAAQS: 27 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

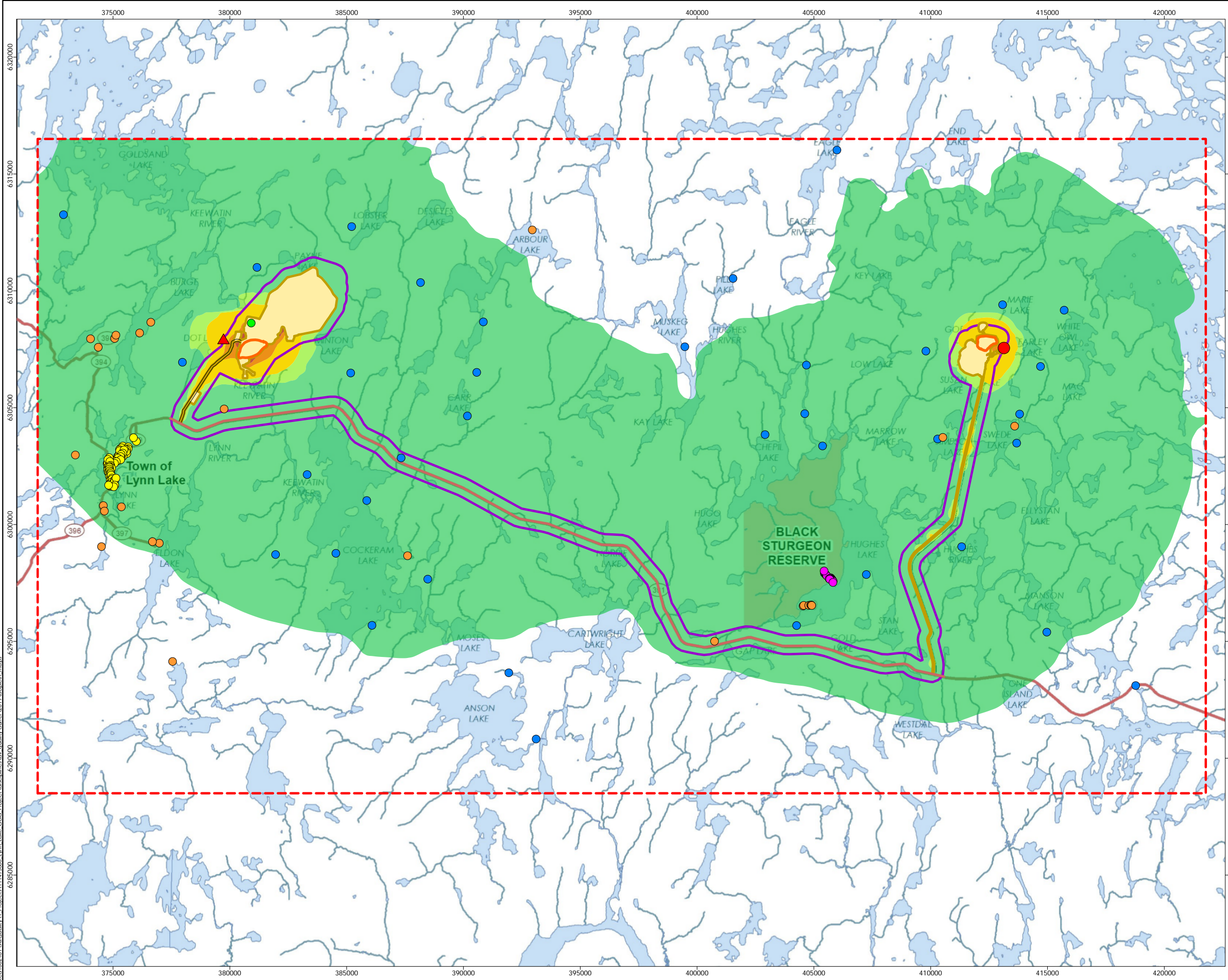
Prepared by KBajwa on 2024-07-11
Technical Review by IYankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11





Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project






111473076






Map No.
21



Title
Maximum Predicted 98% 24-hour Average PM_{2.5} Concentrations (Project Operation + Baseline Conditions)

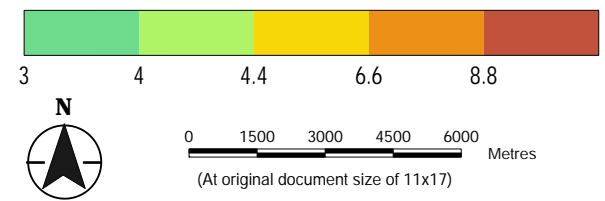


- Study Area**
-  Proposed Open Pit
 -  Project Development Area
 -  Project Boundary
 -  Air Quality Local Assessment Area

- Human Receptors**
-  Lynn Lake Receptors
 -  Black Sturgeon Reserve Receptors
 -  Human Receptors
 -  Potential Indigenous Receptor
 -  Worker Camp

- Landbase**
-  Highway
 -  Access Road
 -  Watercourse
 -  Waterbody
 -  First Nation Reserve

- Maximum Concentrations**
-  Maximum Concentration (Gordon Site): 7.40 µg/m³
 -  Maximum Concentration (MacLellan Site): 5.57 µg/m³
 - Background Concentration: 2.9 µg/m³
 - Annual PM_{2.5} CAAQS: 8.8 µg/m³



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

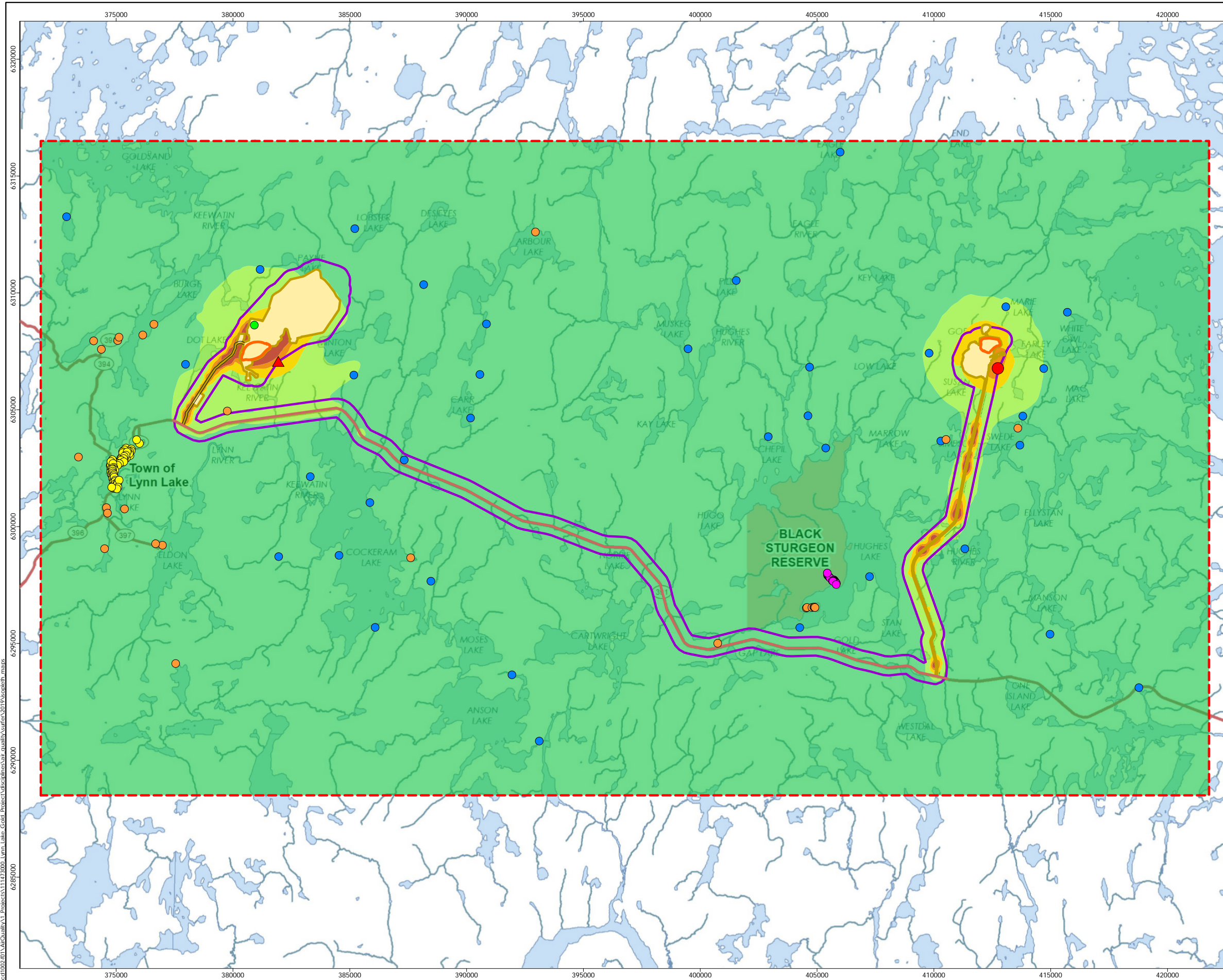
111473076

Map No.
22





Title

Maximum Predicted Annual Average PM_{2.5} Concentrations (µg/m³)
(Project Operation + Baseline Conditions)






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Study Area

-  Proposed Open Pit
-  Project Development Area
-  Project Boundary
-  Air Quality Local Assessment Area



Human Receptors

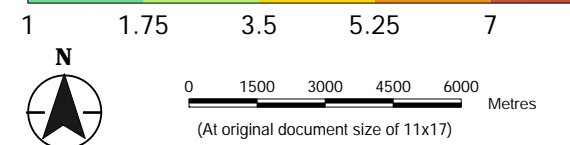
-  Lynn Lake Receptors
-  Black Sturgeon Reserve Receptors
-  Human Receptors
-  Potential Indigenous Receptor
-  Worker Camp

Landbase

-  Highway
-  Access Road
-  Watercourse
-  Waterbody
-  First Nation Reserve

Maximum Concentrations

-  Maximum Deposition (Gordon Site): 6.50 g/m²/30-day
-  Maximum Deposition (MacLellan Site): 5.57 g/m²/30-day
- Background Concentration: 0.99 g/m²/30-day
- 30-day Dustfall OAAQC: 7 g/m²/30-day



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location

Lynn Lake,
Manitoba

Prepared by KBajwa on 2024-07-11

Technical Review by Yankova on 2024-07-12

Senior Review by DJarratt on 2024-07-11

Client/Project

ALAMOS GOLD INC.
Lynn Lake Gold Project

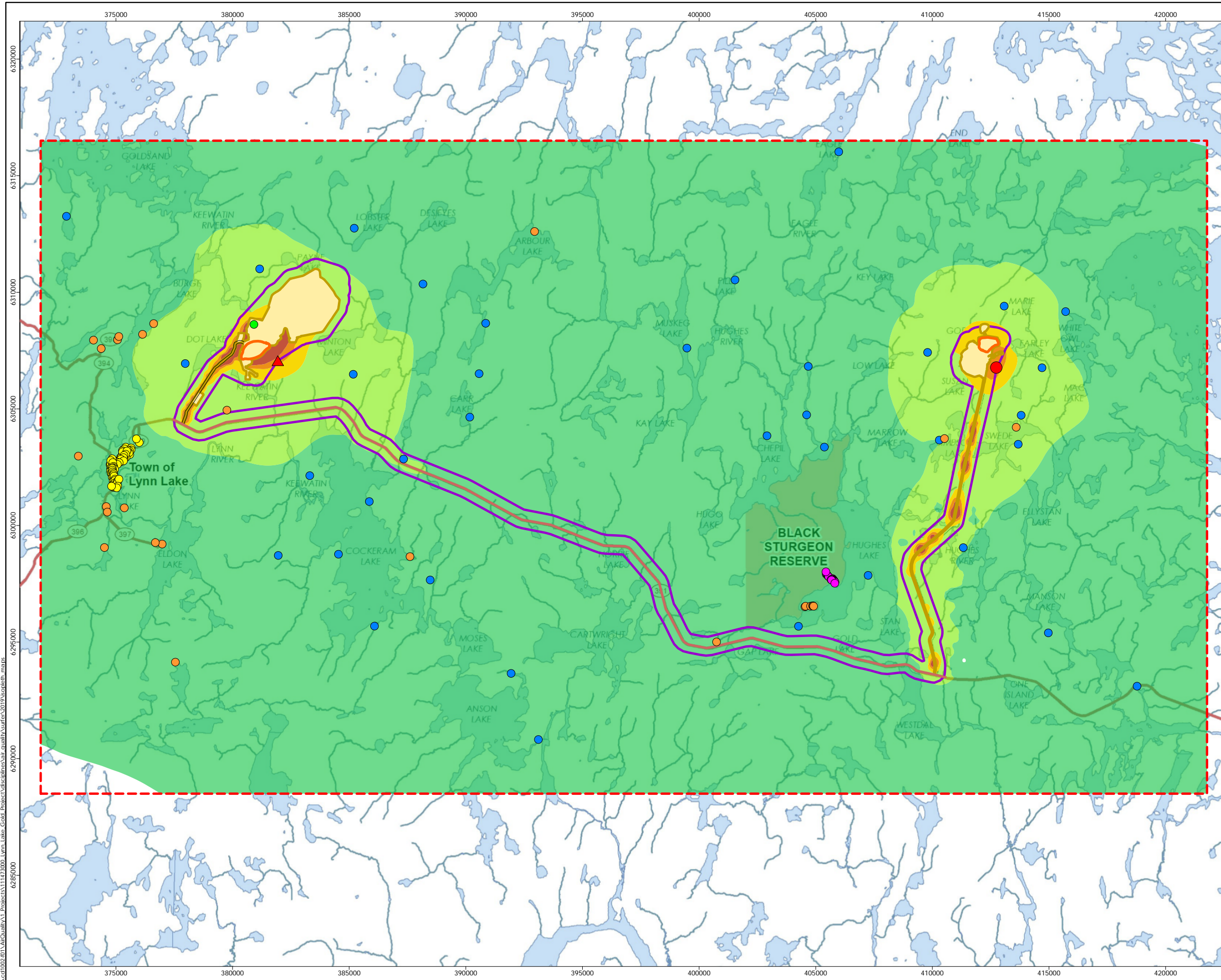
111473076

Map No.

23

Title

**Maximum Predicted 30-day Average
Dustfall Depositions (g/m²/30-day)
(Project Operation + Baseline Conditions)**

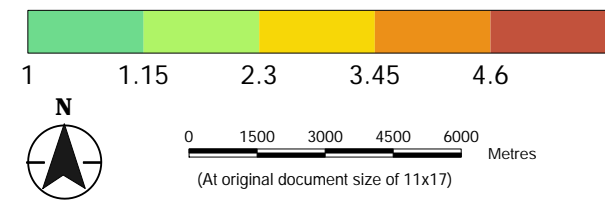


- Study Area**
- Proposed Open Pit
 - Project Development Area
 - Project Boundary
 - Air Quality Local Assessment Area

- Human Receptors**
- Lynn Lake Receptors
 - Black Sturgeon Reserve Receptors
 - Human Receptors
 - Potential Indigenous Receptor
 - Worker Camp

- Landbase**
- Highway
 - Access Road
 - Watercourse
 - Waterbody
 - First Nation Reserve

- Maximum Concentrations**
- Maximum Deposition (Gordon Site): 4.51 g/m²/30-day
 - ▲ Maximum Deposition (MacLellan Site): 3.95 g/m²/30-day
 - Background Concentration: 0.99 g/m²/30-day
 - Annual Dustfall OAAQC: 4.6 g/m²/30-day



Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada

Project Location
Lynn Lake, Manitoba

Prepared by KBajwa on 2024-07-11
Technical Review by Yankova on 2024-07-12
Senior Review by DJarratt on 2024-07-11

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473076

Map No.
24

Title

**Maximum Predicted Annual Average
Dustfall Depositions (g/m²/30-day)
(Project Operation + Baseline Conditions)**