

## Quartz Mining Land Use Class IV Operating Permit LQ00240

Keno Hill Exploration and Development

2012 Post Season Report

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#### 1.0 SUMMARY OF WORK PERFORMED

Alexco Resource Corp. (Alexco) carried out surface mineral exploration at Keno Hill between March and December 2012. Work was mostly in the form of diamond drilling. A limited amount of geological mapping and geochemical soil sampling was also completed.

A total of 25,068metres were completed in 98 diamond drill holes primarily at the Flame & Moth, Bermingham and Husky prospects, with some work also completed in the Christal Lake, Onek, Mon & Son and McQuesten areas.

Approximately 820 metres of new access tracking and 15 new drill sites were required to achieve the drilling. When possible, pre-existing roads or tracks and drill sites were used by Alexco to limit disturbance to the land surface. Prior to the onset of winter weather, almost all of the 2012 drill sites were recontoured and sumps filled to pre-existing topography, while all other pre-existing drill sites not required for further exploration were fully rehabilitated as documented in a Mining Land Use Inspection Report provided in November 2011.

Surface diamond drilling utilized four skid mounted rigs supplied by Boart Longyear Limited from Saskatoon.

Pursuant to the 2012 variations to the Land Use Permit, advanced exploration was also undertaken in the Onek and Lucky Queen areas. With approval from the Yukon Energy Mines and Resources of preliminary activities for the Onek 990 decline (Nov 9<sup>th</sup>, 2012), and Lucky Queen (Nov 30<sup>th</sup>, 2012), the development is regulated under Quartz Mining License QML-0009. These approvals can be seen in Appendix M.

As discussed in the 2012 Pre-Season Summary Report submitted in March 2012, a new portal was to be prepared west of the historical Onek pit called Sign Post Portal. This development proceeded, however following continued community consultation, a new portal location was found to be more suitable. This new site is located near Lightning Creek at Onek 990 level. All development of this portal location was approved under QML-0009 as per Appendix O, and therefore will not be included in this report.

#### 2.0 SURFACE EXPLORATION

## 2.1 Surface Clearings

The location of drill holes is summarized in Table 1(Appendix A) while the type of surface clearing for the drill sites is given in Table 2 (Appendix B). Drill sites require enough room to accommodate a drill rig, rod sloop, water tank and support equipment, typically 30 x 25 metres. Each drill site was constructed with a sump to allow for settling of drill cuttings and in some instances particularly around the Mill, an additional large secondary overflow sump was utilized where several holes were drilled in close proximity. New requirements to increase sump capacity and add additional drill fluid recycling capability imposed during the season necessitated the excavation of some additional sumps that increased the ground disturbance at some sites. Where possible drill sites were located on pre-existing historic drill pads, mine dumps, roadways or existing tracks, resulting in many pads being much smaller in size and requiring very little or no new ground disturbance.

## 2.2 Total length of new access roads

Existing access roads were utilized without the need to create new roads.

## 2.3 Total length of road upgrades on claims

In most cases the drill sites were able to be accessed from existing roads, historic mine tracks or tracking completed by Alexco in previous years.

Approximately 968 metres of existing tracking was upgraded by the clearing of recent small vegetation at the Mom & Son Prospect, while 60 metres of ground previously cleared for electric power line were utilized at Mackeno. Some existing tracks not requiring upgrade were utilized at McQuesten.

## 2.4 Total length and width of new tracks

New drill access tracking at a nominal 3 – 4 metre width totalled approximately 820 metres. In some places this required the removal of vegetative and soil material to allow a safe but primitive surface for drill site access via a 4x4 pickup truck. The distribution of these tracks is shown in the accompanying maps, while the type and length of these are detailed in Table 2: Drill Access Tracks 2012 in attached Appendix B.

See attached appendices:

Appendix B – Drill Site Clearing and Access Tracks for 2012

Appendix C - Drill Locations General

Appendix D - Drill Locations Bermingham

Appendix E - Drill Locations Husky

Appendix F - Drill Locations Flame & Moth

Appendix G - Drill Locations McQuesten

Appendix H - Drill Locations Onek

Appendix I – Drill Locations Mom and Son

#### 2.5 New Clearings

Drilling sites were selected to minimize the amount of land disturbance by either using preexisting sites or utilizing one site for multiple drill holes as detailed in Table 2. As a result only 15 new sites required clearing in 2012 within the overall total of 98 drill holes commenced.

## 2.6 Description of reclamation activities

On completion of the drilling, the sites were cleared of material and supplies and the sumps left to drain naturally. As identified in Table 1, most drill sites were fully rehabilitated in the manner described below although a small number have been left available for further infill drilling to be completed in the future if the final results warrant this. Any of those sites later considered not to be required will be fully rehabilitated during the 2013 summer season.

During 2012, a comprehensive program of additional clean up and photo documentation of drill sites from previous years was completed and records are available at the Elsa Exploration office. These additional activities were documented in a response to a Mining Land Use Inspection Report and provided to the EMR office in Mayo in November 2011.

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Basic reclamation procedures, completed by suitably equipped excavator contracted from Ewing Contractors of Mayo, included (after all collar locations were marked with a post with drill hole information on an inscribed aluminum tag):

- Sites cleaned, waste removed.
- Slope contouring completed.
- Compacted areas stirred-up.
- Sumps back filled.
- Stockpiled vegetative mat and timber dragged back over the sites.

## 2.7 Status of fuel storage

Diesel fuel and gasoline for the project is delivered primarily by Alberta Fuel Distributers of Whitehorse with some products purchased from AFD Petroleum out of Whitehorse, Yukon. Fuel is currently being stored in steel tanks on a bermed concrete pad in the town of Elsa. Diesel is stored within a 49,409-litre environmental tank (reg. # T824); gasoline is currently being stored in a 28,500 litre environmental tank. The previously submitted Alexco fuel spill response plan continues to be in effect.

#### 2.8 Work location maps, 2012

See attached appendix:

Appendix C - Drill Locations General

Appendix D - Drill Locations Bermingham

Appendix E - Drill Locations Husky

Appendix F - Drill Locations Flame & Moth

Appendix G - Drill Locations McQuesten

Appendix H - Drill Locations Onek

Appendix I – Drill Locations Mom and Son

#### 3.0 ADVANCED EXPLORATION (LQ and Onek Sign Post)

## 3.1 Surface Clearing

#### 3.1.1 Lucky Queen

Near the Lucky Queen site, one drill site was cleared for the installation of a water monitoring well as can be seen in Appendix L.

## 3.1.2 Onek Sign Post

At the Onek site, 3923 m<sup>2</sup> of surface area was cleared for the proposed waste rock storage area, water treatment pond, and sound barrier. This material was excavated from the ramp of the new mine portal. A total of 1701 tonnes of material was moved on the site.

## 3.2 Total length of new access roads

## 3.2.1 Lucky Queen

There were no new access roads completed in 2012

## 3.2.2 Onek Sign Post

There were no new access roads completed in 2012 for the Onek Sign Post Portal.

## 3.3 Total length of road upgrades on claims

## 3.3.1 Lucky Queen

There were no road upgrades in 2012

## 3.3.2 Onek Sign Post

A total length of 112 meters of road was upgraded to the Sign Post Portal in 2012. Upgrades included brush clearing and road enhancement using rip rap excavated from the portal development.

## 3.4 Total length and width of new trails & tracks

#### 3.4.1 Lucky Queen

There was one new trail completed in 2012 for the installation of a water monitoring well. The road measured 150 meters in length and a maximum width of 8.09 meters. This road can be seen in attached Appendix L.

#### 3.4.2 Onek Sign Post

There were no new trails completed in 2012.

## 3.6 Description of reclamation and rehabilitation activities

#### 3.6.1 Lucky Queen

A total of 886 metres of existing drift was rehabilitated in 2012. The rehabilitation included removal of the old timber sets and the installation of new ground support. Also included in the rehabilitation were 30 safety bays, 1.2 metres wide x 1.8 metres high x 1.2 metres deep. The safety bays were a requirement of the Yukon Occupational Health and Safety act (OIC 2006/178) section 15.56.

#### 3.6.2 Onek Sign Post

There were no reclamation or rehabilitation activities in 2012

## 3.7 Total length of off road use

3.7.1 Lucky Queen

N/A

3.7.2 Onek Sign Post

N/A

## 3.8 Total amount of explosives used

## 3.8.1 Lucky Queen

As per the addendum, dated August 19, 2011, a total of 9885 Kg of explosives were used at the Lucky Queen mine in 2012 for the development of safety bays and removal of ice.

## 3.8.2 Onek Sign Post

There was a total of 900 kg of explosives used for the development of the Onek Sign Post portal.

# 3.9 Total volume of material moved to surface from excavation of underground structures

## 3.9.1 Lucky Queen

As per the addendum, dated August 19, 2011, a total of 78 cubic metres of waste rock were moved to surface from underground excavations in 2012. A total of 1329 cubic meters of ice was removed from the adit length.

## 3.9.2 Onek Sign Post

A total of 567 cubic meters of waste rock were moved in the development of the Onek Sign Post portal.

#### 3.10 Status of fuel storage

## 3.10.1 Lucky Queen

Diesel fuel for the project is delivered primarily by Alberta Fuel Distributers of Whitehorse, Yukon. Fuel is currently being stored in two environmental tanks situated at the Lucky Queen adit, one 28,500 litre and one 2,100 litre tanks.

#### 3.10.2 Onek Sign Post

Fuel was stored in a 1000 litre plastic tank provided by AFD Distributers of Whitehorse.

## 3.11 Work location maps, 2012

3.11.1 Lucky Queen Site

See attached appendices:

Appendix J - Lucky Queen Site Appendix K - Lucky Queen Adit

3.11.2 Onek Sign Post

See attached appendices:

Appendix M - Onek Sign Post Site Appendix N - Onek Portal As-Built

#### 4.0 GENERAL

#### 4.1 Status of camp

A trailer camp, kitchen facility and drillers dry are currently assembled at the old Flat Creek town site (part of Elsa) on Surface Lease 105M13-001. The Camp has a total capacity of 90 permanent beds. During peak construction season, temporary bunks are brought in to allow for another 20 personnel in double bunk rooms. These bunks are not occupied during the winter. There are 4 houses located on Surface Lease 105M13-009 with a total of 28 rooms. On the same lease, an additional 20 rooms are available however this bunkhouse is also not occupied during the winter. These bunks were upgraded to include new framing, roof, and deck.

A Commercial Dump Permit # 81-012 is currently held from YG Environment in accordance with the Environment Act Solid Waste Regulations as well as the Public Health and Safety Act. This permit was renewed effective January 1, 2012 will continue to be used in support of the Bellekeno Mine operation. In compliance with this permit upgrades to the location of solid waste disposal included upgrades to the electric bear fence and addition of a cattle guard to prevent animals from entering the facility.

Alexco currently holds two (2) sewage disposal system permits at Elsa issued by YG Environmental Health Services: an absorption bed permit for the Flat Creek Camp (Permit #3448) in replacement to a septic tank permit (Permit #3012) and an absorption permit for five houses (Permit #3449) in replacement of a septic tank permit (Permit #3246).

Water for camp consumption is being drawn from Flat Creek and treated through a series of filters and UV light before it is chlorinated and stored in holding tanks ready for consumption under the Yukon Environmental Health standards.

Power for the camp is supplied from the local grid that runs through Elsa to Keno City. Several upgrades were completed in 2012. Upgrades included:

a) removal of the existing overhead line running from the historical pump house to the upper house complex at Elsa and replacing line with an armored tech cable.

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- b) Decommissioning of old transformers in the upper house complex area at Elsa and replacing with more current transformers and switchgear.
- c) Brushing out of both the Onek and Elsa substations
- d) Commissioning an Engineering overview of the current electrical system for the purpose of identifying areas needing upgrade in the 2013 season.
- e) Installing new three phase transformer in camp to remove Bunkhouse A from the kitchen complex and distribute the load more evenly
- f) Installing new three phase transformer in the warehouse to distribute the load more effectively.
- g) Commissioning an Engineering overview of the power factor at the Mill for the purpose of identifying why the power factor is low and what can be done to correct it, designed a pf correction unit.

## 4.2 Photographic Documentation

Digital photographic documentation of the 2012 work program is available in the Vancouver office of, Alexco Resource Corp, Suite 1150 – 200 Granville St., Vancouver BC V6C 1S4 and at the Elsa exploration office.

#### 4.3 Contact Information

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2012 Post Season Report

# Appendix A

Table 1: Surface Exploration Drill Site Locations and Rehabilitation Status for 2012

Hole_ID	East_UTM	North_UTM	Elevation _UTM	Total Depth (m)	Collar Azimuth	Collar Dip	Prospect	Quartz claim	Grant number	Lease number	Claim name	Claim number	Site Reclaimed (Reclaimed, to be used in future, to be reclaimed)
K-12-0396	483916	7086682	903	212.00	288.0	-46.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0397	483916	7086682	903	155.00	280.0	-60.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0398	483864	7086615	909	163.00	331.0	-48.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0399	483841	7086663	903	159.00	272.0	-50.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0400	483862	7086613	909	171.00	308.0	-51.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0401	483843	7086664	903	165.00	325.0	-52.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0402	483863	7086612	909	167.90	283.0	-49.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0403	478825	7086812	1326	164.00	334.0	-58.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0404	483797	7086627	901	77.20	299.0	-45.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0405	483906	7086590	913	200.00	320.0	-47.5	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0406	483799	7086626	901	104.00	299.0	-69.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0407	483808	7086582	901	128.00	308.0	-45.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0408	478824	7086811	1326	177.70	314.0	-70.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0409	483905	7086590	913	189.25	305.0	-49.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0410	474970	7087029	749	383.00	270.0	-50.0	Husky	148800473	55542	NM00218	HUSKY	6	Reclaimed
K-12-0411	483809	7086582	901	98.00	308.0	-65.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0412	478823	7086812	1326	145.00	314.0	-50.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0413	483810	7086583	901	146.00	262.0	-65.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0414	483906	7086589	913	266.00	299.0	-57.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0415	478736	7086441	1342	395.00	303.0	-51.0	Bermingham	148746331	14998	4094	ATLANTIC	0	Reclaimed
K-12-0416	483821	7086640	901	101.00	292.0	-50.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0417	483907	7086591	913	239.00	320.0	-57.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0418	483822	7086640	902	122.00	292.0	-70.0	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0419	474905	7087087	744	143.00	293.0	-50.0	Husky	149000789	55543	NM00219	HUSKY	7	Reclaimed
K-12-0420	483920	7086683	903	149.00	277.0	-59.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0421	483875	7086533	910	164.00	308.0	-46.5	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0422	478737	7086440	1342	410.00	303.0	-60.0	Bermingham	148746331	14998	4094	ATLANTIC	0	Reclaimed
K-12-0423	474896	7087091	744	401.00	147.0	-54.0	Husky	149000789	55543	NM00219	HUSKY	7	Reclaimed
K-12-0424	483874	7086531	910	209.00	282.0	-63.5	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0425	483873	7086531	910	218.00	282.0	-50.5	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed

K 12 0426	470726	7086439	1242	432.50	207.0	FC 0	Dormingham	140746221	14009	4004	ATI ANITIC	0	Daglaimad
K-12-0426 K-12-0427	478736 474897	7086439	1342 745	308.00	287.0 147.0	-56.0 -50.5	Bermingham Husky	148746331 149000789	14998 55543	4094 NM00219	ATLANTIC HUSKY	7	Reclaimed Reclaimed
							,					5	
K-12-0428	483875	7086532	910	150.40	264.0	-60.5	Flame and Moth	148874796	56401	NM00263	FRANCES		Reclaimed
K-12-0429	484005	7086546	926	74.00	291.0	-47.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0430	484007	7086543	926	290.00	291.0	-47.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0431	483872	7086531	910	210.45	264.0	-60.5	Flame and Moth	148874796	56401	NM00263	FRANCES	5	Reclaimed
K-12-0432	484030	7086462	929	356.13	288.5	-46.5	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0433	486705	7088840	1245	216.16	260.0	-45.0	Mom and Son	148745629	YC32225		Mom	5	To be reclaimed
K-12-0434	478737	7086439	1342	560.00	287.0	-74.0	Bermingham	148746331	14998	4094	ATLANTIC	0	Reclaimed
K-12-0435	474897	7087091	745	218.00	147.0	-56.5	Husky	149000789	55543	NM00219	HUSKY	7	Reclaimed
K-12-0436	475096	7086694	824	515.00	315.0	-61.0	Husky	148780830	15207	NM00281	TICK	0	To be recontoured
K-12-0437	486706	7088840	1245	275.00	260.0	-61.0	Mom and Son	148745629	YC32225		Mom	5	To be reclaimed
K-12-0438	484030	7086460	929	383.00	264.0	-45.0	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0439	483984	7087589	880	254.00	290.0	-45.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0440	479107	7086773	1344	254.00	310.0	-57.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0441	475096	7086693	824	545.00	340.0	-74.0	Husky	148780830	15207	NM00281	TICK	0	To be recontoured
K-12-0442	484032	7086460	929	482.00	267.0	-82.0	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0443	483985	7087588	879	149.60	290.0	-74.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0444	479108	7086773	1344	281.00	310.0	-68.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0445	483988	7087593	879	185.30	355.0	-45.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0446	479105	7086770	1344	350.00	263.0	-51.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0447	483983	7087590	879	293.00	260.0	-57.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0448	484133	7086647	928	20.00	300.0	-51.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0449	479105	7086770	1344	236.00	256.0	-45.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0450	483968	7086492	925	398.00	255.0	-45.0	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0451	484135	7086649	928	287.00	300.0	-51.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0452	479106	7086770	1344	356.00	353.0	-59.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0453	483982	7087589	879	165.00	220.0	-70.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0454	484138	7086648	929	53.45	316.0	-46.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0455	484064	7087687	872	175.00	260.0	-45.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	Cleaned up, sump to be reused
K-12-0456	484142	7086651	929	19.00	316.0	-46.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0457	483968	7086493	925	330.36	260.0	-45.0	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0458	484151	7086940	943	204.00	300.0	-45.0	Flame and Moth	148745705	55600	NM00262	FRANCES	4	new mill road

K-12-0459	479105	7086770	1344	323.00	253.0	-52.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0460	483977	7087480	887	28.00	270.0	-48.0	Mackeno	149034570	56582	NM00188	OVERTIME	2	To be used in future
K-12-0461	484152	7086938	943	197.00	335.0	-45.0	Flame and Moth	148860526	38642	4176	MOTH	0	new mill road
K-12-0462	483968	7086495	925	281.00	280.0	-49.0	Flame and Moth	149003966	YC01993	.270	Blue	0	Reclaimed
K-12-0463	484153	7086937	943	234.50	335.0	-70.0	Flame and Moth	148860526	38642	4176	MOTH	0	new mill road
K-12-0464	474417	7086556	784	377.00	293.0	-61.0	Husky	148946194	55540	NM00216	HUSKY	4	Reclaimed
K-12-0465	479106	7086773	1343	332.00	296.0	-74.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0466	483526	7086590	874	458.00	270.0	-50.0	Flame and Moth	148878892	56403	NM00265	FRANCES	7	Reclaimed
K-12-0467	484072	7086587	924	224.00	312.0	-46.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0468	474407	7086564	782	38.00	293.0	-53.0	Husky	148946194	55540	NM00216	HUSKY	4	Reclaimed
K-12-0469	484073	7086587	924	290.00	330.0	-59.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0470	474413	7086558	783	360.00	293.0	-53.0	Husky	148946194	55540	NM00216	HUSKY	4	Reclaimed
K-12-0471	483591	7086476	879	218.00	295.0	-50.0	Flame and Moth	148878892	56403	NM00265	FRANCES	7	Reclaimed
K-12-0472	484077	7086590	924	305.00	266.0	-66.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0473	479187	7086714	1352	326.00	296.0	-62.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0474	484348	7086940	951	356.00	305.0	-51.0	Flame and Moth	148745705	55600	NM00262	FRANCES	4	Reclaimed
K-12-0475	474244	7086475	778	326.00	335.0	-57.0	Husky	148848036	55538	NM00214	HUSKY	2	To be used in future
K-12-0476	484129	7086643	928	50.00	321.0	-55.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0477	479188	7086716	1352	542.83	330.0	-60.0	Bermingham	148890361	14089	4088	ARCTIC	0	Reclaimed
K-12-0478	484349	7086939	951	366.00	350.0	-50.0	Flame and Moth	148745705	55600	NM00262	FRANCES	4	Reclaimed
K-12-0479	484163	7086641	930	347.00	317.0	-52.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0480	474245	7086475	778	380.00	335.0	-68.0	Husky	148848036	55538	NM00214	HUSKY	2	To be used in future
K-12-0481	484161	7086641	930	305.00	308.5	-45.0	Flame and Moth	148746330	38643	4175	FLAME	0	Reclaimed
K-12-0482	483896	7086490	914	293.00	247.0	-45.0	Flame and Moth	149003966	YC01993		Blue	0	Reclaimed
K-12-0483	474245	7086474	778	385.00	305.0	-73.0	Husky	148848036	55538	NM00214	HUSKY	2	To be used in future
K-12-0484	474248	7086471	779	407.00	0.0	-72.0	Husky	148848036	55538	NM00214	HUSKY	2	To be used in future
K-12-0485	479669	7086839	1377	314.00	300.0	-50.0	Hector Calumet	149011315	14085	4098	FIG TREE	0	To be used in future
K-12-0486	483192	7086418	876	350.00	290.0	-45.0	Flame and Moth	149041094	YC90503		BULLDOZER F	2	To be used in future
K-12-0487	466857	7083865	765	78.00	360.0	-60.0	McQuesten	148764161	Y 87464		Snowdrift	3	To be reclaimed
K-12-0488	485684	7087023	991	243.00	310.0	-45.0	Onek	148799051	13032	NM00193	GALENA FARM	0	Mine site
K-12-0489	466857	7083866	765	216.00	360.0	-55.0	McQuesten	148764161	Y 87464		Snowdrift	3	To be reclaimed
K-12-0490	466768	7083780	760	350.00	360.0	-60.0	McQuesten	148764161	Y 87464		Snowdrift	3	To be reclaimed
K-12-0491	485684	7087023	991	289.00	285.0	-45.0	Onek	148799051	13032	NM00193	GALENA FARM	0	Mine site

K-12-0492	466660	7083760	752	287.00	360.0	-60.0	McQuesten	148783139	YC01212	South F	0	To be reclaimed
K-12-0493	467430	7083515	790	344.00	360.0	-50.0	McQuesten	148953267	Y 87462	Snowdrift	1	To be reclaimed

# 2012 Post Season Report

# Appendix B

Table 2: Drill Site Clearing and Access Tracks for 2012

Hole_ID	Prospect	Surface Clearing	Access By Existing (Historic) Mine Disturbance	Access by Previously Constructed Exploration or Mine Track	Access by Newly Constructed Track (m)
K-12-0396	Flame and Moth	2012 new		Х	
K-12-0397	Flame and Moth	2012 reused		Х	
K-12-0398	Flame and Moth	Duncan Rd berm previously cleared		x	
K-12-0399	Flame and Moth	On Mill Road		х	
K-12-0400	Flame and Moth	Duncan Rd berm previously cleared		х	
K-12-0401	Flame and Moth	On Mill Road		х	
K-12-0402	Flame and Moth	Duncan Rd berm previously cleared		х	
K-12-0403	Bermingham	existing site		X	
K-12-0404	Flame and Moth	On Mill Road		Х	
K-12-0405	Flame and Moth	Duncan Rd berm previously cleared		X	
K-12-0406	Flame and Moth	On Mill Road		X	
K-12-0407	Flame and Moth	Duncan Rd berm previously cleared		X	
K-12-0408	Bermingham	existing site		X	
K-12-0409	Flame and Moth	Duncan Rd berm previously cleared		Х	
K-12-0410	Husky	existing mine clearing	X		
K-12-0411	Flame and Moth	Duncan Rd berm previously cleared		Х	
K-12-0412	Bermingham	existing site		Х	
K-12-0413	Flame and Moth	Duncan Rd berm previously cleared		X	
K-12-0414	Flame and Moth	Duncan Rd berm previously cleared		Х	
K-12-0415	Bermingham	existing site		X	
K-12-0416	Flame and Moth	On Mill Road		X	
K-12-0417	Flame and Moth	Duncan Rd berm previously cleared		Х	
K-12-0418	Flame and Moth	On Mill Road		Х	
K-12-0419	Husky	existing mine clearing	X		
K-12-0420	Flame and Moth	2012 reused		X	
K-12-0421	Flame and Moth	existing site			
K-12-0422	Bermingham	existing site		X	
K-12-0423	Husky	existing mine clearing	X		
K-12-0424	Flame and Moth	existing site			
K-12-0425	Flame and Moth	existing site			
K-12-0426	Bermingham	existing site		X	
K-12-0427	Husky	existing mine clearing	X		
K-12-0428	Flame and Moth	existing site			
K-12-0429	Flame and Moth	existing site			
K-12-0430	Flame and Moth	existing site			
K-12-0431	Flame and Moth	existing site			
K-12-0432	Flame and Moth	existing site			
K-12-0433	Mom and Son	Existing Track Site		X	
K-12-0434	Bermingham	existing site		X	
K-12-0435	Husky	existing mine clearing	X		
K-12-0436	Husky	on an Elsa road	X		
K-12-0437	Mom and Son	Existing Track Site		X	
K-12-0438	Flame and Moth	existing site			
K-12-0439	Mackeno	Existing Power Line Clearing		X	
K-12-0440	Bermingham	existing site		X	

K-12-0441	Husky	on an Elsa road	x		
K-12-0442	Flame and Moth	existing site			
K-12-0443	Mackeno	Existing Power Line Clearing		Х	
K-12-0444	Bermingham	existing site		X	
K-12-0445	Mackeno	Existing Power Line Clearing		X	
K-12-0446	Bermingham	existing site		X	
K-12-0447	Mackeno	Existing Power Line Clearing		X	
K-12-0448	Flame and Moth	existing rower time clearing		Α	
K-12-0448	Bermingham	existing site		X	
K-12-0450	Flame and Moth	2012 new		^	59
K-12-0451	Flame and Moth				39
K-12-0451		existing site		V	
	Bermingham	existing site		X	
K-12-0453	Mackeno	Existing Power Line Clearing		X	
K-12-0454	Flame and Moth	existing site			
K-12-0455	Mackeno	2012 new			141
K-12-0456	Flame and Moth	existing site			
K-12-0457	Flame and Moth	2012 reused			
K-12-0458	Flame and Moth	2012 new		Garbage Dump Cleared	
K-12-0459	Bermingham	existing site		X	
K-12-0460	Mackeno	2012 new			109
K-12-0461	Flame and Moth	2012 reused		Garbage Dump Cleared	
K-12-0462	Flame and Moth	2012 reused			
K-12-0463	Flame and Moth	2012 reused		Garbage Dump Cleared	
K-12-0464	Husky	adjacent Husky SW road	X		
K-12-0465	Bermingham	existing site		X	
K-12-0466	Flame and Moth	on old Christal Track	Х		
K-12-0467	Flame and Moth	existing site			
K-12-0468	Husky	adjacent Husky SW road	Х		
K-12-0469	Flame and Moth	existing site			
K-12-0470	Husky	adjacent Husky SW road	Х		
K-12-0471	Flame and Moth	2012 new	Х		
K-12-0472	Flame and Moth	existing site			
K-12-0473	Bermingham	existing site		X	
K-12-0474	Flame and Moth	2012 new			65
K-12-0475	Husky	2012 new			159
K-12-0476	Flame and Moth	existing site			
K-12-0477	Bermingham	existing site		X	
K-12-0478	Flame and Moth	2012 reused			
K-12-0479	Flame and Moth	existing site			
K-12-0480	Husky	2012 reused			
K-12-0481	Flame and Moth	existing site			
K-12-0482	Flame and Moth	2012 new			82
K-12-0483	Husky	2012 reused			
K-12-0484	Husky	2012 reused			
K-12-0485	Hector Calumet	2012 new			76
K-12-0486	Flame and Moth	2012 new			22
K-12-0487	McQuesten	2012 new	in part		31

K-12-0488	Onek	Onek Portal Site		х	
K-12-0489	McQuesten	2012 reused			
K-12-0490	McQuesten	2012 new	in part		23
K-12-0491	Onek	Onek Portal Site		Х	
K-12-0492	McQuesten	2012 new	in part		32
K-12-0493	McQuesten	2012 new	in part		21
				Total	820

2012 Post Season Report

Appendix C

**Drill Locations General** 

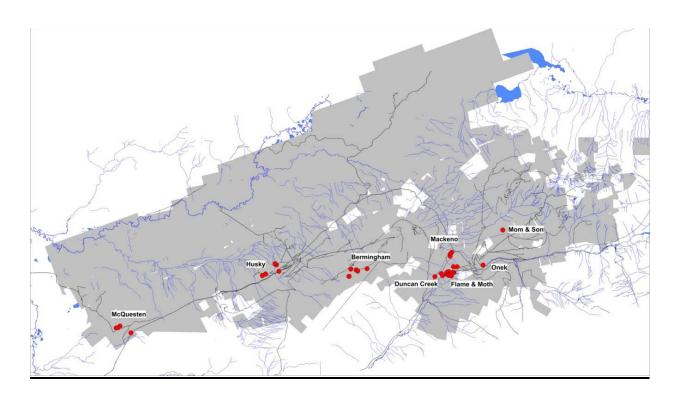


Figure 1 Location of 2012 Surface Exploration Drill Holes

2012 Post Season Report

Appendix D

Drill Locations Bermingham

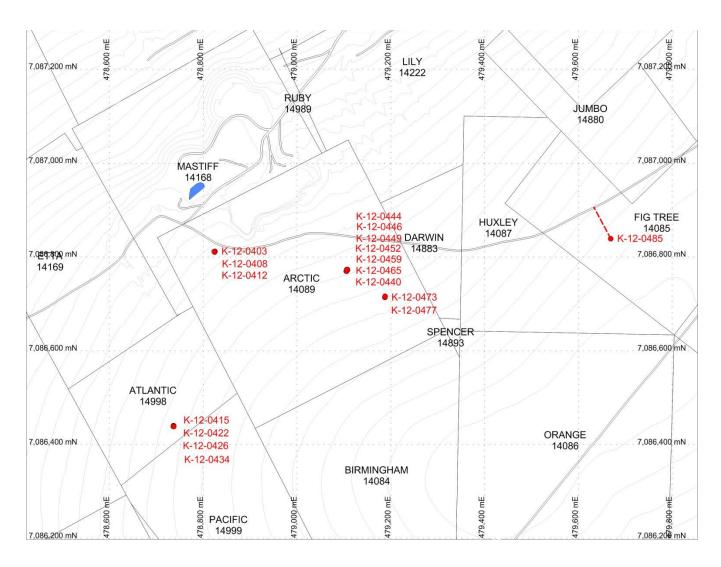


Figure 2 2012 Bermingham Surface Drill Sites and Access Tracks

2012 Post Season Report

Appendix E

Drill Locations Husky

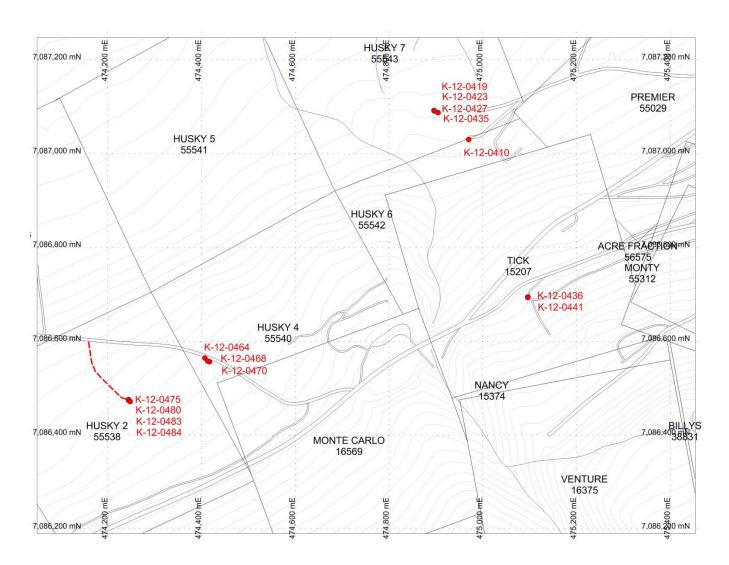


Figure 3 2012 Husky Surface Drill Sites and Access Tracks

2012 Post Season Report

Appendix F

Drill Locations Flame & Moth Area

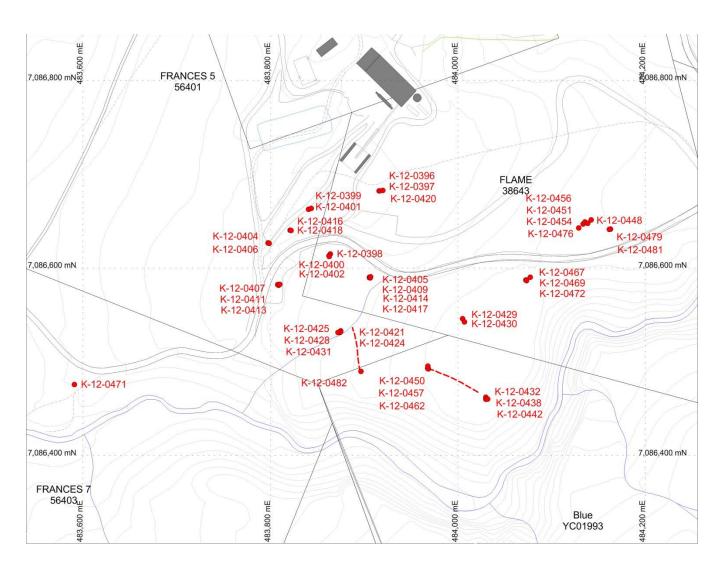


Figure 4 2012 Flame & Moth Drill Sites and Access Tracking

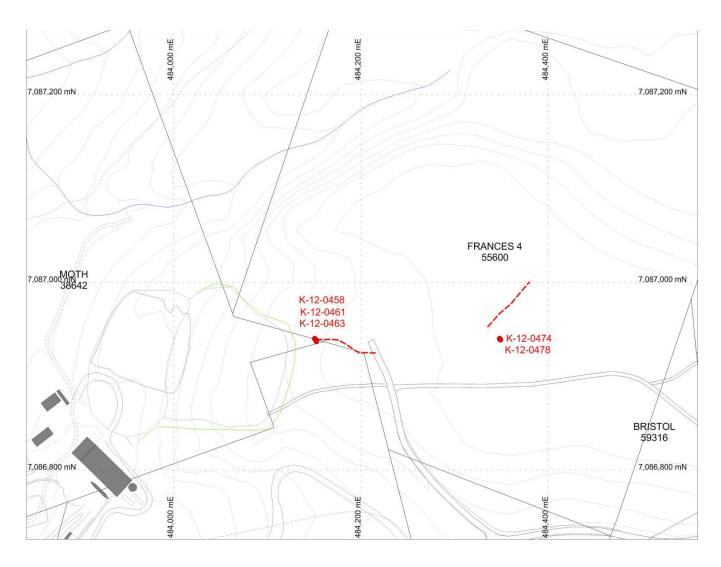


Figure 5 2012 Flame & Moth NE Surface Drill Sites and Access Tracks

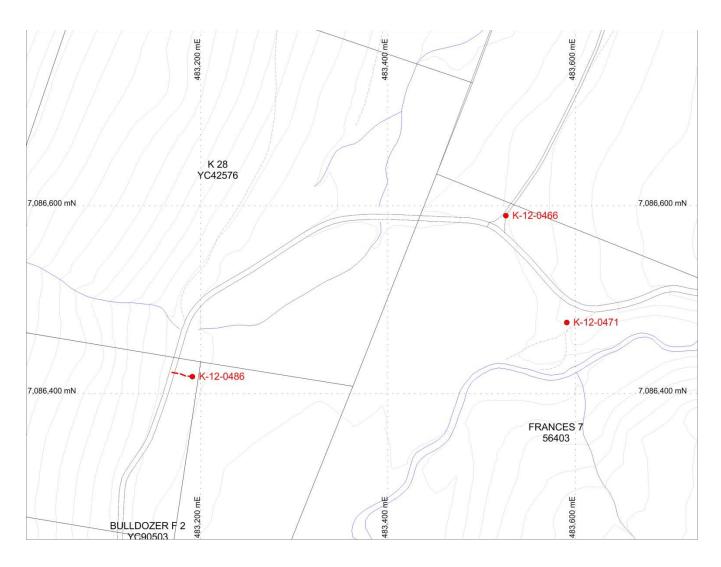


Figure 6 2012 Duncan Creek Road Surface Drill Sites and Access Tracks



Figure 7 2012 Mackeno Surface Drill Sites and Access Tracks

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Appendix G

**Drill Locations McQuesten** 

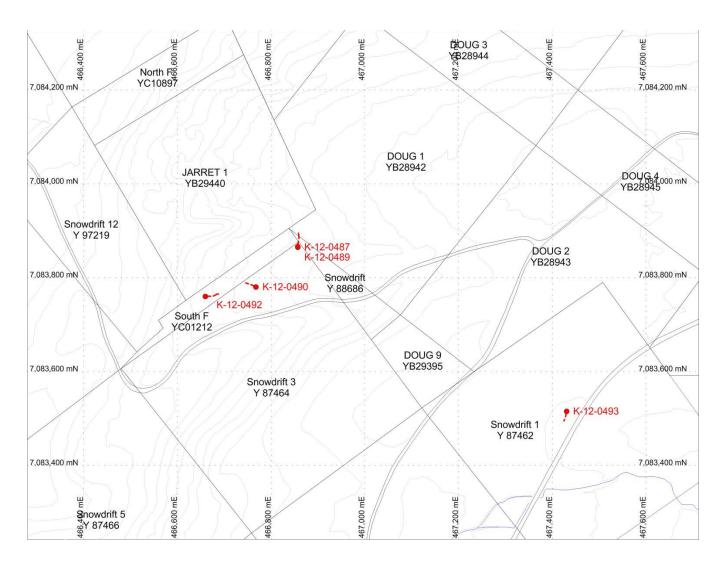


Figure 8 2012 McQuesten Surface Drill Sites and Access Tracks

2012 Post Season Report

Appendix H

**Drill Locations Onek** 

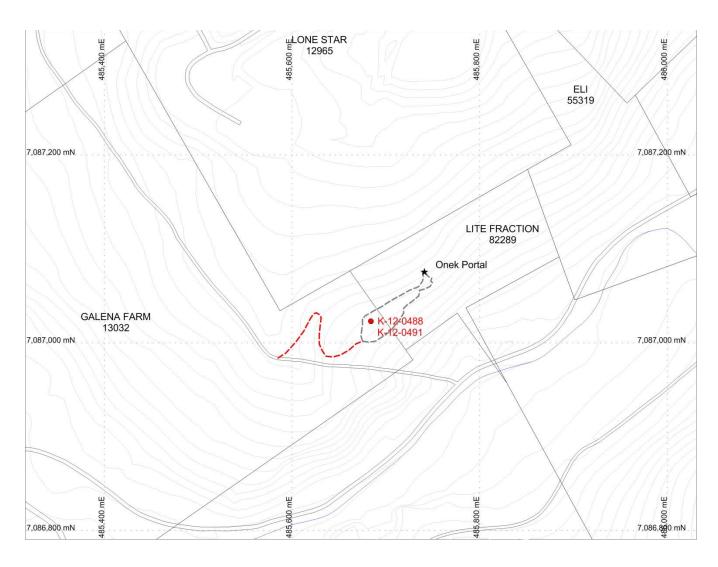


Figure 9 2012 Onek Surface Drill Sites and Access Tracks

2012 Post Season Report

Appendix I

Drill Locations Mom & Son

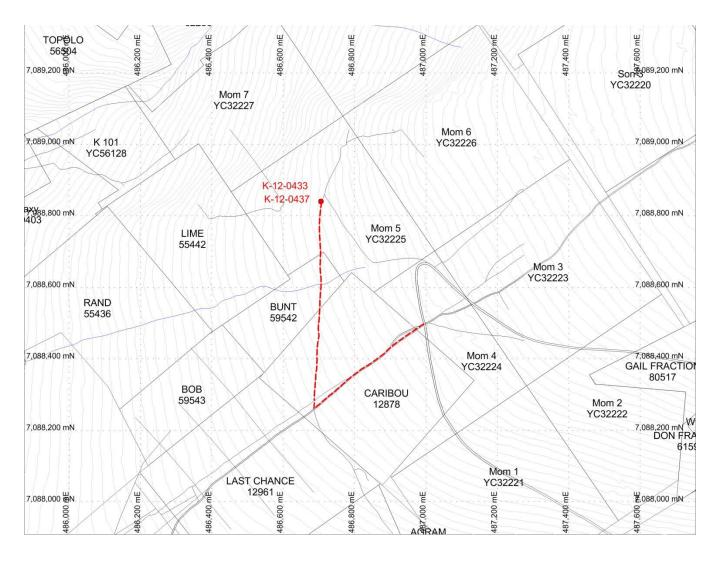
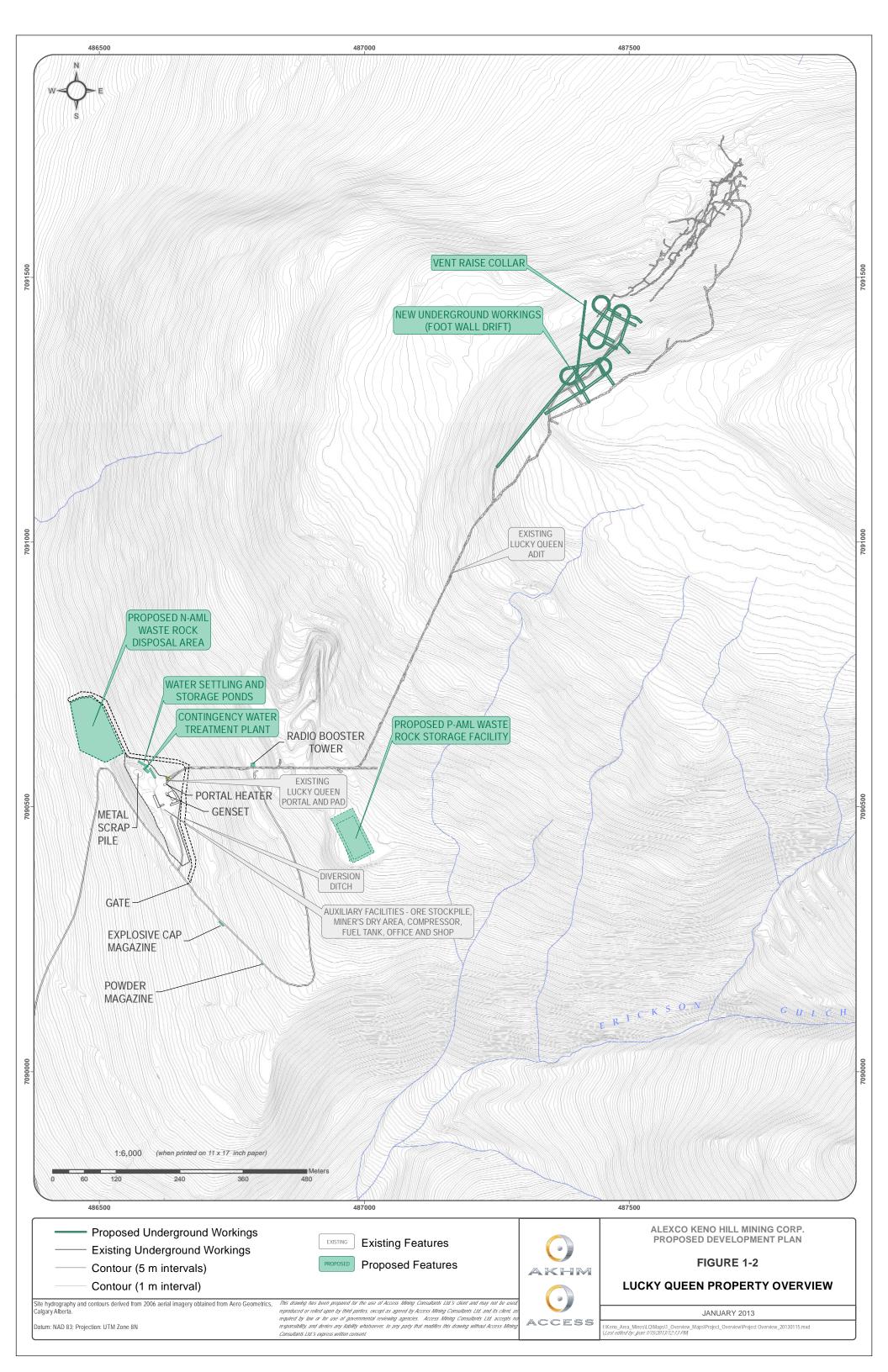


Figure 10 2012 Mom & Son Drill Site Location and Existing Tracks Used for Access

2012 Post Season Report

Appendix J

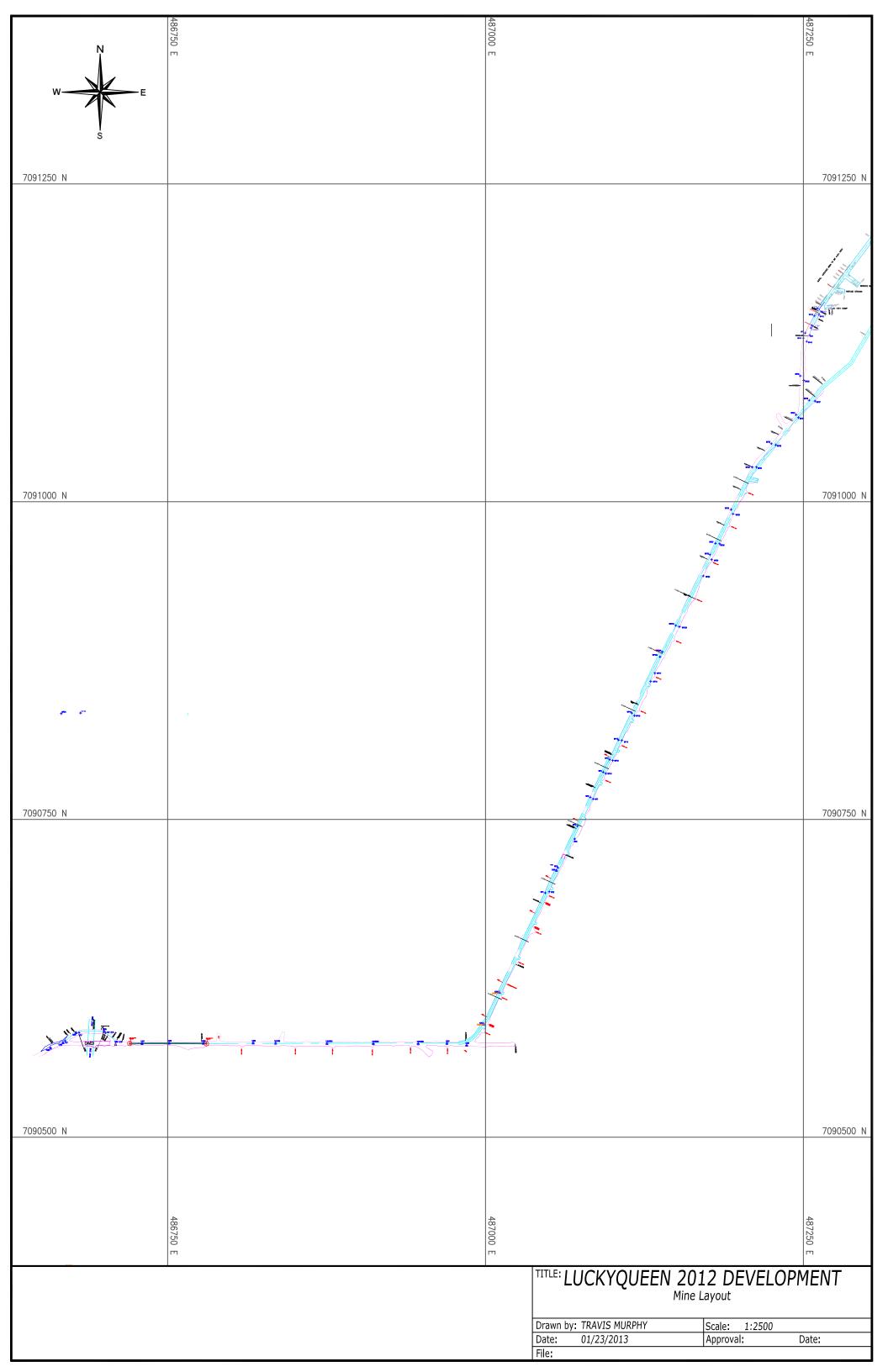
Lucky Queen Site

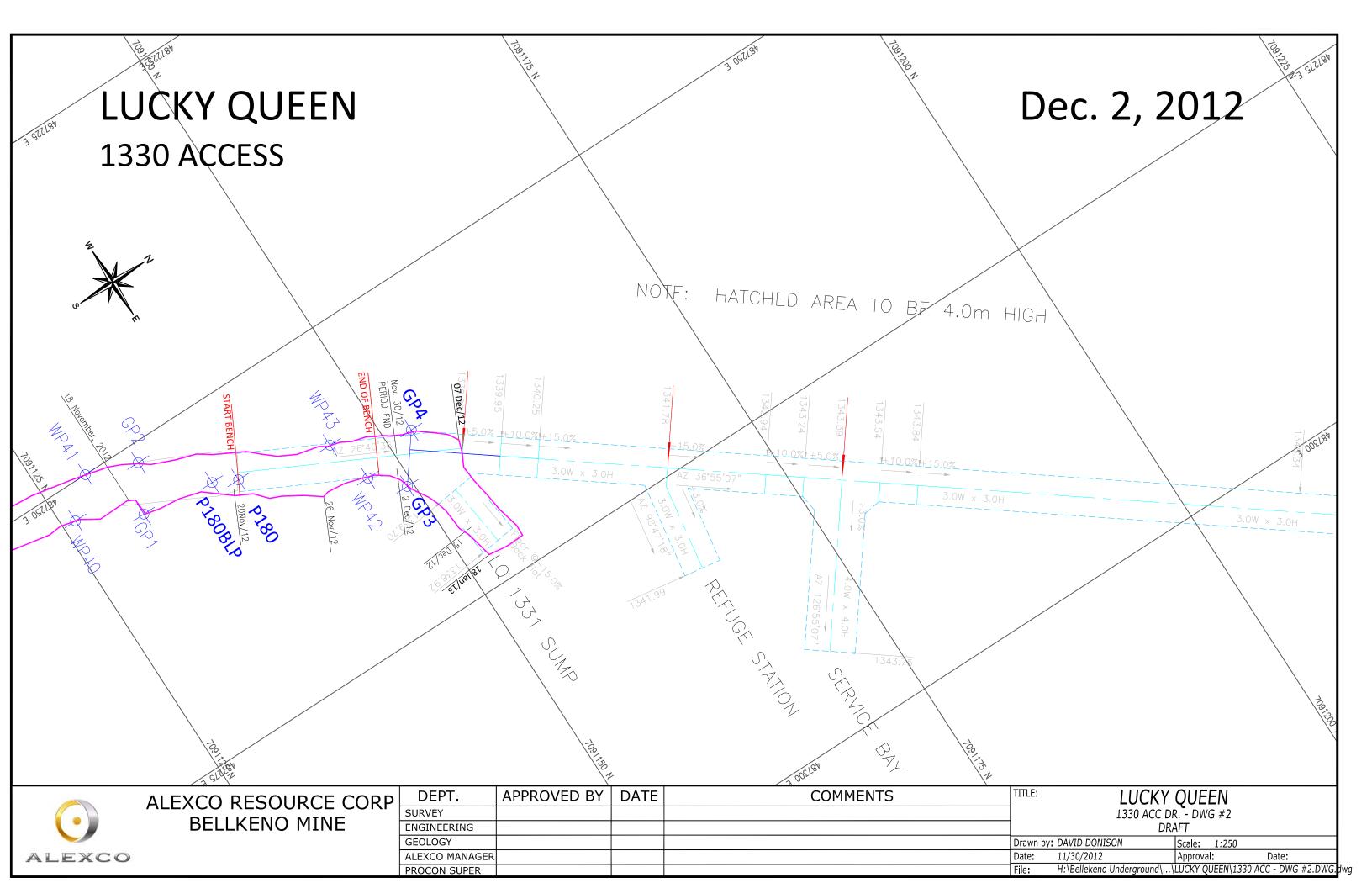


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Appendix K

Lucky Queen Adit

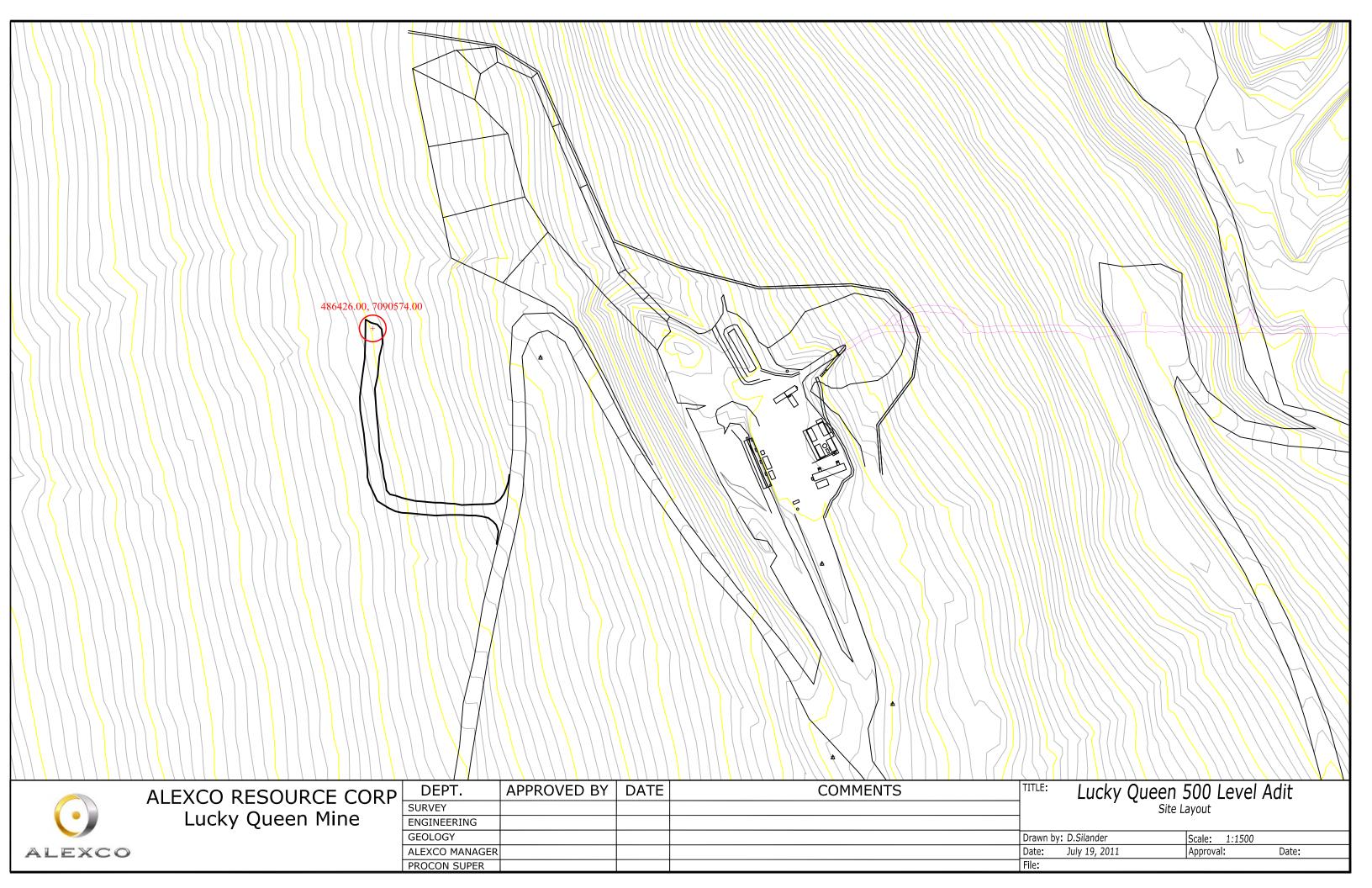




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Appendix L

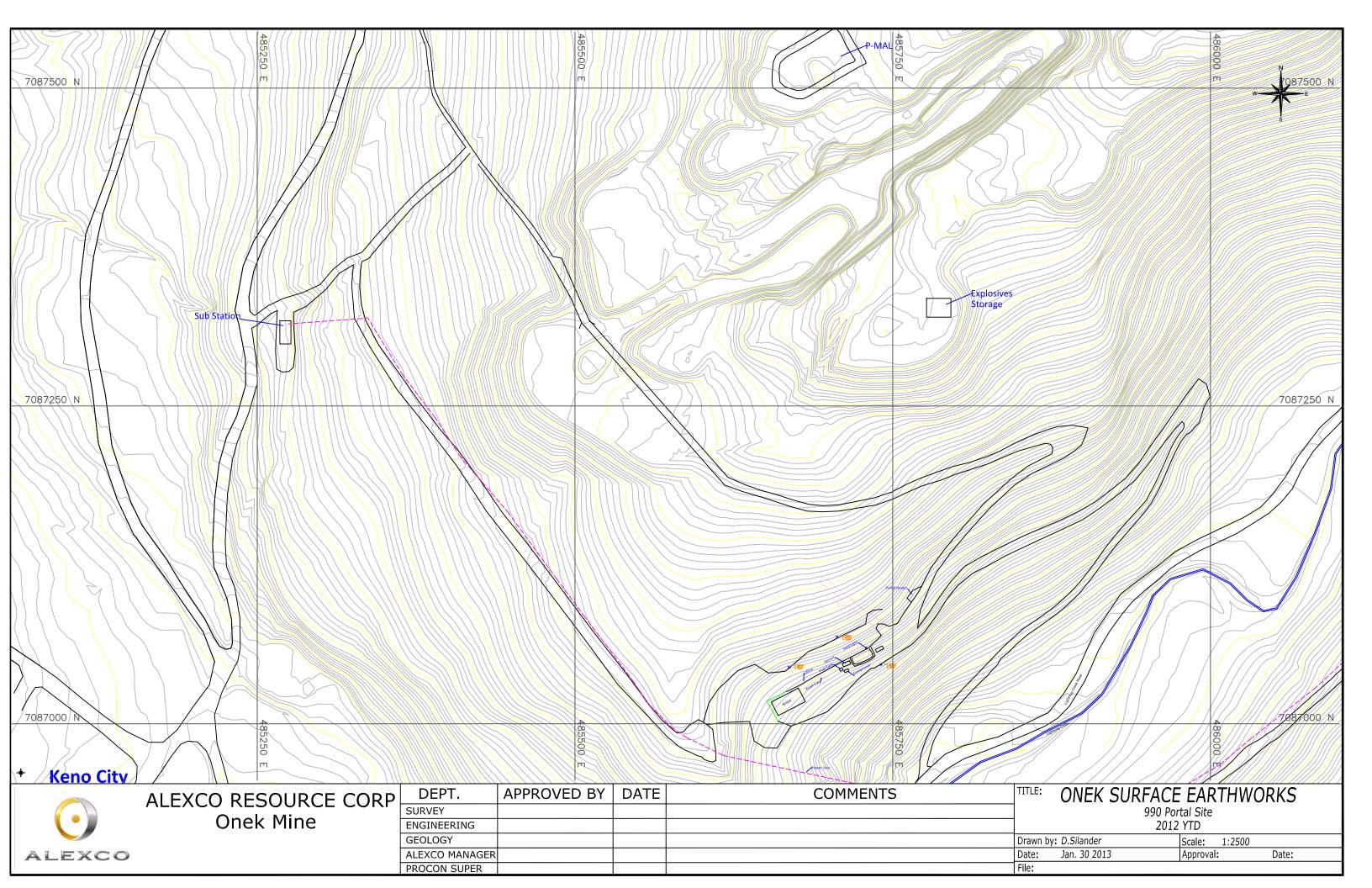
Lucky Queen Water Monitoring Well

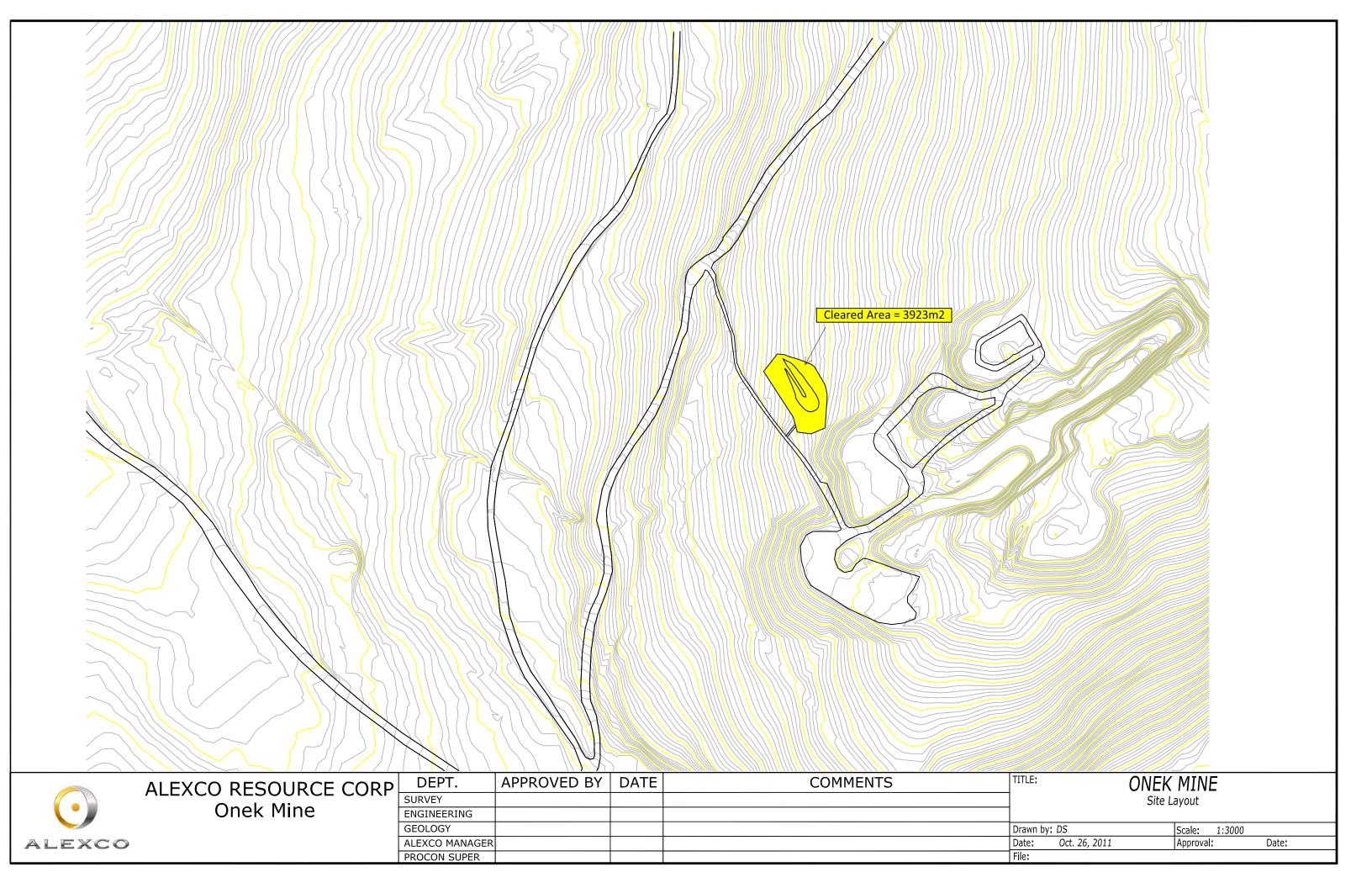


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Appendix M

Onek Site

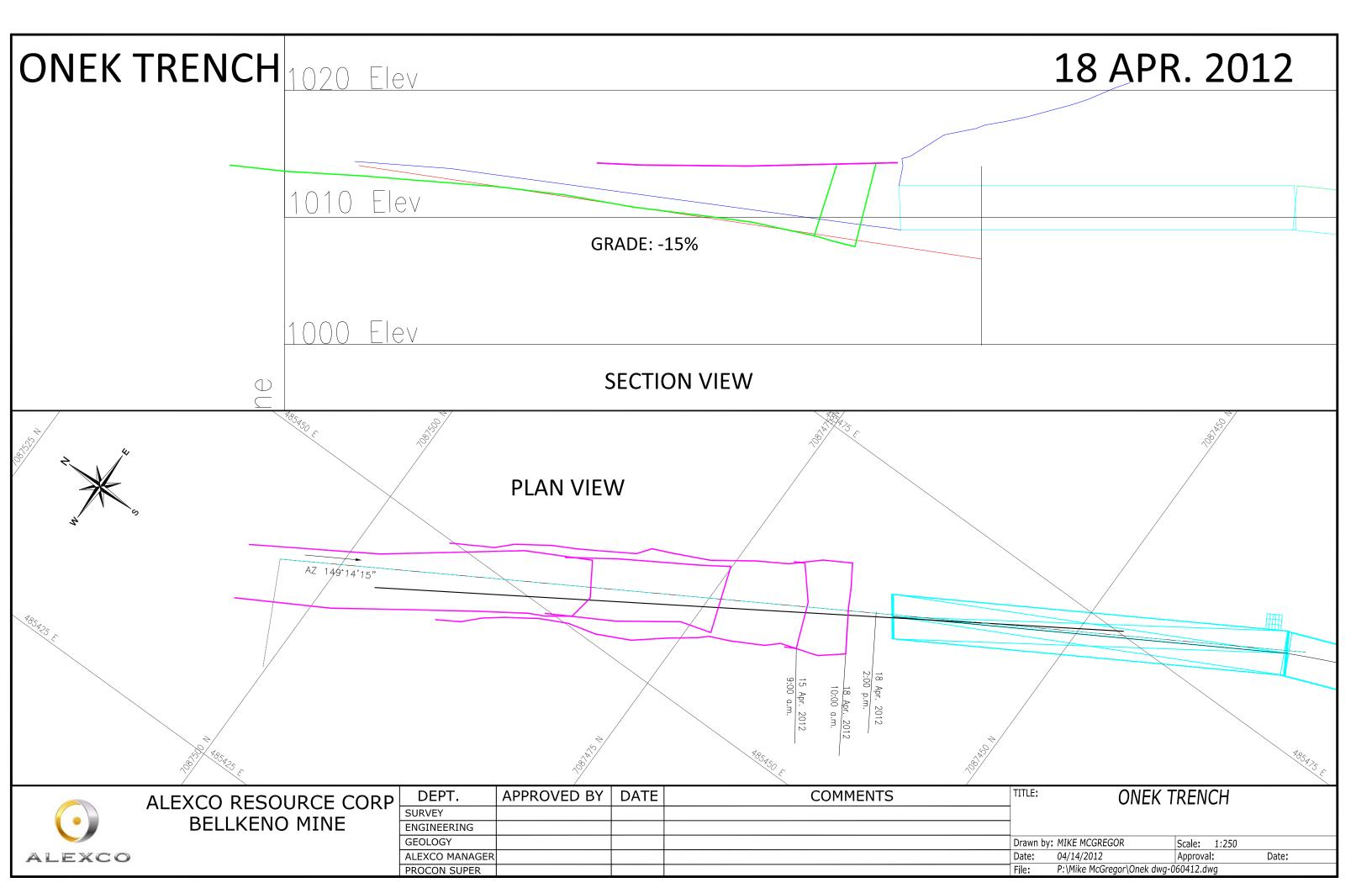




2012 Post Season Report

Appendix N

Onek Sign Post Portal As-Built



2012 Post Season Report

Appendix O

Lucky Queen and Onek Development Approvals from EMR



November 30<sup>th</sup>, 2012

Brad A. Thrall Chief Operating Officer Alexco Keno Hill Mining Corp. Suite 1150 – 200 Granville Street Vancouver, BC V6C 1S4

Dear Brad;

## Re: Approval of Preliminary Activities – Lucky Queen Development

A request to amend Quartz Mining License QML-0009 for the Keno Hill Silver District Mining Operations was made in the November 20<sup>th</sup>, 2012 letter from Brad Thrall to me entitled "QML-0009 Request for Approval of Preliminary Activities – Lucky Queen Development" (the "Letter"). This request for an interim approval to develop the Lucky Queen underground workings was supported by the information provided in the "Mine Development and Operations Plan, Lucky Queen and Onek Mines – Keno Hill Silver District", dated October 2012, that is currently under review. Specifically, as described in the following sections:

- 6.2.2.1 Mining Method
- 6.3.1.1 Development of Mining Areas
- 6.5.1 Ventilation
- 6.6 Ground Support Systems
  - o 6.6.6 Production Support Requirements
  - o 6.6.7 Shotcrete
- 6.7 Ground Support Monitoring
- 7.5 Waste Rock and Ore Storage

After review and consideration of your request and the provided information sections, I have determined that the described Lucky Queen Development is hereby approved as submitted.

Brad A. Thrall Page 2 November 30<sup>th</sup>, 2012

For greater certainty, in reviewing and approving the Lucky Queen Development, neither I nor the Yukon Government make any representations or warranties as to the sufficiency or adequacy of the aforementioned sections of the October 2012 Mine Development and Operations Plan, Lucky Queen and Onek Mines – Keno Hill Silver District. Further, you are reminded that the approval of the Chief pertains only to the Chief's responsibilities under the *Quartz Mining Ac*t and that nothing in this approval limits the applicable federal or territorial laws, including the *Occupational Health and Safety Act* and related regulations.

Please do not hesitate to contact me at (867) 667-3126 if you have any questions or wish to discuss.

Sincerely,

Robert Holmes

Director, Mineral Resources

cc: Jon Bowen, Director, Water Resources

William Leary, Natural Resources Officer, Mayo

Chief Edward Champion, First Nation of Nä-Cho Nyak Dun



November 9<sup>th</sup>, 2012

Brad A. Thrall Chief Operating Officer Alexco Keno Hill Mining Corp. Suite 1150-200 Granville Street Vancouver, BC V6C 1S4

Dear Mr. Thrall,

## Re: Approval of Preliminary Activities - Onek 990 Decline Development

A request to amend Quartz Mining License QML-0009 for the Keno Hill Silver District Mining Operation was made in the October 19<sup>th</sup>, 2012 letter from Brad Thrall to Robert Holmes entitled "Request for Approval of Preliminary Activities – Onek 990 Decline Development" (the "Letter"). In addition to the Letter, the details necessary to support the request to develop the Onek 990 decline was provided in the memorandum to Robert Holmes from Brad Thrall entitled "Onek 990 Decline Development Plan" (the "Plan"). This Plan is dated October 22<sup>nd</sup>, 2012 and was received electronically in my office on the same date.

After review and consideration, I have determined that the Onek 990 Decline Development Plan is approved as submitted. For clarity, this authorization pertains only to the initial 240 m of the decline, with no drifting/cross-cutting or stoping and no ore access. The approved activities do include safety bays and remucks as required and described in the Plan.

For greater certainty, in reviewing and approving the Onek 990 Decline Development Plan, neither I nor the Yukon Government make any representations or warranties as to the sufficiency or adequacy of the Plan. Further, you are reminded that the approval of the Chief pertains only to the Chief's responsibilities under the *Quartz Mining Act* and that nothing in this approval limits the applicable federal or territorial laws, including the *Occupational Health and Safety Act* and related regulations.

Brad A. Thrall Page 2 November 9<sup>th</sup>, 2012

Please do not hesitate to contact me at (867)667-3126 if you have any questions or concerns.

Sincerely,

Robert Holmes

Director, Mineral Resources

cc: Jon Bowen, Director, Water Resource

William Leary, Natural Resources Officer, Mayo

Chief Edward Champion, First Nation of Nä-Cho Nyak Dun