



Ministry of Energy and Mines

Province of British Columbia
MINISTRY OF ENERGY AND MINES

Report of Inspector of Mines
Reclamation and Permitting

(Issued pursuant to Section 15 of the Mines Act)

Inspection No.: 65419
File: 18040-02-09
Mine No.: 0100079
Permit No.: M-241
Emp/Cont: 0 / 0
Orders H&S: 0 RECL 19
Stop Work: 0

Mine Name: Yellow Giant Gold Project
Location: Banks Island, Skeena MD / 53.370, -130.148
Owner, Manager: Dirk Meckert
Company: Banks Island Gold Ltd (Bankrupt as Of January 2016)
Address: 300-1055 West Hastings Street
Vancouver BC V6E 2E9
# Workers Contacted: 2
Type of Mining: Metal Mine - Underground
Date of Inspection: 2016/05/09 - 2016/05/10
Accompanying Inspectors: Sonia Meili
Copies to: Al Hoffman, Diane Howe, Howard Davies, Doug Flynn

Written response is required from the Mine Manager within 15 days of receiving the report. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

Inspection Report

Introduction

An inspection of the Yellow Giant Gold Project was conducted on May 9 and 10, 2016 by Sonia Meili (Reclamation Inspector), Ministry of Energy and Mines (MEM) accompanied by [redacted] (Environmental Assessment Manager), Gitxaala Environmental Monitoring; Erin Torry (Environmental Scientist), Amec Foster Wheeler (Amec); Len Cook (Senior Environmental Scientist), Amec; Dirk Meckert, FTI Consulting (FTI) and Caddaric Meckert, FTI. Weather at the time of inspection was sunny and approximately 12 °C.

Purpose of the Inspection

The purpose of the inspection was to assess compliance with permits and orders resulting from previous inspections, to conduct an assessment of hazardous materials stored at the mine site, and to gather detailed site information to assist MEM in quantifying the reclamation liabilities of the site. The assessment of hazardous materials was conducted by Amec. Findings of this assessment will be presented in a separate report.

Inspection stops

The inspection included the barge landing, camp, fuel storage, discharge line, Tel site, Bob site, Discovery site, Kim borrow area and site roads.

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Sonia Meili B.Sc, P.Ag., P.Geo.
Reclamation Inspector

Dated: July 5, 2016

## Preamble/Background

Exploration permit MX-1-862 was originally issued to Banks Island Gold Ltd. (BIG) on September 7, 2011 and amended several times in subsequent years. MX-1-862 authorized exploratory works at the Bob, Kim and Discovery sites including:

- establishment of a modular trailer camp;
- 5 helicopter pads;
- completion of 2 line km of geophysical survey;
- 20 trenching/test pit sites;
- 120 drill sites;
- use and storage of explosives;
- re-opening of ~1.8 km of existing road, construction of ~6.14 km temporary access roads to the Bob, Kim and Discovery sites, and construction of ~2 km of excavated trail;
- clearing of 550 m<sup>3</sup> timber (authorized under OLTC L49012);
- extraction of 60,000 t bulk (ore) sample (later amended to 20,000 t and 50,000 t waste rock), 10,000 t of which was to be milled on site and waste materials disposed on site; and,
- rehabilitation and dewatering of existing workings; diamond drilling and development of new workings for bulk sample.

A total of 9.55 ha disturbance was permitted under permit MX-1-862.

Mines Act Permit M-241 was issued to BIG on March 4, 2014 for the Tel Mine, a 73,000 tonnes per year underground gold operation. An EMA permit for the discharge of effluent into Barge Channel was also issued.

The permits authorized:

- a 73,000 tonne per year underground operation at the Tel site;
- mineral processing of concentrate and shipment off site;
- backfilling of PAG materials into mine workings;
- backfilling of tailings and fines from sediment ponds into mine workings;
- use of sediment control ponds adjacent to the processing plant;
- discharge of effluent from the sediment control ponds to the marine environment;
- soil stockpiles located near the Tel site;
- stockpiles of non-acid generating waste rock from underground development to be stored near the Tel site;
- use of the existing barge landing;
- use of 1.8 km of the existing Tel access road;
- a floating camp at Wreck Bay; and,
- storage of two 75,000L fuel tanks and a covered facilities for concentrate, cement and other supplies.

A total of 12.79 ha disturbance was permitted under permit M-241.

On July 9, 2015 the BIG facility and exploration sites were inspected by staff from MEM; the Ministry of Environment, Environmental Protection Division; Conservation Officer Service, and Environment Canada. During the inspection two unreported, unauthorized discharges of mine effluent from the Discovery site and tailings from the Bob site into the receiving environment were noted. Exploration activities were shut down as a result.

MEM completed an additional inspection on July 15, 2015 to assess compliance with the M-241 permit. During the inspection numerous departures from the Mines Act permit were noted including: tailings management, water management, ore processing, and disturbances outside the currently permitted M-241 boundary. All mining activities

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were ordered to cease as a result of the July 15, 2015 inspection.

Since the July 2015 mining and exploration activities at the site remained halted while BIG undertook work to get the property back into compliance. On January 8, 2016 BIG filed for bankruptcy and the property is now in receivership with FTI Consulting.

### **Inspection Observations**

The inspection included overflights of the entire operation conducted on the morning of May 9, prior to landing on site and in the afternoon of May 10, following completion of the inspection. Dirk Meckert (Mr. Meckert) accompanied MEM staff during the inspection. During the inspection MEM noted the following:

#### *Disturbance Area*

The 2014 Annual Report for the Tel site reported the following disturbance:

Project Component	Disturbance Area (ha)
Waste Dumps	0
Tailings Disposal Areas	N/A
Mine Site	1.72
Road	1.97
Stockpiles	0.86
<b>Total</b>	<b>4.55</b>

An additional 2 ha disturbance was to have occurred in 2015. Mapping associated with permit M-241 approved a disturbance area of 12.79 ha for the Tel Mine and exploration permit MX-1-862 approved a total of 9.55 ha of disturbance associated with road development and exploration activities at the Bob, Kim and Discovery sites.

Based on site observations and the most recent satellite imagery available, MEM estimates the total disturbance area for the entire property as follows:

Project Component	Disturbance Area (ha)
Waste Dumps	0.63
Tailings Disposal Areas <sup>a</sup>	0.08
Mine Site <sup>b</sup>	4.77
Road <sup>c</sup>	12.43
Stockpiles <sup>d</sup>	0.63
<b>Total</b>	<b>18.54</b>

<sup>a</sup> Tailings Disposal Area include the deposited tailings at the Bob stope.

<sup>b</sup> Mine site includes the plant site, administration buildings, camp facilities, portals, laydown areas and exploration sites.

<sup>c</sup> Roads include mine roads and exploration access

<sup>d</sup> Stockpiles include soil stockpiles and low grade ore stockpile

Site maps depicting the findings of the inspection and MEM's interpretation of mine disturbance are presented in Appendix A. To date, no reclamation has been completed at the site. MEM's calculation of disturbance associated with the Tel site totals 4.70 ha, which is consistent with the disturbance reported in 2014.

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## Roads

Currently, access to the site is via helicopter, float plane or boat. A barge landing and small wooden dock are located approximately 1.3 km southwest of the Tel mine site. During the inspection, MEM noted a large sign posted at the landing warning visitors not to enter. A gate or other physical barriers to access was not in place.

Based on recent mapping, MEM calculates that approximately 9.2 km of road area associated with the project. This includes approximately 460 m of exploration trail. Non-acid generating waste rock and quarry rock has been used for the construction of roads. The road network traverses through or is adjacent to many small wetlands and boggy areas with poorly drained organic soils. Where roads cross poorly drained areas, logs and other woody debris was used as punch-in. This material remains buried in the road.

Road width was observed to be approximately 8 m with a 16 m right of way for the Bob and Discovery roads. The right of way along the Tel road is narrower, generally corresponding to the edge of the road running surface.

MEM observed a total of 19 culverts and 12 wood box culverts in the Tel, Bob and Discovery roads. Based on field observations the culvert density is, at minimum, 3.37 culverts/km. This is a conservative estimate as it is possible that additional culverts are present and were missed during the field survey.

Three metal bridges are present along in Discovery road. Bridges consists of metal decked structures supported by concrete lock block and rock abutments. Two bridges were measured to be approximately 12.5 m in length. The third bridge was 18.5 m in length, crossing a narrow lake.

Several deep fills are present along the Discovery road, the first of which is present where the road crosses a drainage between Doug Lake and Sproat Lake. Another deep fill has been partially constructed where the road crosses a creek in a well-incised gully. Currently the road dips down into the gully, crossing the creek with a wood box culvert and then steeply ascends the other side. In order to widen the road and remove the steep slope into and out of the creek crossing, coarse rock has been dumped into the creek channel on one side of the gully. Due to the mine shut down, this work was never completed.

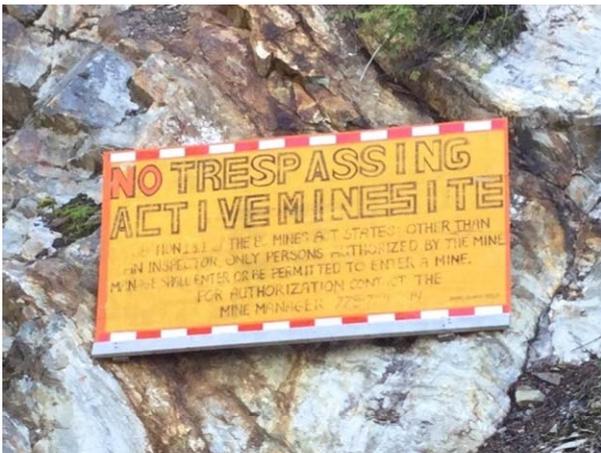


Photo 1: Sign at barge landing



Photo 2: Bridge crossing Sproat Lake

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Photo 3: Deep fill between Sproat and Doug Lakes



Photo 4: Deep fill into creek channel

### *Concentrate Bags*

Thirty nine bags of concentrate that had originally been removed from site have been returned and now are stored on a gravel pad near the barge landing. Mr. Meckert indicated that this material contains sulphides and must be either run through the mill if the mine restarts, or placed underground.

### *Low Grade Ore*

The 2014 Annual Report indicates that as of December 31, 2014 approximately 2000 m<sup>3</sup> of low grade ore was stockpiled on site and 3000 m<sup>3</sup> of DMS fines were stored in the DMS fines storage area, located adjacent to the sediment pond at the Tel site. Both of these materials were characterized as being acid generating. The DMS fines were to have been processed in 2015. MEM did not observe DMS fines at the site.

During the inspection the low grade ore stockpile, situated on the west side of the Tel road approximately 120 m south of the plant site, was noted to be perched on the edge of an adjacent quarry which was full of water. The toe of the pile was in the water. Mr. Meckert indicated that none of the stockpiled material had been deposited in the quarry itself. The west side of the stockpile bordered the environment and was roughly 30 to 40 m from an unnamed lake. No site water containment had been established. Based on rough measurements of the stockpile at the time of the inspection, an estimated 2400 m<sup>3</sup> of low grade ore may have been stored at this location. It was not determined if the soil from the footprint had been salvaged prior to placement of the waste rock.



Photo 5: Concentrate stored near barge landing



Photo 6: Low grade ore stockpile

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Photo 7: Low grade ore stockpile adjacent to quarry

#### *PAG Waste*

Mr. Meckert indicated that PAG material associated with exploration and mining of the property, which occurred in the 1970's and 80's, is located in or adjacent to Sproat Lake, approximately 60 m northwest of the Tel portal. PAG materials associated with site activities in the 70's and 80's have also been deposited in or adjacent to a wetland approximately 100 m northwest of the Bob portal. Mr. Meckert indicated that most of the material at the Bob site had been removed and processed in the mill. Some of the material in the wetland was excavated and placed on the waste rock dump at the Bob site. In addition, a few truckloads of material may have gone to the Tel site and the barge landing.



Photo 8: PAG material near the Tel portal

#### *Waste Rock*

Waste rock piles were noted in the vicinity of the Bob, Tel, Kim and Discovery sites. Mr. Meckert indicated that this material is non-acid generating. Non-acid generating waste rock and quarry rock has been used for the construction of site roads, landing/laydown areas and the mine site and plant site areas.

#### *Soil Stockpiles*

Eleven soil storage areas were observed during the inspections. Storage areas were generally located adjacent to roads in stockpiles or windrows. Soil stockpiles consisted of a mix of soil and woody debris and in some cases rock had also been mixed in. According to the 2014 Annual Reclamation Report, approximately 5,500 m<sup>3</sup> of soil has been salvaged.

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MEM understands that the stockpiles were not seeded due to concerns over introduction of non-native species. Many of the stockpiles have started to revegetate with alder and other species. It was not possible to confirm this volume during the inspection as many of the piles appeared to have been used to fill depressions or excavations. The largest stockpile had been partially excavated.

Soils in the area are generally characterized as having poor drainage and range in thickness from 0.2 to 1.5 m. According to the 2014 Annual Report, there are two soil types present in the mine site area - Podzols, which are generally found on ridges with steep inclines or in upland areas, and Typic and Hydric Mesisols which are generally found in sloping upland areas and adjacent to water bodies respectively. Pozolic soils in the area are generally thin and have been found to have a sandy loam to loamy sand texture. The organic soils on the property are deeper, with a minimum depth of 60 cm.

A soil suitability assessment completed in 2011 found that soils at the mine site have a rating of fair to good for reclamation purposes. Subsoils were rated as ranging from unsuitable to good; however areas identified as having unsuitable soils were primarily associated with the presence of bedrock close to surface (very thin soil or lack of soil) rather than the quality of the soil itself.

The largest soil stockpile located at the southwest corner of the Tel mine site has been disturbed by excavations which were intended to be sedimentation ponds. The excavation links the soil stockpile area to an adjacent quarry which has filled with water and in which portions of the low grade ore stockpile have encroached. MEM understands that the area was never used as a sediment pond. During the inspection, MEM noted significant staining associated with fuel/oil spills in the adjacent truck shop area. Given the proximity of the spill and the large stains present, it is possible that the soil stockpile has been contaminated.



Photo 9: Soil stockpile near low grade ore stockpile



Photo 10: Fuel spill adjacent to soil stockpile

#### *Site Contamination*

During the inspection, evidence of a number of spills of hazardous materials was noted. These consisted of oil and other fluids leaking from vehicles and equipment, fuel leaking from storage tanks and drums, leaking chemicals at the plant site, and the presence of used oil filters mixed in to the scrap metal pile at the camp site. Spill kits were present on site. No evidence of secondary containment or spill response was noted.

A cache of fuel barrels and oil was being store outside of the truck shop. Water had ponded on the top of the barrels, causing them to rust. A large stain was visible approximately 10 m south of the area. Mr. Meckert indicated that several

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barrels of fuel, which had been removed prior to the inspection, had been stored at this location. Fuel from the open barrels had become displaced by rainwater, spilling to the ground adjacent to a large soil stockpile.

When asked whether it would be possible to install secondary containment, Mr. Meckert indicated that it would not be possible as there was no equipment on site available to lift the drums. MEM requested that the barrels be monitored closely and that the area be covered, to shelter the barrels for the rain. Barrels were observed to have water ponded on the lids and lids/drums were rusty. It is conceivable that the integrity of the drums may be compromised with respect to function to contain the hazardous materials within.



Photo 11: Fuel and oil stored near truck shop



Photo 12: previous spills at truck shop

Spills from equipment left on site were noted in a number of areas. MEM did not observe any attempt to abate leakage of fluids from parked equipment. When asked if spill kits were available on site which could be used to address the issue, Mr. Meckert indicated that the only way to address the issue would be to mobilize a mechanic to site to repair the equipment or to have the equipment removed. He indicated that neither of these options was possible given the current financial circumstances.

MEM placed drip pans and absorbent pads under several pieces of equipment and requested Mr. Meckert place absorbent pads under a grader and two rock trucks which were also leaking. MEM also requested that Mr. Meckert monitor equipment and fuel tanks regularly and implement corrective actions in the event that a spill or leak is discovered.

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Photo 13: Fluids leaking from drill near truck shop



Photo 14: Spill under rock trucks at Tel portal

The diesel truck used during the inspection was leaking oil. A large stain was noted in front of the office building at the Tel site, where the truck is regularly parked. When asked if there was another vehicle that could be used, Mr. Meckert noted that the truck is one of the only functional diesel trucks on site and it is necessary to use it as there is only a limited supply of gasoline on site which is needed for generators and other applications. MEM placed a drip pan under the vehicle and requested that Mr. Meckert keep the pan in place while the vehicle is parked.

Several large stains were noted near the Discovery portal. Mr. Meckert indicated that these were caused by a generator, which has since been removed.



Photo 14: Oil leaking from truck



Photo 15: Large spill near Discovery portal

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Forty two vehicles and pieces of equipment are currently on site. Mr. Meckert provided MEM with a list of equipment:

Equipment	UNIT #
2005 Ford F250 2WD Yellow 5.4LT	107
2005 Ford F250 XL 4X4 5.4 Triton Gas - Blue	108
2001 Dodge Ram 4X4 Gas 5.9L	106
2001 F350 4X4 Diesel 7.3L	105
2007 Ford F350 Extended cab 6L Diesel	103
2009 Ford F350 Crew Cab 4x4 Flatbed Truck 5.4L Gas	104
2012 Ford F250 XL Crew Cab 4x4 Pickup	102
2008 Ford F150 XLT Crew Cab 4x4 Pickup 4.6 L 6 bolt	101
1999 GMC Suburban 2500 SLE 4X4	GM-1
1998 GMC Suburban 2500 SL 4X4	GM-2
2007 Ford E350 XLT 14 passenger bus	109
2006 Ford E450 Crestline Elite Ambulance	A-1
2007 Kenworth T300 Crane Truck	B100
A30E Volvo 2008	B98
Marcotte Scissor Deck (Gladiator)	501
Axera D06 Jumbo	401
1971 Galion 503A Grader	GR-1
Dux underground haul GVW 73,700 lbs	T-701
Dux underground haul GVW 73,700 lbs	T-702
Ford LTL 9000 cement truck	CT-1
Mack cement truck	CT-2
Mack cement truck	CT-3
Mack cement truck	CT-4
Kubota (admiral pump on diamond drill)	
Kubota (mine pump)	
Terex generator (camp) – CAT rental	201
Sullivan-Palatek (Tel) – compressor 375 CFM	207
Sullivan-Palatek – compressor 900 CFM	P-900
Light plant – Bob/gym	205
Light plant - site	206
CAT 375KV Genset (Tel mine)	202
Miller Welder - diesel	203
Miller Welder - Millermatic	
Lincoln Welder	214
Cummings Genset 2002 150KW 600V 180.4 AMP	204
Tsurumi pump (Technosub) 15HP	
MTU – Detroit diesel generator 1500KW	15K1
MTU - Detroit diesel generator 1500KW	15K2
Whisper watt generator	201
Ingersoll rand compressor (electric) - floatation	IR701
Diamond drill - John Deere engine	

  
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None of the equipment was under cover, resulting in exposure to the elements and many of the vehicles were leaking. Mr. Meckert noted that much of the equipment either no longer works or would require maintenance by a mechanic.

Several fuel tanks were noted at the camp and Tel sites. Mr. Meckert estimated that 35,000 to 40,000 L of fuel was in the tank by the camp. Another tank, adjacent to the sediment pond at the Tel site, contained an unspecified amount of fuel and was leaking. An absorbent pad was in place; however the pad was saturated and fuel was leaking to ground. MEM replaced the absorbent pad. Due to the low proximity to the ground, it was not possible to place a drip pan to capture the leaking fuel. Due to the close proximity to the sediment pond (approximately 10 m), it is possible that water in the pond may now, or in the future be contaminated.



Photos 16 and 17: Leaking fuel tank adjacent to sediment pond. Note that the leak is on the far side of the fuel tank in the photo on the left. This photo is intended to show the proximity of the tank to the adjacent pond.

Used fuel filters were found in a scrap metal pile at the camp site. Oil was leaking to ground.



Photo 18: Scrap metal pile containing used oil filters.



Photo 19: staining adjacent to pile

A full inventory of hazardous materials was completed by Amec. Soil samples were collected for analysis where spills were noted. During their assessment, Amec observed caustic chemicals stored on the second floor of the DMS plant which were leaking. The chemicals were actively dripping from the second floor to the first floor, posing a safety hazard to individuals below. Due to safety concerns, MEM did not enter the building.

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*Environmental Management*

As per MEM direction, pumping of site water to the sediment ponds at the Tel site, and discharge of site water to Barge Channel was stopped as of July 15, 2015. As a result, sediment ponds were at capacity and Mr. Meckert indicated that they overtop, discharging to adjacent wetlands during rainfall events.



Photo 20: Sediment pond full of water



Photo 21: Small pond overflowing concrete dam.

During the inspection, MEM noted a deposit of fines contained by an approximately 1.5 m high berm adjacent to the sediment control pond. Previous inspections had identified these as tailings. When asked about the material Mr. Meckert indicated that the material consisted on fines excavated from the adjacent sediment control pond.

Tailings had deposited into a vent raise and the collapsed stope at the Bob site. The tailings in the vent raise were not covered and remain exposed at surface. Water from this area drains into the collapsed Bob stope, which was filled with water, covering the deposited tailings. Mr. Meckert indicated that nothing other than flocculent was used to thicken the tailings prior to deposition. He was unsure why tailings were deposited into the vent raise, indicating that this occurred when he was away from the site.



Photo 22: Tailings in the Bob vent raise



Photo 23: The water filled Bob stope.

Seepage from the old Bob portal which was being collected in a seepage pond was discharging uncontrolled to the environment.

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Photos 24, 25, and 26: The series above shows the seepage collection pond collecting water from the old Bob stope, seepage escaping out the back of the pond, and flowing to an adjacent wetland.

At the eastern end of the Bob site, tailings which discharged to the environment (a wetland) during the 2015 spill remain in place. At the same location, water from the Bob site was seeping from the edge of a gravel pad into the environment, via a silt fence. Water was collecting behind the silt fence which likely overtops during rainfall events.



Photo: 27 Seepage from Bob discharging to environment



Photo 28: Tailings deposited in wetland

Drill cuttings released to the environment at the Discovery site remain in place. Sediment was observed to have deposited on the forest floor and flowed into an unnamed creek, extending toward Hepler Lake.

  
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Photo 29: Drill cuttings deposited in creek

The sediment pond that had been excavated at Discovery as a temporary measure to contain site water had been filled in and soil replaced to a depth of approximately 10 to 30 cm. Mr. Meckert was not certain if sediment in the pond had been removed prior to infilling of the pond. MEM noted brown seepage a few meters down grade of the filled pond which flowed toward Englishman slough.



Photo 30: filled in sediment pond at Discovery



Photo 31: seepage near filled sediment pond

Evidence of erosion was present throughout the site. Rilling and erosion of the road grade was observed on the Tel, Bob and Discovery roads and at the Tel portal. Evidence of rilling of the low grade ore stockpile was also noted. Erosion and sediment control supplies were observed on site in a storage area near the Tel site, and evidence was noted of some attempts to control sediment release. A silt fence had been erected at the Bob site and adjacent to the Tel portal road at a stream crossing. A sump lined with geotextile cloth had been excavated near the Tel portal. Evidence of significant erosion was noted on the long, steep Tel portal access road, with water and sediment running down the road into the portal. Active water management at the site had ceased and sediment ponds at the Tel site were full and overtop during heavy rainfall events.

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Photo 32: Example of road erosion



Photo 33: Deposition of sediment adjacent to road



Photo 34: Erosion of the low grade ore stockpile



Photo 35: Riling of road surface at Tel portal

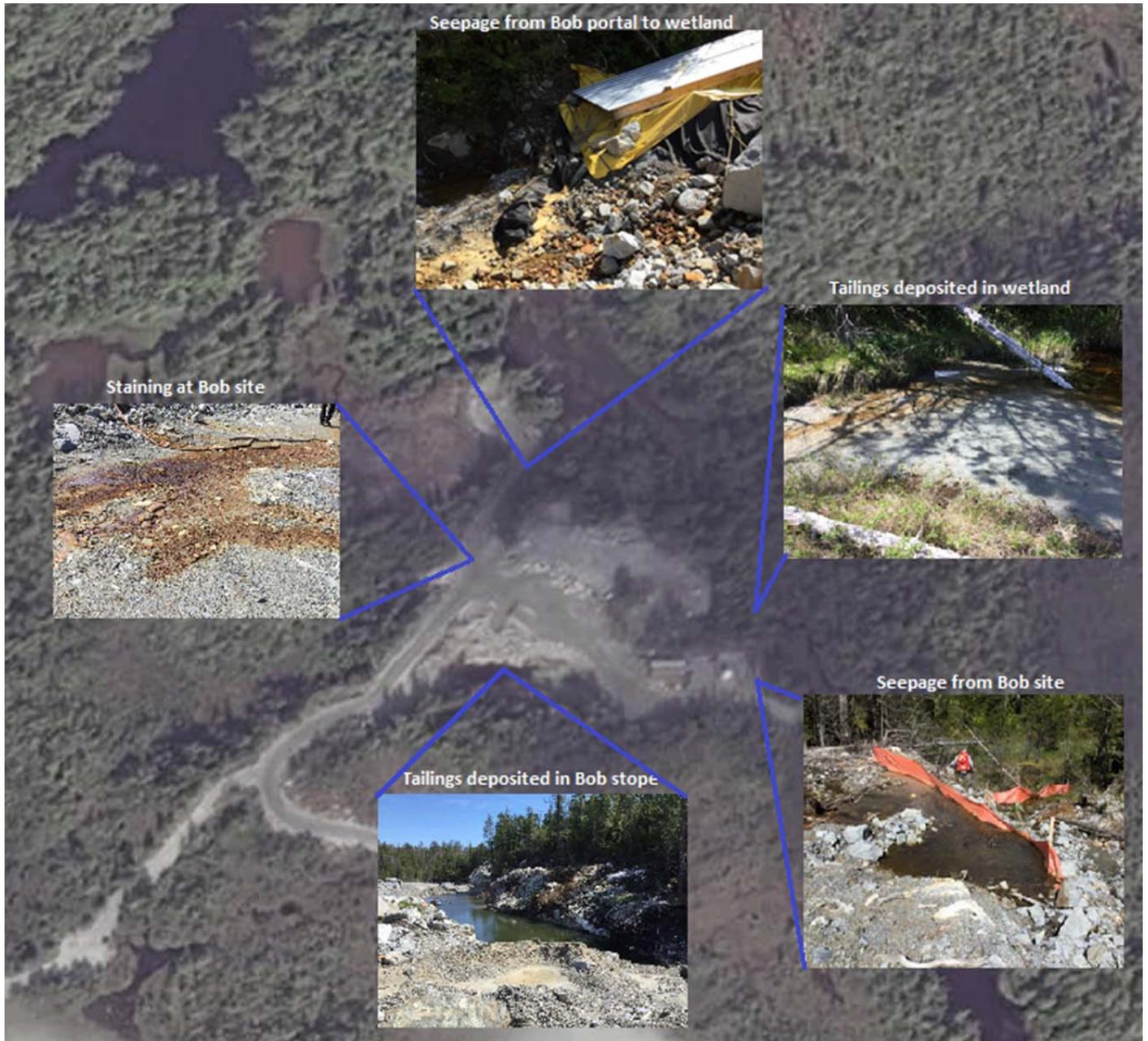
The images below place some of the key issues identified in context.

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Figure 1: Bob site



  
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Figure 2: Discovery site



  
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Tel site:



  
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## Orders

During the inspection the following permit and Code non-compliances were noted.

1. An inspection report dated September 3, 2015 ordered that secondary containment be in place for all fuel storage tanks >230L. No secondary containment was observed during the inspection. **Section 9.9.1** of the Health, Safety and Reclamation Code for Mines in British Columbia (Code) requires that all liquid hydrocarbon products be stored within a containment that minimizes the possibility of accidental discharge to the environment. **Code Section 2.3.4** requires that potentially hazardous materials be properly contained. The Mine Manager shall ensure that appropriate secondary containment measures are implemented for all storage tanks and containers present on-site holding hazardous or potentially hazardous materials. Secondary containment capacity should be 110% of the capacity of the storage container/tank. This requirement applies to containment of persistent leaks from mobile equipment and vehicles that are on-site. **This non-compliance shall be remedied immediately.**
2. The September 3, 2015 inspection report ordered that a gate be installed at the barge landing to control public access (as per Code Section 1.3.3). A gate was not in place at the time of the inspection. Pursuant to **Code Section 10.6.5**, for mines closed for an indefinite period, the Mine Manager shall take all practicable measures to prevent inadvertent access to mine entrances, pits, openings, by unauthorized persons and ensure that the mine workings and fixtures remain secure. The access to the site must be controlled to prevent inadvertent access. **The Mine Manager shall remedy this issue immediately.**
3. MEM noted evidence of a number of spills and found several vehicles and pieces of equipment that were actively leaking. Pursuant to **Code Section 2.3.7**, spills or releases of hazardous waste materials shall be cleaned up as soon as possible by persons trained to safely handle the waste material and wearing any necessary protective clothing and equipment to safeguard their health and safety. The Mine Manager shall ensure all spills that have occurred on-site are cleaned up as per Code requirements and ensure any active leaks or future spills are similarly addressed. Contaminated absorbent or soil materials shall be appropriately contained and stored for disposal at appropriate off-site facilities. **The Mine Manager shall ensure this issue is remedied immediately.**
4. **Code Section 1.9.1(1)** requires that all reasonable and practical measures be taken to ensure that the workplace is free of potentially hazardous agents and conditions which could adversely affect the health, safety, or well-being of workers. **Code Section 2.3.4** requires that potentially hazardous materials are properly contained. The leaking chemicals located on the second floor of the DMS plant present a safety hazard. **The Mine Manager shall ensure this issue is remedied immediately.**
5. The sediment control pond at the Tel site was full, with less than 1m freeboard. **Permit M-241 condition C.3.(b)** requires that a minimum of 1.0 m freeboard below the spillway be maintained to prevent accidental release of sediment laden water. The September 3, 2015 inspection report closed this part of the mine to prevent its unauthorized use. The operational requirements to maintain the freeboard of the pond continues to be a requirement for the sediment control pond facility. Similarly, the seepage from the Bob stope is currently uncontrolled and appropriate actions are required to contain this water on-site. **The Mine Manager shall consider options to remedy these issues (i.e., maintenance of adequate freeboard of the sediment control pond and control of Bob seepage water through the site water management works) and provide the options analysis and preferred option in the Mine Manager's response to this report. The chosen option must meet the objective of ensuring best practices in environmental protection are implemented and maintained.**

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6. **Permit M-241 condition D.3.(d)(v)** requires that flotation tailings be stored on surface no longer than four weeks. Tailings stored at surface are to be kept in a covered facility to prevent the generation and release of poor quality water to the receiving environment for no more than 4 weeks. All flotation tailings shall be backfilled in the underground Tel Mine workings. MEM noted that tailings have been deposited into portions of the Bob stope, which had collapsed, resulting in an opening to the surface. The stope has currently filled with water, covering the tailings. Adjacent to the stope, tailings have also been deposited in the Bob vent raise. Tailings in this area were located at surface and were uncovered. This Bob Zone is not an authorized location for tailings storage/disposal. At this time, this inspector is aware that milling and underground activities are not authorized. **The Mine Manager shall ensure that tailings located on surface are covered to prevent infiltration and appropriate measures are taken to contain any run-off from the tailings while it is stored on the surface. This issue shall be remedied immediately.**
7. In order to prevent the generation and release of poor quality drainage to the receiving environment, **Permit M-241 condition D.3.(d)(vi)** requires that sulphide concentrate be kept in waterproof bags in a covered facility prior to shipment off site. Thirty nine bags of concentrate were being stored near the camp, approximately 100 m from the barge landing. Although the concentrate was contained in waterproof bags, the material was not covered. **The Mine Manager shall ensure that all concentrate bags are contained in a covered facility. This issue shall be remedied immediately.**
8. Fines excavated from the sediment control pond were being stored in a 1.5 m high bermed facility at the north end of the Tel mine site. **Permit M-241 condition D.3.(d)(vii)** requires that all sediments removed from the sediment control pond be processed in the ore processing plant and waste from the processing of the sediments is to be backfilled in underground workings. At this time, this inspector is aware that milling and underground activities are not authorized. **The Mine Manager shall ensure that sediment excavated from the sediment control pond located on surface is contained and protected to ensure the materials do not erode. The materials shall be sampled and characterized to assess potential risks to the environment. This issue shall be remedied immediately.**
9. During the inspection, MEM noted evidence of spilling of fuel and oil at the Truck shop which was located adjacent to a large soil stockpile. Portions of the stockpile had been excavated to create a secondary sediment pond. **Permit M-241 condition D.6.(b)** requires that stockpiles be protected from erosion, degradation and contamination. Prior to using this material for reclamation purposes, the stockpile must be sampled representatively to assess the extent, magnitude, and nature of the contamination. **Prior to initiating soil replacement activities on-site, the Mine Manager shall ensure the soil materials are appropriately characterized to ensure the quality is suitable for reclamation purposes to meet the end land use and capability objectives for the site. The Mine Manager shall implement measures immediately to ensure that all soil stockpiled on-site is protected from any on-going sources of contamination and erosion.**
10. During the inspection, it was not clear if site personnel were familiar with environmental management plans (EMP) and best practices that should be implemented on this site. **Permit M-241 Condition D.1.(c)** requires that all mine site employees and contractors are knowledgeable and accountable to act consistently with the requirements of the EMP. **The Mine Manager shall ensure that EMPs are up to date and site personnel are trained so that they are capable of implementing appropriate environmental management measures as required. This issue shall be remediated immediately.**
11. **Permit M-241** does not permit stockpiling of low grade ore. The disturbance area associated with the low grade ore stockpile is also not permitted. **The Mine Manager is asked clarify if the waste rock material stockpiled**

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**is in fact low grade ore. The Mine Manager is also asked to provide information regarding the design and construction of the pad on which the low grade stockpile is located.**

12. Upon observation of the low grade ore stockpile, surface instabilities were evident. Though the low grade ore stockpile is not permitted, permit conditions pertaining to waste rock facilities are applicable while the material remains stockpiled. **Permit M-241 condition C.2.(a)** requires that visual inspections of the crests and slopes occur to ensure that stability and erosion control objectives are achieved. Further, pursuant to **Permit M-241 condition C.2.(a)**, the side slopes of the low grade ore stockpile are to be developed at 2:1 in accordance with the application. The slope gradients were not measured during the inspection, however, the surface instabilities observed could indicate that slopes are steeper than permitted. **The Mine Manager is asked to assess the surface instabilities observed and provide recommended actions that should be taken to control erosion on this mine component. This information is required in the Mine Manager's response.**
13. During the inspection, it was not clear if the footprint of the waste rock dump facility had been completely stripped of soil and vegetation as is required pursuant to **Permit M-241 condition C.2.(b)**. **The Mine Manager is asked to provide confirmation that the soil and vegetation was stripped prior to the placement of waste rock. Confirmation should include pictures of the stripping activities and salvage volumes for the stockpile footprint (from where to where). This information is required in the Mine Manager's response.**
14. **Permit M-241 condition D.3.(d)(iii)** specifies that PAG is not authorized to be stored on surface for longer than 4 weeks. **The Mine Manager is asked to locate all PAG materials on site and provide a map with the locations and volumes of these materials. This information is required in the Mine Manager's response.**
15. **Permit M-241 condition D.6.(c)** specifies that soil stockpiles must be located in areas that minimize handling requirements, provide adequate accessibility, and optimize sediment control options. **Permit M-241 condition D.6.(f)** specifies that stockpiled soil shall not be used as fill. **The Mine Manager is asked to locate all soil stockpiles on site and provide a map with the location and volumes of these materials. In this provision of information, the Mine Manager is asked to provide details regarding burial of any stockpiled material and/or placement of materials that inevitably precludes its use for reclamation purposes (i.e., it can no longer be retrieved). This information is required in the Mine Manager's response.**
16. **Permit M-241 condition D.5.(c)** specifies that appropriate inspection must be conducted of sediment and erosion control structures to ensure sediment-laden run-off is suitable contained on-site. MEM interprets this condition, in conjunction with the site's erosion and sediment control management plan, to mean that measures will be taken to contain run-off on-site and monitoring activities will occur to ensure that this is occurring at all times. **The Mine Manager is asked to provide in the response to this inspection report activities that occur on a routine basis that address these permit requirements and provide comment regarding how site personnel respond when run-off is found to not be contained on-site.**
17. **Permit M-241 condition E.11** specifies that a Closure Management Manual must be submitted within one month of unplanned closure. This document is intended to describe and document key aspects of the ongoing mitigation, monitoring, and maintenance requirements for the site (**Code Section 10.6.12(1)**). **The Mine Manager is required to develop a Closure Management Manual detailing all of the required activities for the site under current conditions and submit it to the Chief Inspector by August 30, 2016.**

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18. **Permit M-241 condition E.2** specifies that annual reclamation reports are required to be submitted annually every March 31<sup>st</sup>. A report was not submitted for the 2015 year. This requirement is outstanding. **The Mine Manager is asked to provide comment as to when the 2015 Annual Reclamation Report will be submitted.**
  
19. **Permit M-241 condition E.12** specifies that an updated Five Year Mine Plan and Reclamation Program is required by March 31, 2015. A report satisfying this requirement was not received. This requirement is outstanding. **The Mine Manager is asked to provide comment as to when the updated Mine Plan and Reclamation Program will be submitted.**

### **Conclusion**

The May 9 – 10, 2016 inspection identified several non-compliances which must be addressed.

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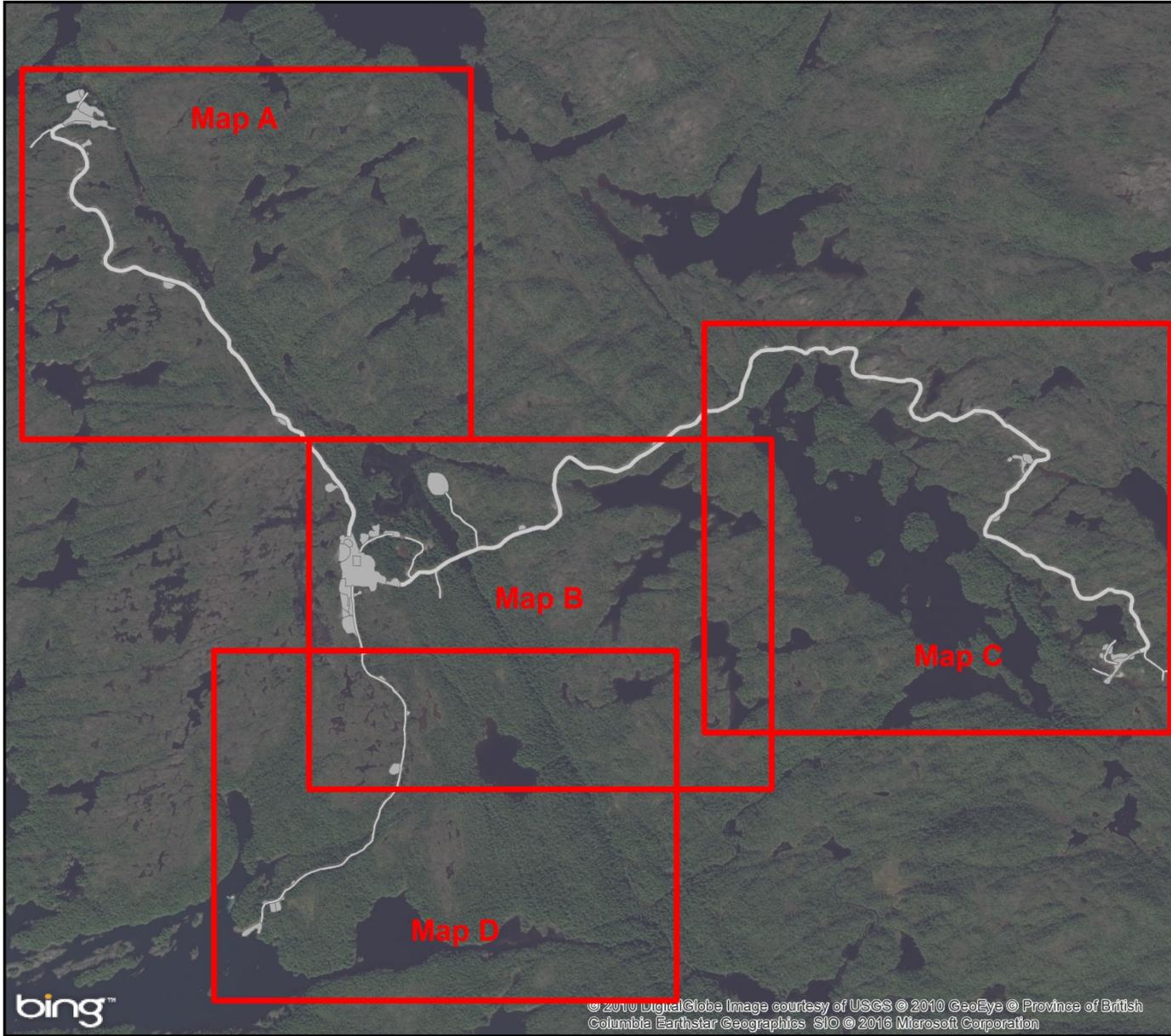
Sonia Meili B.Sc, P.Ag., P.Geo.

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## **Appendix A: Site Maps Produced by MEM**



**Mine #: M-241**  
Banks Island Gold  
Overview Map

Base Data: BC Geographic Warehouse

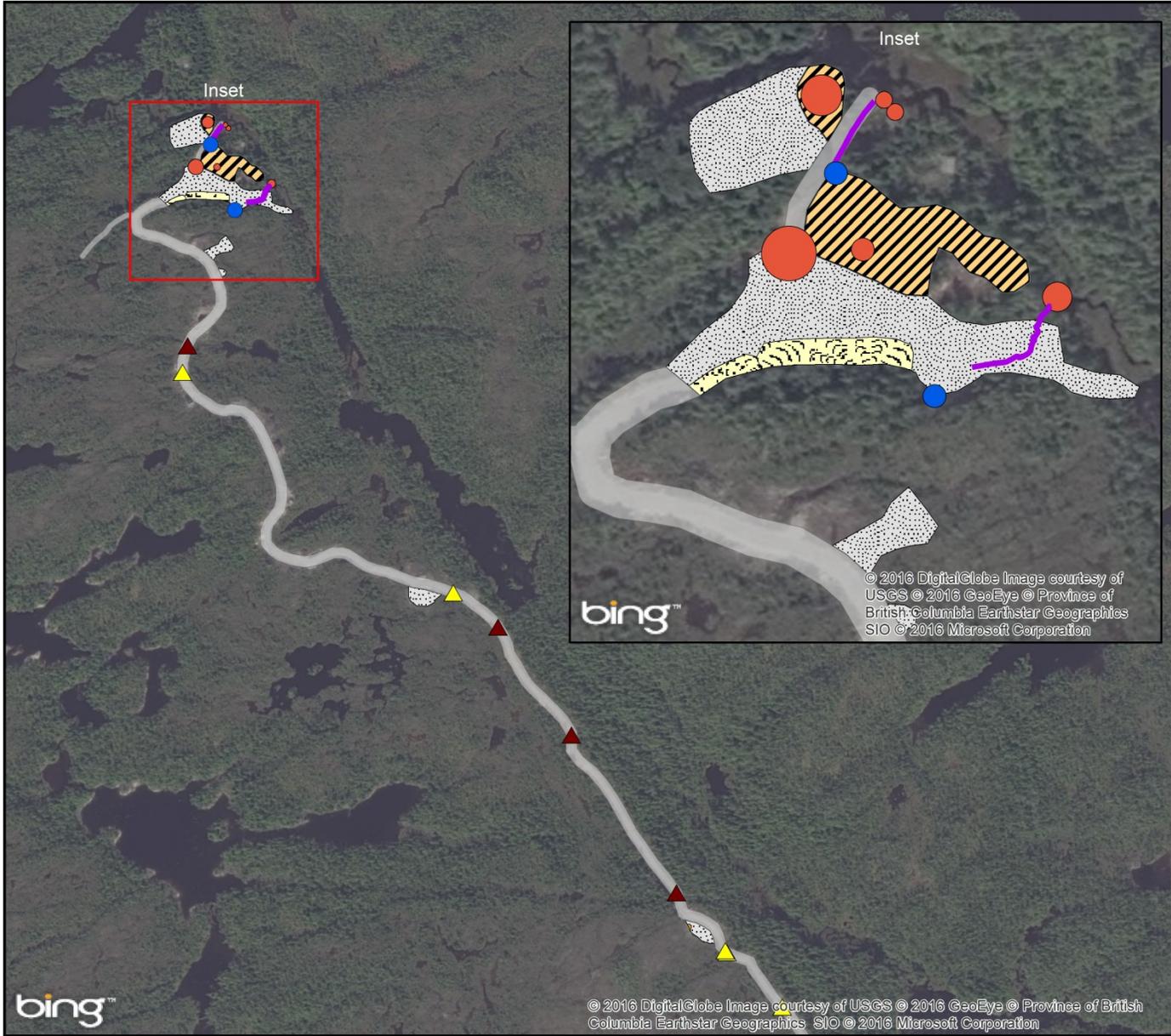
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Prepared by: S.M. Hall  
MEM: Reclamation and Permitting  
Date: May 2016



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**Mine #: M-241**  
**Banks Island Gold**  
**May 2016 Inspection**  
**Map A**

- Bridge
- Portals
- Culvert
- Wood Box Culvert
- Unauthorized Discharges
- Discharge Pipeline
- Possible Contamination
- Waste Rock
- Road
- Mine Site
- Tailings
- Low Grade Ore Stockpile
- Soil stockpile

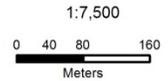
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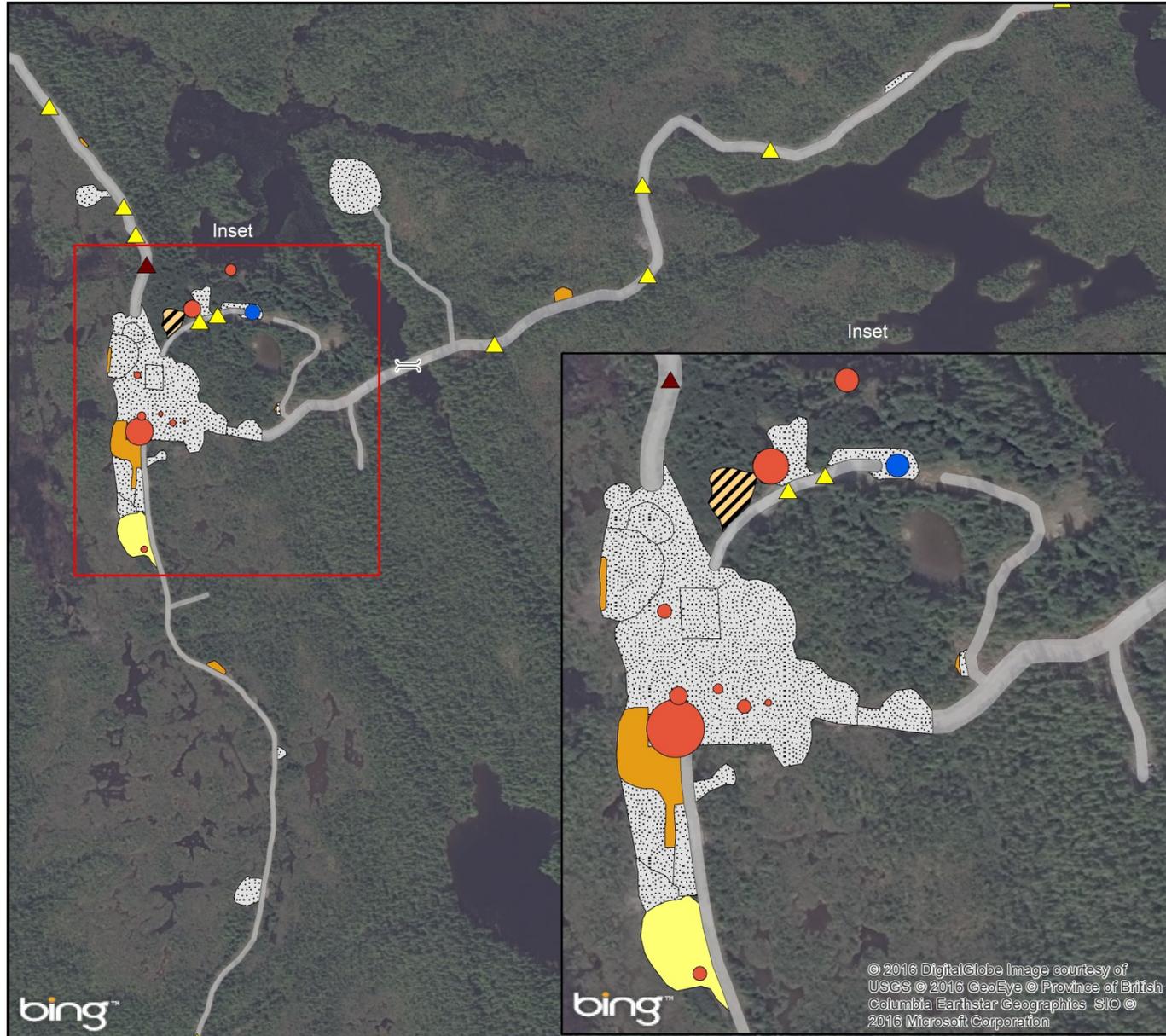
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Prepared by: SMell  
 MSR: Reclamation and Permitting  
 Date: May 2016

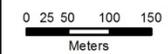
**Mine #: M-241**  
**Banks Island Gold**  
**May 2016 Inspection**  
**Map B**

-  Bridge
-  Portals
-  Culvert
-  Wood Box Culvert
-  Discharge Pipeline
-  Unauthorized Discharges
-  Possible Contamination
-  Waste Rock
-  Road
-  Mine Site
-  Tailings
-  Low grade ore stockpile
-  Soil stockpile



Base Data: BC Geographic Warehouse

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Prepared by: SMell  
 MSR: Reclamation and Permitting  
 Date: May 2016



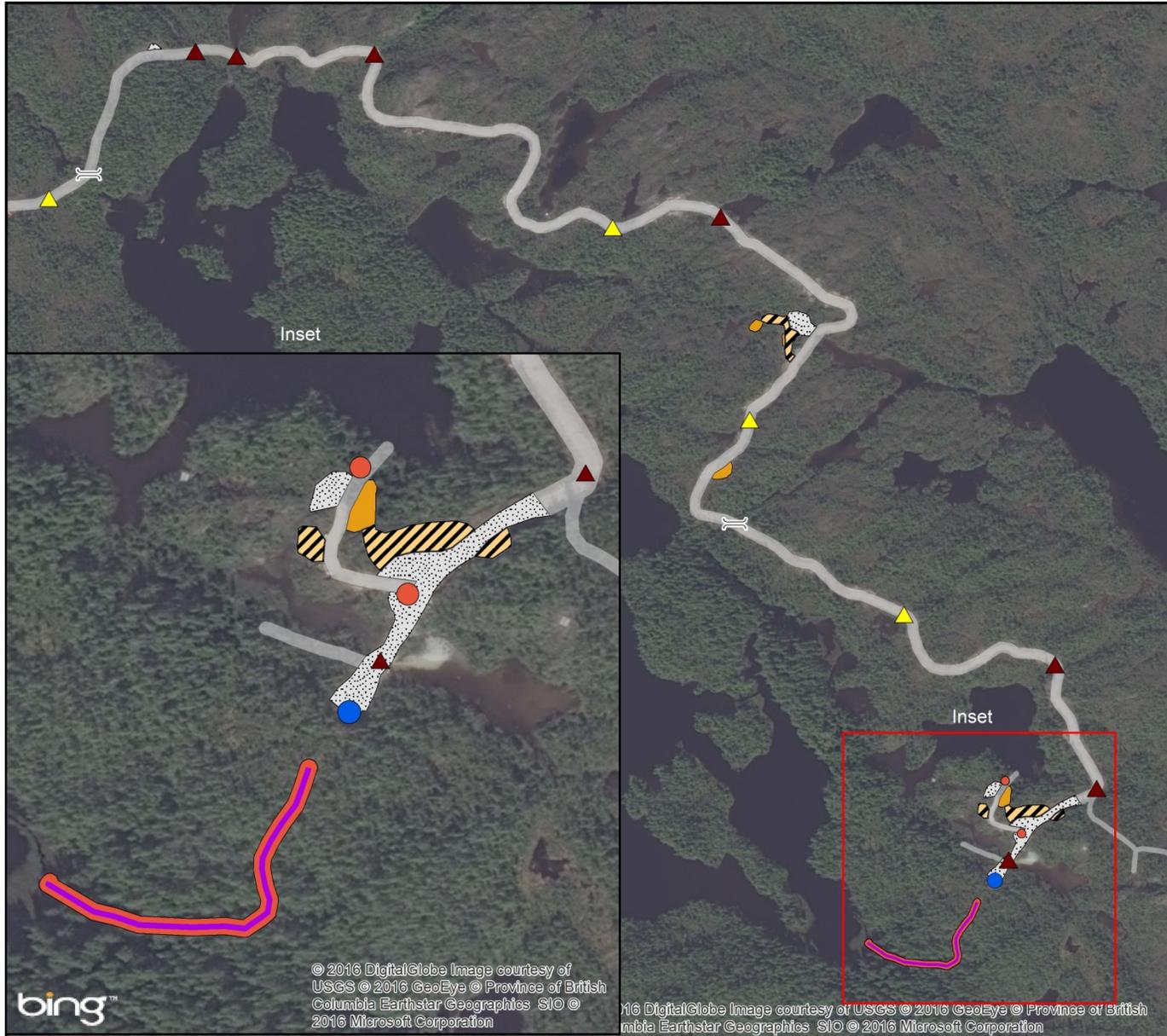
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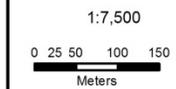
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**Mine #: M-241**  
Banks Island Gold  
May 2016 Inspection  
Map C

-  Bridge
-  Portals
-  Culvert
-  Wood Box Culvert
-  Discharge Pipeline
-  Unauthorized Discharges
-  Possible Contamination
-  Waste Rock
-  Road
-  Mine Site
-  Tailings
-  Low Grade Ore Stockpile
-  Soil Stockpile

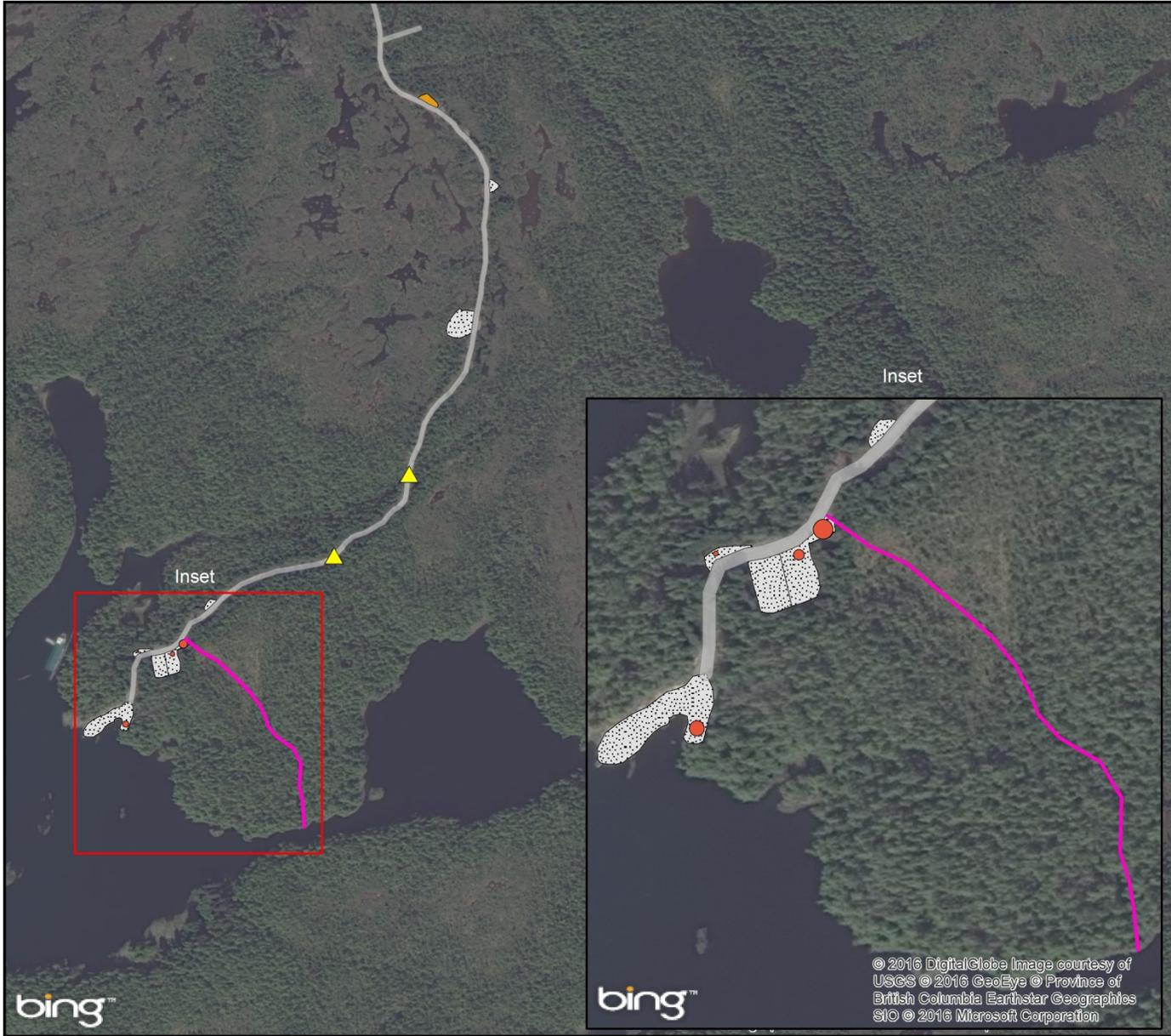


Base Data: BC Geographic Warehouse



Prepared by: SMell  
MSE: Reclamation and Permitting  
Date: May 2016

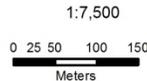




**Mine #: M-241**  
**Banks Island Gold**  
**May 2016 Inspection**  
**Map D**

-  Bridge
-  Portals
-  Culvert
-  Wood Box Culvert
-  Discharge Pipeline
-  Unauthorized Discharges
-  Possible Contamination
-  Waste Rock
-  Road
-  Mine Site
-  Tailings
-  Low Grade Ore Stockpile
-  Soil Stockpile

Base Data: BC Geographic Warehouse



Prepared by: S/Mail  
 MSEM: Reclamation and Permitting  
 Date: May 2016

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