Sä Dena Hes Mine
Decommissioning and Reclamation Status Report - November 2013

Yukon Water Licence QZ99-045 and Quartz Mining License QML-0004

prepared by: Teck Resources Limited
November 28, 2013
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1.0 INTRODUCTION

A Joint Venture consisting of Teck Metals Ltd. (25%), Teck Resources Limited (25%) and Pan-Pacific Metal Mining Corporation (50%) (wholly-owned subsidiary of Korea Zinc) purchased the Sä Dena Hes Mine from Coopers and Lybrand Ltd. the appointed Court Receiver, in March 1994. Teck recently has done some corporate realignment and Teck Resources Limited now holds 50% of the joint venture and continues to manage the mine under an Agreement with the Joint Venture Partners.

Teck initiated Permanent Closure of the Sä Dena Hes Mine in January 2013. This reclamation status report is being submitted in accordance with the Water Licence, Part F, Section 81, as well as the QML Audit and Financial Security Requirement letter dated October 21st, 2013.

The scheduled closure activities as outlined in the Detailed Decommissioning and Reclamation Report, July 2013 (DDRTP, 2013) were delayed for several reasons including Teck funding restraints, timing of regulatory reviews and approvals, and developing a working relationship with the Liard First Nation. Studies related to environmental and land use continued as originally planned. Despite the delay some decommissioning activities did occur and are included within this report. As a result, the project schedule has been updated 2014/2015 and is included at the end of this report. The intent is to complete the approved DDRP work by the end of 2015 as originally proposed.

2.0 REGULATORY ACTIVITIES

The following is a summary of the regulatory activities that have occurred in 2013 including submissions and approvals. Note that reviews by the Liard First Nation are further discussed in Section 3.0 below.

2.1. Detailed Decommissioning and Reclamation Plan

On March 28, 2013, an updated decommissioning and reclamation plan was submitted to EMR titled “Sä Dena Hes Mine Detailed Decommissioning Reclamation Plan, March 2013 Update” (2013 DDRP).

In June, the following comments were received:

- SteveJan Consulting regarding a review of the estimated costs;
- Environment Yukon regarding the DDRP and Environmental Site Assessment Reports; and
- Yukon Workers’ Compensation Health and Safety Board.

The comments were included and addressed in the Final updated decommissioning and reclamation plan titled “Sä Dena Hes Mine Detailed Decommissioning Reclamation Plan, March 2013 Update Final” (Final 2013 DDRP) submitted to EMR and the Water Board on July 15, 2013. Subsequently, EMR provided an amended QML-0004 dated July 24th, 2013 which includes approval for implementation of 2013 closure activities, as well as reporting and security obligations.

Due to the delay of deconstruction works in 2013, the security audit was delayed and the bonding is going to be reviewed by EMR.
2.2. Dam Decommissioning Report

As required in Part C of the Sä Dena Hes Water Licence, the design drawings, specifications, and procedures for the decommissioning of the dams at the Sä Dena Hes Mine as part of the decommissioning and reclamation of the site were submitted to the Yukon Water Board on July 19, 2013. While these plans were being developed, it was anticipated that Teck would be decommissioning the South Dam in 2013. However, given the forecasted timing of internal and external approvals required for this work to proceed, Teck decided to postpone the South Dam work until the summer of 2014. The Reclaim Dam will still be completed in the summer/fall of 2014 as planned.

Further clarifications were requested by the Water Board and Teck’s responses were submitted on September 4th, 2013, and an approval letter was received on September 13th, 2013.

3.0 FIRST NATION ENGAGEMENT

Teck has been working with the Liard First Nation (LFN) leadership to ensure the Sä Dena Hes Mine Reclamation and Closure Project (‘Project’) is able to provide benefits to the local communities, with a specific focus on the Liard First Nation and other members of the Kaska Collaboration Agreement.

The following is a description of initiatives and funding that Teck has undergone with the LFN in 2013:

- Teck supported the LFN Work Force and Member Business Development Plan 2013 – Phase I whereby Teck provided significant resources to Liard First Nation Development Corporation (LFNDC) to develop the LFN Work Force and Member Business database.

- Project Working Group (PWG) Terms of Reference – to serve as a working partnership between the two parties to inform the project execution for the duration of the on-site project work (2013-2015) and beyond for the long term monitoring of the site. As part of the PWG, weekly notices and bi-weekly calls have been occurring to communicate the project’s progress throughout 2013. Discussion items include onsite activities, schedule and project updates, regulatory approvals, and environmental studies updates.

- Sä Dena Hes Communications & Engagement Plan - to clarify how both parties will ensure that there is ongoing effective communication and engagement throughout the duration of the project and beyond.

- Teck funded Traditional Knowledge Phase I and II Studies – Phase I convened LFN elders and their initial engagement in the project included a site tour, and a group discussion with the Azimuth Consulting as part of gathering knowledge for the Human Health and Ecological Risk Assessment. Phase II work included group sessions with the LFN elders whose families have been stewards of the area, review maps and aerial photos to identify trails and traditional use, and to initiate potential end land use discussions for the mine site. The Phase II assessment report has been provided to Teck, however additional work and discussions are required within the LFN to prioritize end land use requests before there are discussions with Teck.
4.0 DECOMMISSIONING ACTIVITIES

Decommissioning work began on site on September 9th, 2013 and ended on October 11th, 2013. Teck retained AMEC to manage the project, which includes having a Construction Manager to manage all on site activities. The site project work completed in September and October included the following:

- Removal of hazardous building materials from the camp and office trailers
  - Hazardous building materials were previously identified in Golder’s HBM assessment report entitled *Pre-Demolition Hazardous Building Materials Assessment, Mine Infrastructure and Camp Buildings, Sa Dena Hes Mine, Yukon Territory* dated February 1, 2013. These materials were identified and segregated and are further summarized in Attachment 1.

- Removal, crushing and landfilling of camp trailers, office complex, ambulance shed and other smaller site structures.
  - After the removal of the identified hazardous building materials the buildings were crushed using a 200 series excavator. The building materials was then loaded into tandem trucks or on a low bed and hauled to the permitted landfill.

- Landfill preparation and deposition
  - The permitted landfill was prepared by excavating and removing existing native material to a depth of approximately 4 meters. The landfilled materials included industrial classed wastes only; no hazardous materials were landfilled. The materials were delivered by tandem truck and dozer into the open trenches in approximately 0.5 to 1.0 meter lifts. As discussed in Attachment 1, non-friable asbestos containing flooring were hauled to the landfill using a lowbed trailer and buried using an excavator. Existing granular materials were mixed into the landfilled debris and compacted. The lift was then re-graded. This was procedure was used to fill the excavated trench. The surface was then capped with a minimum of 1 meter of clean fill. AMEC site manager tracked all the materials and a total of 672 tandem loads and 28 lowbed trailer loads of demolition material from the camp buildings and office complex were placed in the landfill. In addition, 22 loads from the Golden Hills shop that was previously demolished in 2012 was buried. A survey plan of the landfill and deposition zones is included in Attachment 2. Pictures of the area during and after construction are included in Attachment 3.
  - Pictures of these areas are included in Attachment 3.

- Pumping water from the south dam into the reclaim dam.
  - The water levels in the ponds were lowered in preparation of draining the ponds for decommissioning in 2014.

- Removal and stockpiling of insulated HDPE pipe.
  - Approximately 2.8 km of pipe (water line) was removed, leaving approximately 5.2 km of pipeline to be removed (3.0 km of water line and 2.2 km of tailings line). The pipeline was either disconnected or cut in
10 m sections for hauling to the existing bone yard where it was stockpiled. The pipe is being marketed for sale.

- Deconstruction and removal of the Burnick shop from site.
  - The metal Burnick shop building was sold to a local contractor. The local contractor dis-assembled the structure and hauled the building off site.

- Pumping, removal and landfilling of the camp’s septic tanks.
  - The existing septic tanks were pumped empty, cleaned and removed from the ground. The septic tank effluent was hauled into Watson Lake and disposed of at a licenced disposal facility. The cleaned septic tanks were crushed and loaded onto tandem truck and hauled to the landfill.

- Excavation, surveying and burial of hydrocarbon soils
  - Approximately 470 m³ of hydrocarbon contaminated soils that were temporarily stockpiled on site from remedial excavations completed in 2011 and 2012 were replaced into the original excavation footprints with the cleanest piles placed on last. Details are further discussed in the memorandum entitled Sa Dena Hes Mine – Backfilling Excavated Materials and Soil Sampling, dated October 7, 2013 prepared by Access Consulting Group. The memo is included as Attachment 4.
  - The work was completed as per the remediation plan provided to the Yukon Environment under Special Waste Permit# 4201-41-247 on September 13, 2013. The remediation plan for the hydrocarbon contaminated soils includes using a risk management approach which will involve a combination of understanding any risks to human health and the environment and physical action(s) to remove contact with such materials where risks are found to be unacceptable. This is consistent with the DDRP that was accepted by Yukon Environment and Energy Mines and Resources for risk managing the metals contaminated soils at the mine site.

5.0 ENVIRONMENTAL STUDIES

5.1. Surface Water Quality Monitoring

The water quality monitoring requirements for the Sã Dena Hes Venture are set out in Part F ‘Monitoring and Surveillance’ (or “SNP”) of the Water Licence QZ99-045. Water sampling data is reported monthly to the Yukon Territory Water Board in accordance with the Water Licence, Part F, Section 44. The annual report will be submitted by March 2014. Additional monitoring was also conducted to support the Human Health and Ecological Risk Assessment and to update the water quality Mass Loading study. Both reports are currently in progress.

5.2. Hydrogeological study

A hydrogeological study was conducted by Keyeh Nejeh Golder Associates to assess if contamination is migrating from the Areas of Potential Environmental Concern towards receiving environments. The assessment was conducted to determine the direction and rate of groundwater flow, identify potential receiving environments, and assess travel times for potential contaminant pathways. A total of 13 monitoring wells (MW13-01 to
MW13-13) were installed as shown on the Figure included in Attachment 5. The new wells and existing were monitored and sampled for a minimum of two events. The hydrogeological report is currently being developed.

5.3. Human Health and Ecological Risk Assessment

Teck has retained Azimuth Consulting Group to conduct a Human Health and Ecological Risk Assessment for the closure of the mine site. A draft Problem Formulation was provided to the regulator agencies and Liard First Nation in June 2013. Field sampling programs were conducted in June and August 2013 and included sampling vegetation ground invertebrates, flying insects, small mammals, water and sediment, and soil sampling. The results of the risk assessment will be available by March 2014 for final approvals of the DDRP.

6.0 GEOTECHNICAL INSPECTIONS

The annual geotechnical inspection was carried out on June 24 and 25, 2013 by Peter Healey, Division Head, Geo-Environmental Engineering of SRK Consulting. The annual report is currently in progress. SRK has also been retained to undertake a review of the long term stability of the ground surface related to the underground mine workings. This review is underway with their report expected before year end.

7.0 SCHEDULE

Due to the delay of parts of the project in 2013, the schedule has been revised and the new detailed schedule for closure implementation is included in Attachment 6 in Gantt chart format. In general, the items that were originally scheduled for 2013 have been scheduled to be completed in 2014 including, building removal and major earthworks, such as dewatering the reclaim and tailings pond, decommissioning the Reclaim and South dams, channel construction, recontouring and portal closure works. The intent is to complete the approved DDRP work by the end of 2015 as originally proposed.
ATTACHMENT 1

Hazardous Building Materials Summary and Disposal
Table 4.1 – Hazardous Building Material Removal from Camp Facilities

<table>
<thead>
<tr>
<th>HBM Removed</th>
<th>Buildings</th>
<th>Disposal Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-friable asbestos-containing flooring.</td>
<td>Kitchen Trailer</td>
<td>Although no assessment of HBMs was conducted in the Kitchen Trailer due to safety concerns, flooring sections were treated as assumed asbestos-containing and were removed intact and hauled to the landfill using a lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>Bunk Trailer #1</td>
<td></td>
<td>Flooring sections removed intact and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>• Brown mosaic sheet flooring with paper backing (washroom &amp; showers, laundry room, dry room).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Flower and square pattern sheet flooring with paper backing (furnace rooms 1-6).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #2</td>
<td></td>
<td>Flooring sections removed intact and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>• Beige speckled pattern sheet flooring with paper backing (washroom).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Flower and square pattern sheet flooring with paper backing (furnace room).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #3</td>
<td></td>
<td>Flooring sections removed intact and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>• Flower and square pattern sheet flooring with paper backing (rooms 1-42, furnace rooms 1-5).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Brown mosaic sheet flooring with paper backing (washroom, electrical room).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #4</td>
<td></td>
<td>Per Golder HBM report, not separated from demolition waste as it was non-friable and not considered a hazardous waste.</td>
</tr>
<tr>
<td>• Dark charcoal grey mastic patch on roof (exterior).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #4</td>
<td></td>
<td>Flooring sections removed intact and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>• Flower and square pattern sheet flooring with paper backing on wood (rooms 1-42, furnace rooms 1-5).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Brown mosaic sheet flooring with paper backing (washroom, electrical room).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #5</td>
<td></td>
<td>Flooring sections removed intact and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>• Flower and square pattern sheet flooring with paper backing on wood (rooms 2-41, furnace rooms 1-3).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Brown mosaic sheet flooring with paper backing (washroom, electrical room).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Beige speckled sheet flooring with paper backing (showers).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #1</td>
<td></td>
<td>Removed from ceiling by hand (using gloves). Wire was cut. Stored in warehouse drum for final disposal.</td>
</tr>
<tr>
<td>Bunk Trailer #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunk Trailer #5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Radioactive material-containing smoke detectors.
### Table 4.2 – Camp Facilities Landfill Material Quantities

<table>
<thead>
<tr>
<th>Waste Material</th>
<th>Quantity Trucked to Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Camp Material (roofs, exterior walls and interior partitions)</td>
<td>521 Tandem Axle Truck Loads*</td>
</tr>
<tr>
<td>Camp Flooring Sections</td>
<td>21 Lowbed Trailer Loads**</td>
</tr>
<tr>
<td>Camp Septic Tanks (dry)</td>
<td>7 Tandem Axle Truck Loads</td>
</tr>
</tbody>
</table>

* Each tandem axle truck load contained roughly 5 m³ of material. Material contained voids and was further crushed at the landfill by the bulldozer during burial.
** Each lowbed trailer load contained roughly 3 flooring sections measuring 9 m x 4 m. Flooring sections were left intact and buried as a unit.

### Table 4.3 – Hazardous Building Material Removal from Office Complex

<table>
<thead>
<tr>
<th>HBMs Removed</th>
<th>Disposal Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-friable asbestos-containing cement board lining furnace closets present in Hallway 4, Hallway 7, and Room 22.</td>
<td>Removal of these materials was conducted by Energy North. Materials were triple-ply bagged and transported to Whitehorse where they were stored in a secure area until taken to the local landfill. Once transported to the landfill, materials were buried in a designated area.</td>
</tr>
<tr>
<td>Black window putty present in Hallway 2.</td>
<td>Laborers cut the windows containing the black putty out of the wall (cutting 200 mm from the window to avoid disturbing the putty) and stored the windows in the warehouse to avoid disturbing them. Energy North removed these windows from site during their site visit to complete extraction of other asbestos-containing materials. Materials were triple-ply bagged and transported to Whitehorse where they were stored in a secure area until taken to the local landfill. Once transported to the landfill, materials were buried in a designated area.</td>
</tr>
<tr>
<td>Black fire stop around electrical conduit in Room 19.</td>
<td>Removal of this material was conducted by Energy North. Materials were triple-ply bagged and transported to Whitehorse where they were stored in a secure area until taken to the local landfill. Once transported to the landfill, materials were buried in a designated area.</td>
</tr>
<tr>
<td>HBMs Removed</td>
<td>Disposal Methodology</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Flower sheet flooring with asbestos-containing paper backing present in Rooms 13, 14, 15, 20, and 21.</td>
<td>Flooring sections removed and hauled to landfill using lowbed trailer and buried using an excavator.</td>
</tr>
<tr>
<td>Radioactive material-containing smoke detectors.</td>
<td>Removed from ceiling by hand (using gloves). Wire was cut. Stored in warehouse drum for final disposal.</td>
</tr>
<tr>
<td>Mercury-containing materials (fluorescent light tubes, high intensity discharge mercury lamps, neon exit signs, thermostats).</td>
<td>Removed by hand (using gloves) by removing from fixture. Stored in separate drums in warehouse for final disposal.</td>
</tr>
</tbody>
</table>

Table 4.4 – Office Complex Landfill Material Quantities

<table>
<thead>
<tr>
<th>Waste Material</th>
<th>Quantity Trucked to Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Office Complex Material (roof, exterior walls and interior partitions)</td>
<td>151 Tandem Axle Truck Loads*</td>
</tr>
<tr>
<td>Office Complex Flooring Sections</td>
<td>7 Lowbed Trailer Loads**</td>
</tr>
</tbody>
</table>

* Each tandem axle truck load contained roughly 5 m$^3$ of material. Material contained voids and was further crushed at the landfill by the bulldozer during burial.

** Each lowbed trailer load contained roughly 3 flooring sections measuring 9 m x 4 m. Flooring sections were left intact and buried as a unit.
ATTACHMENT 2
Survey Plan of Landfill Deposition Zones
The map shown here has been created with all due and reasonable care and is strictly for use with AMEC Project Number: TE133100. The map has not been certified by a licensed land surveyor, and any third party use of this map comes with no warranties of any kind. AMEC assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.
ATTACHMENT 3
Photographs
Photo 1: Camp facilities pre-demolition (September 14, 2013)

Photo 2: Camp facilities post-demolition (October 3, 2013)
Photo 3: Office Complex pre-demolition (September 25, 2013)

Photo 4: Office Complex post-demolition (October 3, 2013)
Photo 5: Landfill area prior to deposition of camp and office demolition rubble (September 10, 2013)

Photo 6: Landfill area following deposition of camp and office demolition rubble (October 04, 2013)
Photo 7: South Pond at the beginning of 2013 pumping operations (September 13, 2013)

Photo 8: South Pond following completion of 2013 pumping operations (October 08, 2013)
ATTACHMENT 4
Access Memo
Memorandum

To: Michelle Unger, Teck Resources Limited - Dormant Properties Environment and Corporate Affairs - Dormant Mines Office

From: Kurt Neunherz, Contaminated Sites Remediation Manager, Access Consulting Group

Eri Boye, Project Geoscientist, Access Consulting Group

Date: October 7, 2013

Re: Sa Dena Hes Mine – Backfilling Excavated Materials and Soil Sampling

1 INTRODUCTION

This memorandum is intended to present a description of the tasks completed by Access Consulting Group (ACG), at the Sa Dena Hes mine site, Yukon, from September 16th to September 19th, 2013 on behalf of Teck Resources Limited (Teck). Attached (Attachment 1) are the analytical results from samples taken underneath of the bottom liner of 4 excavated piles at the Drum Storage site (Site 1). Pictures (Attachment 2) have been attached from the backfilled site locations (Drum Storage, Golden Hills Shop and with material from Burnnick Shop and Jewel Box). Yukon Engineering Services (YES) surveyed the excavation footprint and excavated piles prior to backfilling, and then surveyed the completed backfilled areas.

Analytical samples were collected from 4 soil stockpiles at Site 1: Drum Storage. These sample locations included piles: 2, 3, 5 and 6 (Appendix 3, site figure). Only Site 1: Drum Storage was sampled, as the other sites (Sites 2, 3 and 4) will be capped as per the human health and ecological risk assessment and risk management measures recommended for the area. Site 1: Drum Storage was sampled to determine if additional risk management measures were to be required for this location.

Samples were analysed by Maxxam Analytics, out of their Burnaby B.C. laboratory. Samples were analysed for Total Metals (Appendix 1 - Table 1), and for Petroleum Hydrocarbon (Appendix 1 - Table 2).

Field work was conducted by Eri Boye, from ACG, under supervision of the AMEC site manager, Chris Jeffrey.
2 Methodology

Soil sampling was undertaken as per the Yukon Contaminated Sites Regulation (CSR) of the Yukon Environment Act, with particular attention to Part 3 Restoration of Contaminated Sites, specifically Protocol No. 2 Analysis of Samples taken in relation to the Contaminated Sites Regulations, Protocol No. 3 Soil Sampling Procedures at Contaminated Sites and Protocol No. 5 Petroleum Hydrocarbon Analytical Methods and Standards.

For all sites, backfilling of the excavation footprint consisted of placing the excavated soil materials back in an ordered fashion, with the cleanest piles be placed on last.

2.1 Regulatory Guidelines and Criteria

Analyzed soil parameters were compared to the CSR “Schedule 1 - Generic Numerical Soil Standards” and “Schedule 2 – Matrix Numerical Soil Standards” under the Park Land Use Standards (CSR PL Standards). All sites were within 1.0 km of surface water and therefore CSR Aquatic Life Standards or most stringent standards applicable have been applied to soil sample results. In addition, the following site-specific factors (specified in applicable matrixes) have been applied: human intake of contaminated soil and toxicity to soil invertebrates and plants. Laboratory results were not compared to the CSR Groundwater Used for Drinking Water Standards as there were no drinking water sources within 1.5 km of the sites.

3 Results/Discussion

The following is a short summary of results analyzed at each individual site:

1. SITE 1: DRUM STORAGE

Table 1 presents Total Metal analytical results collected underneath of the bottom liner from Site 1 Drum Storage. Arsenic concentrations under stockpiles 2, 3 and 5 exceeded the Yukon CSR, Schedule 3 – Generic Numerical Water Standards – Aquatic Life (here on in referred to as Yukon CSR AW Water Standards). Soil under stockpile 5 exceeded the Yukon CSR AW Water Standards in regards to cadmium. Soil under Piles 3, 5 and 6 exceeded the Yukon CSR AW Water Standards in regards to Lead. Zinc concentrations from all four samples under Piles 2, 3, 5 and 6 also exceeded the CSR standards.

Table 2 presents Petroleum Hydrocarbon results collected from underneath the bottom liners from Site 1 Drum Storage. All petroleum hydrocarbon concentration results did not exceed the Schedule 1 – Soil Standards (Parkland) except for HEPHs concentrations in soil underneath pile 3. If the results were compared to the Industrial Land Use criteria, the sample would not have exceeded the applicable CSR standard of 5,000 ug/g.

Excavated piles were backfilled into the excavation footprint with the cleanest piles placed on last.

Yukon Engineering Services (YES) surveyed the excavation footprint and excavated piles prior to backfilling, and then surveyed the completed backfilled areas (Appendix 3).
2. SITE 2: GOLDEN HILLS SHOP with material from SITE 4: BURNICK SHOP

No sampling was conducted at this site.

Excavated piles were backfilled into the excavation footprint with the cleanest piles placed on last.

Yukon Engineering Services (YES) surveyed the excavation footprint and excavated piles prior to backfilling, and then surveyed the completed backfilled areas (Appendix 3).

3. SITE 3: JEWEL BOX

No sampling was conducted at this site.

Excavated piles were backfilled into the excavation footprint with the cleanest piles placed on last.

Yukon Engineering Services (YES) surveyed the excavation footprint and excavated piles prior to backfilling, and then surveyed the completed backfilled areas (Appendix 3).

4 CLOSURE

On behalf of Access Consulting Group we would like to thank you for the opportunity to complete this work.Teck Resources Limited. Should you have any questions regarding this memorandum, or if you require further information, please feel free to contact the undersigned at (867) 668-6463.

Prepared by: ACCESS CONSULTING GROUP

Reviewed by: ACCESS CONSULTING GROUP

Eri Boye, M.Sc., P. Geo (BC)  
Project Geoscientist  

Kurt Neunherz, BIE  
Contaminated Sites Manager
5 APPENDICES

1. Appendix 1: Table 1 – Metal Analysis, and Table 2 – PHC Analysis

2. Appendix 2: Photo Documentation

3. Appendix 3: Yukon Engineering Services (YES) Site Drawing
## TABLE 1: SOIL SAMPLE RESULTS - METAL ANALYSIS

**TECK RESOURCES LIMITED**  
September 16-19, 2013

<table>
<thead>
<tr>
<th><strong>UNITS</strong></th>
<th><strong>Drum Storage - Pile 2</strong></th>
<th><strong>Drum Storage - Pile 3</strong></th>
<th><strong>Drum Storage - Pile 5</strong></th>
<th><strong>Drum Storage - Pile 6</strong></th>
<th><strong>SCHEDULE 1 - SOIL STANDARDS (PARKLAND)</strong></th>
<th><strong>HUMAN HEALTH PROTECTION / INTAKE OF CONTAMINATED SOIL TOXICITY TO SOIL INVERTEBRATES AND PLANTS</strong></th>
<th><strong>GROUNDWATER FLOW TO SURFACE WATER USED BY AQUATIC LIFE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Properties</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soluble (2:1) pH</td>
<td>pH Units</td>
<td>8.17</td>
<td>6.92</td>
<td>7.28</td>
<td>5.33</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Metals by ICPMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Aluminum (Al)</td>
<td>mg/kg</td>
<td>25300</td>
<td>23900</td>
<td>22100</td>
<td>25600</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Antimony (Sb)</td>
<td>mg/kg</td>
<td>3.17</td>
<td>2.12</td>
<td>2.93</td>
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<tr>
<td>Total Arsenic (As)</td>
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<td>61</td>
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<td>Total Cadmium (Cd)</td>
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<td>7640</td>
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<td>Total Chromium (Cr)</td>
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<td>Total Cobalt (Co)</td>
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<td>37200</td>
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<td>Total Lead (Pb)</td>
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<td>Total Lithium (Li)</td>
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<td>Total Magnesium (Mg)</td>
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<td>16400</td>
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<td>Total Manganese (Mn)</td>
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<tr>
<td>Total Mercury (Hg)</td>
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<td>0.065</td>
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<td>Total Molybdenum (Mo)</td>
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<td>5.14</td>
<td>2.01</td>
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<td>Total Nickel (Ni)</td>
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<td>37.7</td>
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<tr>
<td>Total Phosphorus (P)</td>
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<td>427</td>
<td>451</td>
<td>543</td>
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<td>Total Potassium (K)</td>
<td>mg/kg</td>
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<td>1530</td>
<td>1570</td>
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<tr>
<td>Total Selenium (Se)</td>
<td>mg/kg</td>
<td>&lt;0.50</td>
<td>0.50</td>
<td>0.62</td>
<td>&lt;0.50</td>
<td>3</td>
<td>-</td>
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<tr>
<td>Total Silver (Ag)</td>
<td>mg/kg</td>
<td>0.237</td>
<td>0.22</td>
<td>0.98</td>
<td>0.382</td>
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<tr>
<td>Total Sodium (Na)</td>
<td>mg/kg</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>&lt;100</td>
<td>&lt;100</td>
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<td>-</td>
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<tr>
<td>Total Strontium (Sr)</td>
<td>mg/kg</td>
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<td>35</td>
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<tr>
<td>Total Thallium (Tl)</td>
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<td>0.36</td>
<td>0.098</td>
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<tr>
<td>Total Tin (Sn)</td>
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<td>0.45</td>
<td>0.43</td>
<td>0.42</td>
<td>0.31</td>
<td>50</td>
<td>-</td>
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<tr>
<td>Total Titanium (Ti)</td>
<td>mg/kg</td>
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<td>590</td>
<td>775</td>
<td>252</td>
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<td>-</td>
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<tr>
<td>Total Uranium (U)</td>
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<td>0.772</td>
<td>1.13</td>
<td>0.537</td>
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<td>Total Vanadium (V)</td>
<td>mg/kg</td>
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<td>31</td>
<td>38.6</td>
<td>35.1</td>
<td>200</td>
<td>-</td>
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<tr>
<td>Total Zinc (Zn)</td>
<td>mg/kg</td>
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<td>326</td>
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<tr>
<td>Total Zirconium (Zr)</td>
<td>mg/kg</td>
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<td>3.87</td>
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<td>3.76</td>
<td>-</td>
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</table>

**Highlighted Data - Result above CSR Standards**

Contaminated Sites Regulations (CSR) of The Yukon Environment Act Schedule 1, Generic Numerical Soil Standards (Parkland) & Schedule 2 Matrix Numerical Soil Standards (Parkland)

Site-specific factors of human intake of contaminated soil and toxicity to soil invertebrates and plants specified in applicable matrices has been applied to all samples. Site is within 1 km of surface water and subject to aquatic life standards or most stringent Parkland standard applicable.

* Standards based on pH

RDL: Reportable Detection Limit

- -: Not Specified

(1): RDL raised due to sample matrix interference.

(2): RDL raised due to sample matrix interference.

N/A: Not Available
## TABLE 2: SOIL SAMPLE RESULTS - PETROLEUM HYDROCARBON ANALYSIS

<table>
<thead>
<tr>
<th>Volatiles - Soil</th>
<th>Drum Storage - Pile 2</th>
<th>Drum Storage - Pile 3</th>
<th>Drum Storage - Pile 5</th>
<th>Drum Storage - Pile 6</th>
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<tr>
<td>Date</td>
<td>mm/dd/yy</td>
<td>9-17-2013</td>
<td>9-17-2013</td>
<td>9-18-2013</td>
</tr>
<tr>
<td>VPHs (VHs6-10 minus BTEX) mg/kg</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Methyl t-Butyl Ether mg/kg</td>
<td>&lt;0.10</td>
<td>&lt;0.10</td>
<td>&lt;0.10</td>
<td>&lt;0.10</td>
</tr>
<tr>
<td>Toluene mg/kg</td>
<td>&lt;0.020</td>
<td>&lt;0.020</td>
<td>&lt;0.020</td>
<td>&lt;0.020</td>
</tr>
<tr>
<td>Ethylbenzene mg/kg</td>
<td>&lt;0.010</td>
<td>&lt;0.010</td>
<td>&lt;0.010</td>
<td>&lt;0.010</td>
</tr>
<tr>
<td>m &amp; p-Xylene mg/kg</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
</tr>
<tr>
<td>o-Xylene mg/kg</td>
<td>&lt;0.030</td>
<td>&lt;0.030</td>
<td>&lt;0.030</td>
<td>&lt;0.030</td>
</tr>
<tr>
<td>Total Xylenes (m,p,o) mg/kg</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
<td>&lt;0.040</td>
</tr>
<tr>
<td>VMs C6-C10 mg/kg</td>
<td>&lt;0.050</td>
<td>&lt;0.050</td>
<td>&lt;0.050</td>
<td>&lt;0.050</td>
</tr>
</tbody>
</table>

### Volatile Aromatic Hydrocarbons - Soil

| Naphthalene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 5 | - | - | - |
| 2-Methylnaphthalene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Acenaphthylene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Acenaphthene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Fluorene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Phenanthrene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 5 | - | - | - |
| Anthracene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Fluoranthene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Pyrene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 10 | - | - | - |
| Benzo(a)anthracene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 1 | - | - | - |
| Chrysene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Benzo(b&j)fluoranthene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 1 | - | - | - |
| Benzo(k)fluoranthene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 1 | - | - | - |
| Indeno(1,2,3-c,d)pyrene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 5 | 1 | - | - |
| Dibenzo(a,h)anthracene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 1 | - | - | - |
| Benzo(g,h,i)perylene mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Low Molecular Weight PAH’s mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |
| Total PAH mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | - | - | - | - |

### Extractable Petroleum Hydrocarbons - Soil

| LEPHs mg/kg | <100 | <100 | <100 | <100 | 1000 | - | - | - |
| HEPHs mg/kg | <100 | 1400 | 478 | 302 | 1000 | - | - | - |

### Highlighted Data - Result above CSR Parkland Standards

- Contaminated Sites Regulations (CSR) of The Yukon Environment Act Schedule 1, Generic Numerical Soil Standards (Parkland) & Schedule 2 Matrix Numerical Soil Standards (Parkland)
- Site-specific factors of human intake of contaminated soil and toxicity to soil invertebrates and plants specified in applicable matrices has been applied to all samples, Site is within 1 km of surface water and subject to aquatic life standards or most stringent Parkland Standard applicable.

* Standards based on pH

**RDL: Reportable Detection Limit**

- Not Specified

(1): RDL raised due to sample matrix interference.

(2): RDL raised due to sample matrix interference.

N/A: Not Available
Sa Dena Hes Appendix 2 – Photo Documentation:

SITE 1: Drum Storage, prior to back filling (September 17, 2013)

SITE 1: Drum Storage, after back filling (September 18, 2013)
SITE 2: Golden Hills Shop with material from SITE 4: Burnick Shop, prior to back filling (September 17, 2013)

SITE 2: Golden Hills Shop with material from SITE 4: Burnick Shop, after back filling (September 17, 2013)
SITE 3: Jewel Box, prior to back filling (September 18, 2013)

SITE 3: Jewel Box, after back filling (September 18, 2013)
ATTACHMENT 5

Monitoring Well Figure
**SCALE**: NAD 83 CSRS

**PROJECT**: DETAILED DECOMMISSIONING AND RECLAMATION PLAN

**CLIENT**: SÅ DENA HES MINE

**DIMENSIONS**: 792.0x1224.0

**SOURCE**: TECK Topographic Data, TECK LiDAR Ortho Photo 2012

**DATUM**: NAD 83 CSRS

**PROJECTION**: UTM Zone 9 North

**MONITORING WELL & TEST HOLE LOCATIONS**

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<th>ID</th>
<th>NORTHING</th>
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<th>GROUND ELEVATION (metres)</th>
<th>TOP OF WELL ELEVATION (metres)</th>
<th>TOP OF PROTECTIVE CASING ELEVATION (metres)</th>
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