Qikiqtaaluk environmental
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2014-10-01 **Transmission via email**

Mr. Geoffroy Lécureur, ing.
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Ref. No.: RQ14-214-4

Re: Report on Drum Cache Activities

Mr. Lécureur,

Qikiqtaaluk Environmental Inc. (QE) was mandated by Sintra Inc. to remediate the drum cache area next to the airport, otherwise referred to as TP-01 and TP-32 in the Pre-Existing Environmental Contamination Assessment and Mitigation Plan (PECAMP) produced by Conestoga Rovers and Associates Inc.

A Pre-Existing Contamination Remediation Work Plan was prepared and submitted to the regulatory authorities for approval. Final approval for the work plan was obtained on the 10th of July 2014.

Following review of the PECAMP it was agreed that additional testing was required to further delimit the contaminated area to be managed at the drum cache. Samples were collected around the drum cache on the 4th of June as part of a Phase III site assessment. The results showed that the area around where the drums had leaked tar showed ethyl benzene contamination. The test results further showed that the contamination was limited to the 1st 15 cm below where the tar was found.

Work at the drum cache area was carried out over two periods, from July 7th to July 26th, 2014 and September 8th to September 23rd, 2014. Work started with the removal of all of the drums containing tar from the drum cache area. Drums that were damaged or leaking were placed into 7.2 m^3 wranglers. All other drums were strapped on pallets and moved to QE's Hazardous Waste Transfer Centre (HWTC) located at 1571 Kakivak Crescent, Iqaluit. The wranglers were also transported to the HWTC for temporary storage until the sealift. At the HWTC, all of the drums on pallets were placed inside marine shipping containers. The marine shipping containers were lined with polyethylene sheeting and a granular absorbent was placed at the bottom of the container to absorb any possible spills. These containers were then transported to the Beach and are currently awaiting the sealift to Montreal for disposal.

A total of 390 drums of tar were collected; 90 more than the original estimate in the PECAMP. Photos of the wranglers are found at the end of this report with the number of drums placed in each wrangler. Photos of the packaged shipping containers are also provided.

Once all of the drums were removed from the drum cache, the railroad tanker was relocated, away from the diesel fuel storage tank in the area, so it could be securely cut open using hot cutting tools. Once cut, the water was pumped from the tanker and stored at the HWTC. The

solid tar at the bottom of the tanker was broken up using a ripper on an excavator. The ripped material was packaged in smaller wrangler for disposal in the South at an authorised facility. There were also several steel pipes located at the bottom of the tank. All pipes were tar contaminated and was packaged for disposal in the South in a 7.2 m^3 wrangler.

Once the interior of the tank was cleaned it was cut up and disposed of. Photos of the tank work are also attached at the end of the report.

Finally, all of the tar and ethyl benzene contaminated soil was excavated from the area. The contaminated soil and pieces of tar were placed in small wranglers. In total, 224 wranglers were filled with contaminated soils. Each wrangler holds 0.76 m^3 of contaminated soil for a total of 170 m^3 of tar and ethyl benzene contaminated soil. The wranglers were stored at the work site but then moved to the Beach for the sealift as the area needed to be vacated for the airport Design Build Joint Venture for storage of their construction materials.

Once the pre-determined area for ethyl benzene contaminated soils had been excavated and all tar contaminated materials had been removed, a geotextile was placed at the bottom of the excavation as per the methodology presented Pre-Existing Contamination Remediation Work Plan. No test results were collected at the end as per the methodology presented in the PECAMP. Additionally, all test results immediately next to the area where tar associated ethyl benzene contamination was found did not show any signs of contamination further supporting that as long as all of the dried tar and soils immediately adjacent to it was removed, no contamination would remain. The area was then backfilled with clean fill and the site was closed.

Sincerely,

Greg Johnson
Project Director
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Attch: Photo report

Cc: Jacques Dion, Sylvain Laberge – Qikiqtaaluk Environmental Inc.
Patrice Richard, Michel Boulianne – Sintra Inc.

Figure 1: Drum Cache Area Following Excavation of Contaminated Soil

Figure 2: Drum Cache Area Following Excavation of Contaminated Soil

Please note that a pad was constructed for the storage of construction materials next to the drum cache area and the depth shown in the photo is much greater than the actual depth of excavation

Figure 3: Drum Cache Area During Backfill

Figure 4: Removal of Drums

Figure 5: Removal of Drums

Figure 6: Lift Liners Filled with Drums

Figure 7: Lift Liners Filled with Drums

Figure 8: Lift Liners Filled with Drums

Figure 9: Lift Liners Filled with Drums

Figure 10: Lift Liners Filled with Drums

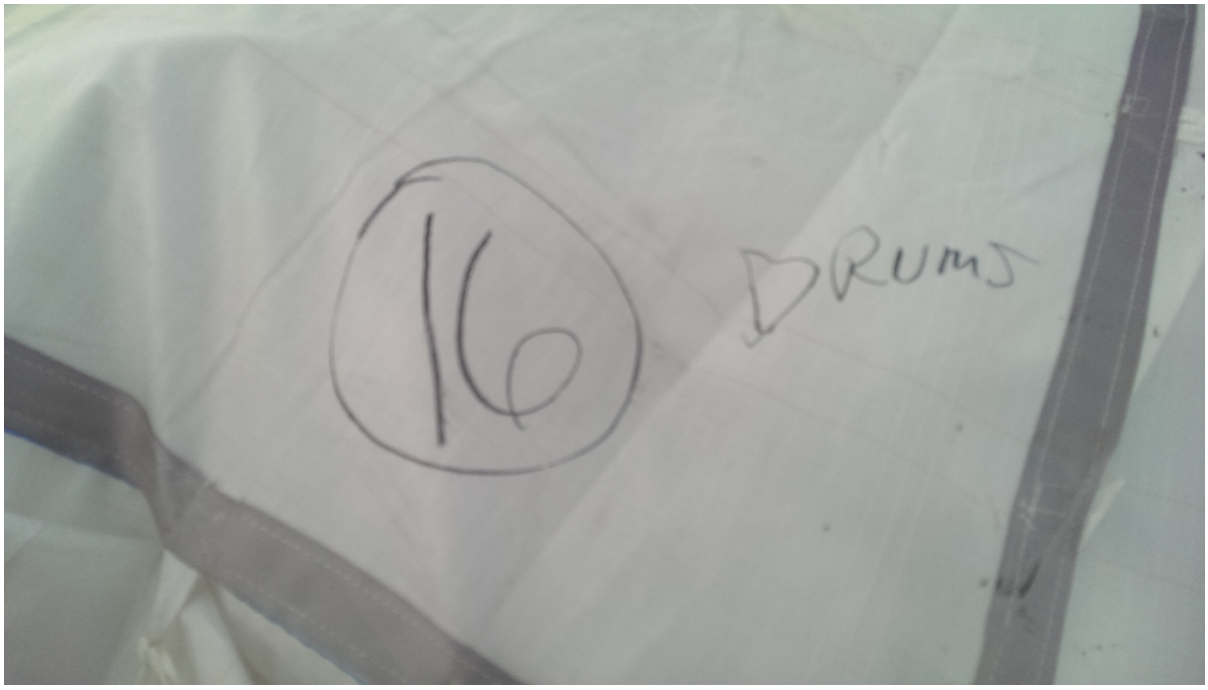

Figure 11: Lift Liners Filled with Drums

Figure 12: Quatrex Bags of Contamianted Soil and Tar Stored at the Beach and Lift Liners with Drums

Figure 13: Quatrex Bags of Contaminated Soil Stored at the Beach

Figure 14: Quatrex Bags of Contaminated Soil and Tar Stored at the Beach and Lift Liners with Drums

Figure 15: Tank Cut in Half

Figure 16: Hardened Tar Broken Up by Ripper

Figure 17: Pipes in Bottom of Tank

Figure 18: Marine Containers Ready For Shipment

Figure 19: Marine Containers Ready for Shipment

Figure 20: Marine Containers Ready for Shipment