



**Travis/Peterson  
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June 13, 2008  
1301-01C

ENCO Heating  
P.O. Box 60187  
Fairbanks, Alaska 99706

**Attention: Jason Cevasco  
President**

Re: Environmental Services  
Soil Excavation Activities and Headspace Sampling

Dear Mr. Cevasco:

Travis/Peterson Environmental Consulting, Inc (TPECI) is pleased to provide you with a summary of our soil excavation activities and headspace sampling at the Rainbow Valley Trailer Court in Fairbanks, Alaska (Figures 1 and 2).

On May 23, 2008 TPECI personnel and Warren Howard of Quality Excavating arrived onsite to remove contaminated soil. Based on the amount of fuel that was encountered during the removal of the snow/ice pack it was assumed that the extent of contamination would be around 6 to 12 inches below the ground surface (bgs). TPECI personnel were onsite with a MiniRae 2000 Photo Ionization Detector (PID) PID calibrated with isobutylene at 100 ppm. PID values were used to determine the depth of excavation.

The impacted area was excavated to 12 inches bgs (the first lift) and all of the PID values were in excess of the 50 ppm cutoff. PID values were based on surface screening of the soils. These initial surface values had immediate readings that were greater than 50 ppm and ranged to over 1,000 ppm in the areas adjacent to the vent and fill pipes of the UST. The soils on the northern portion (extending approximately 2 feet south) of the excavation area had PID values of 10 ppm or less. It was determined no further excavation would be required for this area.

The second lift (approximately 2 feet bgs) was focused on the contaminated area by the impacted trailer and the vent and fill pipes of the UST. This soil was highly contaminated and PID values were above 50 ppm, reaching values greater than 1,200 ppm adjacent to the fill and vent pipes.

A total of 4 truckloads of contaminated soil were removed from the site and hauled to 2575 Phillips Field Road. All contaminated material was placed on a liner then covered. The PID values were still above the 50 ppm cutoff in the third lift (3 feet bgs). The excavation adjoining the impacted trailer was limited due to concerns of compromising the structure.

The fourth lift (4 feet bgs) revealed even higher PID values adjacent to the fill and vent pipes. Suspicions were raised as to whether we encountered historic contamination that was not a result of ENCOs overfilling. Soils were excavated down to the UST surface and PID values were greater than 1,000 ppm. TPECI personnel performed PID readings from the fill pipe to the impacted trailer every 5 feet. Directly at the fill pipe, PID values were 1,500 ppm and PID values at the impacted trailer were 30 ppm.

During the soil removal activities, further excavation was limited due to the frozen soil layer and the suspicions of who the responsible party was for the additional contamination. It was determined that the Alaska Department of Environmental Conservation (ADEC) was needed onsite to help determine the necessary actions and investigations for the additional contamination.

During soil excavation activities it is believed that there were two sources of contamination; one being a historical source and the other a result of the ENCO overfill. Following removal of the contaminated media above frozen ground, TPECI performed headspace sampling of the area to determine the extent of contamination. The headspace samples were collected to determine the confirmation sampling locations, ensure that TPECI and Quality Excavating personnel removed all of the contaminated media associated with ENCO, and to confirm the assumption that there was historical contamination.

Headspace samples were collected every five feet (and at a minimum of 6 inches bgs) then the soil was placed in a Ziploc baggie and allowed to warm for screening. The PID was calibrated with isobutylene standard gas (100 ppm) for screening of benzene with a correction factor of 0.54. There were a total of 32 headspace samples collected, two of which were collected by the porch of the impacted trailer to ensure that there was no contamination outside the excavated area.

The headspace samples were homogenized in the Ziploc baggie by shaking the bag. The PID tube was carefully inserted into the bag and values were recorded. The highest value observed was 1,373 ppm. All of the procedures for headspace sampling were adhered to and are attached to this letter report.

Based on the headspace sampling PID values there is still contamination present on the property. The contamination, based on PID values, is located at the source trailer directly by the UST. PID values in this area ranged from 40.5 ppm to 1,373 ppm. Figure 2 depicts the PID headspace sample locations and the values recorded.

## **CONCLUSION**

Mrs. Kindra Geis and Dr. Eddie Packee of TPECI met onsite with Mr. John Ebel of the ADEC to review the excavation activities and address the concerns that not all of the contamination was a result of ENCO. Mr. Ebel agreed that there appeared to be a historical source.

Mr. Ebel suggested that ENCO, the property owner, ADEC, and TPECI conduct a meeting to determine how to address contamination that is still present. Mrs. Kindra Geis will contact all parties to be involved to schedule this meeting.

Please contact me via phone at 907-455-7225 with any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "Kindra Geis". The signature is written in a cursive, flowing style.

Kindra R. Geis  
Staff Scientist  
Travis/Peterson Environmental Consulting, Inc.

cc: John Ebel, Alaska Department of Environmental Conservation  
Ken Brock, Property Owner  
Matt Patterson, Crawford and Company (Adjuster in Charge)

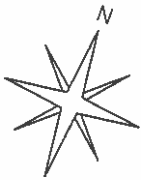
Attachments: Figures  
ADEC Headspace Sampling Guidelines

**ATTACHMENT 1**

**FIGURES**

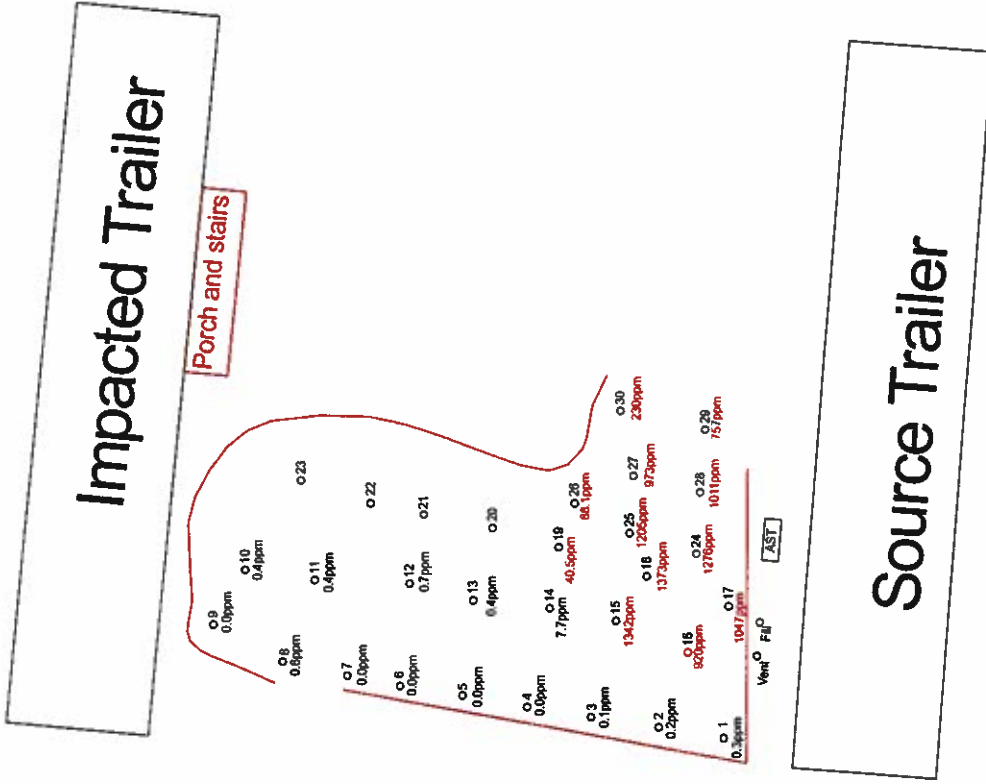






DIVISION STREET

Utility Pole



TRAVIS/PETERSON ENVIRONMENTAL CONSULTING, INC.  
329 2ND STREET  
FAIRBANKS, ALASKA 99701

PROJECT No: 1301-01C

FILE: S:\Projects\1301\01C\Figures\Figure 2-Headspace Sample Locations.SKF

ENCO HEATING INC.

HEADSPACE SAMPLE LOCATION

SCALE: 1"=15'

DATE: 06/02/08

FIGURE



**ATTACHMENT 2**

**ADEC HEADSPACE SAMPLING GUIDELINES**

#### 4.4.2 Headspace Analytical Screening Procedure for Field Screening (Semi-Quantitative Field Screening)

The most commonly used field instruments for UST site assessments in Alaska are FIDs and PIDs. The following headspace screening procedure to obtain and analyze field screening samples must be adhered to when using FIDs and PIDs:

- (1) partially fill (one-third to one-half) a clean jar or clean ziplock bag with the sample to be analyzed; total capacity of the jar or bag may not be less than eight ounces (app. 250 ml), but the container should not be so large as to allow vapor diffusion and stratification effects to significantly affect the sample;
- (2) if the sample is collected from a split spoon, it must be transferred to the jar or bag for headspace analysis immediately after opening the split-spoon; if the sample is collected from an excavation or soil pile, it must be collected from freshly uncovered soil;
- (3) if a jar is used, its top must be quickly covered with clean aluminum foil or a jar lid; screw tops or thick rubber bands must be used to tightly seal the jar; if a ziplock bag is used, it must be quickly sealed shut;
- (4) headspace vapors must be allowed to develop in the container for at least 10 minutes but no longer than one hour; containers must be shaken or agitated for 15 seconds at the beginning and end of the headspace development period to assist volatilization; temperatures of the headspace must be warmed to at least 40° F (approximately 5° C), with instruments calibrated for the temperature used;
- (5) after headspace development, the instrument sampling probe must be inserted to a point about one-half the headspace depth; the container opening must be minimized and care must be taken to avoid uptake of water droplets and soil particulates;
- (6) after probe insertion, the highest meter reading must be taken and recorded, which normally will occur between two and five seconds after probe insertion; if erratic meter response occurs at high organic vapor concentrations or conditions of elevated headspace moisture, a note to that effect must accompany headspace data;
- (7) calibration of PID and FID field instruments must follow the procedures outlined in Section 7.1 of this chapter (Calibration and maintenance of field instruments); and
- (8) all field screening results must be documented in the field record or log book.