



May 23, 2013

Steve Wieringa  
SET Environmental  
450 Sumac Road  
Wheeling, Illinois 60090

RE: 400 E. Grand Ave. – City of Chicago Department of Water Thorium Monitoring

Dear Mr. Wieringa:

Stan A. Huber Consultants, Inc (SAHCI) was hired by your firm to provide radiation monitoring during repair of a water line located at 400 E. Grand Ave. in Chicago, Illinois. The monitoring was performed on May 21, 2013. All activities were conducted under the guidance of document *SET General Procedure for Thorium Monitoring*.

#### Instrumentation

Surface gamma scans were performed by Glenn Huber using a Ludlum Model 2221 Scaled / Ratemeter with attached 2"x2" NaI probe. The instrument was calibrated on November 9, 2012. The USEPA action level of 7.1 picocuries per gram (pCi/g) total thorium for this instrument is 17,570 counts per minute (cpm).

The average background count rate for this location was found to be between 4,000 and 5,000 cpm.

#### Soil Gamma Scans

Gamma surface scans were performed using the Ludlum Model 2221 Scaler / Ratemeter described above. Data was collected by entering the excavation after each 18 inch lift and recording the highest count rate for the floors and walls to an excavation depth of 4.5 feet. After the excavation was 4.5 feet deep, surveys were performed of the buckets of soil as they were removed from the excavation, prior to loading. No soil was stockpiled during the project and all excavated soils were loaded directly into the truck after screening.

The maximum gamma count rate for each 1.5 foot lift was recorded on the attached Radiation Survey Form. The count rates in the excavation ranged from 5600 cpm to 8100 cpm. No count rates were found at any time that exceeded the threshold limit of 17,570 cpm.

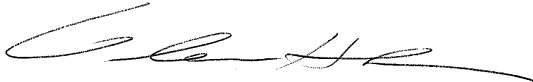
Additional Monitoring

Since no count rates were identified above the 7.1 pCi/gram threshold limit, no additional soil sampling, air monitoring, or personnel monitoring were performed.

You will need to forward a copy of this report to the City of Chicago Department of Public Health (Attn: Rahmatunsia Begum) with the CDOT Permit Number in the subject line. I will be providing a copy of this report to USEPA, as required.

Thank you for your assistance with this project. If you have any questions or need additional information please call me at (815) 485-6161.

Sincerely,  
Stan A. Huber Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Glenn Huber', written in a cursive style.

Glenn Huber, CHP  
President

## Radiation Survey Form

Location/ Project ID: SET / City of Chicago - Department of Water

Date: May 21, 2013

Technician: Glenn Huber

Inst Model: Ludlum 2221

Serial No. : 134542

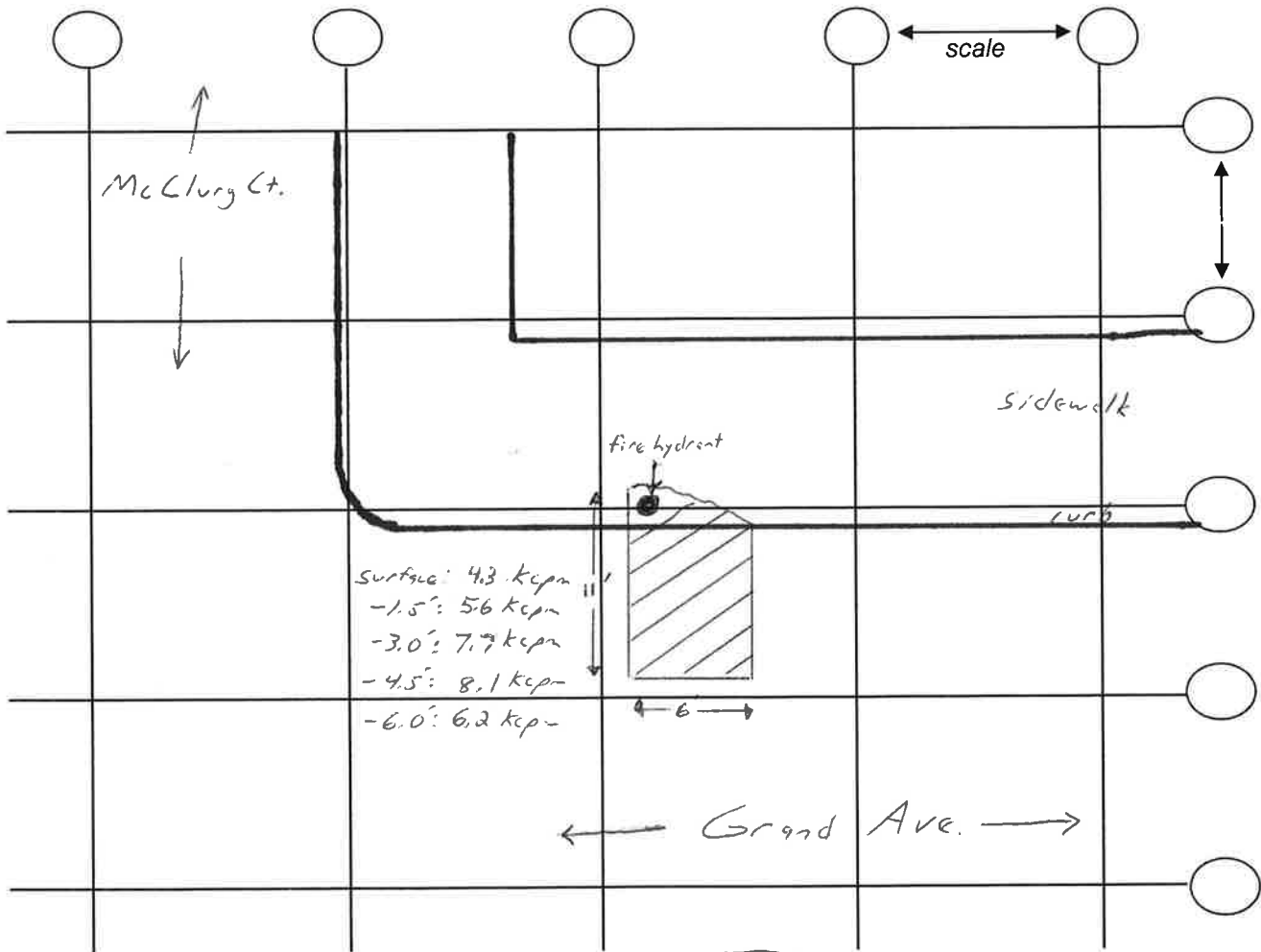
Probe Type: 1"x1" NaI / 2"x2" NaI  
Shielded / Not Shielded

Lift Elevation: Surface to -6 feet

Background 4k-5k cpm

Action Level: 17,570 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Surface: 4.3 kcpm  
-1.5': 5.6 kcpm  
-3.0': 7.7 kcpm  
-4.5': 8.1 kcpm  
-6.0': 6.2 kcpm

= Excavated Area  
6' max depth