1076235 - R8 SDMS

Troy Asbestos Property Evaluation (TAPE) Field Assessment Final

An assessment of field implementation of the Troy Asbestos Property Evaluation Work Plan (Field Sampling Plan and Quality Assurance Project Plan) for the Troy Asbestos Property Evaluation, Troy Operable Unit 7 of the Libby Asbestos Superfund Site was conducted between 30 and 31 May 2007. The assessment consisted of interviewing field personnel and observing field activities, as well as sample handling and processing at the Troy field office. The assessment was based on the Draft Final Troy Asbestos Property Evaluation Work Plan (Work Plan) dated 15 March 2007 with subsequent amendments thru 29 May 2007. Additional references include American Society for Testing and Materials (ASTM) Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Structure Number Concentrations (D 5755), as amended for the Libby Asbestos Superfund Site and the Standard Operating Procedures (SOPs) referenced in the Work Plan.

Assessment Summary

Field protocols were generally in compliance with the Work Plan, SOPs, reference methods and generally accepted work practices. The following findings were noted:

1. Log books were not paginated, although field teams were numbering the pages as they completed the logs. Per EPA QA/QC protocol, logbook pages shall be numbered sequentially to preclude the removal of pages. This finding was corrected on the spot by numbering the pages with an ink stamp prior to logbook distribution.

   Proposed corrective action: The automated ink stamp was abandoned and log books will be pre-numbered by hand prior to distribution to the teams. On June 26, 2007, Catherine LeCours performed a quality check of the used log books and noted any improperly numbered or missing pages to date.

   Responsible Party: Catherine LeCours for quality checks Marcia Fantozzi for numbering.

   Date Action Completed: May 30, 2007 and on-going

   Periodic follow up required? (Describe) Catherine will perform quality checks on log-books at least monthly or when books are complete and Marcia will ensure log-books are pre-numbered prior to field use. Catherine will relate any deficiency to Mark Stockwell for team training.

2. Strict custody of samples was not maintained at all times. Specifically, microvac samples were left on kitchen counters when the sampling crew went into the basement. Similarly, soil samples we place in an unlocked vehicle when out of view of the samplers. Recommended fix, carry samples or lock vehicle. Note: all

samples were sealed appropriately with custody seals which would make tampering evident.

Proposed corrective action: Upon collection, the field team will take the sample to the set-up table under the supervision of the documentation team member who remains at the set-up table. The samples are kept in soil or dust transport bins until return to the field shed. Samples are either being collected, maintained in visual custody of the documentation team member, or in transport bins in vehicles until return to field shed.

LOCKED

Responsible Party: Mark Stockwell for continued training and field audits.

Date Action Completed: May 30, 2007 and on-going.

Periodic follow up required? (Describe) Mark Stockwell to perform weekly field audits and team training as necessary.

3. Reusable microvac sampling templates do not have a decontamination blank procedure. A decontamination blank procedure for re-usable templates is not provided in the QAPP but should be considered.

   Proposed corrective action: Plexiglass templates are no longer being used. Teams are equipped with disposable templates only.

   Responsible Party: Mark Stockwell removed all plexiglass and will provide disposable templates to teams.

   Date Action Completed: Plexiglass removed May 30, 2007.

   Periodic follow up required? (Describe) Mark Stockwell to perform weekly field audits and team training as necessary.

4. One rotameter was observed that contained two scales, one written by hand and the other permanently marked on the unit. The field crew had been instructed to use the permanent scale and was observed doing so. However, the second hand written scale could be confusing and should be eliminated. This was corrected on the spot.

   Proposed corrective action: Brian Brass removed the obsolete scale. Mark Stockwell inspected all remaining rotameters and did not find any other scales.

   Responsible Party: Mark Stockwell to remove any obsolete scales and maintain equipment.

   Date Action Completed: May 30, 2007 with on-going equipment maintenance.

Periodic follow up required? (Describe) Mark Stockwell will recalibrate the accurate scales August 1, 2007.

5. Rotameter were held by hand and occasionally tilted slightly. Crews should be reminded to hold the rotameter as close to vertical as possible.

   Proposed corrective action: Continuous training for field teams during daily meetings and weekly audits as necessary.

   Responsible Party: Mark Stockwell

   Date Action Completed: May 30, 2007 and on-going training as necessary.

   Periodic follow up required? (Describe) On-going training as necessary.

6. Dry decontamination of soil sampling equipment was observed. This could present a potential exposure pathway. Wet decontamination should be conducted.

   Proposed corrective action: Continuous training for field teams during daily meetings and weekly audits as necessary.

   Responsible Party: Mark Stockwell

   Date Action Completed: May 30, 2007 and on-going training as necessary.

   Periodic follow up required? (Describe) On-going training as necessary.

7. Samples in the pole barn at the field office were potentially accessible to the public. Specifically, access to the area was a little too open. Sample storage areas should be strictly controlled. Field personnel were in the pole barn during my observations however, restricting access should be considered as personnel might inadvertently leave the building.

   Proposed corrective action: Last person leaving field barn will secure doors prior to departure.

   Responsible Party: Mark Stockwell

   Date Action Completed: May 30, 2007 and on-going training as necessary.

   Periodic follow up required? (Describe) On-going training as necessary.

8. A final copy of the Work Plan was not available on site. Field teams were working from a series of amendments and a redlined copy of the Work Plan.

Proposed corrective action: Finalize Troy Asbestos Property Evaluation Work Plan and provide each field team with a complete copy.

Responsible Party: Catherine LeCours

Date Action Completed: No later than July 13, 2007.

Periodic follow up required? (Describe) Any future addendums to work plan will also be distributed to field teams.

9. Soil sample aliquots varied in mass as well as volume because of the subjective nature of the collection technique.

   Proposed corrective action: Use of and volumes from push rods (3 inches deep) and scoops standardized for sample collection.

   Responsible Party: Mark Stockwell

   Date Action Completed: May 31, 2007 and on-going training and auditing.

   Periodic follow up required? (Describe) On-going training as necessary.

Assessment Organization

For clarity, this assessment is separated into three categories, indoor dust sampling, outdoor soil sampling, sample handling and documentation. The indoor dust sampling also contains a sub-category of indoor soil sampling. Sample handling and documentation is inextricable from the indoor dust and outdoor soil sampling categories so it was addressed within these categories and as a distinct entity.

This assessment was prepared based on the assumption that the reader has a general understanding of the Work Plan and its associated appendices.

Indoor Dust Sampling

Dust sampling was conducted using a microvacuum (microvac) sampling technique (Modified ASTM method D5755) in all primary buildings. ASTM Method D5755 was modified by compositing ten 100 square centimeter surface dust samples onto a single filter.

Microvac sampling pumps were calibrated to approximately 2 liters per minute prior to sample collection using a rotameter. All rotameters observed had been calibrated against a primary standard within the past 60 days per the Work Plan and the calibration data was affixed to the rotameter. The primary standard used to calibrate the rotameters, a Bios DryCal® meter, was not available at the time of this assessment. However, it had been

obtained from a reputable industrial hygiene equipment rental company and is assumed to have been calibrated against a NIST traceable standard within the past 12 months.

Log books were not paginated per "A Compendium of Superfund Field Operations Methods" (EPA/540/P-87/001), logbook pages shall be numbered sequentially to preclude the removal of pages. Data and notes should be entered into a bound field logbook with sequentially numbered pages. Filed teams were numbering logbook pages as they completed the logs. This finding was corrected on the spot by numbering the pages with an ink stamp prior to distributing the logbooks.

A decontamination blank procedure for re-usable templates is not provided in the QAPP and is not being conducted according to the field crews. Reusable templates are a potential source of sample contamination and a decontamination blank procedure should be added as an amendment to the QAPP or the reusable templates no longer used. A microvac sample of the template or a wipe sample would serve as an adequate blank to document the decontamination procedures.

One rotameter was observed that contained two scales, one written by hand and the other permanently marked on the unit. The field crew had been instructed to use the permanent scale and was observed doing so. Best management practices dictate that the scale to be used should be clearly marked on the rotameter. In the absence of clear markings, the second, hand written, scale could be confusing and should be eliminated. This was corrected on the spot by removing the second scale.

Rotameter were held by hand and occasionally tilted slightly. Crews should be reminded to hold the rotameter as close to vertical as possible (within 5 degrees of vertical per manufacturer's instructions).

Per the Work Plan, the microvac device consisted of a battery-operated sampling pump connected to a 25-millimeter (mm) vacuum dust sampler cassette. The cassettes contained 0.8 μm mixed cellulose ester filters (MCE). The microvac sampling cassettes employed an appropriate nozzle per the Work Plan (approximate 45-degree angle). The air sampling pumps were pre- and post calibrated to approximately 2 liters per minute using a rotameter per the Work Plan.

Outdoor Soil Sampling

Soil samples were collected from specific, common and limited use areas from each subject property per the Work Plan. The definition and designation as well as selection of these "use areas" is subjective. However, maintaining consistency among sampling crews and insuring that experienced personnel are on each team appears to be minimizing the potential confusing regarding area designation.

Soil sample aliquots were collected by hand trowel or by soil core sampler or tube. The actual aliquot of soil introduced into the composite sample was "eyeballed". This is a very subjective technique and would be expected to result in varying size (mass or

volume) aliquots being added to the composite which could bias the sampling results. A mass or volumetric compositing technique would minimize the effects of varying sample size.

Sample Handling and Documentation

Strict custody of samples was not maintained at all times. Specifically, microvac samples were left on kitchen counters when the sampling crew went into the basement. Similarly, soil samples we place in an unlocked vehicle when out of view of the samplers. Recommended fix, carry samples or lock vehicle. Note: all samples were sealed appropriately with custody seals which would make tampering evident.

Per Section 4.6.3.1 (Definition of Custody) of "A Compendium of Superfund Field Operations Methods" (EPA/540/P-87/001), a sample is under custody if one or more of the following criteria are met:

- The sample is in the sampler's possession.
- It is in the sampler's view after being in possession.
- It was in the sampler's possession and then was locked up to prevent tampering.
- It is in a designated secure area.

Samples in the pole barn at the field office were potentially accessible to the public. Specifically, the pole barn was not a designated secure area and readily accessible to the public. Sample storage areas should be strictly controlled with access limited to essential personnel and restricted by locked or alarmed doors. Field personnel were in the pole barn during my observations however, restricting access should be considered as personnel might inadvertently leave the building.

A final copy of the Work Plan was not available on site. A final Work Plan should have been produced prior to commencing field activities per "EPA Requirements for Quality Assurance Project Plans" (EPA/240/B-01/003). The final plan should have been amended to meet field conditions and a record of the amendments included in the Work Plan.

Although the approved Work Plan must be implemented as prescribed; it is not inflexible. Recognizing the complex and diverse nature of environmental data collection, the Work Plan and QAPP process acknowledges that changes to original plans are often needed. Minor modifications can be documented in the Site copy of the plan and implemented upon verbal notification of the approval authorities. Significant modifications that impact the technical and quality objectives of the project require formal revisions to the Work Plan that must be submitted to approval authorities for review. When revisions are necessary, the QA Project Plan must be revised and resubmitted for review and approval.

Field teams were working from a series of amendments and a redlined copy of the Work Plan. The final Work Plan and revisions should be available to the field crews and the field crews apprised of any revisions to the plan verbally and in writing.

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