1.0 INTRODUCTION AND PURPOSE

This Foam Assessment Procedure was prepared on behalf of the Environmental Unit (EU) supporting Unified Command (UC), to present the high-level rationale and basis for the collection of foam product samples which have been reported in the community in the aftermath of the 2nd 80's Fire incident, Deer Park, Texas.

The specific objectives of the assessment and proposed sampling are:

1). The photo-documentation of foam in the community, including the location, amount, visual description, and collection for comparative evaluation and analysis to determine whether it contains Per- and polyfluoroalkyl substances (PFAS);

2). Recovery of foam material through the sampling process to minimize potential exposure.

This procedure will officially be implemented after approval by UC; however, in practice it will be implemented immediately based on the recognized urgency to collect samples in response to community concerns. Sampling activities described herein will be undertaken by The Environmental Monitoring Group of the Operations Section, as identified in ICS Form 204s for each Operational Period.

2.0 HEALTH AND SAFETY

Safety is the most important consideration when implementing this procedure. Daily tailgate safety briefings will be conducted prior to going into the field. Additional safety briefings may be given prior to undertaking particular activities such as sampling near water, etc. In general, assessment and sampling will only be conducted during daylight hours by qualified, 3rd party personnel and under weather or other environmental conditions that do not create unsafe working conditions. The appropriate personal protective equipment (PPE) will be utilized for each task. Any incident will be promptly reported in accordance with the site-specific site safety procedure and UC-objectives.

3.0 DATA QUALITY OBJECTIVES

The data collected during field activities will be used to assess potential exposures of members of the public and ecological receptors to constituents of foam potentially related to the incident. Because changes in environmental conditions are likely during the response, this will be done by reporting on chemical constituents found in the environment at the time and location of sample collection.

4.0 FOAM EVALUATION AND SAMPLING METHODOLOGY

4.1. RATIONALE

Foam samples will be collected from the community, when reported to members of UC, to determine chemical composition for PFAS.

4.2. METHODOLOGY AND ANALYSIS

Foam samples will be collected directly into laboratory supplied sample containers and submitted to a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory for analyses for the listed analyses presented in attached Table 1.

4.3. LOCATION AND FREQUENCY

Foam samples will be collected from the community as discovered and when reported to UC.

5.0 RESOURCES

The following resources will be utilized in order to implement this procedure. Each of these resources is presently onsite and does not require the mobilization/activation of any additional resources, nor will the resources utilized take resources away from other critical activities necessary on the response. The following resources will be used:

- Sampling/documentation Technician with proper clothing to not bias sample results (see attached Cardno Sampling SOP);
- Sample containers;
- Cooler and ice;
- Disposable wooden tongue depressors;
- Photo-documentation device (electronic data collection device with GPS unit and digital camera, scale ruler, log book and writing utensil); and,
- Nitrile gloves.

Due to the extreme sensitivity of the detection limits for PFAS, field staff should NOT wear any waterproof clothing, waterproof footwear, or Tyvek. Field crews should also stay away from waterproof paper and plastic clipboards to minimize potential cross-contamination. Nitrile gloves will be worn when sampling and must be changed between each sampling location.

6.0 SAMPLING AND HANDLING PROCEDURES

If sufficient volume of foam material exists in a given location, a sample will be collected. Samples will be collected using a disposable wooden tongue depressor (or equivalent) to scrape foam material into laboratory supplied sample containers, appropriate for the intended analysis (1-250mL Teflon-free high density polyethylene non-preserved poly sample jar). Documentation at time of sample collection will include location, amount, and visual description. Samples will be labeled with sample identification number, sampler name, sample date, analysis and methodology requested, and time of sample collection, and immediately placed in a cooler on ice pending laboratory analysis. Samples will be packaged, labeled, retained on ice, and documented in an area which is free of impact and provides for secure storage. PFAS samples should never come into contact with blue ice. Keep source sample(s) separate from other samples at all times. Custody seals will be placed on each sample containing cooler, and chain-of-custody procedures will be maintained from the time of sample collection until arrival at the laboratory to protect sample integrity. Shipping or transporting of samples to the laboratory will be done within a timeframe such that laboratory-specified recommended holding times are met.

Samples will be shipped, under proper chain of custody (COC), to ALS Laboratory in Kelso, Washington. Source samples should be shipped separately from all other environmental samples.

Note: If insufficient volume of foam material exists at a location, the material will be recovered and containerized to remove it from the community, but it not submitted for analysis.

7.0 SAMPLE LABELING

Sample containers will be clearly labeled with the following information:

- Unique sample identification;
- Sampler name or initials;
- Date sample collected;
- Time sample collected; and
- Analysis to be performed.

The unique sample designation will include the following: sample type (FOAM), four digit year, two digit month, two digit day, two letter matrix prefix, and three digit numerical designation, and QA sample designation, as appropriate. Acceptable QA designations include MS (1 in 20 by

media), MSD (1 in 20 by media), rinsate blank (RB) only when using non-dedicated sampling equipment, and duplicates (DUP) in 1 out of 10 samples by media.

Example sample ID would include: **FOAM-20190405-SF-001**

8.0 LABORATORY ANALYSES

Samples will be transported to ALS Laboratory in Kelso, Washington, a National Environmental Laboratory Accreditation Conference (NELAC) certified laboratory for PFAS analyses. Analytical methods, hold times, sample containers, and preservation, are summarized in Table 1.

9.0 QUALITY ASSURANCE

Sampling will be carried out in conjunction with a well-defined quality assurance (QA) program. The goal of the field QA program is to document that samples are collected without the effects of accidental cross- or systematic contamination and refers to the sampling, analysis, and data validation procedures for generating valid and defensible data. To provide QA for the proposed sampling event, the following sampling, analysis, and data validation procedures will be performed:

10.0 DECONTAMINATION PROCEDURES

All sampling supplies utilized for this effort will be disposable. No decontamination will be necessary. Nitrile gloves will be worn by sampling personnel and changed between activities at each discrete sample collection location. Previously worn nitrile gloves will be discarded in appropriate waste receptacles with other solid waste (e.g., PPE) generated and tracked during this response.

11.0 WASTE DISPOSAL

The method for storage and disposal of investigative derived waste materials will comply with applicable local, state and federal regulations in a manner consistent with an approved Waste Management Procedure, currently under development for UC consideration.

12.0 DATA ANALYSIS

To assess the potential impact from contact with foam the results of sampling will be reviewed for the presence/absence of these compounds, and should they be found, the concentrations of these parameters relative to appropriate regulatory standards, where developed. The results of laboratory analyses will be provided to UC.

13.0 RECORDS MANAGEMENT

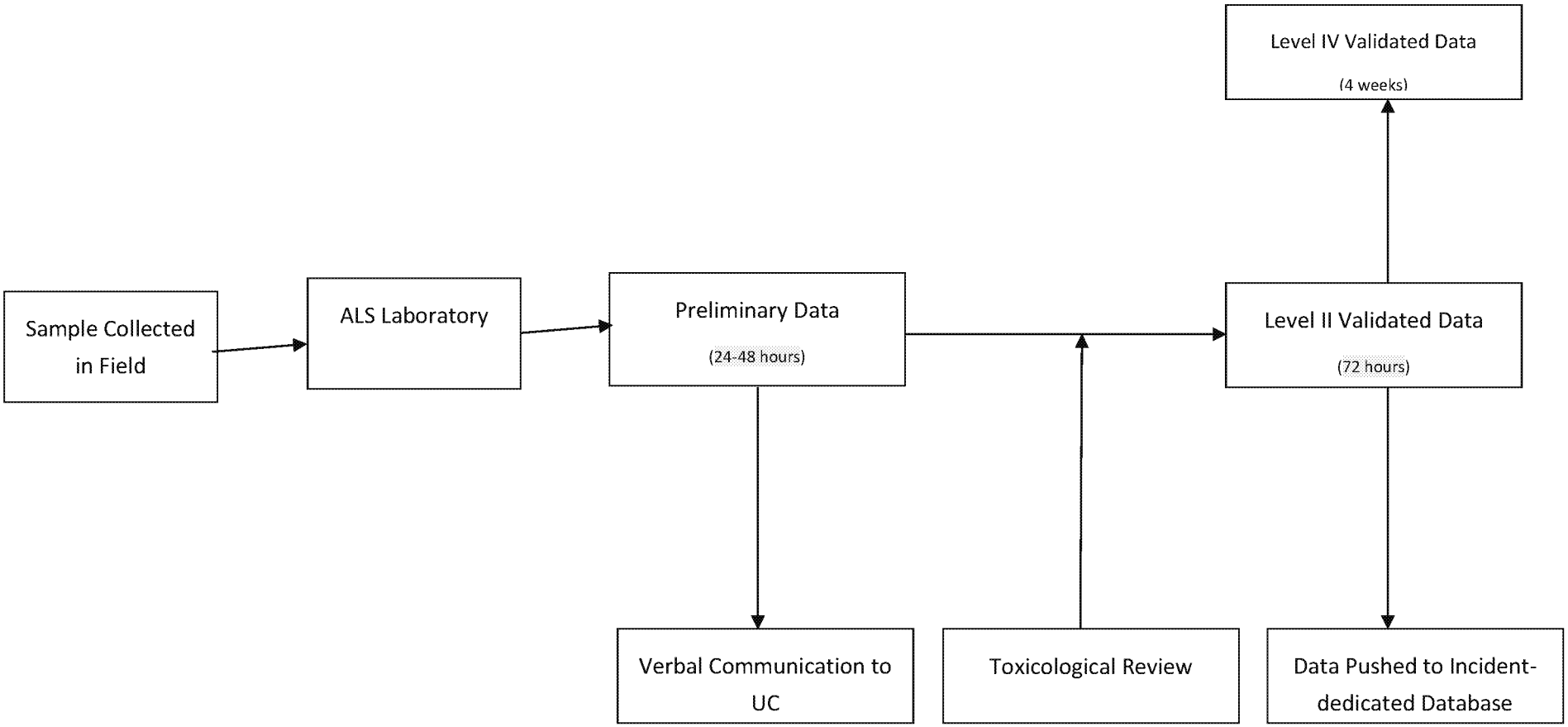
Records management refers to the procedures for generating, controlling, and archiving project-specific records and records of field activities. Project records, particularly those that are anticipated to be used as evidentiary data, directly support current or ongoing technical studies and activities, and provide historical evidence needed for later reviews and analyses, will be legible, identifiable, retrievable and protected against damage, deterioration, or loss on a centralized electronic database. Handwritten records will be written in indelible ink. Records will likely include, but are not limited to, the following: bound field notebooks on pre-numbered pages, sample collection forms, personnel qualification and training forms, sample location maps, equipment maintenance and calibration forms, chain-of custody forms, maps and drawings, transportation and disposal documents, reports issued as a result of the work, procedures used, correspondences, and any deviations from the procedural records. Documentation errors will be corrected by drawing a single line through the error so it remains legible and will be initialed by the responsible individual, along with the date of change, and the correction will be written adjacent to the error.

Records will be maintained in accordance with the document retention policy established for this incident.

[REF _Ref519235037 \h * MERGEFORMAT]Table 1 summarizes the laboratory analyses, required sample volumes, appropriate sample containers, preservation methods, and holding times for source fire suppression material samples.

ANALYSIS	METHOD	SAMPLE CONTAINER	PRESERVATIVE	HOLD TIME
PFAS	537.1	1-250-mL Teflon-free high density polyethylene	Ice, maintained at 4°C or less	28 days

Community Foam Assessment Procedure

2nd 80's Fire

Data Management Schematic