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June 18, 2026

Attn: Jennifer Phillippe
National Park Service

Subject: Final Sampling Report
East Potomac Soil Storage Project #140P2126Q0040

Dear Ms. Phillippe:

Jacobs Engineering Group, Inc. (Jacobs) has prepared a *Final Sampling Report* for excavated soil being stored at East Potomac Park. The project has produced more than 30,000 cubic yards of excavated soil. The excavated soil received was transported to the East Potomac Golf Links located at 972 Ohio Drive SW, Washington, D.C., for stockpiling within a 2.25-acre area.

The primary objectives of this *Final Sampling Report* include:

- An evaluation of preexisting soil conditions (based on baseline soil samples from preexisting surface soil near the haul road and at the stockpile site)
- Characterization of excavated soil (based on representative samples from the stockpile material, including the stockpile surface)

Based on the preliminary evaluations described within, there is limited risk to human receptors from the stockpile and the stockpile surface soil based on the current and likely future use of the site. However, completion of a more detailed human health risk assessment will provide a more refined risk evaluation of the constituents of potential concern, while additional ecological risk assessment is warranted to refine the evaluation of risks to ecological receptors potentially exposed to site soils.

Field Activities

Soil sampling activities were comprised of collecting baseline, stockpile, and haul road samples.

Baseline Soil Sampling

A total of 11 baseline soil samples were collected from the preexisting surface soil in the areas near the haul road and outside the perimeter berm of the soil stockpile at East Potomac Park. One baseline sample was collected to represent preexisting conditions near the haul road, after it was constructed, and 10 soil samples were collected in an undisturbed area outside the perimeter berm of the 2.25-acre stockpile area. The baseline samples were collected to represent local background conditions. Each sample location was recorded using a Global Positioning System unit. Figure 1 shows baseline soil sample locations. Samples were placed in appropriate containers, labeled, preserved, and transported to the laboratory following analytical method and chain-of-custody requirements.

Stockpile Soil Sampling

Representative samples of the excavated material were collected during active delivery operations and at the conclusion of grading activities at the stockpile.

Between October 28, 2025, and November 30, 2025, Jacobs collected one sample every day that deliveries were made to East Potomac Park. Samples were collected from the delivered material prior to being incorporated into the soil stockpile. Because the daily import volumes were less than originally anticipated, on December 1, 2025, the rate of sampling was changed to one sample for approximately every 150 truckloads of excavated soil, to meet the targeted number of samples for the project (see paragraph below for more information on how the targeted number of samples was determined).

The estimated volume of soil removed from the excavation area is 30,000 cubic yards. Based on the number of truckloads delivered to the stockpile, approximately 37,000 cubic yards of soil have been delivered to the stockpile. This volume is consistent with an excavated volume of 30,000 cubic yards, because soil is compressed in situ, and expands when excavated and transported. The Maryland Voluntary Cleanup Program (VCP) (Maryland Department of the Environment 2026) recommends 12 samples for the first 5,000 cubic yards plus 1 sample for each additional 1,000 cubic yards of material. For 37,000 cubic yards of soil, this formula provides a total of 44 samples, which is the total number of stockpile samples collected from the East Potomac stockpile site.

Jacobs collected a total of 30 samples of excavated soil from the delivered material between October 28, 2025, and April 2, 2026. After final grading of the stockpile was completed (by others), Jacobs collected 14 samples from the stockpile surface on April 23, 2026. Soil descriptions were documented for each sample collected, and the samples were placed in appropriate containers, labeled, preserved, and transported to the laboratory following analytical method and chain-of-custody requirements.

Haul Road Sampling

The haul road, approximately 0.25 mile (1,320 feet) in length, was constructed of commercially sourced, coarse-grained construction materials, not excavated soil. Since the haul road material was substantially different from the stockpile, two additional soil samples were collected along the road alignment. One sample was collected near the road entrance and the second in the middle section of the haul road for spatial representativeness. Samples were containerized, labeled, preserved, and transported to the laboratory under analytical method and chain-of-custody procedures.

Soil Sample Analysis

As directed by the National Park Service (NPS), a comprehensive analytical program was implemented based on Maryland VCP Guidance and Maryland Soil Reuse Guidance (Maryland Department of the Environment 2022). Soil samples were shipped to Eurofins Lancaster Laboratories Environmental (ELLE) in Lancaster, Pennsylvania, for the following constituents:

- Volatile organic compounds (U.S. Environmental Protection Agency [EPA] Method 8260) (2006)
- Semivolatile organic compounds, including polynuclear aromatic hydrocarbons (EPA Method 8270) (2014)
- Polychlorinated biphenyls (PCBs) (EPA Method 8082A) (2007a)
- Pesticides (EPA Method 8081B) (2007b)

- Total petroleum hydrocarbons (Gasoline/Diesel ranges, EPA Method 8015D) (1996a)
- Priority pollutant metals (EPA Method 6010B/7471B) (1996b)
- Herbicides (EPA Method 8321B) (2025)

ELLE shipped samples to Eurofins CEI Labs Inc. in Cary, North Carolina, for the following constituent:

- Asbestos (EPA Method 600/R-93/116) (1993)

Soil Sample Results

A level 2A data evaluation was completed for this dataset with data qualifiers applied to the sample results based on the quality assurance/quality control exceedances detailed in the Data Quality Evaluation. Tables 1 through 5 provide the qualified data.

Asbestos was reported as not detected in all analyzed samples collected between October 28, 2025, and April 23, 2026.

Concentrations of the various constituents in the soil samples collected from the haul road and the stockpile were compared to three types of benchmark values:

- Site-specific background threshold values, representing concentrations of the same constituents in the baseline samples (details regarding how these background threshold values were calculated can be found in the following section);
- NPS ecological screening values for non-radiological analytes; and,
- EPA human health screening levels (also known as regional screening levels).

The final analytical results are presented as described below:

- **Table 1** provides validated data for all baseline, haul road, and stockpile samples collected from October 28, 2025, through April 23, 2026, with detected concentrations in bold font.
- **Table 2** compares haul road samples collected on October 28, 2025, to background threshold values and ecological screening levels, with detected concentrations in bold font and screening level exceedances highlighted.
- **Table 3** compares haul road samples collected on October 28, 2025, to background threshold values and human health screening levels, with detected concentrations in bold font and screening level exceedances highlighted.
- **Table 4** compares stockpile samples collected from October 28, 2025, through April 23, 2026, to background threshold values and ecological screening levels, with detected concentrations in bold font and screening level exceedances highlighted.
- **Table 5** compares stockpile samples collected from October 28, 2025, through April 23, 2026, to background threshold values and human health screening levels, with detected concentrations in bold font and screening level exceedances highlighted.

Note that in Tables 1 through 5, stockpile samples collected during stockpile construction are designated as NPS-SP-01 through NPS-SP-30, while the stockpile surface samples collected after grading are designated as NPS-SP-31-042326 through NPS-SP-44-042326.

Background Evaluation

Background threshold values were generated using the eleven baseline samples, which are representative of background conditions (that is, not impacted by hauling and stockpiling activities). A background threshold value was calculated for each constituent by analyzing test results from the 11 baseline samples using EPA ProUCL software (2022) to obtain the 95% Upper Tolerance Limit with 95% confidence (95/95 UTL). Table 6 provides these data. Data used to calculate the background threshold values include all reported data from the baseline area (including duplicates); however, additional refinement of this dataset may be completed during a streamlined risk assessment. Therefore, the preliminary background threshold values presented here are for discussion purposes and are not final background values. Attachment 1 provides supporting information for the derivation of the background threshold values.

In addition to calculating a background threshold value for each constituent for which at least one sample exceeded at least one human health or ecological-based screening value (Table 6), two maximum detection concentrations were calculated for each constituent that exceeded human health screening values (Table 7), representing the highest concentration observed for that constituent in the stockpile (the two haul road samples were included with the thirty stockpile samples) and the stockpile surface (the fourteen samples collected after grading).

For each constituent exceeding human health screening values, the background threshold value was also compared against the two maximum detected concentrations (stockpile and stockpile surface). The following constituents were identified for which at least one maximum detected concentration exceeded the background threshold value:

- The maximum detected concentration of arsenic in the stockpile samples was 13 milligrams/kilogram (mg/kg), which exceeds the background threshold value of 10 mg/kg.
- The maximum detected concentrations of all PAHs, in all sets of samples, exceeded the respective background threshold values, except for the maximum detected concentration of benzo(a)anthracene in the stockpile surface samples.

Note that the background threshold values only represent pre-existing surface soil conditions at the golf course and are not risk-based screening levels. The following sections include a preliminary evaluation of the potential for risk to human and ecological receptors.

Exposure Point Concentration Derivation

Exposure point concentrations are a conservative estimate of the mean concentration of a constituent in a given exposure area and are used to represent the concentrations of the constituent that a receptor may be exposed to across a site. Preliminary exposure point concentrations (EPCs) were determined using EPA ProUCL software (2022) and represent the 95% Upper Confidence Limits of the Mean (95 UCL). EPCs were derived for each constituent for which at least one sample exceeded at least one human health or ecological-based screening value (Tables 1 through 5). Separate EPCs were derived for two separate exposure areas, the stockpile and stockpile surface. A separate EPC for the haul road was not calculated due to the limited number of samples collected and so the haul road samples were included in the stockpile dataset. Thus, the stockpile dataset includes the thirty samples collected from the excavated soil deliveries during stockpile construction and the two haul road samples. The stockpile surface dataset includes the fourteen samples collected from the stockpile surface after grading. Data used for EPC derivation includes all reported data from the exposure areas (including duplicate samples); however, additional refinement of this dataset may be completed during a streamlined risk assessment. Therefore,

the preliminary EPCs presented here are for discussion purposes and are not final EPC values. Attachment 2 provides supporting information for the derivation of EPCs.

Preliminary Human Health Risk-based Evaluation

An initial evaluation of potential risks to human health from exposure to stockpile and stockpile surface soil was performed by comparing the maximum detected concentrations for each area to EPA residential soil screening levels. For purposes of this comparison, the two haul road samples were combined with the stockpile exposure area because of the limited number of haul road samples. Use of the residential soil screening level is a conservative approach given the current land use as a golf course.

Constituents with maximum detected concentrations greater than the residential soil screening level in either the stockpile (which includes haul road samples) or the stockpile surface exposure areas were identified as the constituents of potential concern (Table 7). These constituents were:

- Metals:
  - Arsenic: maximum detected concentration of 13 mg/kg exceeded the residential soil screening level of 0.0317 mg/kg
  - Lead: maximum detected concentration of 400 mg/kg exceeded the residential soil screening level of 200 mg/kg
- PAHs:
  - Benzo(a)anthracene: maximum detected concentration of 2,000 mg/kg exceeded the residential soil screening level of 1,100 mg/kg
  - Benzo(a)pyrene: maximum detected concentration of 1,400 mg/kg exceeded the residential soil screening level of 110 mg/kg
  - Benzo(b)fluoranthene: maximum detected concentration of 2,000 mg/kg exceeded the residential soil screening level of 1,100 mg/kg
  - Dibenzo(a,h)anthracene: maximum detected concentration of 210 mg/kg exceeded the residential soil screening level of 110 mg/kg

While only the four PAHs listed above exceeded the residential soil screening level, all seven PAHs were identified collectively as a constituent of potential concern, based on the standard risk assessment approach for addressing the cumulative risk for PAHs.

After these constituents of potential concern (arsenic, lead, and PAHs) were identified by comparing their maximum detected concentrations to the residential soil screening level, a secondary evaluation of potential risks to human health was performed by comparing the EPC for each exposure area (stockpile and stockpile surface) to the screening level for exposure of industrial workers to soil. Use of the industrial worker soil screening level is also a conservative approach for the current land use as a golf course, because it assumes a full-time worker is at the site for 250 days per year for a duration of 25 years. The magnitude of exposure for the most likely receptors—maintenance and other workers and golfers—will be much lower. Nonetheless, this approach is less conservative than the initial approach of comparing maximum detected concentrations to the residential soil screening level. In addition, constituents initially identified as constituents of potential concern based on exceedances of conservative risk-based screening values are often eliminated in the later stages of a risk assessment if they are below background concentrations (see prior section for more information).

Applying this methodology, only one constituent of potential concern had an EPC that exceeds the industrial worker soil screening level: the EPC for arsenic in both the stockpile (4.9 mg/kg) and stockpile surface (6.2 mg/kg) exposure areas exceeded the industrial worker soil screening level (0.141 mg/kg). However, the background threshold value for arsenic (10 mg/kg), which represents the existing surface soil of the golf course prior to stockpile construction, also exceeds the industrial worker soil screening level, and is higher than both the stockpile and stockpile surface EPCs for arsenic.

Based on this preliminary evaluation, there is limited risk to human receptors associated with the constituents of potential concern in the stockpile and the stockpile surface soil based on the current and likely future use of the site. Completion of a more detailed human health risk assessment will provide a more refined risk evaluation of the constituents of potential concern.

Preliminary Ecological Risk-based Evaluation

An initial evaluation of risks to ecological receptors from exposure to haul road, stockpile, and stockpile surface soil was performed by comparing the soil sample analytical results to risk-based ecological screening values available from *NPS Protocol for the Selection and Use of Ecological Screening Values for Non-Radiological Analytes* (NPS 2025). The NPS guidance provides risk-based soil thresholds specific to terrestrial plants, soil invertebrates, mammals, and birds. Additionally, the NPS guidance provides ecological screening values with differing levels of conservatism, applicable to different stages in a risk assessment, such as a screening-level risk assessment and baseline-level risk assessment.

For this initial screening, conservative assumptions were applied to limit the likelihood of unacceptable risks from a constituent missed or prematurely screened out. Therefore, maximum detected concentrations from the baseline, stockpile (including haul road), and stockpile surface exposure areas were compared to lowest available ecological screening value for each constituent. If maximum detected concentrations are less than the minimum ecological screening value, risks to all receptors (plants, invertebrates, and wildlife) are de minimis for that constituent. However, if the maximum detected concentrations exceed the minimum ecological screening value, unacceptable risks cannot be ruled out and additional ecological risk assessment refinement is warranted. Ecological screening values were also available for total PCBs and low- and high-molecular weight PAHs (LMW and HMW PAHS, respectively), and these sums were calculated using the sum of individual PCB Aroclors and sum of individual PAHs; nondetects were replaced with the detection limit for summing purposes.

The preliminary ecological risk-based evaluation identified the following constituents to be retained as constituents of potential ecological concern (Table 8). Each of these constituents had maximum detected concentrations exceeding the minimum ecological screening value in either the stockpile or stockpile surface exposure areas. Elimination of constituents of potential ecological concern based on background concentrations is generally done in later stages of a risk assessment, and maximum detected concentrations in the baseline samples were not used to refine the list of constituents of potential environmental concern retained. The constituents of potential ecological concern identified were:

- Metals: antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, thallium, and zinc
- Pesticides/herbicides: 4,4'-dichlorodiphenyltrichloroethylene (DDE), 4,4'-dichlorodiphenyltrichloroethane (DDT), alpha-chlordane, and heptachlor
- PAHs: acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene, pyrene, and sum HMW PAHs

Based on this preliminary evaluation, additional ecological risk assessment is warranted to refine risks to receptors potentially exposed to site soils.

References

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If you have any questions, please contact Rick McCormick, Project Manager at [redacted].

Sincerely,

Jacobs
Rick McCormick, P.E
Project Manager

Attachments

Attachment 1 – Background Threshold Value ProUCL Outputs
Attachment 2 – Exposure Point Concentration ProUCL Outputs

Tables

Tables 1 through 5 Soil Sample Results
Table 6 Preliminary BTV and EPCs
Table 7 Human Health Risk-Based Results
Table 8 Ecological Risk-Based Results

Figure

Figure 1 EAPO Baseline Samples

Tables

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

		Location	NPS-BG-01	NPS-BG-02	NPS-BG-02	NPS-BG-03	NPS-BG-04	NPS-BG-05	NPS-BG-06	NPS-BG-07	NPS-BG-08	NPS-BG-09
		Sample ID	NPS-BG-04-102825 (NPS-BG-01)	NPS-BG-05-102825 (NPS-BG-02)	NPS-BG-05P-102825 (NPS-BG-02)-FD	NPS-BG-06-102825 (NPS-BG-03)	NPS-BG-07-102825 (NPS-BG-04)	NPS-BG-08-102825 (NPS-BG-05)	NPS-BG-09-102825 (NPS-BG-06)	NPS-BG-10-102825 (NPS-BG-07)	NPS-BG-11-102825 (NPS-BG-08)	NPS-BG-12-102825 (NPS-BG-09)
		Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
		Sample Type	N	N	FD	N	N	N	N	N	N	N
		Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units										
CARB435	Asbestos	%	0.25 U COC sample date 11/8/2025, Brown/tan soil	0.25 U COC sample date 11/8/2025, Gray/brown soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brownish-gray soil	0.25 U COC sample date 11/8/2025, Brown soil	0.25 U COC sample date 11/8/2025, Brownish-gray/brown soil
SW6020B	Antimony	mg/kg	**0.49**	**0.43 J**	**0.27 J**	**0.34**	**0.45**	**0.28 J**	**0.23**	**0.22**	**0.26**	**0.29**
SW6020B	Arsenic	mg/kg	**5.5**	**5.8 J**	**3.8 J**	**4.5**	**3.4**	**4.3**	**2.8**	**3.7**	**6.7**	**7.6**
SW6020B	Beryllium	mg/kg	**0.54**	**0.34**	**0.27**	**0.29**	**0.41**	**0.36**	**0.37**	**0.3**	**0.92**	**1.2**
SW6020B	Cadmium	mg/kg	**0.3**	**0.39**	**0.31**	**0.16**	**0.19**	**0.2**	**0.16**	**0.11**	**0.34**	**0.36**
SW6020B	Chromium	mg/kg	**26**	**15**	**13**	**13**	**16**	**16**	**14**	**15**	**34**	**44**
SW6020B	Copper	mg/kg	**21**	**12**	**11**	**13**	**12**	**12**	**10**	**9.3**	**24**	**31**
SW6020B	Lead	mg/kg	**340**	**120**	**88**	**230**	**70**	**63**	**50**	**55**	**160**	**320**
SW6020B	Nickel	mg/kg	**15**	**13 J**	**8.9 J**	**9**	**12**	**12**	**11**	**8.5**	**25**	**30**
SW6020B	Selenium	mg/kg	**0.36 J**	**0.27 J**	**0.25 J**	**0.25 J**	**0.29 J**	**0.33 J**	**0.25 J**	**0.3 J**	**0.46 J**	**0.72**
SW6020B	Silver	mg/kg	**0.41**	**0.82**	**0.7**	**0.14**	**0.16**	**0.14**	**0.1**	**0.12**	**0.3**	**0.44**
SW6020B	Thallium	mg/kg	**0.14**	**0.11**	**0.1**	**0.11**	**0.15**	**0.13**	**0.1**	**0.13**	**0.19**	**0.27**
SW6020B	Zinc	mg/kg	**100**	**110**	**110**	**51**	**49**	**44**	**44**	**32**	**95**	**110**
SW7471B	Mercury	mg/kg	**2.9**	**1.2**	**1**	**1.4**	**2.9**	**2.5 J-**	**1.5**	**1.4**	**8.6**	**13**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**32**	**24**	**32**	**42**	**20**	**27**	**41**	**26**	**40**	**37**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	3.5 U	3.8 U	3.9 U	5.5 U	4.4 U	**3.3 J**	4 U	4.2 U	4.7 UJ	**22**
SW8081B	4,4'-DDD	µg/kg	8.7 U	8.6 U	8.5 U	8.7 U	1.7 U	8.9 R	8.9 U	1.8 U	9.6 U	10 U
SW8081B	4,4'-DDE	µg/kg	**4.3 J**	7.5 U	7.4 U	7.6 U	1.5 U	7.7 U	7.8 U	**1.2 J**	8.4 U	8.9 U
SW8081B	4,4'-DDT	µg/kg	6.5 U	6.5 U	6.4 U	6.5 U	1.3 U	6.6 U	6.7 U	**1.4 J**	7.2 U	7.6 U
SW8081B	Aldrin	µg/kg	3.9 U	3.9 U	3.8 U	3.9 U	0.79 U	4 U	4 U	0.82 U	4.3 U	4.6 U
SW8081B	Alpha-BHC	µg/kg	4.1 U	4.1 U	4 U	4.1 U	0.83 U	4.2 U	4.3 U	0.86 U	4.6 U	4.8 U
SW8081B	Alpha-Chlordane	µg/kg	**4.3 J**	4.9 U	4.9 U	5 U	1 U	5.1 R	5.1 U	1 U	5.5 U	5.8 U
SW8081B	beta-BHC	µg/kg	4.9 U	4.8 U	4.8 U	4.9 U	0.98 U	5 U	5 U	1 U	5.4 U	5.7 U
SW8081B	Chlorinated Camphene	µg/kg	150 U	150 U	150 U	150 U	31 U	150 U	160 U	32 U	170 U	180 U
SW8081B	Delta-Bhc	µg/kg	4.9 U	4.8 U	4.8 U	4.9 U	0.98 U	5 U	**6.9 J**	1 U	5.4 U	**3.2 J**
SW8081B	Dieldrin	µg/kg	6.5 U	6.5 U	6.4 U	6.5 U	1.3 U	6.6 U	6.7 U	1.4 U	7.2 U	7.6 U
SW8081B	Endosulfan I	µg/kg	**2.8 J**	3.2 U	3.2 U	3.3 U	0.66 U	3.3 U	3.4 U	0.68 U	3.6 U	3.8 U
SW8081B	Endosulfan II	µg/kg	12 U	12 U	12 U	12 U	2.4 U	12 R	12 U	2.5 U	13 U	14 U
SW8081B	Endosulfan Sulfate	µg/kg	6.5 U	6.5 U	6.4 U	6.5 U	1.3 U	6.6 U	6.7 U	1.4 U	7.2 U	7.6 U
SW8081B	Endrin	µg/kg	6.5 U	6.5 U	6.4 U	6.5 U	1.3 U	6.6 U	6.7 U	1.4 U	7.2 U	7.6 U
SW8081B	Endrin Aldehyde	µg/kg	9.2 U	9.1 U	9 U	9.2 U	1.9 U	9.4 U	9.5 U	1.9 U	10 U	11 U
SW8081B	Endrin Ketone	µg/kg	9.8 U	9.7 U	9.6 U	9.8 U	2 U	10 U	10 U	2 U	11 U	11 U
SW8081B	gamma-BHC (Lindane)	µg/kg	3.3 U	3.2 U	3.2 U	3.3 U	0.66 U	3.3 U	3.4 U	**0.31 J**	3.6 U	3.8 U
SW8081B	gamma-Chlordane	µg/kg	**1.5 J**	3.2 U	3.2 U	3.3 U	0.66 U	3.3 U	3.4 U	0.68 U	3.6 U	3.8 U
SW8081B	Heptachlor	µg/kg	3.4 U	3.3 U	3.3 U	3.4 U	**0.37 J+**	3.4 U	3.5 U	0.7 U	3.7 U	3.9 U
SW8081B	Heptachlor Epoxide	µg/kg	3.8 U	3.8 U	3.7 U	3.8 U	0.77 U	3.9 U	3.9 U	0.79 U	4.2 U	4.4 U
SW8081B	Methoxychlor	µg/kg	32 U	32 U	31 U	32 U	6.5 U	33 U	33 U	6.7 U	35 U	37 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

		Location	NPS-BG-01	NPS-BG-02	NPS-BG-02	NPS-BG-03	NPS-BG-04	NPS-BG-05	NPS-BG-06	NPS-BG-07	NPS-BG-08	NPS-BG-09
		Sample ID	NPS-BG-04-102825 (NPS-BG-01)	NPS-BG-05-102825 (NPS-BG-02)	NPS-BG-05P-102825 (NPS-BG-02)-FD	NPS-BG-06-102825 (NPS-BG-03)	NPS-BG-07-102825 (NPS-BG-04)	NPS-BG-08-102825 (NPS-BG-05)	NPS-BG-09-102825 (NPS-BG-06)	NPS-BG-10-102825 (NPS-BG-07)	NPS-BG-11-102825 (NPS-BG-08)	NPS-BG-12-102825 (NPS-BG-09)
		Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
		Sample Type	N	N	FD	N	N	N	N	N	N	N
		Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units										
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	13 U	13 UJ	14 U
SW8260D	1,1,1-Trichloroethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	1,1,2-Trichloroethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,1-Dichloroethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,1-Dichloroethene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	500 U	590 U	480 U	600 U	570 U	510 U	470 U	520 U	640 U	690 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,2-Dibromoethane	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	1,2-Dichlorobenzene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,2-Dichloroethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,2-Dichloropropane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,3-Dichlorobenzene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	1,4-Dichlorobenzene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	2-Butanone	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	2-Hexanone	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	Acetone	µg/kg	1000 U	1200 U	970 U	1200 U	1100 U	1000 U	940 U	1000 U	1300 U	1400 U
SW8260D	Benzene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Bromodichloromethane	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	Bromoform	µg/kg	500 U	590 U	480 U	600 U	570 U	510 U	470 U	520 U	640 U	690 U
SW8260D	Bromomethane	µg/kg	200 U	240 U	190 U	240 U	230 U	210 U	190 U	210 U	250 U	280 U
SW8260D	Carbon Disulfide	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Carbon tetrachloride	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	Chlorobenzene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Chlorodibromomethane	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	Chloroethane	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	Chloroform	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Chloromethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	Cyclohexane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Dichlorodifluoromethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Ethylbenzene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	Freon 113	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Isopropylbenzene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-BG-01	NPS-BG-02	NPS-BG-02	NPS-BG-03	NPS-BG-04	NPS-BG-05	NPS-BG-06	NPS-BG-07	NPS-BG-08	NPS-BG-09
	Sample ID		NPS-BG-04-102825 (NPS-BG-01)	NPS-BG-05-102825 (NPS-BG-02)	NPS-BG-05P-102825 (NPS-BG-02)-FD	NPS-BG-06-102825 (NPS-BG-03)	NPS-BG-07-102825 (NPS-BG-04)	NPS-BG-08-102825 (NPS-BG-05)	NPS-BG-09-102825 (NPS-BG-06)	NPS-BG-10-102825 (NPS-BG-07)	NPS-BG-11-102825 (NPS-BG-08)	NPS-BG-12-102825 (NPS-BG-09)
	Sample Date		10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
	Sample Type		N	N	FD	N	N	N	N	N	N	N
	Lab Package		4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units										
SW8260D	Methyl Acetate	µg/kg	**140 J**	**79 J**	**120 J**	300 U	**210 J**	**100 J+**	240 U	260 U	**240 J**	**250 J**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Methylcyclohexane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Methylene Chloride	µg/kg	250 U	290 U	240 U	300 U	280 U	260 U	240 U	260 U	320 U	350 U
SW8260D	Styrene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	Tetrachloroethene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Toluene	µg/kg	130 U	150 U	**110 J**	150 U	**55 J**	130 U	120 U	130 U	160 U	170 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	63 U	74 U	60 U	75 U	71 U	64 U	59 U	65 U	79 U	87 U
SW8260D	Trichloroethylene	µg/kg	130 U	150 U	120 U	150 U	**80 J**	130 U	120 U	130 U	160 U	170 U
SW8260D	Trichlorofluoromethane	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Vinyl Chloride	µg/kg	130 U	150 U	120 U	150 U	140 U	130 U	120 U	130 U	160 U	170 U
SW8260D	Xylenes, Total	µg/kg	180 U	210 U	170 U	210 U	200 U	180 U	160 U	180 U	220 U	240 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**7.5 J**	**180 J**	**20 J**	**2.3**	**2.2**	7.4 U	7.5 U	7.6 U	**1.6 J-**	**11**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**9.7 J**	**190 J**	**16 J**	**2.8 J**	**2.9 J**	15 U	15 U	15 U	**2.3 J-**	**18**
SW8270E-SIM	Acenaphthene	µg/kg	**5.7 J**	**190 J**	**48 J**	**2**	**1.2 J**	7.4 U	7.5 U	7.6 U	**2.4**	**4.3**
SW8270E-SIM	Acenaphthylene	µg/kg	**26**	**39 J**	**16 J**	**7.6**	**4.4**	**4.3 J**	**4.5 J**	**7.6 J**	**5.4**	**14**
SW8270E-SIM	Anthracene	µg/kg	**37**	**790 J**	**170 J**	**10**	**6**	**6.4 J-**	**5.7 J**	**7.3 J**	**9**	**23 J-**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**180**	**1000 J**	**310 J**	**53**	**35**	**22 J-**	**27**	**35**	**45**	**100 J-**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**160**	**590 J**	**210 J**	**51**	**31**	**25 J-**	**26**	**29**	**55**	**93 J-**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**200**	**730 J**	**260 J**	**70**	**46**	**30 J-**	**38**	**44**	**68 J+**	**140 J-**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**110**	**340 J**	**150 J**	**40**	**28**	**18 J-**	**22**	**25**	**43**	**76 J-**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**69**	**300 J**	**100 J**	**25**	**15**	**11 J-**	**12**	**15**	**26**	**43 J-**
SW8270E-SIM	Chrysene	µg/kg	**160**	**730 J**	**240 J**	**53**	**31**	**23 J-**	**26**	**36**	**54 J+**	**110 J-**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**35**	**120 J**	**42 J**	**12**	**7.8**	**5 J-**	**6 J**	**7.8 J**	**9.3**	**21 J-**
SW8270E-SIM	Fluoranthene	µg/kg	**310**	**500 J-**	**720 J**	**98**	**50**	**46 J-**	**41**	**54**	**77 J+**	**180 J-**
SW8270E-SIM	Fluorene	µg/kg	**7.5 J**	**270 J**	**46 J**	**2.2**	**1.2 J**	7.4 U	7.5 U	7.6 U	**2.3**	**5.3 J-**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**130**	**450 J**	**180 J**	**47**	**32**	**21**	**25**	**28**	**42**	**85 J-**
SW8270E-SIM	Naphthalene	µg/kg	**9.8 J**	**200 J**	**20 J**	**3.3 J**	**4.6**	15 U	15 U	**7.6 J**	**3.1 J-**	**32**
SW8270E-SIM	Phenanthrene	µg/kg	**130**	**540 J-**	**580**	**37**	**20**	**21 J+**	**22**	**29**	**40**	**88 J-**
SW8270E-SIM	Pyrene	µg/kg	**250**	**1500 J**	**510 J**	**76**	**56**	**37 J-**	**45**	**60**	**80 J+**	**160 J-**
SW8321B	2,4,5-T	µg/kg	0.51 UJ	0.52 UJ	0.53 UJ	0.54 U	0.54 U	0.55 U	0.54 UJ	**0.64 J-**	**1 J-**	0.62 R
SW8321B	2,4-DB	µg/kg	2.6 UJ	2.6 UJ	2.6 UJ	2.7 U	2.7 U	2.7 U	2.7 UJ	**0.95 J-**	**1.6 J-**	3.1 R
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.51 UJ	0.52 UJ	0.53 UJ	0.54 U	0.54 U	0.55 U	0.54 UJ	0.55 R	**0.87 J-**	0.62 R
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.51 UJ	0.52 UJ	0.53 UJ	0.54 U	0.54 U	0.55 U	0.54 UJ	**0.38 J-**	**0.69 J-**	0.62 R
SW8321B	DALAPON	µg/kg	2.6 UJ	2.6 UJ	2.6 UJ	2.7 U	2.7 U	2.7 U	2.7 UJ	2.8 R	3 R	3.1 R
SW8321B	DICAMBA	µg/kg	2.6 UJ	2.6 UJ	2.6 UJ	2.7 U	2.7 U	2.7 U	2.7 UJ	2.8 R	3 R	3.1 R
SW8321B	MCPA	µg/kg	**0.17 J-**	0.26 UJ	0.26 UJ	0.27 U	0.27 U	0.27 UJ	0.27 UJ	**0.41 J-**	**0.63 J-**	0.31 R
SW8321B	MCPP (MECOPROP)	µg/kg	**0.17 J-**	0.26 UJ	0.26 UJ	0.27 U	**0.11 J**	**0.13 J-**	**0.13 J-**	**0.31 J-**	**0.58 J-**	0.31 R
SW8321B	Pentachlorophenol	µg/kg	**0.19 J-**	0.26 UJ	0.26 UJ	0.27 U	0.27 U	0.27 U	0.27 UJ	**0.63 J-**	**0.93 J-**	0.31 R
SW8321B	Silvex (2,4,5-TP)	µg/kg	**0.19 J-**	0.52 UJ	0.53 UJ	0.54 U	0.54 U	0.55 U	0.54 UJ	**0.57 J-**	**0.94 J-**	0.62 R

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-BG-10	NPS-HR-01	NPS-HR-01	NPS-HR-02	NPS-HR-03	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
			Sample ID	NPS-BG-13-102825 (NPS-BG-10)	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-02-102825 (NPS-HR-02)	NPS-BG-03-102825 (NPS-HR-03)	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
			Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	N	FD	N	N	N	N	N	N	N
			Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units											
CARB435	Asbestos	%	0.25 U COC sample date 11/8/2025, Dark-brown soil	0.25 U COC sample date 11/8/2025, Gray/cream soil	0.25 U COC sample date 11/8/2025, Gray/tan soil	0.25 U COC sample date 11/8/2025, Gray/tan soil	0.25 U COC sample date 11/8/2025, Beige/light-tan soil	NA	NA	0.25 U COC sample date 11/8/2025, Light-tan soil	0.25 U COC sample date 11/8/2025, Light-tan soil	0.25 U COC sample date 11/8/2025, Tan/brownish-gray soil
SW6020B	Antimony	mg/kg	**0.59**	**0.15 J**	**0.2**	**0.084 J-**	**0.43**	**0.17 J**	**0.14 J**	**0.15 J**	**0.14 J**	**0.19 J**
SW6020B	Arsenic	mg/kg	**7.9**	**2.1 J**	**3.7 J**	**1.5**	**3.8**	**4.4**	**7.8**	**4.8**	**3.6**	**5.4**
SW6020B	Beryllium	mg/kg	**0.45**	**0.75**	**0.58**	**0.5**	**0.57**	**0.56**	**0.58**	**0.56**	**0.55**	**0.62**
SW6020B	Cadmium	mg/kg	**0.26**	**0.061 J**	**0.068 J**	**0.048 J**	**0.096 J**	**0.054 J**	0.08 U	**0.052 J**	**0.041 J**	**0.065 J**
SW6020B	Chromium	mg/kg	**18**	**24**	**34**	**15 J+**	**35**	**16**	**48**	**22**	**16**	**18**
SW6020B	Copper	mg/kg	**20**	**27**	**22**	**53 J-**	**23**	**9.9**	**12**	**11**	**9**	**14**
SW6020B	Lead	mg/kg	**180**	**11**	**10**	**9.9 J+**	**21**	**19**	**20**	**14**	**19**	**31**
SW6020B	Nickel	mg/kg	**15**	**19**	**15**	**14**	**16**	**11**	**16**	**11**	**11**	**13**
SW6020B	Selenium	mg/kg	**0.63**	**0.22 J**	**0.19 J**	**0.18 J**	**0.26 J**	**0.23 J**	**0.26 J**	**0.27 J**	**0.29 J**	**0.27 J**
SW6020B	Silver	mg/kg	**0.2**	**0.046 J**	**0.039 J**	**0.048 J**	**0.068 J**	0.084 U	0.08 U	**0.047 J**	**0.067 J**	**0.092 J**
SW6020B	Thallium	mg/kg	**0.15**	**0.056 J**	**0.04 J**	**0.054 J-**	**0.072 J**	**0.13**	**0.14**	**0.13**	**0.14**	**0.16**
SW6020B	Zinc	mg/kg	**93**	**35**	**35**	**33 J+**	**57**	**37**	**37**	**61**	**38**	**44**
SW7471B	Mercury	mg/kg	**2**	**0.071 J**	**0.031 J**	**0.045 J**	**0.058 J**	**0.34**	**0.11**	**0.092**	**0.18**	**0.23**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**52**	**65**	**89**	**9.5 J**	**53**	**5.6 J**	**8.5 J**	**6.2 J**	**7.6 J**	**11 J**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	4.7 U	4.1 U	4.5 U	3.1 U	4.5 U	3.6 U	**4.2 J**	**1.9 J**	3.5 U	3.8 U
SW8081B	4,4'-DDD	µg/kg	9.4 U	8.7 U	8.6 U	1.7 UJ	17 U	1.7 R	1.8 U	1.7 U	8.4 U	8.3 UJ
SW8081B	4,4'-DDE	µg/kg	8.3 U	7.6 U	7.5 U	**0.95 J**	15 U	1.5 R	**3.9**	**2.1**	**7.6 J**	7.3 UJ
SW8081B	4,4'-DDT	µg/kg	7.1 U	6.5 U	6.4 U	1.3 UJ	13 U	1.3 R	**1.3 J**	**1.2 J**	6.3 U	6.2 UJ
SW8081B	Aldrin	µg/kg	4.2 U	3.9 U	3.9 U	0.75 UJ	7.8 U	0.77 R	0.81 U	0.75 U	3.8 U	3.7 UJ
SW8081B	Alpha-BHC	µg/kg	4.5 U	4.1 U	4.1 U	0.8 R	8.3 U	0.81 R	0.85 U	0.79 U	4 U	3.9 UJ
SW8081B	Alpha-Chlordane	µg/kg	5.4 U	**4.7 J**	**9.3 J**	**4 J-**	**8 J**	0.99 R	1 U	0.95 U	4.8 U	4.8 UJ
SW8081B	beta-BHC	µg/kg	5.3 U	4.9 U	4.8 U	0.94 UJ	9.8 U	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ
SW8081B	Chlorinated Camphene	µg/kg	170 U	150 U	150 U	29 U	300 U	30 R	31 U	29 U	150 U	150 UJ
SW8081B	Delta-Bhc	µg/kg	5.3 U	4.9 U	4.8 U	0.94 R	9.8 U	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ
SW8081B	Dieldrin	µg/kg	7.1 U	6.5 U	6.4 U	**0.36 J-**	13 U	1.3 R	**0.54 J**	1.2 U	6.3 U	6.2 UJ
SW8081B	Endosulfan I	µg/kg	3.5 U	3.2 U	3.2 U	**0.61 J-**	6.5 U	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	Endosulfan II	µg/kg	13 U	12 U	12 U	2.3 R	24 U	2.4 R	2.5 U	2.3 U	12 U	11 UJ
SW8081B	Endosulfan Sulfate	µg/kg	7.1 U	6.5 U	6.4 U	1.3 UJ	13 U	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ
SW8081B	Endrin	µg/kg	7.1 U	6.5 U	6.4 U	1.3 U	13 U	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ
SW8081B	Endrin Aldehyde	µg/kg	10 U	9.2 U	9.1 U	1.8 R	19 U	1.8 R	1.9 U	1.8 U	8.9 U	8.8 UJ
SW8081B	Endrin Ketone	µg/kg	11 U	9.7 U	9.6 U	1.9 UJ	20 U	1.9 R	2 U	1.9 U	9.4 U	9.3 UJ
SW8081B	gamma-BHC (Lindane)	µg/kg	3.5 U	3.2 U	**2.1 J**	0.63 UJ	6.5 U	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	gamma-Chlordane	µg/kg	3.5 U	**6.9 J**	**12 J**	**4.1**	**12**	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	Heptachlor	µg/kg	3.7 U	**2.5 J**	**5.6 J**	0.65 U	**6.9 J**	0.66 R	0.7 U	0.64 U	3.2 U	3.2 UJ
SW8081B	Heptachlor Epoxide	µg/kg	4.1 U	3.8 U	3.7 U	0.73 U	7.6 U	0.75 R	0.79 U	0.73 U	3.7 U	3.6 UJ
SW8081B	Methoxychlor	µg/kg	35 U	32 U	32 U	6.2 UJ	64 U	6.3 R	6.6 U	6.1 U	31 U	31 UJ
SW8082A	Aroclor 1016	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1221	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

		Location	NPS-BG-10	NPS-HR-01	NPS-HR-01	NPS-HR-02	NPS-HR-03	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
		Sample ID	NPS-BG-13-102825 (NPS-BG-10)	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-02-102825 (NPS-HR-02)	NPS-BG-03-102825 (NPS-HR-03)	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
		Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
		Sample Type	N	N	FD	N	N	N	N	N	N	N
		Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units										
SW8082A	Aroclor 1232	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1242	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1248	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1254	µg/kg	13 U	**11 J**	**22 J**	12 U	**30**	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1260	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1262	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1268	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U	12 U	11 U
SW8260D	1,1,1-Trichloroethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	68 UJ	61 U	70 UJ	44 UJ	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	1,1,2-Trichloroethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1-Dichloroethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1-Dichloroethene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	550 UJ	490 U	560 UJ	350 U	590 UJ	500 U	460 U	420 U	460 U	410 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dibromoethane	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	1,2-Dichlorobenzene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dichloroethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dichloropropane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,3-Dichlorobenzene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	1,4-Dichlorobenzene	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	2-Butanone	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	2-Hexanone	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	Acetone	µg/kg	1100 UJ	970 U	1100 UJ	710 U	1200 UJ	1000 U	920 U	840 U	920 U	820 U
SW8260D	Benzene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Bromodichloromethane	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	Bromoform	µg/kg	550 UJ	490 U	560 UJ	350 U	590 UJ	500 U	460 U	420 U	460 U	410 U
SW8260D	Bromomethane	µg/kg	220 UJ	190 U	230 UJ	140 U	240 UJ	200 U	180 U	170 U	180 U	160 U
SW8260D	Carbon Disulfide	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Carbon tetrachloride	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	Chlorobenzene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Chlorodibromomethane	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	Chloroethane	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	Chloroform	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Chloromethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	Cyclohexane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Dichlorodifluoromethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Ethylbenzene	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	**130 J**	58 U	53 U	58 U	51 U
SW8260D	Freon 113	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Isopropylbenzene	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-BG-10	NPS-HR-01	NPS-HR-01	NPS-HR-02	NPS-HR-03	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
			Sample ID	NPS-BG-13-102825 (NPS-BG-10)	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-02-102825 (NPS-HR-02)	NPS-BG-03-102825 (NPS-HR-03)	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
			Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	N	FD	N	N	N	N	N	N	N
			Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units											
SW8260D	Methyl Acetate	µg/kg	**360 J-**	**1600**	**1800 J-**	**280 J+**	**540 J-**	250 U	230 U	210 U	230 U	**77 J**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Methylcyclohexane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	**67 J**	120 U	110 U	120 U	100 U
SW8260D	Methylene Chloride	µg/kg	270 UJ	240 U	280 UJ	180 U	300 UJ	250 U	230 U	210 U	230 U	200 U
SW8260D	Styrene	µg/kg	68 UJ	**86 J**	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	Tetrachloroethene	µg/kg	**77 J-**	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Toluene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	68 UJ	61 U	70 UJ	44 U	74 UJ	63 U	58 U	53 U	58 U	51 U
SW8260D	Trichloroethylene	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Trichlorofluoromethane	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Vinyl Chloride	µg/kg	140 UJ	120 U	140 UJ	88 U	150 UJ	130 U	120 U	110 U	120 U	100 U
SW8260D	Xylenes, Total	µg/kg	190 UJ	170 U	200 UJ	120 U	210 UJ	**780**	160 U	150 U	160 U	140 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**10 J**	**50 J**	**15 J+**	6.9 U	**23**	1.4 UJ	**120**	**1 J**	**1.3 J**	**2 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	31 UJ	**99 J**	**24 J+**	14 U	**33**	2.9 UJ	**190**	**1.5 J**	**1.7 J**	**3 J**
SW8270E-SIM	Acenaphthene	µg/kg	**22**	**800 J**	**91 J**	6.9 U	**71**	**3**	**440**	**3.7**	**1.5 J**	**2.4**
SW8270E-SIM	Acenaphthylene	µg/kg	**38**	**7.6 J**	**6.3 J**	6.9 U	**9.6**	**1.3 J**	**9 J**	**1.4 J**	**4**	**7.2**
SW8270E-SIM	Anthracene	µg/kg	**110**	**660 J**	**100 J**	6.9 U	**110**	**5.7**	**660**	**6.7**	**6.1**	**11**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**470**	**1300 J**	**180 J**	**13 J+**	**150**	**15**	**1000**	**20**	**37**	**62**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**400**	**1000 J**	**140 J**	**12 J+**	**120**	**13**	**610**	**16**	**36**	**56**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**520**	**1300 J**	**190 J**	**17 J+**	**150**	**19**	**820**	**22**	**48**	**76**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**300**	**780 J**	**100 J**	**10 J+**	**89**	**9.1**	**320**	**10**	**25**	**38**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**170**	**470 J**	**68 J**	**5.7 J+**	**53**	**5.9**	**300**	**7.1**	**16**	**28**
SW8270E-SIM	Chrysene	µg/kg	**450**	**1100 J**	**170 J**	**13 J+**	**140**	**14**	**780**	**18**	**36**	**57**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**87**	**210 J**	**28 J**	6.9 U	**25**	**2.8**	**130**	**3.4**	**7.9**	**12**
SW8270E-SIM	Fluoranthene	µg/kg	**800**	**2900 J+**	**470 J**	**24 J+**	**430**	**28**	**2000**	**35**	**54**	**95**
SW8270E-SIM	Fluorene	µg/kg	**25**	**340 J**	**52 J**	6.9 U	**58**	**2.9**	**370**	**3**	**1.3 J**	**2.6**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**340**	**960 J**	**120 J**	**11 J+**	**98**	**11**	**430**	**13**	**31**	**46**
SW8270E-SIM	Naphthalene	µg/kg	**24 J**	**500 J**	**51 J+**	14 U	**29**	**2 J**	**97 J+**	**3.4 J**	**4.1 J**	**6.3 J**
SW8270E-SIM	Phenanthrene	µg/kg	**400**	**2500 J+**	**390 J**	**12 J+**	**400**	**18**	**2200**	**22**	**21**	**38**
SW8270E-SIM	Pyrene	µg/kg	**720**	**2400 J+**	**330 J**	**17 J+**	**270**	**21**	**1400**	**26**	**46**	**75**
SW8321B	2,4,5-T	µg/kg	**1.9 J-**	0.52 U	**0.31 J**	0.51 U	0.53 U	**0.15 J-**	**0.17 J-**	**0.15 J-**	**0.51 J-**	**6**
SW8321B	2,4-DB	µg/kg	**2.6 J-**	**0.9 J**	2.7 U	2.6 U	2.6 U	2.6 UJ	2.8 UJ	2.5 UJ	**0.64 J-**	**5.5**
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	**1.5 J-**	**3.1**	**4.1**	0.51 U	**5.8**	**0.17 J-**	0.56 UJ	**0.17 J-**	**0.51 J-**	**6**
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	**1.2 J-**	0.52 U	0.53 U	0.51 U	0.53 U	0.53 UJ	0.56 UJ	0.5 UJ	**0.42 J-**	**6.1**
SW8321B	DALAPON	µg/kg	2.8 UJ	2.6 U	2.7 U	2.6 UJ	2.6 U	2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**6**
SW8321B	DICAMBA	µg/kg	**0.79 J-**	2.6 U	2.7 U	2.6 U	**1.3 J**	2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**7.1**
SW8321B	MCPA	µg/kg	**1.2 J-**	**0.67**	0.27 U	0.26 U	**1.7**	0.26 UJ	0.28 UJ	0.25 UJ	0.26 UJ	**5.1**
SW8321B	MCPP (MECOPROP)	µg/kg	**0.95 J-**	**1.9 J**	**1.2 J**	0.26 U	**3.2**	0.26 UJ	**0.11 J-**	0.25 UJ	**0.38 J-**	**5**
SW8321B	Pentachlorophenol	µg/kg	**1.9 J-**	**12 J**	**8.2 J**	**0.32 J+**	**12**	**0.17 J-**	**0.16 J-**	**0.12 J-**	**0.3 J-**	**2.6**
SW8321B	Silvex (2,4,5-TP)	µg/kg	**1.7 J-**	**0.83**	0.53 U	0.51 U	0.53 U	0.53 UJ	0.56 UJ	0.5 UJ	**0.51 J-**	**6.7**

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11
	Sample ID		NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)
	Sample Date		10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025
	Sample Type		N	N	N	FD	N	N	FD	N	N
	Lab Package		4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891	4102518891
Method	Analyte	Units									
CARB435	Asbestos	%	0.25 U COC sample date 10/29/2025, Brown soil	0.25 U COC sample date 10/31/2025, Brown soil	0.25 U COC sample date 11/1/2025, Brown soil	0.25 U COC sample date 11/1/2025, Brown soil	0.25 U COC sample date 11/3/2025, Brown soil	0.25 U COC sample date 11/4/2025, Brown soil	0.25 U COC sample date 11/4/2025, Brown soil	0.25 U COC sample date 11/6/2025, Tan/red/white soil	0.25 U COC sample date 11/6/2025, Tan/gray soil
SW6020B	Antimony	mg/kg	**0.22**	**0.086 J-**	**0.2 J**	**0.53 J**	**0.13 J**	**0.11 J**	**0.11 J**	**0.18 J**	**0.18 J**
SW6020B	Arsenic	mg/kg	**6.1**	**4.2**	**3 J**	**13 J**	**3.1**	**2.7 J**	**1.9 J**	**3.4**	**2.9**
SW6020B	Beryllium	mg/kg	**0.74**	**0.61**	**0.47 J**	**0.78 J**	**0.71**	**0.79**	**0.66**	**0.96**	**0.79**
SW6020B	Cadmium	mg/kg	**0.12**	**0.058 J**	**0.06 J**	**0.19 J**	**0.077 J**	**0.08 J**	**0.07 J**	**0.12**	**0.091 J**
SW6020B	Chromium	mg/kg	**20**	**18 J+**	**15**	**21**	**17**	**14**	**15**	**21**	**19**
SW6020B	Copper	mg/kg	**20**	**14**	**19**	**23**	**17**	**16**	**14**	**20**	**18**
SW6020B	Lead	mg/kg	**90**	**35**	**120 J**	**400 J**	**62**	**15 J**	**9.7 J**	**39**	**54**
SW6020B	Nickel	mg/kg	**14**	**13 J+**	**9.5 J**	**14 J**	**17**	**19**	**18**	**23**	**19**
SW6020B	Selenium	mg/kg	**0.28 J**	**0.21 J**	**0.18 J**	**1.1 J**	**0.099 J**	0.19 U	0.16 U	**0.11 J**	**0.13 J**
SW6020B	Silver	mg/kg	**0.099 J**	**0.04 J**	**0.043 J**	**0.2 J**	0.067 U	0.075 U	0.065 U	0.075 U	0.089 U
SW6020B	Thallium	mg/kg	**0.098 J**	**0.13**	**0.1 J**	**0.22 J**	**0.14**	**0.13**	**0.13**	**0.14**	**0.14**
SW6020B	Zinc	mg/kg	**62**	**52 J+**	**69 J**	**110 J**	**61**	**59**	**53**	**94**	**69**
SW7471B	Mercury	mg/kg	**0.49**	**0.15 J+**	**0.062 J**	**0.19 J**	**0.095**	**0.023 J**	**0.029 J**	**0.057 J**	**0.065 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**28**	**30 J+**	**91**	**86**	12 U	11 U	11 U	**17**	**37 J+**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	**15 J-**	3.4 U	1.5 U	**1.6**	**0.93 J**	**3 J**	**0.83 J**	1.1 U	1.4 UJ
SW8081B	4,4'-DDD	µg/kg	8.8 U	1.8 U	9.1 UJ	9.2 UJ	3.7 UJ	1.8 U	1.8 U	2 U	2.2 U
SW8081B	4,4'-DDE	µg/kg	**4.6 J**	**3.9**	**4.5 J-**	8.1 UJ	3.3 UJ	1.6 U	1.6 U	**1.1 J**	1.9 U
SW8081B	4,4'-DDT	µg/kg	6.6 U	**2.6**	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U
SW8081B	Aldrin	µg/kg	4 U	0.8 U	4.1 UJ	4.1 UJ	1.7 UJ	0.81 U	0.81 U	0.91 U	0.97 U
SW8081B	Alpha-BHC	µg/kg	4.2 U	0.84 U	4.3 UJ	4.4 UJ	1.8 UJ	0.85 U	0.86 U	0.96 U	1 U
SW8081B	Alpha-Chlordane	µg/kg	5.1 U	1 U	5.2 UJ	5.3 UJ	2.1 UJ	1 U	1 U	1.2 U	1.2 U
SW8081B	beta-BHC	µg/kg	4.9 U	**0.9 J**	5.1 UJ	5.2 UJ	2.1 UJ	1 U	1 U	1.1 U	1.2 U
SW8081B	Chlorinated Camphene	µg/kg	150 U	31 U	160 UJ	160 UJ	65 UJ	31 U	32 U	35 U	38 U
SW8081B	Delta-Bhc	µg/kg	4.9 U	1 U	5.1 UJ	5.2 UJ	2.1 UJ	1 U	1 U	1.1 U	1.2 U
SW8081B	Dieldrin	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U
SW8081B	Endosulfan I	µg/kg	3.3 U	0.67 U	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U
SW8081B	Endosulfan II	µg/kg	12 U	2.4 U	13 UJ	13 UJ	5.1 UJ	2.5 U	2.5 U	2.8 U	3 U
SW8081B	Endosulfan Sulfate	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U
SW8081B	Endrin	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U
SW8081B	Endrin Aldehyde	µg/kg	9.3 U	1.9 U	9.7 UJ	9.8 UJ	4 UJ	1.9 U	1.9 U	2.2 U	2.3 U
SW8081B	Endrin Ketone	µg/kg	9.9 U	2 U	10 UJ	10 UJ	4.2 UJ	2 U	2 U	2.3 U	2.4 U
SW8081B	gamma-BHC (Lindane)	µg/kg	3.3 U	**2.8 J-**	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U
SW8081B	gamma-Chlordane	µg/kg	3.3 U	**0.45 J**	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U
SW8081B	Heptachlor	µg/kg	3.4 U	0.69 U	3.5 UJ	3.6 UJ	1.4 UJ	0.7 U	0.7 U	0.79 U	0.83 U
SW8081B	Heptachlor Epoxide	µg/kg	3.8 U	0.78 U	4 UJ	4 UJ	1.6 UJ	0.79 U	0.79 U	0.89 U	0.94 U
SW8081B	Methoxychlor	µg/kg	32 U	6.5 U	34 UJ	34 UJ	14 UJ	6.6 U	6.7 U	7.5 U	7.9 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11
	Sample ID		NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)
	Sample Date		10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025
	Sample Type		N	N	N	FD	N	N	FD	N	N
	Lab Package		4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891	4102518891
Method	Analyte	Units									
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	13 U	**8.7 J**	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ	15 UJ
SW8260D	1,1,1-Trichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	1,1,2-Trichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,1-Dichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,1-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	440 UJ	440 U	530 U	530 U	480 UJ	12 U	11 U	520 U	750 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,2-Dibromoethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	1,2-Dichlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,2-Dichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,2-Dichloropropane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,3-Dichlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	1,4-Dichlorobenzene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	2-Butanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U	380 U
SW8260D	2-Hexanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	7.6 U	6.9 U	260 U	380 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U	380 U
SW8260D	Acetone	µg/kg	870 UJ	880 U	1100 U	1100 U	950 UJ	**26 J**	**22 J+**	1000 U	1500 U
SW8260D	Benzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Bromodichloromethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	Bromoform	µg/kg	440 UJ	440 U	530 U	530 U	480 UJ	12 U	11 U	520 U	750 U
SW8260D	Bromomethane	µg/kg	170 UJ	180 U	210 U	210 U	190 UJ	3.1 U	2.8 UJ	210 U	300 U
SW8260D	Carbon Disulfide	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Carbon tetrachloride	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	3.1 U	2.8 U	260 U	380 U
SW8260D	Chlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Chlorodibromomethane	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	1.5 U	1.4 U	260 U	380 U
SW8260D	Chloroethane	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 UJ	260 U	380 U
SW8260D	Chloroform	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Chloromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	1.5 U	1.4 U	65 U	94 U
SW8260D	Cyclohexane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Dichlorodifluoromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Ethylbenzene	µg/kg	**45 J-**	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	Freon 113	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Isopropylbenzene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	4.6 U	4.1 U	65 U	94 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11
	Sample ID		NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)
	Sample Date		10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025
	Sample Type		N	N	N	FD	N	N	FD	N	N
	Lab Package		4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891	4102518891
Method	Analyte	Units									
SW8260D	Methyl Acetate	µg/kg	**1200 J-**	**210 J**	**4900**	**4100**	**470 J-**	6.1 U	5.5 U	260 U	**140 J**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Methylcyclohexane	µg/kg	**120 J-**	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Methylene Chloride	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U	380 U
SW8260D	Styrene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U	94 U
SW8260D	Tetrachloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	4.6 U	4.1 U	130 U	190 U
SW8260D	Toluene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	1.5 U	1.4 U	65 U	94 U
SW8260D	Trichloroethylene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Trichlorofluoromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Vinyl Chloride	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U	190 U
SW8260D	Xylenes, Total	µg/kg	150 UJ	150 U	190 U	190 U	170 UJ	3.1 U	2.8 U	180 U	260 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**13 J**	**7.1**	**24**	**17 J**	**5.1**	**4.5**	**4**	**2.7**	**3.6**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**23 J**	**9.2**	**30 J**	**24 J**	**7.1**	**6.1**	**5.1**	**4.7**	**5.8**
SW8270E-SIM	Acenaphthene	µg/kg	**38**	**42 J-**	**230 J**	**110 J**	**17**	**6.6**	**6.1**	**28**	**72**
SW8270E-SIM	Acenaphthylene	µg/kg	**36**	**6**	**36**	**32**	**5**	**1.6 J**	**1.4 J**	**6.8**	**5.1**
SW8270E-SIM	Anthracene	µg/kg	**210**	**100 J-**	**540 J**	**300 J**	**39**	**15**	**16**	**92**	**290**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**1000**	**270**	**970**	**780**	**120**	**59**	**70**	**440**	**2000**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**980**	**190**	**660**	**580**	**89**	**47**	**53**	**340**	**1400**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**1200**	**260**	**890**	**730**	**120**	**63**	**70**	**500**	**2000**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**570**	**130 J-**	**430**	**420**	**61**	**31**	**34**	**160**	**420**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**510**	**93 J-**	**300**	**340**	**46**	**22**	**25**	**190**	**730**
SW8270E-SIM	Chrysene	µg/kg	**990**	**210**	**740**	**600**	**94**	**50**	**57**	**410**	**1900**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**160**	**41 J-**	**130**	**110**	**18**	**9.6**	**11**	**57**	**170**
SW8270E-SIM	Fluoranthene	µg/kg	**1900**	**610 J+**	**2400**	**1800**	**270**	**110**	**130**	**760**	**3500**
SW8270E-SIM	Fluorene	µg/kg	**36**	**34 J-**	**220 J**	**110 J**	**15**	**5.4**	**5.2**	**20**	**38**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**630**	**170**	**540**	**510**	**76**	**38**	**42**	**190**	**830**
SW8270E-SIM	Naphthalene	µg/kg	**60**	**14**	**68**	**59**	**15**	**9.9**	**7.8**	**9.5**	**6.9 J+**
SW8270E-SIM	Phenanthrene	µg/kg	**800**	**460 J+**	**1800 J**	**1200 J**	**160**	**55**	**60**	**290**	**950**
SW8270E-SIM	Pyrene	µg/kg	**1700**	**410 J+**	**1600**	**1200**	**180**	**79**	**91**	**700**	**3000**
SW8321B	2,4,5-T	µg/kg	0.52 U	0.46 U	0.56 U	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ
SW8321B	2,4-DB	µg/kg	2.6 U	2.3 U	**0.43 J**	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.52 U	0.46 U	**0.33 J**	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.52 U	0.46 U	0.56 U	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ
SW8321B	DALAPON	µg/kg	2.6 U	2.3 U	2.8 U	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ
SW8321B	DICAMBA	µg/kg	2.6 U	2.3 U	2.8 U	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ
SW8321B	MCPA	µg/kg	0.26 U	0.23 U	0.28 U	0.24 U	0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ	0.3 UJ
SW8321B	MCPP (MECOPROP)	µg/kg	0.26 U	0.23 U	**0.26 J**	0.24 U	0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ	0.3 UJ
SW8321B	Pentachlorophenol	µg/kg	**0.24**	**1.9**	**13**	**11**	**0.21 J-**	0.25 UJ	0.23 UJ	**0.71 J-**	**0.51 J-**
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.52 U	0.46 U	**0.28 J**	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20
	Sample ID		NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)
	Sample Date		11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301	4102628621	4102639961
Method	Analyte	Units									
CARB435	Asbestos	%	0.25 U COC sample date 11/7/2025, Tan/gray/brown soil	0.25 U COC sample date 11/11/2025, Brown soil	0.25 U COC sample date 11/12/2025, Brown soil	0.25 U COC sample date 12/11/2025, Brown soil	0.25 U COC sample date 12/20/2025, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil	0.25 U COC sample date 1/29/2026, Brown soil	0.25 U COC sample date 2/3/2026, Brown soil
SW6020B	Antimony	mg/kg	**0.11 J**	**0.12 J**	**0.27**	**0.15 J**	**0.12 J**	**0.11 J**	**0.1 J**	**0.18**	**0.11 J**
SW6020B	Arsenic	mg/kg	**4.2**	**3.8**	**5.7**	**4.5**	**3.6**	**2.8**	**4.1**	**2.7**	**3.8**
SW6020B	Beryllium	mg/kg	**0.64**	**0.48**	**0.57**	**0.91**	**0.58**	**0.76**	**0.85 J**	**0.46**	**0.75**
SW6020B	Cadmium	mg/kg	**0.33**	**0.065 J**	**0.29**	**0.087 J**	**0.069 J**	**0.085**	**0.13**	**0.047 J**	**0.13**
SW6020B	Chromium	mg/kg	**19**	**19**	**25**	**21**	**17**	**18**	**22 J**	**17**	**17**
SW6020B	Copper	mg/kg	**24**	**12**	**25**	**27**	**15**	**16**	**15**	**16**	**15**
SW6020B	Lead	mg/kg	**19**	**51**	**180**	**150**	**11**	**16**	**11 J**	**11**	**28**
SW6020B	Nickel	mg/kg	**19**	**13**	**16**	**14**	**15**	**22**	**22**	**11**	**19**
SW6020B	Selenium	mg/kg	**0.27 J**	**0.12 J**	**0.27 J**	**0.18 J**	**0.1 J**	0.15 U	**0.17 J**	**0.17 J**	0.19 U
SW6020B	Silver	mg/kg	0.086 U	**0.032 J**	**0.32**	**0.071 J**	**0.046 J**	0.059 U	0.086 U	**0.033 J**	0.076 U
SW6020B	Thallium	mg/kg	**0.1 J**	**0.056 J**	**0.1**	**0.14**	**0.072 J**	**0.14**	**0.17 J**	**0.039 J**	**0.13**
SW6020B	Zinc	mg/kg	**67**	**46**	**160**	**61**	**43**	**60**	**59**	**33**	**64**
SW7471B	Mercury	mg/kg	**0.078**	**0.21**	**0.2**	**0.21**	**0.071 J**	**0.037 J**	**0.045 J**	**0.034 J**	**0.038 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**14**	**31**	**44**	**8.1 J**	**18 J**	**9 J**	**6.5 J**	**26**	**29**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	1 U	0.85 U	**2.2**	0.9 U	**0.55 J**	0.78 U	0.85 U	**1.1 J**	3.8 U
SW8081B	4,4'-DDD	µg/kg	1.9 U	87 U	180 U	18 U	1.9 UJ	8.7 U	9.4 U	8.6 U	34 U
SW8081B	4,4'-DDE	µg/kg	**1.9 J**	76 U	160 U	16 U	1.7 UJ	7.6 U	8.2 U	7.6 U	**240**
SW8081B	4,4'-DDT	µg/kg	1.5 U	**8**	**9.7**	14 U	1.4 UJ	6.5 U	7.1 U	6.5 U	**20 J**
SW8081B	Aldrin	µg/kg	0.87 U	39 U	83 U	8.3 U	0.85 UJ	3.9 U	4.2 U	3.9 U	15 U
SW8081B	Alpha-BHC	µg/kg	0.92 U	0.83 U	0.87 U	8.8 U	0.9 UJ	4.1 U	4.5 U	4.1 U	16 U
SW8081B	Alpha-Chlordane	µg/kg	**0.61 J**	**170**	**460**	11 U	**1.4 J**	5 U	5.4 U	5 U	20 U
SW8081B	beta-BHC	µg/kg	1.1 U	**0.51 J**	**1.2 J**	10 U	1.1 UJ	4.9 U	5.3 U	4.9 U	19 U
SW8081B	Chlorinated Camphene	µg/kg	34 U	31 U	32 U	320 U	33 UJ	150 U	160 U	150 U	600 U
SW8081B	Delta-Bhc	µg/kg	1.1 U	0.98 U	**2.3**	10 U	1.1 UJ	4.9 U	5.3 U	4.9 U	19 U
SW8081B	Dieldrin	µg/kg	1.5 U	**2.5**	140 U	14 U	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U
SW8081B	Endosulfan I	µg/kg	0.73 U	**13 J**	**37 J**	6.9 U	0.71 UJ	3.2 U	3.5 U	3.2 U	13 U
SW8081B	Endosulfan II	µg/kg	2.7 U	**2.7**	**11**	25 U	2.6 UJ	12 U	13 U	12 U	47 U
SW8081B	Endosulfan Sulfate	µg/kg	1.5 U	**2.7**	**9.7**	14 U	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U
SW8081B	Endrin	µg/kg	1.5 U	1.3 U	140 U	14 U	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U
SW8081B	Endrin Aldehyde	µg/kg	2.1 U	93 U	190 U	20 U	2 UJ	9.2 U	10 U	9.2 U	36 U
SW8081B	Endrin Ketone	µg/kg	2.2 U	98 U	210 U	21 U	2.1 UJ	9.7 U	11 U	9.7 U	38 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.73 U	33 U	69 U	6.9 U	0.71 UJ	3.2 U	3.5 U	3.2 U	13 U
SW8081B	gamma-Chlordane	µg/kg	**1**	**190**	**540**	6.9 U	**1.8 J**	**2 J**	3.5 U	3.2 U	13 U
SW8081B	Heptachlor	µg/kg	**1.1**	**27 J**	**72 J**	7.2 U	**1.2 J**	3.4 U	3.7 U	3.3 U	13 U
SW8081B	Heptachlor Epoxide	µg/kg	0.85 U	38 U	**5.2**	8.1 U	0.83 UJ	3.8 U	4.1 U	3.8 U	15 U
SW8081B	Methoxychlor	µg/kg	7.2 U	6.4 U	680 U	68 U	7 UJ	32 U	35 U	32 U	130 U
SW8082A	Aroclor 1016	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20
	Sample ID		NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)
	Sample Date		11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301	4102628621	4102639961
Method	Analyte	Units									
SW8082A	Aroclor 1232	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	51 U	2.3 U
SW8260D	1,1,2-Trichloroethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,1-Dichloroethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,1-Dichloroethene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	520 U	370 UJ	580 UJ	530 U	460 UJ	420 UJ	7.3 U	410 U	9.2 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,2-Dibromoethane	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	51 U	2.3 U
SW8260D	1,2-Dichlorobenzene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,2-Dichloroethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,2-Dichloropropane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,3-Dichlorobenzene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	1,4-Dichlorobenzene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	51 U	2.3 U
SW8260D	2-Butanone	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	**2.2 J**	200 U	4.6 U
SW8260D	2-Hexanone	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	4.6 U	200 U	5.7 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U	200 U	4.6 U
SW8260D	Acetone	µg/kg	1000 U	750 UJ	1200 UJ	1100 U	910 UJ	830 UJ	**24**	810 U	**25**
SW8260D	Benzene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Bromodichloromethane	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	51 U	2.3 U
SW8260D	Bromoform	µg/kg	520 U	370 UJ	580 UJ	530 U	460 UJ	420 UJ	7.3 U	410 U	9.2 U
SW8260D	Bromomethane	µg/kg	210 U	150 UJ	230 UJ	210 U	180 UJ	170 UJ	1.8 U	160 U	2.3 U
SW8260D	Carbon Disulfide	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	**2.1 J**	100 U	**1 J**
SW8260D	Carbon tetrachloride	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	1.8 U	200 U	2.3 U
SW8260D	Chlorobenzene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Chlorodibromomethane	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	0.92 U	200 U	1.1 U
SW8260D	Chloroethane	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U	200 U	4.6 U
SW8260D	Chloroform	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Chloromethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	0.92 U	51 U	1.1 U
SW8260D	Cyclohexane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Dichlorodifluoromethane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Ethylbenzene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	**24 J**	2.3 U
SW8260D	Freon 113	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Isopropylbenzene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	2.8 U	51 U	3.4 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20
	Sample ID		NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)
	Sample Date		11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301	4102628621	4102639961
Method	Analyte	Units									
SW8260D	Methyl Acetate	µg/kg	**500**	**2700 J-**	**670 J-**	**67 J**	**340 J**	210 UJ	3.7 U	**1700**	4.6 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Methylcyclohexane	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Methylene Chloride	µg/kg	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U	200 U	4.6 U
SW8260D	Styrene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U	**380**	2.3 U
SW8260D	Tetrachloroethene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	2.8 U	100 U	3.4 U
SW8260D	Toluene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	**1.6 J**
SW8260D	trans-1,2-Dichloroethene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	0.92 U	51 U	1.1 U
SW8260D	Trichloroethylene	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Trichlorofluoromethane	µg/kg	130 U	94 UJ	**81 J-**	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Vinyl Chloride	µg/kg	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U	100 U	2.3 U
SW8260D	Xylenes, Total	µg/kg	180 U	130 UJ	200 UJ	180 U	160 UJ	150 UJ	1.8 U	**160 J**	2.3 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**2.2**	15 U	**160**	**63**	**15 J**	**22**	**2**	**6**	**63**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**3 J**	29 U	**250**	**130**	**23 J**	**40**	**2.6 J**	**9.4**	**110**
SW8270E-SIM	Acenaphthene	µg/kg	**12**	**35**	**510**	**160**	**71 J**	**87**	**7.2**	**8.6**	**380**
SW8270E-SIM	Acenaphthylene	µg/kg	**1.8 J**	**12 J**	**37**	**4.9**	**3 J**	**2.6**	1.6 U	**1.5 J**	**5.5**
SW8270E-SIM	Anthracene	µg/kg	**31**	**83**	**950**	**290**	**160 J**	**170**	**25**	**21**	**750**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**100**	**310**	**1300**	**340**	**320 J**	**240**	**23**	**46**	**1100**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**81**	**270**	**1100**	**270**	**260 J**	**170**	**18**	**39**	**830**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**110**	**330**	**1500**	**330**	**320 J**	**210**	**22**	**51**	**1000**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**45**	**150**	**660**	**140**	**140 J**	**91**	**9.8**	**27**	**490**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**41**	**160**	**530**	**140**	**150 J**	**100**	**11**	**20**	**500**
SW8270E-SIM	Chrysene	µg/kg	**98**	**300**	**1200**	**330**	**290 J**	**210**	**22**	**45**	**950**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**14**	**43**	**190**	**48**	**46 J**	**32**	**2.6**	**6.9**	**140**
SW8270E-SIM	Fluoranthene	µg/kg	**190**	**570**	**3200**	**810**	**730 J**	**520**	**54**	**94**	**2700**
SW8270E-SIM	Fluorene	µg/kg	**11**	**30**	**430**	**170**	**71 J**	**96**	**9**	**9.5**	**420**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**52**	**170**	**750**	**160**	**160 J**	**110**	**13**	**27**	**560**
SW8270E-SIM	Naphthalene	µg/kg	**3.6 J**	**15 J**	**640**	**51**	**21 J**	**44**	**4.6**	**8.3**	**260**
SW8270E-SIM	Phenanthrene	µg/kg	**97**	**290**	**3600**	**860**	**570 J**	**570**	**63**	**80**	**2800**
SW8270E-SIM	Pyrene	µg/kg	**170**	**500**	**2500**	**550**	**630 J**	**450**	**46**	**86**	**2000**
SW8321B	2,4,5-T	µg/kg	0.54 UJ	0.51 UJ	**0.11 J-**	0.52 U	0.59 UJ	0.49 U	0.59 U	0.44 U	0.51 U
SW8321B	2,4-DB	µg/kg	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	2.9 UJ	2.4 U	3 U	2.2 U	2.5 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	**0.21 J-**	**0.1 J-**	0.57 UJ	0.52 U	**0.37 J**	0.49 U	0.59 U	0.44 U	0.51 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U	0.59 UJ	0.49 U	0.59 U	**0.13 J**	0.51 U
SW8321B	DALAPON	µg/kg	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	2.9 UJ	2.4 U	3 U	2.2 U	2.5 U
SW8321B	DICAMBA	µg/kg	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	**0.6 J**	2.4 U	3 U	**2.5**	2.5 U
SW8321B	MCPA	µg/kg	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U	0.29 UJ	0.24 U	0.3 U	0.22 U	0.25 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U	**0.15 J**	0.24 U	0.3 U	0.22 U	0.25 U
SW8321B	Pentachlorophenol	µg/kg	**0.77 J-**	**1.2 J-**	**11 J-**	**0.75**	**1.7 J**	**0.37**	0.3 U	**0.17 J**	**3.1**
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U	0.59 UJ	0.49 U	0.59 U	0.44 U	0.51 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

Location			NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28
Sample ID			NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026
Sample Date			02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026
Sample Type			N	N	N	N	FD	N	N	N	N
Lab Package			4102660751	4102678441	4102678441	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241
Method	Analyte	Units									
CARB435	Asbestos	%	0.25 U COC sample date 2/17/2026, Brown soil	0.25 U COC Sample Date 2/24/2026, Brownish-orange soil	0.25 U COC Sample Date 2/27/2026, Brownish-orange soil	0.25 U COC Sample Date 3/2/2026, Brown soil	0.25 U COC Sample Date 3/2/2026, Brown soil	0.25 U COC Sample Date 3/5/2026, Brown soil	NA	0.25 U COC sample date 3/14/2026, Brown Cementitious material	0.25 U COC sample date 3/20/2026
SW6020B	Antimony	mg/kg	**0.12 J**	**0.1 J**	**0.11 J-**	**0.13 J**	**0.13 J**	**0.14 J**	**0.11 J**	0.17 U	**0.09 J**
SW6020B	Arsenic	mg/kg	**3.1**	**3.2**	**2.8**	**4.7**	**5.1**	**4.8**	**8**	**7.1**	**6.7**
SW6020B	Beryllium	mg/kg	**0.56**	**0.051 J**	**0.52**	**0.71**	**0.72**	**0.59**	**0.37**	**0.27**	**0.32**
SW6020B	Cadmium	mg/kg	**0.07 J**	**0.064 J**	**0.062 J**	**0.056 J**	**0.064 J**	**0.062 J**	**0.049 J**	0.085 U	**0.041 J**
SW6020B	Chromium	mg/kg	**14**	**14**	**14**	**15**	**15**	**13**	**12**	**7**	**9.1**
SW6020B	Copper	mg/kg	**11**	**11**	**9.6**	**13**	**14**	**11**	**7.1**	**6.2**	**7.5**
SW6020B	Lead	mg/kg	**8**	**15**	**6.8 J-**	**9.6**	**9.9**	**8.6**	**4.6**	**3.9**	**5**
SW6020B	Nickel	mg/kg	**15**	**12**	**15**	**14**	**15**	**13**	**9.8**	**7.9**	**9.1**
SW6020B	Selenium	mg/kg	0.17 U	**0.1 J**	0.22 U	0.21 U	0.2 U	0.2 U	0.2 U	0.21 U	0.19 U
SW6020B	Silver	mg/kg	0.066 U	0.083 U	0.09 U	0.085 U	0.081 U	0.082 U	0.079 U	0.085 U	0.077 U
SW6020B	Thallium	mg/kg	**0.082 J**	**0.068 J**	**0.077 J-**	**0.095 J**	**0.097 J**	**0.087 J**	**0.068 J**	0.085 U	**0.052 J**
SW6020B	Zinc	mg/kg	**46**	**41**	**43**	**47**	**49**	**41**	**27 J**	**20 J**	**23 J**
SW7471B	Mercury	mg/kg	0.044 U	0.043 U	0.041 U	0.041 U	**0.022 J**	0.043 U	0.042 U	0.044 U	0.041 U
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	12 U	**65**	11 U	11 U	11 U	**7 J**	11 U	**5.6 J**	**6.1 J**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	**3.4**	**0.67 J**	**0.83 J**	**2.6 J**	10 UJ	1.4 U	0.92 U	**27**	0.72 U
SW8081B	4,4'-DDD	µg/kg	1.9 U	8.9 U	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.6 U
SW8081B	4,4'-DDE	µg/kg	1.6 U	7.8 U	1.6 U	1.5 U	1.5 U	**1.6 J**	1.5 U	1.5 U	1.4 U
SW8081B	4,4'-DDT	µg/kg	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U	**1.3 J**	1.3 U	1.3 U	1.2 U
SW8081B	Aldrin	µg/kg	0.85 U	4 U	0.8 U	0.78 U	0.77 U	0.77 U	0.78 U	0.79 U	0.74 U
SW8081B	Alpha-BHC	µg/kg	0.89 U	4.2 U	0.85 U	0.82 U	0.82 U	0.81 U	0.82 U	0.83 U	0.78 U
SW8081B	Alpha-Chlordane	µg/kg	1.1 U	**4.6 J**	1 U	1 U	0.99 U	0.99 U	0.99 U	1 U	0.94 U
SW8081B	beta-BHC	µg/kg	1.1 U	5 U	1 U	0.98 U	0.97 U	0.96 U	0.97 U	0.99 U	0.92 U
SW8081B	Chlorinated Camphene	µg/kg	33 U	160 U	31 U	30 U	30 U	30 U	30 U	31 U	29 U
SW8081B	Delta-Bhc	µg/kg	1.1 U	5 U	1 U	0.98 U	0.97 U	0.96 U	0.97 U	0.99 U	0.92 U
SW8081B	Dieldrin	µg/kg	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U
SW8081B	Endosulfan I	µg/kg	0.71 U	3.3 U	0.67 U	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U
SW8081B	Endosulfan II	µg/kg	2.6 U	12 U	2.5 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U
SW8081B	Endosulfan Sulfate	µg/kg	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U
SW8081B	Endrin	µg/kg	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U
SW8081B	Endrin Aldehyde	µg/kg	2 U	9.4 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U
SW8081B	Endrin Ketone	µg/kg	2.1 U	10 U	2 U	2 U	1.9 U	1.9 U	1.9 U	2 U	1.8 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.71 U	3.3 U	0.67 U	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U
SW8081B	gamma-Chlordane	µg/kg	0.71 U	**5.7**	0.67 U	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U
SW8081B	Heptachlor	µg/kg	0.73 U	3.4 U	0.69 U	0.67 U	0.66 U	0.66 U	0.67 U	0.68 U	0.64 U
SW8081B	Heptachlor Epoxide	µg/kg	0.82 U	3.9 U	0.78 U	0.76 U	0.75 U	0.75 U	0.75 U	0.77 U	0.72 U
SW8081B	Methoxychlor	µg/kg	6.9 U	33 U	6.6 U	6.4 U	6.3 U	6.3 U	6.4 U	6.5 U	6.1 U
SW8082A	Aroclor 1016	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1221	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

		Location	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28
		Sample ID	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026
		Sample Date	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026
		Sample Type	N	N	N	N	FD	N	N	N	N
		Lab Package	4102660751	4102678441	4102678441	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241
Method	Analyte	Units									
SW8082A	Aroclor 1232	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1242	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1248	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1254	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1260	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1262	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8082A	Aroclor 1268	µg/kg	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	11 U
SW8260D	1,1,1-Trichloroethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U
SW8260D	1,1,2-Trichloroethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,1-Dichloroethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,1-Dichloroethene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	8.4 U	6.8 U	8.1 U	11 U	8 U	12 U	8.2 U	8.4 U	560 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,2-Dibromoethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U
SW8260D	1,2-Dichlorobenzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,2-Dichloroethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,2-Dichloropropane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,3-Dichlorobenzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U
SW8260D	2-Butanone	µg/kg	**4 J**	**2.8 J**	4.1 U	**3.8 J**	**2.4 J**	6 U	**2.4 J**	**4 J**	280 U
SW8260D	2-Hexanone	µg/kg	5.2 U	4.3 U	5.1 U	6.8 U	5 U	**7.7 J**	5.1 U	5.3 U	280 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	4.2 U	3.4 U	4.1 U	5.5 U	4 U	6 U	4.1 U	4.2 U	280 U
SW8260D	Acetone	µg/kg	**37 J+**	**26**	**19 J**	**65 J**	**41 J**	**38**	**36 J+**	**42 J+**	1100 U
SW8260D	Benzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Bromodichloromethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U
SW8260D	Bromoform	µg/kg	8.4 U	6.8 U	8.1 U	11 U	8 U	12 U	8.2 U	8.4 U	560 U
SW8260D	Bromomethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	220 U
SW8260D	Carbon Disulfide	µg/kg	**1 J**	**1.9 J**	2 U	**1.3 J**	**1.5 J**	**2.3 J**	**1.5 J**	**1.1 J**	140 U
SW8260D	Carbon tetrachloride	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	280 U
SW8260D	Chlorobenzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Chlorodibromomethane	µg/kg	1 U	0.85 U	1 U	1.4 U	0.99 U	1.5 U	1 U	1.1 U	280 U
SW8260D	Chloroethane	µg/kg	4.2 U	3.4 U	4.1 U	5.5 U	4 U	6 U	4.1 U	4.2 U	280 U
SW8260D	Chloroform	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Chloromethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1 U	0.85 U	1 U	1.4 U	0.99 U	1.5 U	1 U	1.1 U	69 U
SW8260D	Cyclohexane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	**1.1 J**	140 U
SW8260D	Dichlorodifluoromethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Ethylbenzene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	**1.9 J**	69 U
SW8260D	Freon 113	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Isopropylbenzene	µg/kg	3.1 U	2.6 U	3 U	4.1 U	3 U	4.5 U	3.1 U	3.2 U	69 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

		Location	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28
		Sample ID	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026
		Sample Date	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026
		Sample Type	N	N	N	N	FD	N	N	N	N
		Lab Package	4102660751	4102678441	4102678441	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241
Method	Analyte	Units									
SW8260D	Methyl Acetate	µg/kg	4.2 U	3.4 U	4.1 U	**11 J**	4 U	6 U	4.1 U	4.2 U	280 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Methylcyclohexane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	**1.9 J**	2.1 U	**5.1 J**	140 U
SW8260D	Methylene Chloride	µg/kg	4.2 U	3.4 U	4.1 U	5.5 U	4 U	6 U	4.1 U	4.2 U	280 U
SW8260D	Styrene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U
SW8260D	Tetrachloroethene	µg/kg	3.1 U	2.6 U	3 U	4.1 U	3 U	4.5 U	3.1 U	3.2 U	140 U
SW8260D	Toluene	µg/kg	**1.1 J**	1.7 U	**1.3 J**	2.7 U	2 U	**1.6 J**	2.1 U	**1.5 J**	140 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	1 U	0.85 U	1 U	1.4 U	0.99 U	1.5 U	1 U	1.1 U	69 U
SW8260D	Trichloroethylene	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Trichlorofluoromethane	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Vinyl Chloride	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U
SW8260D	Xylenes, Total	µg/kg	2.1 U	1.7 U	2 U	2.7 U	2 U	3 U	2.1 U	**9.5 J**	190 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**7.8**	**22**	1.5 U	**1.1 J**	**1.6 J**	**1.4 J**	1.4 U	1.5 U	**1.2 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**13**	**36**	3 U	**1.5 J**	**2.6 J**	**2.3 J**	2.9 U	3 U	**1.9 J**
SW8270E-SIM	Acenaphthene	µg/kg	**36**	**100**	1.5 U	**2.8 J**	**5.7 J**	**1.3 J**	1.4 U	1.5 U	**2**
SW8270E-SIM	Acenaphthylene	µg/kg	**0.5 J**	**2.6**	1.5 U	**0.54 J**	**1.1 J**	**1 J**	1.4 U	1.5 U	1.4 U
SW8270E-SIM	Anthracene	µg/kg	**88**	**180**	1.5 U	**7.8 J**	**16 J**	**6.5**	**1.3 J**	**0.74 J**	**4.8**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**100**	**260**	**1.5 J**	**16 J**	**32 J**	**15**	**3.3**	**1.2 J**	**11**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**80**	**190**	**1.1 J**	**11 J**	**24 J**	**11**	**2.8**	**0.88 J**	**7.8**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**95**	**240**	**1.4 J**	**16 J**	**32 J**	**15**	**3.5**	**1 J**	**9.7**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**47**	**94**	1.5 U	**6.6 J**	**13 J**	**6.7**	**2**	1.5 U	**4.5**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**41**	**86**	1.5 U	**4.9 J**	**10 J**	**5.1**	**1.7 J**	1.5 U	**4.5**
SW8270E-SIM	Chrysene	µg/kg	**89**	**210**	**1.3 J**	**13 J**	**26 J**	**13**	**3**	**0.98 J**	**8.9**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**14**	**32**	1.5 U	**1.7 J**	**3.5 J**	**1.7 J**	**0.93 J**	1.5 U	**1.5 J**
SW8270E-SIM	Fluoranthene	µg/kg	**240**	**520**	**2.8**	**32 J**	**63 J**	**29**	**6.2**	**2**	**20**
SW8270E-SIM	Fluorene	µg/kg	**45**	**110**	1.5 U	**3.7 J**	**6.9 J**	**2.6**	1.4 U	**0.8 J**	**2.3**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**53**	**120**	1.5 U	**8 J**	**15 J**	**7.6**	**2.1**	1.5 U	**5.3**
SW8270E-SIM	Naphthalene	µg/kg	**35**	**31**	3 U	**1.7 J**	**2.8 J**	**1.7 J**	2.9 U	3 U	2.7 U
SW8270E-SIM	Phenanthrene	µg/kg	**280**	**610**	**2.3 J**	**31 J**	**60 J**	**20**	**4.2**	**1.9 J**	**14**
SW8270E-SIM	Pyrene	µg/kg	**200**	**420**	**2.4**	**28 J**	**54 J**	**30**	**5.4**	**2.5**	**18**
SW8321B	2,4,5-T	µg/kg	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U
SW8321B	2,4-DB	µg/kg	2.9 U	2.7 U	2.5 UJ	2.6 U	2.6 U	2.7 U	2.6 U	2.7 UJ	2.6 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.59 U	0.55 U	0.51 UJ	**0.12 J**	**0.12 J**	0.54 U	0.51 U	0.54 UJ	0.51 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U
SW8321B	DALAPON	µg/kg	2.9 U	2.7 U	2.5 UJ	2.6 U	2.6 U	2.7 U	2.6 U	2.7 UJ	2.6 U
SW8321B	DICAMBA	µg/kg	2.9 U	2.7 U	2.5 UJ	**0.61 J**	**0.47 J**	**0.4 J**	2.6 U	2.7 UJ	2.6 U
SW8321B	MCPA	µg/kg	0.29 U	0.27 U	0.25 UJ	0.26 U	0.26 U	0.27 U	0.26 U	0.27 UJ	0.26 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.29 U	0.27 U	0.25 UJ	0.26 U	0.26 U	0.27 U	0.26 U	0.27 UJ	0.26 U
SW8321B	Pentachlorophenol	µg/kg	0.29 U	**0.43**	0.25 UJ	**0.44 J**	**0.75 J**	**0.2 J**	0.26 U	0.27 UJ	0.26 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37
	Sample ID		NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326
	Sample Date		03/25/2026	04/02/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102723241	4102740301	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
CARB435	Asbestos	%	0.25 U COC sample date 3/20/2026	0.25 U COC sample date 4/2/2026	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil
SW6020B	Antimony	mg/kg	0.17 U	**0.12 J**	**0.12 J**	**0.33**	**0.18 J**	**0.12 J-**	**0.11 J**	**0.14 J**	**0.13 J**
SW6020B	Arsenic	mg/kg	**2.6**	**1.8**	**6.1**	**7.8**	**5.3**	**5.2**	**7.9**	**5.1**	**4.4**
SW6020B	Beryllium	mg/kg	**0.43**	**0.45**	**0.48**	**0.65**	**0.48**	**0.55**	**0.46**	**0.6**	**0.49**
SW6020B	Cadmium	mg/kg	0.086 U	**0.088 J**	**0.077 J**	**0.22**	**0.1**	**0.08 J**	**0.056 J**	**0.087 J**	**0.059 J**
SW6020B	Chromium	mg/kg	**14**	**13**	**13**	**21**	**16**	**15**	**13**	**17**	**13**
SW6020B	Copper	mg/kg	**17**	**12**	**11**	**21**	**12**	**13**	**10**	**15**	**12**
SW6020B	Lead	mg/kg	**6.8**	**9.3**	**22**	**190**	**47**	**11 J-**	**8.1**	**30**	**12**
SW6020B	Nickel	mg/kg	**17**	**12**	**12**	**17**	**12**	**15**	**12**	**15**	**12**
SW6020B	Selenium	mg/kg	0.22 U	**0.19 J**	**0.14 J**	**0.45**	**0.19 J**	**0.14 J**	**0.1 J**	**0.2 J**	**0.15 J**
SW6020B	Silver	mg/kg	0.086 U	0.092 U	0.086 U	**0.22**	**0.058 J**	0.078 U	0.084 U	0.082 U	0.082 U
SW6020B	Thallium	mg/kg	**0.059 J**	**0.14**	**0.077 J**	**0.12**	**0.081 J**	**0.11 J-**	**0.07 J**	**0.09 J**	**0.084 J**
SW6020B	Zinc	mg/kg	**50**	**43**	**36**	**83**	**41**	**43**	**35**	**45**	**36**
SW7471B	Mercury	mg/kg	0.044 U	**0.024 J**	**0.36**	**2.1**	**0.73 J-**	**0.068**	**0.059 J**	**0.38**	**0.5**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	11 U	12 U	11 U	**19**	**5.7 J**	11 U	11 U	**6.5 J**	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	1.1 U	**13**	1.4 U	1.1 U	0.92 U	1.2 U	1 U	1 U	0.94 U
SW8081B	4,4'-DDD	µg/kg	1.8 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
SW8081B	4,4'-DDE	µg/kg	1.6 U	1.7 U	1.5 U	1.5 U	1.5 U	**0.74 J**	1.5 U	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	1.4 U	1.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	0.83 U	0.87 U	0.77 U	0.78 U	0.76 U	0.76 U	0.76 U	0.77 U	0.78 U
SW8081B	Alpha-BHC	µg/kg	0.87 U	0.92 U	0.81 U	0.82 U	0.8 U	0.8 U	0.8 U	0.81 U	0.82 U
SW8081B	Alpha-Chlordane	µg/kg	1.1 U	1.1 U	0.98 U	1 U	0.96 U	0.97 U	0.97 U	**0.76 J**	0.99 U
SW8081B	beta-BHC	µg/kg	1 U	1.1 U	0.96 U	0.97 U	0.94 U	0.95 U	0.95 U	0.96 U	0.97 U
SW8081B	Chlorinated Camphene	µg/kg	32 U	34 U	30 U	30 U	29 U	30 U	29 U	30 U	30 U
SW8081B	Delta-Bhc	µg/kg	1 U	1.1 U	0.96 U	0.97 U	0.94 U	**3.8**	0.95 U	0.96 U	0.97 U
SW8081B	Dieldrin	µg/kg	1.4 U	1.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endosulfan I	µg/kg	0.69 U	0.73 U	0.64 U	0.65 U	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U
SW8081B	Endosulfan II	µg/kg	2.5 U	2.7 U	2.3 U	2.4 U	2.3 U	2.3 U	2.3 U	2.4 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	1.4 U	1.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin	µg/kg	1.4 U	1.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	2 U	2.1 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
SW8081B	Endrin Ketone	µg/kg	2.1 U	2.2 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.69 U	0.73 U	0.64 U	**1.1**	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U
SW8081B	gamma-Chlordane	µg/kg	0.69 U	0.73 U	0.64 U	0.65 U	**0.57 J**	0.63 U	0.63 U	**0.89**	**0.4 J**
SW8081B	Heptachlor	µg/kg	0.71 U	0.75 U	0.66 U	0.67 U	0.65 U	0.66 U	0.65 U	0.66 U	0.67 U
SW8081B	Heptachlor Epoxide	µg/kg	0.8 U	0.85 U	0.74 U	0.76 U	0.73 U	0.74 U	0.74 U	0.75 U	0.76 U
SW8081B	Methoxychlor	µg/kg	6.8 U	7.2 U	6.3 U	6.4 U	6.2 U	6.2 U	6.2 U	6.3 U	6.4 U
SW8082A	Aroclor 1016	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37
	Sample ID		NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326
	Sample Date		03/25/2026	04/02/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102723241	4102740301	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
SW8082A	Aroclor 1232	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	13 U	13 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,1,2-Trichloroethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,1-Dichloroethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,1-Dichloroethene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	9.2 U	490 UJ	8.6 U	8.5 U	8 U	8.5 U	8.6 U	9.2 U	11 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,2-Dibromoethane	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,2-Dichlorobenzene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,2-Dichloroethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,2-Dichloropropane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,3-Dichlorobenzene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	2-Butanone	µg/kg	4.6 U	240 UJ	4.3 U	4.3 U	**2.8 J**	4.3 U	4.3 U	4.6 U	5.6 U
SW8260D	2-Hexanone	µg/kg	5.8 U	240 UJ	5.4 U	5.3 U	5 U	5.3 U	5.4 U	5.7 U	7 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	4.6 U	240 UJ	4.3 U	4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U
SW8260D	Acetone	µg/kg	**50**	970 UJ	**27**	**18 J**	**36**	**21 J**	**28**	**12 J**	**45**
SW8260D	Benzene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Bromodichloromethane	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Bromoform	µg/kg	9.2 U	490 UJ	8.6 U	8.5 U	8 U	8.5 U	8.6 U	9.2 U	11 U
SW8260D	Bromomethane	µg/kg	2.3 U	190 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Carbon Disulfide	µg/kg	2.3 U	120 UJ	**1.9 J**	2.1 U	**1.3 J**	**1.2 J**	**0.99 J**	2.3 U	**1.3 J**
SW8260D	Carbon tetrachloride	µg/kg	2.3 U	240 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Chlorobenzene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Chlorodibromomethane	µg/kg	1.2 U	240 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U
SW8260D	Chloroethane	µg/kg	4.6 U	240 UJ	4.3 U	4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U
SW8260D	Chloroform	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Chloromethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1.2 U	61 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U
SW8260D	Cyclohexane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Dichlorodifluoromethane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Ethylbenzene	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Freon 113	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Isopropylbenzene	µg/kg	3.5 U	61 UJ	3.2 U	3.2 U	3 U	3.2 U	3.2 U	3.4 U	4.2 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37
	Sample ID		NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326
	Sample Date		03/25/2026	04/02/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	N	N
	Lab Package		4102723241	4102740301	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
SW8260D	Methyl Acetate	µg/kg	4.6 U	**72 J-**	4.3 U	4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Methylcyclohexane	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Methylene Chloride	µg/kg	**24**	240 UJ	4.3 U	4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U
SW8260D	Styrene	µg/kg	2.3 U	61 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Tetrachloroethene	µg/kg	3.5 U	**100 J-**	3.2 U	3.2 U	3 U	3.2 U	3.2 U	3.4 U	4.2 U
SW8260D	Toluene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	**1.3 J**	2.8 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	1.2 U	61 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U
SW8260D	Trichloroethylene	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Trichlorofluoromethane	µg/kg	2.3 UJ	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Vinyl Chloride	µg/kg	2.3 U	120 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8260D	Xylenes, Total	µg/kg	2.3 U	170 UJ	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	1.5 U	**4.3**	**0.9 J**	**31 J**	**1.3 J**	**6.1**	**0.75 J**	**4.1**	**2**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	3.1 U	**6.6**	2.8 UJ	**35 J**	**1.7 J**	**9.7**	2.8 U	**7.2**	**3.2 J**
SW8270E-SIM	Acenaphthene	µg/kg	1.5 U	1.6 U	**2.7 J+**	**160**	**3**	**31**	**3.9**	**23**	**8.4**
SW8270E-SIM	Acenaphthylene	µg/kg	1.5 U	**0.48 J**	**1.4 J**	**22**	**2.4**	**1.4 J**	**0.44 J**	**1.3 J**	**1.1 J**
SW8270E-SIM	Anthracene	µg/kg	1.5 U	1.6 U	**8.6 J+**	**330**	**8.7**	**57**	**9.4**	**54**	**16**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	1.5 U	**1.3 J**	**24 J**	**540**	**31**	**100**	**22**	**82**	**29**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1.5 U	**0.98 J**	**23 J**	**530**	**33**	**85**	**19**	**67**	**24**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1.5 U	**1.6 J**	**28 J**	**620**	**42**	**110**	**24**	**84**	**32**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1.5 U	1.6 U	**16 J+**	**310**	**24**	**50**	**12**	**38**	**16**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1.5 U	1.6 U	**9.7 J+**	**210**	**16**	**40**	**9.1**	**31**	**11**
SW8270E-SIM	Chrysene	µg/kg	1.5 U	**1.4 J**	**24 J**	**570**	**37**	**92**	**20**	**77**	**26**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1.5 U	1.6 U	**3.8 J+**	**78 J**	**7.5**	**17**	**3.8**	**13**	**4.8**
SW8270E-SIM	Fluoranthene	µg/kg	1.5 U	**1.9 J**	**40 J**	**1300**	**57**	**210**	**41**	**160**	**54**
SW8270E-SIM	Fluorene	µg/kg	1.5 U	**1.1 J**	**3.2 J+**	**140 J**	**3.1**	**31**	**3.7**	**27**	**9**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1.5 U	1.6 U	**18 J**	**300**	**25**	**59**	**14**	**44**	**18**
SW8270E-SIM	Naphthalene	µg/kg	3.1 U	**2.1 J**	**2.2 J-**	**36 J**	**2.1 J**	**6.3**	2.8 U	**6.6**	**2.7 J**
SW8270E-SIM	Phenanthrene	µg/kg	2.3 U	**3**	**30 J**	**1300**	**33**	**180**	**31**	**150**	**52**
SW8270E-SIM	Pyrene	µg/kg	1.5 U	**1.6 J**	**42 J**	**1300**	**53**	**170**	**36**	**130**	**46**
SW8321B	2,4,5-T	µg/kg	0.58 U	0.52 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
SW8321B	2,4-DB	µg/kg	2.9 U	2.6 U	0.47 U	0.5 U	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.58 U	0.52 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.58 U	0.52 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
SW8321B	DALAPON	µg/kg	2.9 U	2.6 UJ	0.24 U	0.25 U	0.24 U	0.23 U	0.26 U	0.25 U	0.23 U
SW8321B	DICAMBA	µg/kg	2.9 U	2.6 U	0.47 U	0.5 U	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U
SW8321B	MCPA	µg/kg	0.29 U	0.26 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.29 U	0.26 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U
SW8321B	Pentachlorophenol	µg/kg	0.29 U	0.26 U	0.12 U	0.12 U	0.12 U	**0.095 J**	0.13 U	**0.15**	0.12 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.58 U	0.52 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
	Sample ID		NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
	Sample Date		04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	FD
	Lab Package		4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units								
CARB435	Asbestos	%	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil
SW6020B	Antimony	mg/kg	0.15 U	**0.36**	**0.099 J**	**0.11 J**	**0.16 J**	**0.14 J**	**0.13 J**	**0.086 J**
SW6020B	Arsenic	mg/kg	**3**	**9.4**	**5.6**	**4.6**	**5.5**	**4.2**	**3.5**	**2.8**
SW6020B	Beryllium	mg/kg	**0.27**	**0.79**	**0.42**	**0.57**	**0.61**	**0.61**	**0.5**	**0.43**
SW6020B	Cadmium	mg/kg	0.077 U	**0.26**	**0.056 J**	**0.072 J**	**0.11**	**0.14**	**0.071 J**	**0.076 J**
SW6020B	Chromium	mg/kg	**20**	**25**	**14**	**15**	**18**	**18**	**12**	**11**
SW6020B	Copper	mg/kg	**5.1**	**23**	**8.9**	**14**	**17**	**14**	**11**	**9.9**
SW6020B	Lead	mg/kg	**5.7**	**230**	**14**	**13**	**46**	**49**	**11**	**9**
SW6020B	Nickel	mg/kg	**7.2**	**20**	**11**	**14**	**16**	**15**	**13**	**11**
SW6020B	Selenium	mg/kg	0.19 U	**0.46**	**0.12 J**	**0.13 J**	**0.22 J**	**0.23 J**	**0.13 J**	**0.16 J**
SW6020B	Silver	mg/kg	0.077 U	**0.3**	0.081 U	0.086 U	**0.048 J**	**0.11**	0.082 U	0.084 U
SW6020B	Thallium	mg/kg	0.077 U	**0.13**	**0.074 J**	**0.081 J**	**0.099 J**	**0.1 J**	**0.089 J**	**0.069 J**
SW6020B	Zinc	mg/kg	**19 J**	**100**	**32**	**43**	**56**	**55**	**36**	**33**
SW7471B	Mercury	mg/kg	**0.088**	**2.3**	**0.39**	**0.093**	**0.39**	**1**	**0.12**	0.044 U
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**11 J**	**26**	11 U	**23**	11 U	**16**	11 U	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	4.2 U	4.4 U	0.97 U	1.2 U	1.4 U	1.4 U	0.98 U	1 U
SW8081B	4,4'-DDD	µg/kg	1.7 U	1.8 U	1.7 U	1.8 U	1.7 U	3.6 U	1.7 U	1.8 U
SW8081B	4,4'-DDE	µg/kg	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	**11**	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	**3.9 J**	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	0.76 U	0.79 U	0.76 U	0.79 U	0.78 U	1.6 U	0.78 U	0.79 U
SW8081B	Alpha-BHC	µg/kg	0.8 U	0.83 U	0.8 U	0.83 U	0.82 U	1.7 U	0.82 U	0.84 U
SW8081B	Alpha-Chlordane	µg/kg	0.97 U	1 U	0.97 U	**1.5**	**1.1**	**3.4**	1 U	1 U
SW8081B	beta-BHC	µg/kg	0.95 U	0.98 U	0.95 U	0.99 U	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Chlorinated Camphene	µg/kg	30 U	31 U	30 U	31 U	30 U	64 U	30 U	31 U
SW8081B	Delta-Bhc	µg/kg	0.95 U	0.98 U	0.95 U	0.99 U	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Dieldrin	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.7 U	1.3 U	**0.39 J**
SW8081B	Endosulfan I	µg/kg	0.64 U	0.66 U	0.63 U	0.66 U	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	Endosulfan II	µg/kg	2.3 U	2.4 U	2.3 U	2.4 U	2.4 U	5 U	2.4 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.7 U	1.3 U	1.3 U
SW8081B	Endrin	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.7 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U	3.9 U	1.8 U	1.9 U
SW8081B	Endrin Ketone	µg/kg	1.9 U	2 U	1.9 U	2 U	1.9 U	4.1 U	2 U	2 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.64 U	**2**	0.63 U	**0.64 J**	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	gamma-Chlordane	µg/kg	**0.34 J**	0.66 U	**0.3 J**	**1.8**	**1.3**	**3.8**	0.65 U	0.66 U
SW8081B	Heptachlor	µg/kg	0.66 U	0.68 U	0.66 U	0.68 U	0.67 U	1.4 U	0.67 U	0.68 U
SW8081B	Heptachlor Epoxide	µg/kg	0.74 U	0.77 U	0.74 U	0.77 U	0.76 U	1.6 U	0.76 U	0.77 U
SW8081B	Methoxychlor	µg/kg	6.2 U	6.5 U	6.2 U	6.5 U	6.4 U	13 U	6.4 U	6.5 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
	Sample ID		NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
	Sample Date		04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	FD
	Lab Package		4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units								
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	12 U	12 U	12 U	25 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,1,2-Trichloroethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	8.5 U	480 UJ	8.6 U	10 U	8.3 U	560 UJ	11 U	9.1 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dibromoethane	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichlorobenzene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloroethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloropropane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,3-Dichlorobenzene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	2-Butanone	µg/kg	4.3 U	240 UJ	4.3 U	**2.6 J**	**2.9 J**	280 UJ	5.4 U	4.6 U
SW8260D	2-Hexanone	µg/kg	5.3 U	240 UJ	5.4 U	6.3 U	5.2 U	280 UJ	6.7 U	5.7 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	4.3 U	240 UJ	4.3 U	5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Acetone	µg/kg	**20 J**	960 UJ	**23 J**	**47**	**49**	1100 UJ	**25 J**	**21 J**
SW8260D	Benzene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Bromodichloromethane	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Bromoform	µg/kg	8.5 U	480 UJ	8.6 U	10 U	8.3 U	560 UJ	11 U	9.1 U
SW8260D	Bromomethane	µg/kg	2.1 U	190 UJ	2.1 U	2.5 U	2.1 U	230 UJ	2.7 U	2.3 U
SW8260D	Carbon Disulfide	µg/kg	**1.7 J**	120 UJ	**0.87 J**	**1.1 J**	**1.2 J**	140 UJ	2.7 U	2.3 U
SW8260D	Carbon tetrachloride	µg/kg	2.1 U	240 UJ	2.1 U	2.5 U	2.1 U	280 UJ	2.7 U	2.3 U
SW8260D	Chlorobenzene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chlorodibromomethane	µg/kg	1.1 U	240 UJ	1.1 U	1.3 U	1 U	280 UJ	1.3 U	1.1 U
SW8260D	Chloroethane	µg/kg	4.3 U	240 UJ	4.3 U	5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Chloroform	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chloromethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1.1 U	60 UJ	1.1 U	1.3 U	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Cyclohexane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Dichlorodifluoromethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Ethylbenzene	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Freon 113	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Isopropylbenzene	µg/kg	3.2 U	60 UJ	3.2 U	3.8 U	3.1 U	70 UJ	4 U	3.4 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

	Location		NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
	Sample ID		NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
	Sample Date		04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
	Sample Type		N	N	N	N	N	N	N	FD
	Lab Package		4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units								
SW8260D	Methyl Acetate	µg/kg	4.3 U	**150 J-**	4.3 U	5.1 U	**2.4 J**	**900 J-**	5.4 U	4.6 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylcyclohexane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylene Chloride	µg/kg	4.3 U	240 UJ	4.3 U	5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Styrene	µg/kg	2.1 U	60 UJ	2.1 U	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Tetrachloroethene	µg/kg	3.2 U	120 UJ	3.2 U	3.8 U	3.1 U	140 UJ	4 U	3.4 U
SW8260D	Toluene	µg/kg	**1.1 J**	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	trans-1,3-Dichloropropene	µg/kg	1.1 U	60 UJ	1.1 U	1.3 U	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Trichloroethylene	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Trichlorofluoromethane	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Vinyl Chloride	µg/kg	2.1 U	120 UJ	2.1 U	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Xylenes, Total	µg/kg	2.1 U	170 UJ	2.1 U	2.5 U	2.1 U	200 UJ	2.7 U	2.3 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**7**	**46**	**3.4**	**8.9**	**2.3**	**4**	**1.1 J**	**1.4 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**9.9**	**43**	**5.5**	**12**	**3.5 J**	**5.5**	**1.7 J**	**2 J**
SW8270E-SIM	Acenaphthene	µg/kg	**31**	**100**	**13**	**39**	**9.3**	**19**	**1.7 J**	**2**
SW8270E-SIM	Acenaphthylene	µg/kg	**1.5 J**	**69**	**0.99 J**	**1.3 J**	**1.4 J**	**3.2**	**0.7 J**	**0.81 J**
SW8270E-SIM	Anthracene	µg/kg	**62**	**350**	**28**	**88**	**21**	**50**	**4.5**	**4.8**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**110**	**940**	**59**	**170**	**52**	**130**	**14**	**14**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**86**	**890**	**46**	**140**	**45**	**120**	**13**	**12**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**110**	**1100**	**61**	**170**	**57**	**140**	**17**	**16**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**51**	**560**	**31**	**84**	**30**	**75**	**9.1**	**9.3**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**43**	**310**	**23**	**72**	**22**	**59**	**6.6**	**5.9**
SW8270E-SIM	Chrysene	µg/kg	**96**	**990**	**53**	**160**	**50**	**130**	**14**	**14**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**17**	**130**	**9.1**	**28**	**9.4**	**23**	**2.5**	**2.9**
SW8270E-SIM	Fluoranthene	µg/kg	**210**	**1900**	**130**	**340**	**97**	**250**	**24**	**24**
SW8270E-SIM	Fluorene	µg/kg	**33**	**110**	**14**	**39**	**9.8**	**18**	**1.8**	**2**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**58**	**580**	**34**	**97**	**33**	**82**	**9.9**	**10**
SW8270E-SIM	Naphthalene	µg/kg	**6.1**	**50**	**2.8 J**	**12**	**6.8**	**9.4**	**22 J**	**7.7 J**
SW8270E-SIM	Phenanthrene	µg/kg	**190**	**1500**	**120**	**270**	**72**	**180**	**15**	**17**
SW8270E-SIM	Pyrene	µg/kg	**170**	**1900**	**100**	**280**	**85**	**210**	**22**	**22**
SW8321B	2,4,5-T	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DB	µg/kg	0.49 U	0.45 U	0.46 U	0.54 U	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	DALAPON	µg/kg	0.24 U	0.23 U	0.23 U	0.27 U	0.22 U	0.28 UJ	0.24 U	0.24 U
SW8321B	DICAMBA	µg/kg	0.49 U	0.45 U	0.46 U	0.54 U	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	MCPA	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	Pentachlorophenol	µg/kg	**0.2**	0.11 U	**0.1 J**	**0.26**	**0.095 J**	**0.23**	0.12 U	0.12 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.12 U	0.11 U	0.11 U	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U

Table 1. Baseline, Haul Road, and Stockpile Samples
Validated Analytical Results in Soil
EAPO Stockpile

Notes:

Table 1 includes Level 2A validated data

Bold formatting indicates the result was detected above the laboratory method detection limit.

Two stockpile samples, NPS-BG-14-102825 (NPS-SP-01) and NPS-BG-15-102825 (NPS-SP-02), were inadvertently not collected for asbestos and one sample, NPS BG 39-030926 (NPS-SP-26), was compromised with water contamination during shipment and not analyzed for asbestos.

Pesticide results for NPS-BG-08-102825 (NPS-BG-05), NPS-BG-02-102825 (NPS-HR-02), and NPS-BG-14-102825 (NPS-SP-01) were rejected due to low surrogate, matrix spike, and/or matrix spike duplicate recoveries.

Herbicide results for samples NPS-BG-10-102825 (NPS-BG-07), NPS BG 11 102825 (NPS-BG-08), and NPS-BG-12-102825 (NPS-BG-09) were rejected due to low surrogate recoveries.

mg/kg = milligram(s) per kilogram

µg/kg = microgram(s) per kilogram

ID = identifier

N = Normal sample

FD = Field duplicate

Qualifiers:

J = The result is an estimated quantity

J- = The result is an estimated quantity, but may be biased low

J+ = The result is an estimatedquantity , but may be biased high

U = The analyte was not detected

UJ = The analyte was not detected; the quantitation limit is estimated due to QC exceedance

R = The analyte was not detected; the result was rejected (not usable) due to QC exceedance

EX = The result was excluded (not usable) due to reanalysis

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
CARB435	Asbestos	%		0.25 U COC sample date 11/8/2025, Gray/cream soil	0.25 U COC sample date 11/8/2025, Gray/tan soil	0.25 U COC sample date 11/8/2025, Beige/light-tan soil
SW6020B	Antimony	mg/kg	0.248	**0.15 J**	**0.2**	**0.43**
SW6020B	Arsenic	mg/kg	0.25	**2.1 J**	**3.7 J**	**3.8**
SW6020B	Beryllium	mg/kg	2.42	**0.75**	**0.58**	**0.57**
SW6020B	Cadmium	mg/kg	0.27	**0.061 J**	**0.068 J**	**0.096 J**
SW6020B	Chromium	mg/kg	0.34	**24**	**34**	**35**
SW6020B	Copper	mg/kg	14	**27**	**22**	**23**
SW6020B	Lead	mg/kg	0.94	**11**	**10**	**21**
SW6020B	Nickel	mg/kg	10	**19**	**15**	**16**
SW6020B	Selenium	mg/kg	0.331	**0.22 J**	**0.19 J**	**0.26 J**
SW6020B	Silver	mg/kg	2	**0.046 J**	**0.039 J**	**0.068 J**
SW6020B	Thallium	mg/kg	0.027	**0.056 J**	**0.04 J**	**0.072 J**
SW6020B	Zinc	mg/kg	6.6	**35**	**35**	**57**
SW7471B	Mercury	mg/kg	0.013	**0.071 J**	**0.031 J**	**0.058 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		**65**	**89**	**53**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		4.1 U	4.5 U	4.5 U
SW8081B	4,4'-DDD	µg/kg	2	8.7 U	8.6 U	17 U
SW8081B	4,4'-DDE	µg/kg	2	7.6 U	7.5 U	15 U
SW8081B	4,4'-DDT	µg/kg	2	6.5 U	6.4 U	13 U
SW8081B	Aldrin	µg/kg	3.3	3.9 U	3.9 U	7.8 U

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
SW8081B	Alpha-BHC	µg/kg	70	4.1 U	4.1 U	8.3 U
SW8081B	Alpha-Chlordane	µg/kg	270	**4.7 J**	**9.3 J**	**8 J**
SW8081B	beta-BHC	µg/kg	4	4.9 U	4.8 U	9.8 U
SW8081B	Chlorinated Camphene	µg/kg		150 U	150 U	300 U
SW8081B	Delta-Bhc	µg/kg	70	4.9 U	4.8 U	9.8 U
SW8081B	Dieldrin	µg/kg	4.5	6.5 U	6.4 U	13 U
SW8081B	Endosulfan I	µg/kg	560	3.2 U	3.2 U	6.5 U
SW8081B	Endosulfan II	µg/kg	560	12 U	12 U	24 U
SW8081B	Endosulfan Sulfate	µg/kg	560	6.5 U	6.4 U	13 U
SW8081B	Endrin	µg/kg	1.4	6.5 U	6.4 U	13 U
SW8081B	Endrin Aldehyde	µg/kg		9.2 U	9.1 U	19 U
SW8081B	Endrin Ketone	µg/kg		9.7 U	9.6 U	20 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5	3.2 U	**2.1 J**	6.5 U
SW8081B	gamma-Chlordane	µg/kg	2200	**6.9 J**	**12 J**	**12**
SW8081B	Heptachlor	µg/kg	59	**2.5 J**	**5.6 J**	**6.9 J**
SW8081B	Heptachlor Epoxide	µg/kg		3.8 U	3.7 U	7.6 U
SW8081B	Methoxychlor	µg/kg	5100	32 U	32 U	64 U
SW8082A	Aroclor 1016	µg/kg	1100	12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg		12 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg		12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	12 U	12 U	12 U

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
SW8082A	Aroclor 1248	µg/kg	7.3	12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	**11 J**	**22 J**	**30**
SW8082A	Aroclor 1260	µg/kg	880	12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg		12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg		12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	120 U	140 UJ	150 UJ
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		61 U	70 UJ	74 UJ
SW8260D	1,1,2-Trichloroethane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	1,1-Dichloroethane	µg/kg	210000	120 U	140 UJ	150 UJ
SW8260D	1,1-Dichloroethene	µg/kg	11000	120 U	140 UJ	150 UJ
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	490 U	560 UJ	590 UJ
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	1,2-Dibromoethane	µg/kg		61 U	70 UJ	74 UJ
SW8260D	1,2-Dichlorobenzene	µg/kg	920	120 U	140 UJ	150 UJ
SW8260D	1,2-Dichloroethane	µg/kg	850	120 U	140 UJ	150 UJ
SW8260D	1,2-Dichloropropane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	1,3-Dichlorobenzene	µg/kg	740	120 U	140 UJ	150 UJ
SW8260D	1,4-Dichlorobenzene	µg/kg	890	61 U	70 UJ	74 UJ
SW8260D	2-Butanone	µg/kg	350000	240 U	280 UJ	300 UJ
SW8260D	2-Hexanone	µg/kg	360	240 U	280 UJ	300 UJ
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	240 U	280 UJ	300 UJ
SW8260D	Acetone	µg/kg	1200	970 U	1100 UJ	1200 UJ

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
SW8260D	Benzene	µg/kg	24000	120 U	140 UJ	150 UJ
SW8260D	Bromodichloromethane	µg/kg		61 U	70 UJ	74 UJ
SW8260D	Bromoform	µg/kg		490 U	560 UJ	590 UJ
SW8260D	Bromomethane	µg/kg		190 U	230 UJ	240 UJ
SW8260D	Carbon Disulfide	µg/kg	810	120 U	140 UJ	150 UJ
SW8260D	Carbon tetrachloride	µg/kg	58600	240 U	280 UJ	300 UJ
SW8260D	Chlorobenzene	µg/kg	2400	120 U	140 UJ	150 UJ
SW8260D	Chlorodibromomethane	µg/kg		240 U	280 UJ	300 UJ
SW8260D	Chloroethane	µg/kg		240 U	280 UJ	300 UJ
SW8260D	Chloroform	µg/kg	8000	120 U	140 UJ	150 UJ
SW8260D	Chloromethane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	120 U	140 UJ	150 UJ
SW8260D	cis-1,3-Dichloropropene	µg/kg		61 U	70 UJ	74 UJ
SW8260D	Cyclohexane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	Dichlorodifluoromethane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	Ethylbenzene	µg/kg		61 U	70 UJ	74 UJ
SW8260D	Freon 113	µg/kg		120 U	140 UJ	150 UJ
SW8260D	Isopropylbenzene	µg/kg		61 U	70 UJ	74 UJ
SW8260D	Methyl Acetate	µg/kg		**1600**	**1800 J-**	**540 J-**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg		120 U	140 UJ	150 UJ
SW8260D	Methylcyclohexane	µg/kg		120 U	140 UJ	150 UJ
SW8260D	Methylene Chloride	µg/kg	2600	240 U	280 UJ	300 UJ

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
SW8260D	Styrene	µg/kg	1200	**86 J**	70 UJ	74 UJ
SW8260D	Tetrachloroethene	µg/kg	180	120 U	140 UJ	150 UJ
SW8260D	Toluene	µg/kg	23000	120 U	140 UJ	150 UJ
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600	120 U	140 UJ	150 UJ
SW8260D	trans-1,3-Dichloropropene	µg/kg		61 U	70 UJ	74 UJ
SW8260D	Trichloroethylene	µg/kg	1387	120 U	140 UJ	150 UJ
SW8260D	Trichlorofluoromethane	µg/kg	52000	120 U	140 UJ	150 UJ
SW8260D	Vinyl Chloride	µg/kg	120	120 U	140 UJ	150 UJ
SW8260D	Xylenes, Total	µg/kg	1400	170 U	200 UJ	210 UJ
SW8270E-SIM	1-Methylnaphthalene	µg/kg		**50 J**	**15 J+**	**23**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000	**99 J**	**24 J+**	**33**
SW8270E-SIM	Acenaphthene	µg/kg	250	**800 J**	**91 J**	**71**
SW8270E-SIM	Acenaphthylene	µg/kg	29000	**7.6 J**	**6.3 J**	**9.6**
SW8270E-SIM	Anthracene	µg/kg	6800	**660 J**	**100 J**	**110**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730	**1300 J**	**180 J**	**150**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100	**1000 J**	**140 J**	**120**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100	**1300 J**	**190 J**	**150**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100	**780 J**	**100 J**	**89**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100	**470 J**	**68 J**	**53**
SW8270E-SIM	Chrysene	µg/kg	1100	**1100 J**	**170 J**	**140**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100	**210 J**	**28 J**	**25**
SW8270E-SIM	Fluoranthene	µg/kg	1100	**2900 J+**	**470 J**	**430**

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
			Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-FD	NPS-BG-03-102825 (NPS-HR-03)
			Sample Date	10/28/2025	10/28/2025	10/28/2025
			Sample Type	N	FD	N
			Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	Eco_ESV_Min			
SW8270E-SIM	Fluorene	µg/kg	3700	**340 J**	**52 J**	**58**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100	**960 J**	**120 J**	**98**
SW8270E-SIM	Naphthalene	µg/kg	1000	**500 J**	**51 J+**	**29**
SW8270E-SIM	Phenanthrene	µg/kg	5500	**2500 J+**	**390 J**	**400**
SW8270E-SIM	Pyrene	µg/kg	1100	**2400 J+**	**330 J**	**270**
SW8321B	2,4,5-T	µg/kg		0.52 U	**0.31 J**	0.53 U
SW8321B	2,4-DB	µg/kg		**0.9 J**	2.7 U	2.6 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		**3.1**	**4.1**	**5.8**
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg		0.52 U	0.53 U	0.53 U
SW8321B	DALAPON	µg/kg		2.6 U	2.7 U	2.6 U
SW8321B	DICAMBA	µg/kg		2.6 U	2.7 U	**1.3 J**
SW8321B	MCPA	µg/kg		**0.67**	0.27 U	**1.7**
SW8321B	MCPP (MECOPROP)	µg/kg		**1.9 J**	**1.2 J**	**3.2**
SW8321B	Pentachlorophenol	µg/kg	360	**12 J**	**8.2 J**	**12**
SW8321B	Silvex (2,4,5-TP)	µg/kg	110	**0.83**	0.53 U	0.53 U

Table 2. Haul Road Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

Notes:

Table 2 includes Level 2A validated data

Bold formatting indicates the result was detected above the laboratory method detection limit.

mg/kg = milligram(s) per kilogram
µg/kg = microgram(s) per kilogram
COC = constituent of concern
EPA U.S. Environmental Protection Agenc
ID = identifier
N = Normal sample
FD = Field duplicate

Detected results exceeding screening levels are formatted as follows

Eco_ESV_Min

-Eco_ESV_Min is the lowest value for each compound from the following value of the following screening levels

NPS SLERA Plant invertebrate
NPS BERA Plant
NPS BERA invertebrate
NPS SLERA Mammal Bird
NPS BERA Mammal
NPS BERA Bird

Qualifiers:

J = The result is an estimated quantity
J- = The result is an estimated quantity, but may be biased low
J+ = The result is an estimated quantity, but may be biased high
U = The analyte was not detected
UJ = The analyte was not detected; the quantitation limit is estimated due to QC exceedance
R = The analyte was not detected; the result was rejected (not usable) due to QC exceedance
EX = The result was excluded (not usable) due to reanalysis

Table 3. Haul Road Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

							Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
							Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-	NPS-BG-03-102825 (NPS-HR-03)
							Sample Date	10/28/2025	10/28/2025	10/28/2025
							Sample Type	N	FD	N
							Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)				
CARB435	Asbestos	%						0.25 U COC sample date 11/8/2025, Gray/cream soil	0.25 U COC sample date 11/8/2025, Gray/tan soil	0.25 U COC sample date 11/8/2025, Beige/light-tan soil
SW6020B	Antimony	mg/kg		31	0.271	0.352		**0.15 J**	**0.2**	**0.43**
SW6020B	Arsenic	mg/kg	0.68	35	0.292	0.00151		**2.1 J**	**3.7 J**	**3.8**
SW6020B	Beryllium	mg/kg	1600	160	3.16	19.5		**0.75**	**0.58**	**0.57**
SW6020B	Cadmium	mg/kg	2100	7.1	0.376	0.139		**0.061 J**	**0.068 J**	**0.096 J**
SW6020B	Chromium	mg/kg			180000			**24**	**34**	**35**
SW6020B	Copper	mg/kg		3100	45.8	28.1		**27**	**22**	**23**
SW6020B	Lead	mg/kg		200	9			**11**	**10**	**21**
SW6020B	Nickel	mg/kg	15000	1400		25.6		**19**	**15**	**16**
SW6020B	Selenium	mg/kg		390	0.26	0.519		**0.22 J**	**0.19 J**	**0.26 J**
SW6020B	Silver	mg/kg		390		0.799		**0.046 J**	**0.039 J**	**0.068 J**
SW6020B	Thallium	mg/kg		0.78	0.142	0.0142		**0.056 J**	**0.04 J**	**0.072 J**
SW6020B	Zinc	mg/kg		23000		373		**35**	**35**	**57**
SW7471B	Mercury	mg/kg		7.1	0.104	0.0327		**0.071 J**	**0.031 J**	**0.058 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg						**65**	**89**	**53**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg						4.1 U	4.5 U	4.5 U
SW8081B	4,4'-DDD	µg/kg	2300	32000		7.46		8.7 U	8.6 U	17 U
SW8081B	4,4'-DDE	µg/kg	2000	39000		10.9		7.6 U	7.5 U	15 U
SW8081B	4,4'-DDT	µg/kg	1900	37000		77.3		6.5 U	6.4 U	13 U
SW8081B	Aldrin	µg/kg	39	2300		0.151		3.9 U	3.9 U	7.8 U
SW8081B	Alpha-BHC	µg/kg	86	57000		0.0421		4.1 U	4.1 U	8.3 U
SW8081B	Alpha-Chlordane	µg/kg		36000		487		**4.7 J**	**9.3 J**	**8 J**
SW8081B	beta-BHC	µg/kg	300			0.147		4.9 U	4.8 U	9.8 U
SW8081B	Chlorinated Camphene	µg/kg	490	5700	464	10.9		150 U	150 U	300 U
SW8081B	Delta-Bhc	µg/kg		3.8		0.00424		4.9 U	4.8 U	9.8 U
SW8081B	Dieldrin	µg/kg	34	3200		0.0708		6.5 U	6.4 U	13 U
SW8081B	Endosulfan I	µg/kg						3.2 U	3.2 U	6.5 U
SW8081B	Endosulfan II	µg/kg						12 U	12 U	24 U
SW8081B	Endosulfan Sulfate	µg/kg		380000		2110		6.5 U	6.4 U	13 U
SW8081B	Endrin	µg/kg		19000	80.8	92.2		6.5 U	6.4 U	13 U
SW8081B	Endrin Aldehyde	µg/kg						9.2 U	9.1 U	19 U
SW8081B	Endrin Ketone	µg/kg						9.7 U	9.6 U	20 U
SW8081B	gamma-BHC (Lindane)	µg/kg	570	57	1.16	0.0565		3.2 U	**2.1 J**	6.5 U
SW8081B	gamma-Chlordane	µg/kg						**6.9 J**	**12 J**	**12**

Table 3. Haul Road Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

							Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
							Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-	NPS-BG-03-102825 (NPS-HR-03)
							Sample Date	10/28/2025	10/28/2025	10/28/2025
							Sample Type	N	FD	N
							Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)				
SW8081B	Heptachlor	µg/kg	130	7800	33.1	0.115		**2.5 J**	**5.6 J**	**6.9 J**
SW8081B	Heptachlor Epoxide	µg/kg	70	1000	4.08	0.0284		3.8 U	3.7 U	7.6 U
SW8081B	Methoxychlor	µg/kg		320000	2160	2000		32 U	32 U	64 U
SW8082A	Aroclor 1016	µg/kg	6600	4100		21.4		12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	200			0.08		12 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg	170			0.08		12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	230			1.23		12 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	230			1.2		12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	240	1200		2.05		**11 J**	**22 J**	**30**
SW8082A	Aroclor 1260	µg/kg	240			5.49		12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg						12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg						12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg		8100000	70.1	2810		120 U	140 UJ	150 UJ
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	600	1600000		0.0296		61 U	70 UJ	74 UJ
SW8260D	1,1,2-Trichloroethane	µg/kg	1100	1500	1.62	0.0893		120 U	140 UJ	150 UJ
SW8260D	1,1-Dichloroethane	µg/kg	3600	16000000		0.782		120 U	140 UJ	150 UJ
SW8260D	1,1-Dichloroethene	µg/kg		4800	2.51	2.94		120 U	140 UJ	150 UJ
SW8260D	1,2,4-Trichlorobenzene	µg/kg	24000	58000	204	3.37		490 U	560 UJ	590 UJ
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	5.3	4700	0.0864	0.000144		120 U	140 UJ	150 UJ
SW8260D	1,2-Dibromoethane	µg/kg	36	73000	0.0141	0.0021		61 U	70 UJ	74 UJ
SW8260D	1,2-Dichlorobenzene	µg/kg		1800000	584	295		120 U	140 UJ	150 UJ
SW8260D	1,2-Dichloroethane	µg/kg	460	31000	1.42	0.0484		120 U	140 UJ	150 UJ
SW8260D	1,2-Dichloropropane	µg/kg	2500	16000	1.66	0.282		120 U	140 UJ	150 UJ
SW8260D	1,3-Dichlorobenzene	µg/kg						120 U	140 UJ	150 UJ
SW8260D	1,4-Dichlorobenzene	µg/kg	2600	3400000	72	0.462		61 U	70 UJ	74 UJ
SW8260D	2-Butanone	µg/kg		27000000		1160		240 U	280 UJ	300 UJ
SW8260D	2-Hexanone	µg/kg		200000		8.75		240 U	280 UJ	300 UJ
SW8260D	4-Methyl-2-Pentanone	µg/kg		33000000		1410		240 U	280 UJ	300 UJ
SW8260D	Acetone	µg/kg		70000000		3680		970 U	1100 UJ	1200 UJ
SW8260D	Benzene	µg/kg	1200	82000	2.56	0.233		120 U	140 UJ	150 UJ
SW8260D	Bromodichloromethane	µg/kg	290	630000	21.7	0.0365		61 U	70 UJ	74 UJ
SW8260D	Bromoform	µg/kg	19000	1600000	21.2	0.873		490 U	560 UJ	590 UJ
SW8260D	Bromomethane	µg/kg		6800		1.91		190 U	230 UJ	240 UJ
SW8260D	Carbon Disulfide	µg/kg		770000		240		120 U	140 UJ	150 UJ
SW8260D	Carbon tetrachloride	µg/kg	650	100000	1.94	0.177		240 U	280 UJ	300 UJ
SW8260D	Chlorobenzene	µg/kg		280000	67.9	52.8		120 U	140 UJ	150 UJ

Table 3. Haul Road Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

							Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
							Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-	NPS-BG-03-102825 (NPS-HR-03)
							Sample Date	10/28/2025	10/28/2025	10/28/2025
							Sample Type	N	FD	N
							Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)				
SW8260D	Chlorodibromomethane	µg/kg	8300	1600000	21.3	0.232		240 U	280 UJ	300 UJ
SW8260D	Chloroethane	µg/kg		5400000		2370		240 U	280 UJ	300 UJ
SW8260D	Chloroform	µg/kg	320	5300	22.2	0.0612		120 U	140 UJ	150 UJ
SW8260D	Chloromethane	µg/kg		110000		48.6		120 U	140 UJ	150 UJ
SW8260D	cis-1,2-Dichloroethene	µg/kg		63000	20.6	7.41		120 U	140 UJ	150 UJ
SW8260D	cis-1,3-Dichloropropene	µg/kg						61 U	70 UJ	74 UJ
SW8260D	Cyclohexane	µg/kg		6500000		13000		120 U	140 UJ	150 UJ
SW8260D	Dichlorodifluoromethane	µg/kg		87000		304		120 U	140 UJ	150 UJ
SW8260D	Ethylbenzene	µg/kg	5800	2400000	785	1.68		61 U	70 UJ	74 UJ
SW8260D	Freon 113	µg/kg		6700000		25600		120 U	140 UJ	150 UJ
SW8260D	Isopropylbenzene	µg/kg		1900000		738		61 U	70 UJ	74 UJ
SW8260D	Methyl Acetate	µg/kg		78000000		4110		**1600**	**1800 J-**	**540 J-**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	47000	15000000		3.22		120 U	140 UJ	150 UJ
SW8260D	Methylcyclohexane	µg/kg		98000		443		120 U	140 UJ	150 UJ
SW8260D	Methylene Chloride	µg/kg	57000	350000	1.28	2.91		240 U	280 UJ	300 UJ
SW8260D	Styrene	µg/kg		6000000	110	1330		**86 J**	70 UJ	74 UJ
SW8260D	Tetrachloroethene	µg/kg	24000	81000	2.27	5.13		120 U	140 UJ	150 UJ
SW8260D	Toluene	µg/kg		4900000	692	762		120 U	140 UJ	150 UJ
SW8260D	trans-1,2-Dichloroethene	µg/kg		70000	31.3	21.2		120 U	140 UJ	150 UJ
SW8260D	trans-1,3-Dichloropropene	µg/kg						61 U	70 UJ	74 UJ
SW8260D	Trichloroethylene	µg/kg	940	4100	1.79	0.176		120 U	140 UJ	150 UJ
SW8260D	Trichlorofluoromethane	µg/kg		23000000		3310		120 U	140 UJ	150 UJ
SW8260D	Vinyl Chloride	µg/kg	59	42000	0.69	0.00647		120 U	140 UJ	150 UJ
SW8260D	Xylenes, Total	µg/kg		580000	9900	191		170 U	200 UJ	210 UJ
SW8270E-SIM	1-Methylnaphthalene	µg/kg	10000	180		0.0329		**50 J**	**15 J+**	**23**
SW8270E-SIM	2-Methylnaphthalene	µg/kg		240000		185		**99 J**	**24 J+**	**33**
SW8270E-SIM	Acenaphthene	µg/kg		3600000		5490		**800 J**	**91 J**	**71**
SW8270E-SIM	Acenaphthylene	µg/kg						**7.6 J**	**6.3 J**	**9.6**
SW8270E-SIM	Anthracene	µg/kg		18000000		58100		**660 J**	**100 J**	**110**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	1100			10.5		**1300 J**	**180 J**	**150**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	110	18000	235	29.4		**1000 J**	**140 J**	**120**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100			300		**1300 J**	**190 J**	**150**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg						**780 J**	**100 J**	**89**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	11000			2940		**470 J**	**68 J**	**53**
SW8270E-SIM	Chrysene	µg/kg	110000			9050		**1100 J**	**170 J**	**140**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	110			95.8		**210 J**	**28 J**	**25**

Table 3. Haul Road Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

						Location	NPS-HR-01	NPS-HR-01	NPS-HR-03
						Sample ID	NPS-BG-01-102825 (NPS-HR-01)	NPS-BG-01P-102825 (NPS-HR-01)-	NPS-BG-03-102825 (NPS-HR-03)
						Sample Date	10/28/2025	10/28/2025	10/28/2025
						Sample Type	N	FD	N
						Lab Package	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)			
SW8270E-SIM	Fluoranthene	µg/kg		2400000		89100	**2900 J+**	**470 J**	**430**
SW8270E-SIM	Fluorene	µg/kg		2400000		5450	**340 J**	**52 J**	**58**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100			978	**960 J**	**120 J**	**98**
SW8270E-SIM	Naphthalene	µg/kg	2000	130000		0.385	**500 J**	**51 J+**	**29**
SW8270E-SIM	Phenanthrene	µg/kg					**2500 J+**	**390 J**	**400**
SW8270E-SIM	Pyrene	µg/kg		1800000		13200	**2400 J+**	**330 J**	**270**
SW8321B	2,4,5-T	µg/kg		630000		67.5	0.52 U	**0.31 J**	0.53 U
SW8321B	2,4-DB	µg/kg					**0.9 J**	2.7 U	2.6 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		700000	18.1	45.3	**3.1**	**4.1**	**5.8**
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg					0.52 U	0.53 U	0.53 U
SW8321B	DALAPON	µg/kg		1900000	41.3	123	2.6 U	2.7 U	2.6 U
SW8321B	DICAMBA	µg/kg		1900000		147	2.6 U	2.7 U	**1.3 J**
SW8321B	MCPA	µg/kg		32000		1.95	**0.67**	0.27 U	**1.7**
SW8321B	MCPP (MECOPROP)	µg/kg		63000		4.65	**1.9 J**	**1.2 J**	**3.2**
SW8321B	Pentachlorophenol	µg/kg	1000	250000	1.38	0.0571	**12 J**	**8.2 J**	**12**
SW8321B	Silvex (2,4,5-TP)	µg/kg		510000	27.5	61.2	**0.83**	0.53 U	0.53 U

Notes:

Table 3 includes Level 2A validated data

Bold formatting indicates the result was detected above the laboratory method detection limit.

mg/kg = milligram(s) per kilogram

µg/kg = microgram(s) per kilogram

COC = constituent of concern

EPA U.S. Environmental Protection Agency

ID = identifier

N = Normal sample

FD = Field duplicate

RSL = regional screening level

SSL = soil screening level

Detected Shaded results are above screening levels and are formatted as follows:

Screening Level

Qualifiers:

J	The result is an estimated quantity
J-	The result is an estimated quantity, but may be biased low
J+	The result is an estimated quantity, but may be biased high
U	The analyte was not detected
UJ	The analyte was not detected; the quantitaion limit is estimated due to QC exceedance
R	The analyte was not detected; the result was rejected (not usable) due to QC exceedance
EX	The result was excluded (not usable) due to reanalysis

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05	NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08
				Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)	NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD
				Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/29/2025	10/31/2025	11/01/2025	11/01/2025
				Sample Type	N	N	N	N	N	N	N	N	FD
				Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102504331	4102508261	4102508261	4102508261
Method	**Analyte**	**Units**	**Eco_ESV_Min**										
CARB435	Asbestos	%		NA	NA	0.25 U COC sample date 11/8/2025, Light-tan soil	0.25 U COC sample date 11/8/2025, Light-tan soil	0.25 U COC sample date 11/8/2025, Tan/brownish-gray soil	0.25 U COC sample date 10/29/2025, Brown soil	0.25 U COC sample date 10/31/2025, Brown soil	0.25 U COC sample date 11/1/2025, Brown soil	0.25 U COC sample date 11/1/2025, Brown soil
SW6020B	Antimony	mg/kg	0.248	**0.17 J**	**0.14 J**	**0.15 J**	**0.14 J**	**0.19 J**	**0.22**	**0.086 J-**	**0.2 J**	**0.53 J**
SW6020B	Arsenic	mg/kg	0.25	**4.4**	**7.8**	**4.8**	**3.6**	**5.4**	**6.1**	**4.2**	**3 J**	**13 J**
SW6020B	Beryllium	mg/kg	2.42	**0.56**	**0.58**	**0.56**	**0.55**	**0.62**	**0.74**	**0.61**	**0.47 J**	**0.78 J**
SW6020B	Cadmium	mg/kg	0.27	**0.054 J**	0.08 U	**0.052 J**	**0.041 J**	**0.065 J**	**0.12**	**0.058 J**	**0.06 J**	**0.19 J**
SW6020B	Chromium	mg/kg	0.34	**16**	**48**	**22**	**16**	**18**	**20**	**18 J+**	**15**	**21**
SW6020B	Copper	mg/kg	14	**9.9**	**12**	**11**	**9**	**14**	**20**	**14**	**19**	**23**
SW6020B	Lead	mg/kg	0.94	**19**	**20**	**14**	**19**	**31**	**90**	**35**	**120 J**	**400 J**
SW6020B	Nickel	mg/kg	10	**11**	**16**	**11**	**11**	**13**	**14**	**13 J+**	**9.5 J**	**14 J**
SW6020B	Selenium	mg/kg	0.331	**0.23 J**	**0.26 J**	**0.27 J**	**0.29 J**	**0.27 J**	**0.28 J**	**0.21 J**	**0.18 J**	**1.1 J**
SW6020B	Silver	mg/kg	2	0.084 U	0.08 U	**0.047 J**	**0.067 J**	**0.092 J**	**0.099 J**	**0.04 J**	**0.043 J**	**0.2 J**
SW6020B	Thallium	mg/kg	0.027	**0.13**	**0.14**	**0.13**	**0.14**	**0.16**	**0.098 J**	**0.13**	**0.1 J**	**0.22 J**
SW6020B	Zinc	mg/kg	6.6	**37**	**37**	**61**	**38**	**44**	**62**	**52 J+**	**69 J**	**110 J**
SW7471B	Mercury	mg/kg	0.013	**0.34**	**0.11**	**0.092**	**0.18**	**0.23**	**0.49**	**0.15 J+**	**0.062 J**	**0.19 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		**5.6 J**	**8.5 J**	**6.2 J**	**7.6 J**	**11 J**	**28**	**30 J+**	**91**	**86**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		3.6 U	**4.2 J**	**1.9 J**	3.5 U	3.8 U	**15 J-**	3.4 U	1.5 U	**1.6**
SW8081B	4,4'-DDD	µg/kg	2	1.7 R	1.8 U	1.7 U	8.4 U	8.3 UJ	8.8 U	1.8 U	9.1 UJ	9.2 UJ
SW8081B	4,4'-DDE	µg/kg	2	1.5 R	**3.9**	**2.1**	**7.6 J**	7.3 UJ	**4.6 J**	**3.9**	**4.5 J-**	8.1 UJ
SW8081B	4,4'-DDT	µg/kg	2	1.3 R	**1.3 J**	**1.2 J**	6.3 U	6.2 UJ	6.6 U	**2.6**	6.8 UJ	6.9 UJ
SW8081B	Aldrin	µg/kg	3.3	0.77 R	0.81 U	0.75 U	3.8 U	3.7 UJ	4 U	0.8 U	4.1 UJ	4.1 UJ
SW8081B	Alpha-BHC	µg/kg	70	0.81 R	0.85 U	0.79 U	4 U	3.9 UJ	4.2 U	0.84 U	4.3 UJ	4.4 UJ
SW8081B	Alpha-Chlordane	µg/kg	270	0.99 R	1 U	0.95 U	4.8 U	4.8 UJ	5.1 U	1 U	5.2 UJ	5.3 UJ
SW8081B	beta-BHC	µg/kg	4	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ	4.9 U	**0.9 J**	5.1 UJ	5.2 UJ
SW8081B	Chlorinated Camphene	µg/kg		30 R	31 U	29 U	150 U	150 UJ	150 U	31 U	160 UJ	160 UJ
SW8081B	Delta-Bhc	µg/kg	70	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ	4.9 U	1 U	5.1 UJ	5.2 UJ
SW8081B	Dieldrin	µg/kg	4.5	1.3 R	**0.54 J**	1.2 U	6.3 U	6.2 UJ	6.6 U	1.3 U	6.8 UJ	6.9 UJ
SW8081B	Endosulfan I	µg/kg	560	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ	3.3 U	0.67 U	3.4 UJ	3.5 UJ
SW8081B	Endosulfan II	µg/kg	560	2.4 R	2.5 U	2.3 U	12 U	11 UJ	12 U	2.4 U	13 UJ	13 UJ
SW8081B	Endosulfan Sulfate	µg/kg	560	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ	6.6 U	1.3 U	6.8 UJ	6.9 UJ
SW8081B	Endrin	µg/kg	1.4	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ	6.6 U	1.3 U	6.8 UJ	6.9 UJ
SW8081B	Endrin Aldehyde	µg/kg		1.8 R	1.9 U	1.8 U	8.9 U	8.8 UJ	9.3 U	1.9 U	9.7 UJ	9.8 UJ
SW8081B	Endrin Ketone	µg/kg		1.9 R	2 U	1.9 U	9.4 U	9.3 UJ	9.9 U	2 U	10 UJ	10 UJ
SW8081B	gamma-BHC (Lindane)	µg/kg	5	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ	3.3 U	**2.8 J-**	3.4 UJ	3.5 UJ
SW8081B	gamma-Chlordane	µg/kg	2200	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ	3.3 U	**0.45 J**	3.4 UJ	3.5 UJ

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05	NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08
			Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)	NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD
			Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/29/2025	10/31/2025	11/01/2025	11/01/2025
			Sample Type	N	N	N	N	N	N	N	N	FD
			Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102504331	4102508261	4102508261	4102508261
Method	Analyte	Units	Eco_ESV_Min									
SW8081B	Heptachlor	µg/kg	59	0.66 R	0.7 U	0.64 U	3.2 U	3.2 UJ	3.4 U	0.69 U	3.5 UJ	3.6 UJ
SW8081B	Heptachlor Epoxide	µg/kg		0.75 R	0.79 U	0.73 U	3.7 U	3.6 UJ	3.8 U	0.78 U	4 UJ	4 UJ
SW8081B	Methoxychlor	µg/kg	5100	6.3 R	6.6 U	6.1 U	31 U	31 UJ	32 U	6.5 U	34 UJ	34 UJ
SW8082A	Aroclor 1016	µg/kg	1100	12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1221	µg/kg		12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1232	µg/kg		12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1248	µg/kg	7.3	12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	**8.7 J**
SW8082A	Aroclor 1260	µg/kg	880	12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1262	µg/kg		12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8082A	Aroclor 1268	µg/kg		12 U	12 U	11 U	12 U	11 U	12 U	12 U	13 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U
SW8260D	1,1,2-Trichloroethane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	500 U	460 U	420 U	460 U	410 U	440 UJ	440 U	530 U	530 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,2-Dibromoethane	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,2-Dichloroethane	µg/kg	850	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,2-Dichloropropane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U
SW8260D	2-Butanone	µg/kg	350000	250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	2-Hexanone	µg/kg	360	250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	Acetone	µg/kg	1200	1000 U	920 U	840 U	920 U	820 U	870 UJ	880 U	1100 U	1100 U
SW8260D	Benzene	µg/kg	24000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	Bromodichloromethane	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U
SW8260D	Bromoform	µg/kg		500 U	460 U	420 U	460 U	410 U	440 UJ	440 U	530 U	530 U
SW8260D	Bromomethane	µg/kg		200 U	180 U	170 U	180 U	160 U	170 UJ	180 U	210 U	210 U
SW8260D	Carbon Disulfide	µg/kg	810	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	Carbon tetrachloride	µg/kg	58600	250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	Chlorobenzene	µg/kg	2400	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	Chlorodibromomethane	µg/kg		250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	Chloroethane	µg/kg		250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U
SW8260D	Chloroform	µg/kg	8000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	Chloromethane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U
SW8260D	Cyclohexane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05	NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08
				Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)	NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD
				Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/29/2025	10/31/2025	11/01/2025	11/01/2025
				Sample Type	N	N	N	N	N	N	N	N	FD
				Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851	4102504331	4102508261	4102508261	4102508261
Method	Analyte	Units	Eco_ESV_Min										
SW8260D	Dichlorodifluoromethane	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Ethylbenzene	µg/kg		**130 J**	58 U	53 U	58 U	51 U	**45 J-**	55 U	66 U	67 U	
SW8260D	Freon 113	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Isopropylbenzene	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U	
SW8260D	Methyl Acetate	µg/kg		250 U	230 U	210 U	230 U	**77 J**	**1200 J-**	**210 J**	**4900**	**4100**	
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg		130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Methylcyclohexane	µg/kg		**67 J**	120 U	110 U	120 U	100 U	**120 J-**	110 U	130 U	130 U	
SW8260D	Methylene Chloride	µg/kg	2600	250 U	230 U	210 U	230 U	200 U	220 UJ	220 U	260 U	270 U	
SW8260D	Styrene	µg/kg	1200	63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U	
SW8260D	Tetrachloroethene	µg/kg	180	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Toluene	µg/kg	23000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	trans-1,3-Dichloropropene	µg/kg		63 U	58 U	53 U	58 U	51 U	55 UJ	55 U	66 U	67 U	
SW8260D	Trichloroethylene	µg/kg	1387	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Trichlorofluoromethane	µg/kg	52000	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Vinyl Chloride	µg/kg	120	130 U	120 U	110 U	120 U	100 U	110 UJ	110 U	130 U	130 U	
SW8260D	Xylenes, Total	µg/kg	1400	**780**	160 U	150 U	160 U	140 U	150 UJ	150 U	190 U	190 U	
SW8270E-SIM	1-Methylnaphthalene	µg/kg		1.4 UJ	**120**	**1 J**	**1.3 J**	**2 J**	**13 J**	**7.1**	**24**	**17 J**	
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000	2.9 UJ	**190**	**1.5 J**	**1.7 J**	**3 J**	**23 J**	**9.2**	**30 J**	**24 J**	
SW8270E-SIM	Acenaphthene	µg/kg	250	**3**	**440**	**3.7**	**1.5 J**	**2.4**	**38**	**42 J-**	**230 J**	**110 J**	
SW8270E-SIM	Acenaphthylene	µg/kg	29000	**1.3 J**	**9 J**	**1.4 J**	**4**	**7.2**	**36**	**6**	**36**	**32**	
SW8270E-SIM	Anthracene	µg/kg	6800	**5.7**	**660**	**6.7**	**6.1**	**11**	**210**	**100 J-**	**540 J**	**300 J**	
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730	**15**	**1000**	**20**	**37**	**62**	**1000**	**270**	**970**	**780**	
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100	**13**	**610**	**16**	**36**	**56**	**980**	**190**	**660**	**580**	
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100	**19**	**820**	**22**	**48**	**76**	**1200**	**260**	**890**	**730**	
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100	**9.1**	**320**	**10**	**25**	**38**	**570**	**130 J-**	**430**	**420**	
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100	**5.9**	**300**	**7.1**	**16**	**28**	**510**	**93 J-**	**300**	**340**	
SW8270E-SIM	Chrysene	µg/kg	1100	**14**	**780**	**18**	**36**	**57**	**990**	**210**	**740**	**600**	
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100	**2.8**	**130**	**3.4**	**7.9**	**12**	**160**	**41 J-**	**130**	**110**	
SW8270E-SIM	Fluoranthene	µg/kg	1100	**28**	**2000**	**35**	**54**	**95**	**1900**	**610 J+**	**2400**	**1800**	
SW8270E-SIM	Fluorene	µg/kg	3700	**2.9**	**370**	**3**	**1.3 J**	**2.6**	**36**	**34 J-**	**220 J**	**110 J**	
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100	**11**	**430**	**13**	**31**	**46**	**630**	**170**	**540**	**510**	
SW8270E-SIM	Naphthalene	µg/kg	1000	**2 J**	**97 J+**	**3.4 J**	**4.1 J**	**6.3 J**	**60**	**14**	**68**	**59**	
SW8270E-SIM	Phenanthrene	µg/kg	5500	**18**	**2200**	**22**	**21**	**38**	**800**	**460 J+**	**1800 J**	**1200 J**	
SW8270E-SIM	Pyrene	µg/kg	1100	**21**	**1400**	**26**	**46**	**75**	**1700**	**410 J+**	**1600**	**1200**	
SW8321B	2,4,5-T	µg/kg		**0.15 J-**	**0.17 J-**	**0.15 J-**	**0.51 J-**	**6**	0.52 U	0.46 U	0.56 U	0.48 U	
SW8321B	2,4-DB	µg/kg		2.6 UJ	2.8 UJ	2.5 UJ	**0.64 J-**	**5.5**	2.6 U	2.3 U	**0.43 J**	2.4 U	
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		**0.17 J-**	0.56 UJ	**0.17 J-**	**0.51 J-**	**6**	0.52 U	0.46 U	**0.33 J**	0.48 U	
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg		0.53 UJ	0.56 UJ	0.5 UJ	**0.42 J-**	**6.1**	0.52 U	0.46 U	0.56 U	0.48 U	
SW8321B	DALAPON	µg/kg		2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**6**	2.6 U	2.3 U	2.8 U	2.4 U	
SW8321B	DICAMBA	µg/kg		2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**7.1**	2.6 U	2.3 U	2.8 U	2.4 U	
SW8321B	MCPA	µg/kg		0.26 UJ	0.28 UJ	0.25 UJ	0.26 UJ	**5.1**	0.26 U	0.23 U	0.28 U	0.24 U	
SW8321B	MCPP (MECOPROP)	µg/kg		0.26 UJ	**0.11 J-**	0.25 UJ	**0.38 J-**	**5**	0.26 U	0.23 U	**0.26 J**	0.24 U	
SW8321B	Pentachlorophenol	µg/kg	360	**0.17 J-**	**0.16 J-**	**0.12 J-**	**0.3 J-**	**2.6**	**0.24**	**1.9**	**13**	**11**	
SW8321B	Silvex (2,4,5-TP)	µg/kg	110	0.53 UJ	0.56 UJ	0.5 UJ	**0.51 J-**	**6.7**	0.52 U	0.46 U	**0.28 J**	0.48 U	

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15
				Sample ID	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)
				Sample Date	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025
				Sample Type	N	N	FD	N	N	N	N	N	N
				Lab Package	4102514391	4102514391	4102514391	4102518891	4102518891	4102518891	4102525971	4102525971	4102574611
Method	Analyte	Units	Eco_ESV_Min										
CARB435	Asbestos	%		0.25 U COC sample date 11/3/2025, Brown soil	0.25 U COC sample date 11/4/2025, Brown soil	0.25 U COC sample date 11/4/2025, Brown soil	0.25 U COC sample date 11/6/2025, Tan/red/white soil	0.25 U COC sample date 11/6/2025, Tan/gray soil	0.25 U COC sample date 11/7/2025, Tan/gray/brown soil	0.25 U COC sample date 11/11/2025, Brown soil	0.25 U COC sample date 11/12/2025, Brown soil	0.25 U COC sample date 12/11/2025, Brown soil
SW6020B	Antimony	mg/kg	0.248	**0.13 J**	**0.11 J**	**0.11 J**	**0.18 J**	**0.18 J**	**0.11 J**	**0.12 J**	**0.27**	**0.15 J**
SW6020B	Arsenic	mg/kg	0.25	**3.1**	**2.7 J**	**1.9 J**	**3.4**	**2.9**	**4.2**	**3.8**	**5.7**	**4.5**
SW6020B	Beryllium	mg/kg	2.42	**0.71**	**0.79**	**0.66**	**0.96**	**0.79**	**0.64**	**0.48**	**0.57**	**0.91**
SW6020B	Cadmium	mg/kg	0.27	**0.077 J**	**0.08 J**	**0.07 J**	**0.12**	**0.091 J**	**0.33**	**0.065 J**	**0.29**	**0.087 J**
SW6020B	Chromium	mg/kg	0.34	**17**	**14**	**15**	**21**	**19**	**19**	**19**	**25**	**21**
SW6020B	Copper	mg/kg	14	**17**	**16**	**14**	**20**	**18**	**24**	**12**	**25**	**27**
SW6020B	Lead	mg/kg	0.94	**62**	**15 J**	**9.7 J**	**39**	**54**	**19**	**51**	**180**	**150**
SW6020B	Nickel	mg/kg	10	**17**	**19**	**18**	**23**	**19**	**19**	**13**	**16**	**14**
SW6020B	Selenium	mg/kg	0.331	**0.099 J**	0.19 U	0.16 U	**0.11 J**	**0.13 J**	**0.27 J**	**0.12 J**	**0.27 J**	**0.18 J**
SW6020B	Silver	mg/kg	2	0.067 U	0.075 U	0.065 U	0.075 U	0.089 U	0.086 U	**0.032 J**	**0.32**	**0.071 J**
SW6020B	Thallium	mg/kg	0.027	**0.14**	**0.13**	**0.13**	**0.14**	**0.14**	**0.1 J**	**0.056 J**	**0.1**	**0.14**
SW6020B	Zinc	mg/kg	6.6	**61**	**59**	**53**	**94**	**69**	**67**	**46**	**160**	**61**
SW7471B	Mercury	mg/kg	0.013	**0.095**	**0.023 J**	**0.029 J**	**0.057 J**	**0.065 J**	**0.078**	**0.21**	**0.2**	**0.21**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		12 U	11 U	11 U	**17**	**37 J+**	**14**	**31**	**44**	**8.1 J**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		**0.93 J**	**3 J**	**0.83 J**	1.1 U	1.4 UJ	1 U	0.85 U	**2.2**	0.9 U
SW8081B	4,4'-DDD	µg/kg	2	3.7 UJ	1.8 U	1.8 U	2 U	2.2 U	1.9 U	87 U	180 U	18 U
SW8081B	4,4'-DDE	µg/kg	2	3.3 UJ	1.6 U	1.6 U	**1.1 J**	1.9 U	**1.9 J**	76 U	160 U	16 U
SW8081B	4,4'-DDT	µg/kg	2	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U	1.5 U	**8**	**9.7**	14 U
SW8081B	Aldrin	µg/kg	3.3	1.7 UJ	0.81 U	0.81 U	0.91 U	0.97 U	0.87 U	39 U	83 U	8.3 U
SW8081B	Alpha-BHC	µg/kg	70	1.8 UJ	0.85 U	0.86 U	0.96 U	1 U	0.92 U	0.83 U	0.87 U	8.8 U
SW8081B	Alpha-Chlordane	µg/kg	270	2.1 UJ	1 U	1 U	1.2 U	1.2 U	**0.61 J**	**170**	**460**	11 U
SW8081B	beta-BHC	µg/kg	4	2.1 UJ	1 U	1 U	1.1 U	1.2 U	1.1 U	**0.51 J**	**1.2 J**	10 U
SW8081B	Chlorinated Camphene	µg/kg		65 UJ	31 U	32 U	35 U	38 U	34 U	31 U	32 U	320 U
SW8081B	Delta-Bhc	µg/kg	70	2.1 UJ	1 U	1 U	1.1 U	1.2 U	1.1 U	0.98 U	**2.3**	10 U
SW8081B	Dieldrin	µg/kg	4.5	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U	1.5 U	**2.5**	140 U	14 U
SW8081B	Endosulfan I	µg/kg	560	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U	0.73 U	**13 J**	**37 J**	6.9 U
SW8081B	Endosulfan II	µg/kg	560	5.1 UJ	2.5 U	2.5 U	2.8 U	3 U	2.7 U	**2.7**	**11**	25 U
SW8081B	Endosulfan Sulfate	µg/kg	560	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U	1.5 U	**2.7**	**9.7**	14 U
SW8081B	Endrin	µg/kg	1.4	2.8 UJ	1.3 U	1.4 U	1.5 U	1.6 U	1.5 U	1.3 U	140 U	14 U
SW8081B	Endrin Aldehyde	µg/kg		4 UJ	1.9 U	1.9 U	2.2 U	2.3 U	2.1 U	93 U	190 U	20 U
SW8081B	Endrin Ketone	µg/kg		4.2 UJ	2 U	2 U	2.3 U	2.4 U	2.2 U	98 U	210 U	21 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U	0.73 U	33 U	69 U	6.9 U
SW8081B	gamma-Chlordane	µg/kg	2200	1.4 UJ	0.67 U	0.68 U	0.76 U	0.81 U	**1**	**190**	**540**	6.9 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15
			Sample ID	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)
			Sample Date	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025
			Sample Type	N	N	FD	N	N	N	N	N	N
			Lab Package	4102514391	4102514391	4102514391	4102518891	4102518891	4102518891	4102525971	4102525971	4102574611
Method	Analyte	Units	Eco_ESV_Min									
SW8081B	Heptachlor	µg/kg	59	1.4 UJ	0.7 U	0.7 U	0.79 U	0.83 U	**1.1**	**27 J**	**72 J**	7.2 U
SW8081B	Heptachlor Epoxide	µg/kg		1.6 UJ	0.79 U	0.79 U	0.89 U	0.94 U	0.85 U	38 U	**5.2**	8.1 U
SW8081B	Methoxychlor	µg/kg	5100	14 UJ	6.6 U	6.7 U	7.5 U	7.9 U	7.2 U	6.4 U	680 U	68 U
SW8082A	Aroclor 1016	µg/kg	1100	25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1221	µg/kg		25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1232	µg/kg		25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1242	µg/kg	260	25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1248	µg/kg	7.3	25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1254	µg/kg	41	25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1260	µg/kg	880	25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1262	µg/kg		25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8082A	Aroclor 1268	µg/kg		25 U	12 U	12 U	14 UJ	15 UJ	13 UJ	240 U	130 U	130 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	1,1,2-Trichloroethane	µg/kg		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	480 UJ	12 U	11 U	520 U	750 U	520 U	370 UJ	580 UJ	530 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,2-Dibromoethane	µg/kg		59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,2-Dichloroethane	µg/kg	850	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,2-Dichloropropane	µg/kg		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	2-Butanone	µg/kg	350000	240 UJ	6.1 U	5.5 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	2-Hexanone	µg/kg	360	240 UJ	7.6 U	6.9 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	240 UJ	6.1 U	5.5 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	Acetone	µg/kg	1200	950 UJ	**26 J**	**22 J+**	1000 U	1500 U	1000 U	750 UJ	1200 UJ	1100 U
SW8260D	Benzene	µg/kg	24000	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Bromodichloromethane	µg/kg		59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Bromoform	µg/kg		480 UJ	12 U	11 U	520 U	750 U	520 U	370 UJ	580 UJ	530 U
SW8260D	Bromomethane	µg/kg		190 UJ	3.1 U	2.8 UJ	210 U	300 U	210 U	150 UJ	230 UJ	210 U
SW8260D	Carbon Disulfide	µg/kg	810	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Carbon tetrachloride	µg/kg	58600	240 UJ	3.1 U	2.8 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	Chlorobenzene	µg/kg	2400	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Chlorodibromomethane	µg/kg		240 UJ	1.5 U	1.4 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	Chloroethane	µg/kg		240 UJ	6.1 U	5.5 UJ	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	Chloroform	µg/kg	8000	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Chloromethane	µg/kg		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		59 UJ	1.5 U	1.4 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Cyclohexane	µg/kg		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11	NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15
				Sample ID	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)	NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)
				Sample Date	11/03/2025	11/04/2025	11/04/2025	11/06/2025	11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025
				Sample Type	N	N	FD	N	N	N	N	N	N
				Lab Package	4102514391	4102514391	4102514391	4102518891	4102518891	4102518891	4102525971	4102525971	4102574611
Method	Analyte	Units	Eco_ESV_Min										
SW8260D	Dichlorodifluoromethane	µg/kg			120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Ethylbenzene	µg/kg			59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Freon 113	µg/kg			120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Isopropylbenzene	µg/kg			59 UJ	4.6 U	4.1 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Methyl Acetate	µg/kg			**470 J-**	6.1 U	5.5 U	260 U	**140 J**	**500**	**2700 J-**	**670 J-**	**67 J**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg			120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Methylcyclohexane	µg/kg			120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Methylene Chloride	µg/kg	2600		240 UJ	6.1 U	5.5 U	260 U	380 U	260 U	190 UJ	290 UJ	260 U
SW8260D	Styrene	µg/kg	1200		59 UJ	3.1 U	2.8 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Tetrachloroethene	µg/kg	180		120 UJ	4.6 U	4.1 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Toluene	µg/kg	23000		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	trans-1,3-Dichloropropene	µg/kg			59 UJ	1.5 U	1.4 U	65 U	94 U	65 U	47 UJ	72 UJ	66 U
SW8260D	Trichloroethylene	µg/kg	1387		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Trichlorofluoromethane	µg/kg	52000		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	**81 J-**	130 U
SW8260D	Vinyl Chloride	µg/kg	120		120 UJ	3.1 U	2.8 U	130 U	190 U	130 U	94 UJ	140 UJ	130 U
SW8260D	Xylenes, Total	µg/kg	1400		170 UJ	3.1 U	2.8 U	180 U	260 U	180 U	130 UJ	200 UJ	180 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg			**5.1**	**4.5**	**4**	**2.7**	**3.6**	**2.2**	15 U	**160**	**63**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000		**7.1**	**6.1**	**5.1**	**4.7**	**5.8**	**3 J**	29 U	**250**	**130**
SW8270E-SIM	Acenaphthene	µg/kg	250		**17**	**6.6**	**6.1**	**28**	**72**	**12**	**35**	**510**	**160**
SW8270E-SIM	Acenaphthylene	µg/kg	29000		**5**	**1.6 J**	**1.4 J**	**6.8**	**5.1**	**1.8 J**	**12 J**	**37**	**4.9**
SW8270E-SIM	Anthracene	µg/kg	6800		**39**	**15**	**16**	**92**	**290**	**31**	**83**	**950**	**290**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730		**120**	**59**	**70**	**440**	**2000**	**100**	**310**	**1300**	**340**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100		**89**	**47**	**53**	**340**	**1400**	**81**	**270**	**1100**	**270**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100		**120**	**63**	**70**	**500**	**2000**	**110**	**330**	**1500**	**330**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100		**61**	**31**	**34**	**160**	**420**	**45**	**150**	**660**	**140**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100		**46**	**22**	**25**	**190**	**730**	**41**	**160**	**530**	**140**
SW8270E-SIM	Chrysene	µg/kg	1100		**94**	**50**	**57**	**410**	**1900**	**98**	**300**	**1200**	**330**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100		**18**	**9.6**	**11**	**57**	**170**	**14**	**43**	**190**	**48**
SW8270E-SIM	Fluoranthene	µg/kg	1100		**270**	**110**	**130**	**760**	**3500**	**190**	**570**	**3200**	**810**
SW8270E-SIM	Fluorene	µg/kg	3700		**15**	**5.4**	**5.2**	**20**	**38**	**11**	**30**	**430**	**170**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100		**76**	**38**	**42**	**190**	**830**	**52**	**170**	**750**	**160**
SW8270E-SIM	Naphthalene	µg/kg	1000		**15**	**9.9**	**7.8**	**9.5**	**6.9 J+**	**3.6 J**	**15 J**	**640**	**51**
SW8270E-SIM	Phenanthrene	µg/kg	5500		**160**	**55**	**60**	**290**	**950**	**97**	**290**	**3600**	**860**
SW8270E-SIM	Pyrene	µg/kg	1100		**180**	**79**	**91**	**700**	**3000**	**170**	**500**	**2500**	**550**
SW8321B	2,4,5-T	µg/kg			0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ	0.54 UJ	0.51 UJ	**0.11 J-**	0.52 U
SW8321B	2,4-DB	µg/kg			2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg			0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ	**0.21 J-**	**0.1 J-**	0.57 UJ	0.52 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg			0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U
SW8321B	DALAPON	µg/kg			2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U
SW8321B	DICAMBA	µg/kg			2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U
SW8321B	MCPA	µg/kg			0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ	0.3 UJ	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U
SW8321B	MCPP (MECOPROP)	µg/kg			0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ	0.3 UJ	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U
SW8321B	Pentachlorophenol	µg/kg	360		**0.21 J-**	0.25 UJ	0.23 UJ	**0.71 J-**	**0.51 J-**	**0.77 J-**	**1.2 J-**	**11 J-**	**0.75**
SW8321B	Silvex (2,4,5-TP)	µg/kg	110		0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ	0.6 UJ	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23
				Sample ID	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)
				Sample Date	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026
				Sample Type	N	N	N	N	N	N	N	N
				Lab Package	4102589251	4102610301	4102610301	4102628621	4102639961	4102660751	4102678441	4102678441
Method	Analyte	Units	Eco_ESV_Min									
CARB435	Asbestos	%		0.25 U COC sample date 12/20/2025, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil	0.25 U COC sample date 1/29/2026, Brown soil	0.25 U COC sample date 2/3/2026, Brown soil	0.25 U COC sample date 2/17/2026, Brown soil	0.25 U COC Sample Date 2/24/2026, Brownish-orange soil	0.25 U COC Sample Date 2/27/2026, Brownish-orange soil
SW6020B	Antimony	mg/kg	0.248	**0.12 J**	**0.11 J**	**0.1 J**	**0.18**	**0.11 J**	**0.12 J**	**0.1 J**	**0.11 J-**
SW6020B	Arsenic	mg/kg	0.25	**3.6**	**2.8**	**4.1**	**2.7**	**3.8**	**3.1**	**3.2**	**2.8**
SW6020B	Beryllium	mg/kg	2.42	**0.58**	**0.76**	**0.85 J**	**0.46**	**0.75**	**0.56**	**0.051 J**	**0.52**
SW6020B	Cadmium	mg/kg	0.27	**0.069 J**	**0.085**	**0.13**	**0.047 J**	**0.13**	**0.07 J**	**0.064 J**	**0.062 J**
SW6020B	Chromium	mg/kg	0.34	**17**	**18**	**22 J**	**17**	**17**	**14**	**14**	**14**
SW6020B	Copper	mg/kg	14	**15**	**16**	**15**	**16**	**15**	**11**	**11**	**9.6**
SW6020B	Lead	mg/kg	0.94	**11**	**16**	**11 J**	**11**	**28**	**8**	**15**	**6.8 J-**
SW6020B	Nickel	mg/kg	10	**15**	**22**	**22**	**11**	**19**	**15**	**12**	**15**
SW6020B	Selenium	mg/kg	0.331	**0.1 J**	0.15 U	**0.17 J**	**0.17 J**	0.19 U	0.17 U	**0.1 J**	0.22 U
SW6020B	Silver	mg/kg	2	**0.046 J**	0.059 U	0.086 U	**0.033 J**	0.076 U	0.066 U	0.083 U	0.09 U
SW6020B	Thallium	mg/kg	0.027	**0.072 J**	**0.14**	**0.17 J**	**0.039 J**	**0.13**	**0.082 J**	**0.068 J**	**0.077 J-**
SW6020B	Zinc	mg/kg	6.6	**43**	**60**	**59**	**33**	**64**	**46**	**41**	**43**
SW7471B	Mercury	mg/kg	0.013	**0.071 J**	**0.037 J**	**0.045 J**	**0.034 J**	**0.038 J**	0.044 U	0.043 U	0.041 U
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		**18 J**	**9 J**	**6.5 J**	**26**	**29**	12 U	**65**	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		**0.55 J**	0.78 U	0.85 U	**1.1 J**	3.8 U	**3.4**	**0.67 J**	**0.83 J**
SW8081B	4,4'-DDD	µg/kg	2	1.9 UJ	8.7 U	9.4 U	8.6 U	34 U	1.9 U	8.9 U	1.8 U
SW8081B	4,4'-DDE	µg/kg	2	1.7 UJ	7.6 U	8.2 U	7.6 U	**240**	1.6 U	7.8 U	1.6 U
SW8081B	4,4'-DDT	µg/kg	2	1.4 UJ	6.5 U	7.1 U	6.5 U	**20 J**	1.4 U	6.7 U	1.3 U
SW8081B	Aldrin	µg/kg	3.3	0.85 UJ	3.9 U	4.2 U	3.9 U	15 U	0.85 U	4 U	0.8 U
SW8081B	Alpha-BHC	µg/kg	70	0.9 UJ	4.1 U	4.5 U	4.1 U	16 U	0.89 U	4.2 U	0.85 U
SW8081B	Alpha-Chlordane	µg/kg	270	**1.4 J**	5 U	5.4 U	5 U	20 U	1.1 U	**4.6 J**	1 U
SW8081B	beta-BHC	µg/kg	4	1.1 UJ	4.9 U	5.3 U	4.9 U	19 U	1.1 U	5 U	1 U
SW8081B	Chlorinated Camphene	µg/kg		33 UJ	150 U	160 U	150 U	600 U	33 U	160 U	31 U
SW8081B	Delta-Bhc	µg/kg	70	1.1 UJ	4.9 U	5.3 U	4.9 U	19 U	1.1 U	5 U	1 U
SW8081B	Dieldrin	µg/kg	4.5	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U	1.4 U	6.7 U	1.3 U
SW8081B	Endosulfan I	µg/kg	560	0.71 UJ	3.2 U	3.5 U	3.2 U	13 U	0.71 U	3.3 U	0.67 U
SW8081B	Endosulfan II	µg/kg	560	2.6 UJ	12 U	13 U	12 U	47 U	2.6 U	12 U	2.5 U
SW8081B	Endosulfan Sulfate	µg/kg	560	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U	1.4 U	6.7 U	1.3 U
SW8081B	Endrin	µg/kg	1.4	1.4 UJ	6.5 U	7.1 U	6.5 U	26 U	1.4 U	6.7 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg		2 UJ	9.2 U	10 U	9.2 U	36 U	2 U	9.4 U	1.9 U
SW8081B	Endrin Ketone	µg/kg		2.1 UJ	9.7 U	11 U	9.7 U	38 U	2.1 U	10 U	2 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5	0.71 UJ	3.2 U	3.5 U	3.2 U	13 U	0.71 U	3.3 U	0.67 U
SW8081B	gamma-Chlordane	µg/kg	2200	**1.8 J**	**2 J**	3.5 U	3.2 U	13 U	0.71 U	**5.7**	0.67 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23
			Sample ID	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)
			Sample Date	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026
			Sample Type	N	N	N	N	N	N	N	N
			Lab Package	4102589251	4102610301	4102610301	4102628621	4102639961	4102660751	4102678441	4102678441
Method	Analyte	Units	Eco_ESV_Min								
SW8081B	Heptachlor	µg/kg	59	**1.2 J**	3.4 U	3.7 U	3.3 U	13 U	0.73 U	3.4 U	0.69 U
SW8081B	Heptachlor Epoxide	µg/kg		0.83 UJ	3.8 U	4.1 U	3.8 U	15 U	0.82 U	3.9 U	0.78 U
SW8081B	Methoxychlor	µg/kg	5100	7 UJ	32 U	35 U	32 U	130 U	6.9 U	33 U	6.6 U
SW8082A	Aroclor 1016	µg/kg	1100	13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg		13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg		13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	7.3	13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	880	13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg		13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg		13 UJ	12 U	13 U	12 U	12 U	13 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		57 UJ	52 UJ	1.8 U	51 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,1,2-Trichloroethane	µg/kg		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	460 UJ	420 UJ	7.3 U	410 U	9.2 U	8.4 U	6.8 U	8.1 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,2-Dibromoethane	µg/kg		57 UJ	52 UJ	1.8 U	51 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,2-Dichloroethane	µg/kg	850	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,2-Dichloropropane	µg/kg		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	57 UJ	52 UJ	1.8 U	51 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	2-Butanone	µg/kg	350000	230 UJ	210 UJ	**2.2 J**	200 U	4.6 U	**4 J**	**2.8 J**	4.1 U
SW8260D	2-Hexanone	µg/kg	360	230 UJ	210 UJ	4.6 U	200 U	5.7 U	5.2 U	4.3 U	5.1 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	230 UJ	210 UJ	3.7 U	200 U	4.6 U	4.2 U	3.4 U	4.1 U
SW8260D	Acetone	µg/kg	1200	910 UJ	830 UJ	**24**	810 U	**25**	**37 J+**	**26**	**19 J**
SW8260D	Benzene	µg/kg	24000	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Bromodichloromethane	µg/kg		57 UJ	52 UJ	1.8 U	51 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Bromoform	µg/kg		460 UJ	420 UJ	7.3 U	410 U	9.2 U	8.4 U	6.8 U	8.1 U
SW8260D	Bromomethane	µg/kg		180 UJ	170 UJ	1.8 U	160 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Carbon Disulfide	µg/kg	810	110 UJ	100 UJ	**2.1 J**	100 U	**1 J**	**1 J**	**1.9 J**	2 U
SW8260D	Carbon tetrachloride	µg/kg	58600	230 UJ	210 UJ	1.8 U	200 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Chlorobenzene	µg/kg	2400	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Chlorodibromomethane	µg/kg		230 UJ	210 UJ	0.92 U	200 U	1.1 U	1 U	0.85 U	1 U
SW8260D	Chloroethane	µg/kg		230 UJ	210 UJ	3.7 U	200 U	4.6 U	4.2 U	3.4 U	4.1 U
SW8260D	Chloroform	µg/kg	8000	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Chloromethane	µg/kg		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		57 UJ	52 UJ	0.92 U	51 U	1.1 U	1 U	0.85 U	1 U
SW8260D	Cyclohexane	µg/kg		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-16	NPS-SP-17	NPS-SP-18	NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23
				Sample ID	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)	NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)
				Sample Date	12/20/2025	01/08/2026	01/08/2026	01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026
				Sample Type	N	N	N	N	N	N	N	N
				Lab Package	4102589251	4102610301	4102610301	4102628621	4102639961	4102660751	4102678441	4102678441
Method	Analyte	Units	Eco_ESV_Min									
SW8260D	Dichlorodifluoromethane	µg/kg			110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Ethylbenzene	µg/kg			57 UJ	52 UJ	1.8 U	**24 J**	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Freon 113	µg/kg			110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Isopropylbenzene	µg/kg			57 UJ	52 UJ	2.8 U	51 U	3.4 U	3.1 U	2.6 U	3 U
SW8260D	Methyl Acetate	µg/kg			**340 J**	210 UJ	3.7 U	**1700**	4.6 U	4.2 U	3.4 U	4.1 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg			110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Methylcyclohexane	µg/kg			110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Methylene Chloride	µg/kg	2600		230 UJ	210 UJ	3.7 U	200 U	4.6 U	4.2 U	3.4 U	4.1 U
SW8260D	Styrene	µg/kg	1200		57 UJ	52 UJ	1.8 U	**380**	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Tetrachloroethene	µg/kg	180		110 UJ	100 UJ	2.8 U	100 U	3.4 U	3.1 U	2.6 U	3 U
SW8260D	Toluene	µg/kg	23000		110 UJ	100 UJ	1.8 U	100 U	**1.6 J**	**1.1 J**	1.7 U	**1.3 J**
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	trans-1,3-Dichloropropene	µg/kg			57 UJ	52 UJ	0.92 U	51 U	1.1 U	1 U	0.85 U	1 U
SW8260D	Trichloroethylene	µg/kg	1387		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Trichlorofluoromethane	µg/kg	52000		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Vinyl Chloride	µg/kg	120		110 UJ	100 UJ	1.8 U	100 U	2.3 U	2.1 U	1.7 U	2 U
SW8260D	Xylenes, Total	µg/kg	1400		160 UJ	150 UJ	1.8 U	**160 J**	2.3 U	2.1 U	1.7 U	2 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg			**15 J**	**22**	**2**	**6**	**63**	**7.8**	**22**	1.5 U
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000		**23 J**	**40**	**2.6 J**	**9.4**	**110**	**13**	**36**	3 U
SW8270E-SIM	Acenaphthene	µg/kg	250		**71 J**	**87**	**7.2**	**8.6**	**380**	**36**	**100**	1.5 U
SW8270E-SIM	Acenaphthylene	µg/kg	29000		**3 J**	**2.6**	1.6 U	**1.5 J**	**5.5**	**0.5 J**	**2.6**	1.5 U
SW8270E-SIM	Anthracene	µg/kg	6800		**160 J**	**170**	**25**	**21**	**750**	**88**	**180**	1.5 U
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730		**320 J**	**240**	**23**	**46**	**1100**	**100**	**260**	**1.5 J**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100		**260 J**	**170**	**18**	**39**	**830**	**80**	**190**	**1.1 J**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100		**320 J**	**210**	**22**	**51**	**1000**	**95**	**240**	**1.4 J**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100		**140 J**	**91**	**9.8**	**27**	**490**	**47**	**94**	1.5 U
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100		**150 J**	**100**	**11**	**20**	**500**	**41**	**86**	1.5 U
SW8270E-SIM	Chrysene	µg/kg	1100		**290 J**	**210**	**22**	**45**	**950**	**89**	**210**	**1.3 J**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100		**46 J**	**32**	**2.6**	**6.9**	**140**	**14**	**32**	1.5 U
SW8270E-SIM	Fluoranthene	µg/kg	1100		**730 J**	**520**	**54**	**94**	**2700**	**240**	**520**	**2.8**
SW8270E-SIM	Fluorene	µg/kg	3700		**71 J**	**96**	**9**	**9.5**	**420**	**45**	**110**	1.5 U
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100		**160 J**	**110**	**13**	**27**	**560**	**53**	**120**	1.5 U
SW8270E-SIM	Naphthalene	µg/kg	1000		**21 J**	**44**	**4.6**	**8.3**	**260**	**35**	**31**	3 U
SW8270E-SIM	Phenanthrene	µg/kg	5500		**570 J**	**570**	**63**	**80**	**2800**	**280**	**610**	**2.3 J**
SW8270E-SIM	Pyrene	µg/kg	1100		**630 J**	**450**	**46**	**86**	**2000**	**200**	**420**	**2.4**
SW8321B	2,4,5-T	µg/kg			0.59 UJ	0.49 U	0.59 U	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ
SW8321B	2,4-DB	µg/kg			2.9 UJ	2.4 U	3 U	2.2 U	2.5 U	2.9 U	2.7 U	2.5 UJ
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg			**0.37 J**	0.49 U	0.59 U	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg			0.59 UJ	0.49 U	0.59 U	**0.13 J**	0.51 U	0.59 U	0.55 U	0.51 UJ
SW8321B	DALAPON	µg/kg			2.9 UJ	2.4 U	3 U	2.2 U	2.5 U	2.9 U	2.7 U	2.5 UJ
SW8321B	DICAMBA	µg/kg			**0.6 J**	2.4 U	3 U	**2.5**	2.5 U	2.9 U	2.7 U	2.5 UJ
SW8321B	MCPA	µg/kg			0.29 UJ	0.24 U	0.3 U	0.22 U	0.25 U	0.29 U	0.27 U	0.25 UJ
SW8321B	MCPP (MECOPROP)	µg/kg			**0.15 J**	0.24 U	0.3 U	0.22 U	0.25 U	0.29 U	0.27 U	0.25 UJ
SW8321B	Pentachlorophenol	µg/kg	360		**1.7 J**	**0.37**	0.3 U	**0.17 J**	**3.1**	0.29 U	**0.43**	0.25 UJ
SW8321B	Silvex (2,4,5-TP)	µg/kg	110		0.59 UJ	0.49 U	0.59 U	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31
			Sample ID	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326
			Sample Date	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026
			Sample Type	N	FD	N	N	N	N	N	N	N
			Lab Package	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361
Method	Analyte	Units	Eco_ESV_Min									
CARB435	Asbestos	%		0.25 U COC Sample Date 3/2/2026, Brown soil	0.25 U COC Sample Date 3/2/2026, Brown soil	0.25 U COC Sample Date 3/5/2026, Brown soil	NA	0.25 U COC sample date 3/14/2026, Brown Cementitions material	0.25 U COC sample date 3/20/2026	0.25 U COC sample date 3/20/2026	0.25 U COC sample date 4/2/2026	0.25 U COC Sample Date 4/23/2026, Brown soil
SW6020B	Antimony	mg/kg	0.248	**0.13 J**	**0.13 J**	**0.14 J**	**0.11 J**	0.17 U	**0.09 J**	0.17 U	**0.12 J**	**0.12 J**
SW6020B	Arsenic	mg/kg	0.25	**4.7**	**5.1**	**4.8**	**8**	**7.1**	**6.7**	**2.6**	**1.8**	**6.1**
SW6020B	Beryllium	mg/kg	2.42	**0.71**	**0.72**	**0.59**	**0.37**	**0.27**	**0.32**	**0.43**	**0.45**	**0.48**
SW6020B	Cadmium	mg/kg	0.27	**0.056 J**	**0.064 J**	**0.062 J**	**0.049 J**	0.085 U	**0.041 J**	0.086 U	**0.088 J**	**0.077 J**
SW6020B	Chromium	mg/kg	0.34	**15**	**15**	**13**	**12**	**7**	**9.1**	**14**	**13**	**13**
SW6020B	Copper	mg/kg	14	**13**	**14**	**11**	**7.1**	**6.2**	**7.5**	**17**	**12**	**11**
SW6020B	Lead	mg/kg	0.94	**9.6**	**9.9**	**8.6**	**4.6**	**3.9**	**5**	**6.8**	**9.3**	**22**
SW6020B	Nickel	mg/kg	10	**14**	**15**	**13**	**9.8**	**7.9**	**9.1**	**17**	**12**	**12**
SW6020B	Selenium	mg/kg	0.331	0.21 U	0.2 U	0.2 U	0.2 U	0.21 U	0.19 U	0.22 U	**0.19 J**	**0.14 J**
SW6020B	Silver	mg/kg	2	0.085 U	0.081 U	0.082 U	0.079 U	0.085 U	0.077 U	0.086 U	0.092 U	0.086 U
SW6020B	Thallium	mg/kg	0.027	**0.095 J**	**0.097 J**	**0.087 J**	**0.068 J**	0.085 U	**0.052 J**	**0.059 J**	**0.14**	**0.077 J**
SW6020B	Zinc	mg/kg	6.6	**47**	**49**	**41**	**27 J**	**20 J**	**23 J**	**50**	**43**	**36**
SW7471B	Mercury	mg/kg	0.013	0.041 U	**0.022 J**	0.043 U	0.042 U	0.044 U	0.041 U	0.044 U	**0.024 J**	**0.36**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		11 U	11 U	**7 J**	11 U	**5.6 J**	**6.1 J**	11 U	12 U	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		**2.6 J**	10 UJ	1.4 U	0.92 U	**27**	0.72 U	1.1 U	**13**	1.4 U
SW8081B	4,4'-DDD	µg/kg	2	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.6 U	1.8 U	1.9 U	1.7 U
SW8081B	4,4'-DDE	µg/kg	2	1.5 U	1.5 U	**1.6 J**	1.5 U	1.5 U	1.4 U	1.6 U	1.7 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	2	1.3 U	1.3 U	**1.3 J**	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U
SW8081B	Aldrin	µg/kg	3.3	0.78 U	0.77 U	0.77 U	0.78 U	0.79 U	0.74 U	0.83 U	0.87 U	0.77 U
SW8081B	Alpha-BHC	µg/kg	70	0.82 U	0.82 U	0.81 U	0.82 U	0.83 U	0.78 U	0.87 U	0.92 U	0.81 U
SW8081B	Alpha-Chlordane	µg/kg	270	1 U	0.99 U	0.99 U	0.99 U	1 U	0.94 U	1.1 U	1.1 U	0.98 U
SW8081B	beta-BHC	µg/kg	4	0.98 U	0.97 U	0.96 U	0.97 U	0.99 U	0.92 U	1 U	1.1 U	0.96 U
SW8081B	Chlorinated Camphene	µg/kg		30 U	30 U	30 U	30 U	31 U	29 U	32 U	34 U	30 U
SW8081B	Delta-Bhc	µg/kg	70	0.98 U	0.97 U	0.96 U	0.97 U	0.99 U	0.92 U	1 U	1.1 U	0.96 U
SW8081B	Dieldrin	µg/kg	4.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U
SW8081B	Endosulfan I	µg/kg	560	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U
SW8081B	Endosulfan II	µg/kg	560	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.5 U	2.7 U	2.3 U
SW8081B	Endosulfan Sulfate	µg/kg	560	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U
SW8081B	Endrin	µg/kg	1.4	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg		1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	2 U	2.1 U	1.8 U
SW8081B	Endrin Ketone	µg/kg		2 U	1.9 U	1.9 U	1.9 U	2 U	1.8 U	2.1 U	2.2 U	1.9 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U
SW8081B	gamma-Chlordane	µg/kg	2200	0.65 U	0.64 U	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31
			Sample ID	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326
			Sample Date	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026
			Sample Type	N	FD	N	N	N	N	N	N	N
			Lab Package	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361
Method	Analyte	Units	Eco_ESV_Min									
SW8081B	Heptachlor	µg/kg	59	0.67 U	0.66 U	0.66 U	0.67 U	0.68 U	0.64 U	0.71 U	0.75 U	0.66 U
SW8081B	Heptachlor Epoxide	µg/kg		0.76 U	0.75 U	0.75 U	0.75 U	0.77 U	0.72 U	0.8 U	0.85 U	0.74 U
SW8081B	Methoxychlor	µg/kg	5100	6.4 U	6.3 U	6.3 U	6.4 U	6.5 U	6.1 U	6.8 U	7.2 U	6.3 U
SW8082A	Aroclor 1016	µg/kg	1100	12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1221	µg/kg		12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1232	µg/kg		12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1248	µg/kg	7.3	12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1260	µg/kg	880	12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1262	µg/kg		12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8082A	Aroclor 1268	µg/kg		12 U	12 U	12 U	12 U	12 U	11 U	13 U	13 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U
SW8260D	1,1,2-Trichloroethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	11 U	8 U	12 U	8.2 U	8.4 U	560 U	9.2 U	490 UJ	8.6 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,2-Dibromoethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,2-Dichloroethane	µg/kg	850	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,2-Dichloropropane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U
SW8260D	2-Butanone	µg/kg	350000	**3.8 J**	**2.4 J**	6 U	**2.4 J**	**4 J**	280 U	4.6 U	240 UJ	4.3 U
SW8260D	2-Hexanone	µg/kg	360	6.8 U	5 U	**7.7 J**	5.1 U	5.3 U	280 U	5.8 U	240 UJ	5.4 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	5.5 U	4 U	6 U	4.1 U	4.2 U	280 U	4.6 U	240 UJ	4.3 U
SW8260D	Acetone	µg/kg	1200	**65 J**	**41 J**	**38**	**36 J+**	**42 J+**	1100 U	**50**	970 UJ	**27**
SW8260D	Benzene	µg/kg	24000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	Bromodichloromethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U
SW8260D	Bromoform	µg/kg		11 U	8 U	12 U	8.2 U	8.4 U	560 U	9.2 U	490 UJ	8.6 U
SW8260D	Bromomethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	220 U	2.3 U	190 UJ	2.1 U
SW8260D	Carbon Disulfide	µg/kg	810	**1.3 J**	**1.5 J**	**2.3 J**	**1.5 J**	**1.1 J**	140 U	2.3 U	120 UJ	**1.9 J**
SW8260D	Carbon tetrachloride	µg/kg	58600	2.7 U	2 U	3 U	2.1 U	2.1 U	280 U	2.3 U	240 UJ	2.1 U
SW8260D	Chlorobenzene	µg/kg	2400	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	Chlorodibromomethane	µg/kg		1.4 U	0.99 U	1.5 U	1 U	1.1 U	280 U	1.2 U	240 UJ	1.1 U
SW8260D	Chloroethane	µg/kg		5.5 U	4 U	6 U	4.1 U	4.2 U	280 U	4.6 U	240 UJ	4.3 U
SW8260D	Chloroform	µg/kg	8000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	Chloromethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		1.4 U	0.99 U	1.5 U	1 U	1.1 U	69 U	1.2 U	61 UJ	1.1 U
SW8260D	Cyclohexane	µg/kg		2.7 U	2 U	3 U	2.1 U	**1.1 J**	140 U	2.3 U	120 UJ	2.1 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-24	NPS-SP-24	NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31
				Sample ID	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD	NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326
				Sample Date	03/02/2026	03/02/2026	03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026
				Sample Type	N	FD	N	N	N	N	N	N	N
				Lab Package	4102687801	4102687801	4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361
Method	Analyte	Units	Eco_ESV_Min										
SW8260D	Dichlorodifluoromethane	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Ethylbenzene	µg/kg		2.7 U	2 U	3 U	2.1 U	**1.9 J**	69 U	2.3 U	61 UJ	2.1 U	
SW8260D	Freon 113	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Isopropylbenzene	µg/kg		4.1 U	3 U	4.5 U	3.1 U	3.2 U	69 U	3.5 U	61 UJ	3.2 U	
SW8260D	Methyl Acetate	µg/kg		**11 J**	4 U	6 U	4.1 U	4.2 U	280 U	4.6 U	**72 J-**	4.3 U	
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg		2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Methylcyclohexane	µg/kg		2.7 U	2 U	**1.9 J**	2.1 U	**5.1 J**	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Methylene Chloride	µg/kg	2600	5.5 U	4 U	6 U	4.1 U	4.2 U	280 U	**24**	240 UJ	4.3 U	
SW8260D	Styrene	µg/kg	1200	2.7 U	2 U	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	
SW8260D	Tetrachloroethene	µg/kg	180	4.1 U	3 U	4.5 U	3.1 U	3.2 U	140 U	3.5 U	**100 J-**	3.2 U	
SW8260D	Toluene	µg/kg	23000	2.7 U	2 U	**1.6 J**	2.1 U	**1.5 J**	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	trans-1,3-Dichloropropene	µg/kg		1.4 U	0.99 U	1.5 U	1 U	1.1 U	69 U	1.2 U	61 UJ	1.1 U	
SW8260D	Trichloroethylene	µg/kg	1387	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Trichlorofluoromethane	µg/kg	52000	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 UJ	120 UJ	2.1 U	
SW8260D	Vinyl Chloride	µg/kg	120	2.7 U	2 U	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	
SW8260D	Xylenes, Total	µg/kg	1400	2.7 U	2 U	3 U	2.1 U	**9.5 J**	190 U	2.3 U	170 UJ	2.1 U	
SW8270E-SIM	1-Methylnaphthalene	µg/kg		**1.1 J**	**1.6 J**	**1.4 J**	1.4 U	1.5 U	**1.2 J**	1.5 U	**4.3**	**0.9 J**	
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000	**1.5 J**	**2.6 J**	**2.3 J**	2.9 U	3 U	**1.9 J**	3.1 U	**6.6**	2.8 UJ	
SW8270E-SIM	Acenaphthene	µg/kg	250	**2.8 J**	**5.7 J**	**1.3 J**	1.4 U	1.5 U	**2**	1.5 U	1.6 U	**2.7 J+**	
SW8270E-SIM	Acenaphthylene	µg/kg	29000	**0.54 J**	**1.1 J**	**1 J**	1.4 U	1.5 U	1.4 U	1.5 U	**0.48 J**	**1.4 J**	
SW8270E-SIM	Anthracene	µg/kg	6800	**7.8 J**	**16 J**	**6.5**	**1.3 J**	**0.74 J**	**4.8**	1.5 U	1.6 U	**8.6 J+**	
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730	**16 J**	**32 J**	**15**	**3.3**	**1.2 J**	**11**	1.5 U	**1.3 J**	**24 J**	
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100	**11 J**	**24 J**	**11**	**2.8**	**0.88 J**	**7.8**	1.5 U	**0.98 J**	**23 J**	
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100	**16 J**	**32 J**	**15**	**3.5**	**1 J**	**9.7**	1.5 U	**1.6 J**	**28 J**	
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100	**6.6 J**	**13 J**	**6.7**	**2**	1.5 U	**4.5**	1.5 U	1.6 U	**16 J+**	
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100	**4.9 J**	**10 J**	**5.1**	**1.7 J**	1.5 U	**4.5**	1.5 U	1.6 U	**9.7 J+**	
SW8270E-SIM	Chrysene	µg/kg	1100	**13 J**	**26 J**	**13**	**3**	**0.98 J**	**8.9**	1.5 U	**1.4 J**	**24 J**	
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100	**1.7 J**	**3.5 J**	**1.7 J**	**0.93 J**	1.5 U	**1.5 J**	1.5 U	1.6 U	**3.8 J+**	
SW8270E-SIM	Fluoranthene	µg/kg	1100	**32 J**	**63 J**	**29**	**6.2**	**2**	**20**	1.5 U	**1.9 J**	**40 J**	
SW8270E-SIM	Fluorene	µg/kg	3700	**3.7 J**	**6.9 J**	**2.6**	1.4 U	**0.8 J**	**2.3**	1.5 U	**1.1 J**	**3.2 J+**	
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100	**8 J**	**15 J**	**7.6**	**2.1**	1.5 U	**5.3**	1.5 U	1.6 U	**18 J**	
SW8270E-SIM	Naphthalene	µg/kg	1000	**1.7 J**	**2.8 J**	**1.7 J**	2.9 U	3 U	2.7 U	3.1 U	**2.1 J**	**2.2 J-**	
SW8270E-SIM	Phenanthrene	µg/kg	5500	**31 J**	**60 J**	**20**	**4.2**	**1.9 J**	**14**	2.3 U	**3**	**30 J**	
SW8270E-SIM	Pyrene	µg/kg	1100	**28 J**	**54 J**	**30**	**5.4**	**2.5**	**18**	1.5 U	**1.6 J**	**42 J**	
SW8321B	2,4,5-T	µg/kg		0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	
SW8321B	2,4-DB	µg/kg		2.6 U	2.6 U	2.7 U	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 U	0.47 U	
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		**0.12 J**	**0.12 J**	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg		0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	
SW8321B	DALAPON	µg/kg		2.6 U	2.6 U	2.7 U	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 UJ	0.24 U	
SW8321B	DICAMBA	µg/kg		**0.61 J**	**0.47 J**	**0.4 J**	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 U	0.47 U	
SW8321B	MCPA	µg/kg		0.26 U	0.26 U	0.27 U	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	
SW8321B	MCPP (MECOPROP)	µg/kg		0.26 U	0.26 U	0.27 U	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	
SW8321B	Pentachlorophenol	µg/kg	360	**0.44 J**	**0.75 J**	**0.2 J**	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	
SW8321B	Silvex (2,4,5-TP)	µg/kg	110	0.53 U	0.52 U	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40
				Sample ID	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326
				Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
				Sample Type	N	N	N	N	N	N	N	N	N
				Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min										
CARB435	Asbestos	%			0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil
SW6020B	Antimony	mg/kg	0.248		**0.33**	**0.18 J**	**0.12 J-**	**0.11 J**	**0.14 J**	**0.13 J**	0.15 U	**0.36**	**0.099 J**
SW6020B	Arsenic	mg/kg	0.25		**7.8**	**5.3**	**5.2**	**7.9**	**5.1**	**4.4**	**3**	**9.4**	**5.6**
SW6020B	Beryllium	mg/kg	2.42		**0.65**	**0.48**	**0.55**	**0.46**	**0.6**	**0.49**	**0.27**	**0.79**	**0.42**
SW6020B	Cadmium	mg/kg	0.27		**0.22**	**0.1**	**0.08 J**	**0.056 J**	**0.087 J**	**0.059 J**	0.077 U	**0.26**	**0.056 J**
SW6020B	Chromium	mg/kg	0.34		**21**	**16**	**15**	**13**	**17**	**13**	**20**	**25**	**14**
SW6020B	Copper	mg/kg	14		**21**	**12**	**13**	**10**	**15**	**12**	**5.1**	**23**	**8.9**
SW6020B	Lead	mg/kg	0.94		**190**	**47**	**11 J-**	**8.1**	**30**	**12**	**5.7**	**230**	**14**
SW6020B	Nickel	mg/kg	10		**17**	**12**	**15**	**12**	**15**	**12**	**7.2**	**20**	**11**
SW6020B	Selenium	mg/kg	0.331		**0.45**	**0.19 J**	**0.14 J**	**0.1 J**	**0.2 J**	**0.15 J**	0.19 U	**0.46**	**0.12 J**
SW6020B	Silver	mg/kg	2		**0.22**	**0.058 J**	0.078 U	0.084 U	0.082 U	0.082 U	0.077 U	**0.3**	0.081 U
SW6020B	Thallium	mg/kg	0.027		**0.12**	**0.081 J**	**0.11 J-**	**0.07 J**	**0.09 J**	**0.084 J**	0.077 U	**0.13**	**0.074 J**
SW6020B	Zinc	mg/kg	6.6		**83**	**41**	**43**	**35**	**45**	**36**	**19 J**	**100**	**32**
SW7471B	Mercury	mg/kg	0.013		**2.1**	**0.73 J-**	**0.068**	**0.059 J**	**0.38**	**0.5**	**0.088**	**2.3**	**0.39**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg			**19**	**5.7 J**	11 U	11 U	**6.5 J**	11 U	**11 J**	**26**	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg			1.1 U	0.92 U	1.2 U	1 U	1 U	0.94 U	4.2 U	4.4 U	0.97 U
SW8081B	4,4'-DDD	µg/kg	2		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U
SW8081B	4,4'-DDE	µg/kg	2		1.5 U	1.5 U	**0.74 J**	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	2		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	3.3		0.78 U	0.76 U	0.76 U	0.76 U	0.77 U	0.78 U	0.76 U	0.79 U	0.76 U
SW8081B	Alpha-BHC	µg/kg	70		0.82 U	0.8 U	0.8 U	0.8 U	0.81 U	0.82 U	0.8 U	0.83 U	0.8 U
SW8081B	Alpha-Chlordane	µg/kg	270		1 U	0.96 U	0.97 U	0.97 U	**0.76 J**	0.99 U	0.97 U	1 U	0.97 U
SW8081B	beta-BHC	µg/kg	4		0.97 U	0.94 U	0.95 U	0.95 U	0.96 U	0.97 U	0.95 U	0.98 U	0.95 U
SW8081B	Chlorinated Camphene	µg/kg			30 U	29 U	30 U	29 U	30 U	30 U	30 U	31 U	30 U
SW8081B	Delta-Bhc	µg/kg	70		0.97 U	0.94 U	**3.8**	0.95 U	0.96 U	0.97 U	0.95 U	0.98 U	0.95 U
SW8081B	Dieldrin	µg/kg	4.5		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endosulfan I	µg/kg	560		0.65 U	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U	0.64 U	0.66 U	0.63 U
SW8081B	Endosulfan II	µg/kg	560		2.4 U	2.3 U	2.3 U	2.3 U	2.4 U	2.4 U	2.3 U	2.4 U	2.3 U
SW8081B	Endosulfan Sulfate	µg/kg	560		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin	µg/kg	1.4		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg			1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U
SW8081B	Endrin Ketone	µg/kg			1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	1.9 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5		**1.1**	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U	0.64 U	**2**	0.63 U
SW8081B	gamma-Chlordane	µg/kg	2200		0.65 U	**0.57 J**	0.63 U	0.63 U	**0.89**	**0.4 J**	**0.34 J**	0.66 U	**0.3 J**

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40
			Sample ID	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326
			Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			Sample Type	N	N	N	N	N	N	N	N	N
			Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min									
SW8081B	Heptachlor	µg/kg	59	0.67 U	0.65 U	0.66 U	0.65 U	0.66 U	0.67 U	0.66 U	0.68 U	0.66 U
SW8081B	Heptachlor Epoxide	µg/kg		0.76 U	0.73 U	0.74 U	0.74 U	0.75 U	0.76 U	0.74 U	0.77 U	0.74 U
SW8081B	Methoxychlor	µg/kg	5100	6.4 U	6.2 U	6.2 U	6.2 U	6.3 U	6.4 U	6.2 U	6.5 U	6.2 U
SW8082A	Aroclor 1016	µg/kg	1100	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg		12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg		12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	7.3	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	880	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg		12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg		12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	1,1,2-Trichloroethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	8.5 U	8 U	8.5 U	8.6 U	9.2 U	11 U	8.5 U	480 UJ	8.6 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,2-Dibromoethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,2-Dichloroethane	µg/kg	850	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,2-Dichloropropane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	2-Butanone	µg/kg	350000	4.3 U	**2.8 J**	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U
SW8260D	2-Hexanone	µg/kg	360	5.3 U	5 U	5.3 U	5.4 U	5.7 U	7 U	5.3 U	240 UJ	5.4 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U
SW8260D	Acetone	µg/kg	1200	**18 J**	**36**	**21 J**	**28**	**12 J**	**45**	**20 J**	960 UJ	**23 J**
SW8260D	Benzene	µg/kg	24000	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Bromodichloromethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	Bromoform	µg/kg		8.5 U	8 U	8.5 U	8.6 U	9.2 U	11 U	8.5 U	480 UJ	8.6 U
SW8260D	Bromomethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	190 UJ	2.1 U
SW8260D	Carbon Disulfide	µg/kg	810	2.1 U	**1.3 J**	**1.2 J**	**0.99 J**	2.3 U	**1.3 J**	**1.7 J**	120 UJ	**0.87 J**
SW8260D	Carbon tetrachloride	µg/kg	58600	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	240 UJ	2.1 U
SW8260D	Chlorobenzene	µg/kg	2400	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Chlorodibromomethane	µg/kg		1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	240 UJ	1.1 U
SW8260D	Chloroethane	µg/kg		4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U
SW8260D	Chloroform	µg/kg	8000	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Chloromethane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	60 UJ	1.1 U
SW8260D	Cyclohexane	µg/kg		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-32	NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40
				Sample ID	NPS-SP-32-042326	NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326
				Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
				Sample Type	N	N	N	N	N	N	N	N	N
				Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min										
SW8260D	Dichlorodifluoromethane	µg/kg			2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Ethylbenzene	µg/kg			2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	Freon 113	µg/kg			2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Isopropylbenzene	µg/kg			3.2 U	3 U	3.2 U	3.2 U	3.4 U	4.2 U	3.2 U	60 UJ	3.2 U
SW8260D	Methyl Acetate	µg/kg			4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	**150 J-**	4.3 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg			2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Methylcyclohexane	µg/kg			2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Methylene Chloride	µg/kg	2600		4.3 U	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U
SW8260D	Styrene	µg/kg	1200		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U
SW8260D	Tetrachloroethene	µg/kg	180		3.2 U	3 U	3.2 U	3.2 U	3.4 U	4.2 U	3.2 U	120 UJ	3.2 U
SW8260D	Toluene	µg/kg	23000		2.1 U	2 U	2.1 U	2.1 U	**1.3 J**	2.8 U	**1.1 J**	120 UJ	2.1 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	trans-1,3-Dichloropropene	µg/kg			1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	60 UJ	1.1 U
SW8260D	Trichloroethylene	µg/kg	1387		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Trichlorofluoromethane	µg/kg	52000		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Vinyl Chloride	µg/kg	120		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U
SW8260D	Xylenes, Total	µg/kg	1400		2.1 U	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	170 UJ	2.1 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg			**31 J**	**1.3 J**	**6.1**	**0.75 J**	**4.1**	**2**	**7**	**46**	**3.4**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000		**35 J**	**1.7 J**	**9.7**	2.8 U	**7.2**	**3.2 J**	**9.9**	**43**	**5.5**
SW8270E-SIM	Acenaphthene	µg/kg	250		**160**	**3**	**31**	**3.9**	**23**	**8.4**	**31**	**100**	**13**
SW8270E-SIM	Acenaphthylene	µg/kg	29000		**22**	**2.4**	**1.4 J**	**0.44 J**	**1.3 J**	**1.1 J**	**1.5 J**	**69**	**0.99 J**
SW8270E-SIM	Anthracene	µg/kg	6800		**330**	**8.7**	**57**	**9.4**	**54**	**16**	**62**	**350**	**28**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730		**540**	**31**	**100**	**22**	**82**	**29**	**110**	**940**	**59**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100		**530**	**33**	**85**	**19**	**67**	**24**	**86**	**890**	**46**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100		**620**	**42**	**110**	**24**	**84**	**32**	**110**	**1100**	**61**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100		**310**	**24**	**50**	**12**	**38**	**16**	**51**	**560**	**31**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100		**210**	**16**	**40**	**9.1**	**31**	**11**	**43**	**310**	**23**
SW8270E-SIM	Chrysene	µg/kg	1100		**570**	**37**	**92**	**20**	**77**	**26**	**96**	**990**	**53**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100		**78 J**	**7.5**	**17**	**3.8**	**13**	**4.8**	**17**	**130**	**9.1**
SW8270E-SIM	Fluoranthene	µg/kg	1100		**1300**	**57**	**210**	**41**	**160**	**54**	**210**	**1900**	**130**
SW8270E-SIM	Fluorene	µg/kg	3700		**140 J**	**3.1**	**31**	**3.7**	**27**	**9**	**33**	**110**	**14**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100		**300**	**25**	**59**	**14**	**44**	**18**	**58**	**580**	**34**
SW8270E-SIM	Naphthalene	µg/kg	1000		**36 J**	**2.1 J**	**6.3**	2.8 U	**6.6**	**2.7 J**	**6.1**	**50**	**2.8 J**
SW8270E-SIM	Phenanthrene	µg/kg	5500		**1300**	**33**	**180**	**31**	**150**	**52**	**190**	**1500**	**120**
SW8270E-SIM	Pyrene	µg/kg	1100		**1300**	**53**	**170**	**36**	**130**	**46**	**170**	**1900**	**100**
SW8321B	2,4,5-T	µg/kg			0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U
SW8321B	2,4-DB	µg/kg			0.5 U	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U	0.49 U	0.45 U	0.46 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg			0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg			0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U
SW8321B	DALAPON	µg/kg			0.25 U	0.24 U	0.23 U	0.26 U	0.25 U	0.23 U	0.24 U	0.23 U	0.23 U
SW8321B	DICAMBA	µg/kg			0.5 U	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U	0.49 U	0.45 U	0.46 U
SW8321B	MCPA	µg/kg			0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U
SW8321B	MCPP (MECOPROP)	µg/kg			0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U
SW8321B	Pentachlorophenol	µg/kg	360		0.12 U	0.12 U	**0.095 J**	0.13 U	**0.15**	0.12 U	**0.2**	0.11 U	**0.1 J**
SW8321B	Silvex (2,4,5-TP)	µg/kg	110		0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			Sample ID	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			Sample Type	N	N	N	N	FD
			Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min					
CARB435	Asbestos	%		0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil	0.25 U COC Sample Date 4/23/2026, Brown soil
SW6020B	Antimony	mg/kg	0.248	**0.11 J**	**0.16 J**	**0.14 J**	**0.13 J**	**0.086 J**
SW6020B	Arsenic	mg/kg	0.25	**4.6**	**5.5**	**4.2**	**3.5**	**2.8**
SW6020B	Beryllium	mg/kg	2.42	**0.57**	**0.61**	**0.61**	**0.5**	**0.43**
SW6020B	Cadmium	mg/kg	0.27	**0.072 J**	**0.11**	**0.14**	**0.071 J**	**0.076 J**
SW6020B	Chromium	mg/kg	0.34	**15**	**18**	**18**	**12**	**11**
SW6020B	Copper	mg/kg	14	**14**	**17**	**14**	**11**	**9.9**
SW6020B	Lead	mg/kg	0.94	**13**	**46**	**49**	**11**	**9**
SW6020B	Nickel	mg/kg	10	**14**	**16**	**15**	**13**	**11**
SW6020B	Selenium	mg/kg	0.331	**0.13 J**	**0.22 J**	**0.23 J**	**0.13 J**	**0.16 J**
SW6020B	Silver	mg/kg	2	0.086 U	**0.048 J**	**0.11**	0.082 U	0.084 U
SW6020B	Thallium	mg/kg	0.027	**0.081 J**	**0.099 J**	**0.1 J**	**0.089 J**	**0.069 J**
SW6020B	Zinc	mg/kg	6.6	**43**	**56**	**55**	**36**	**33**
SW7471B	Mercury	mg/kg	0.013	**0.093**	**0.39**	**1**	**0.12**	0.044 U
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg		**23**	11 U	**16**	11 U	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg		1.2 U	1.4 U	1.4 U	0.98 U	1 U
SW8081B	4,4'-DDD	µg/kg	2	1.8 U	1.7 U	3.6 U	1.7 U	1.8 U
SW8081B	4,4'-DDE	µg/kg	2	1.5 U	1.5 U	**11**	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	2	1.3 U	1.3 U	**3.9 J**	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	3.3	0.79 U	0.78 U	1.6 U	0.78 U	0.79 U
SW8081B	Alpha-BHC	µg/kg	70	0.83 U	0.82 U	1.7 U	0.82 U	0.84 U
SW8081B	Alpha-Chlordane	µg/kg	270	**1.5**	**1.1**	**3.4**	1 U	1 U
SW8081B	beta-BHC	µg/kg	4	0.99 U	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Chlorinated Camphene	µg/kg		31 U	30 U	64 U	30 U	31 U
SW8081B	Delta-Bhc	µg/kg	70	0.99 U	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Dieldrin	µg/kg	4.5	1.3 U	1.3 U	2.7 U	1.3 U	**0.39 J**
SW8081B	Endosulfan I	µg/kg	560	0.66 U	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	Endosulfan II	µg/kg	560	2.4 U	2.4 U	5 U	2.4 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	560	1.3 U	1.3 U	2.7 U	1.3 U	1.3 U
SW8081B	Endrin	µg/kg	1.4	1.3 U	1.3 U	2.7 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg		1.9 U	1.8 U	3.9 U	1.8 U	1.9 U
SW8081B	Endrin Ketone	µg/kg		2 U	1.9 U	4.1 U	2 U	2 U
SW8081B	gamma-BHC (Lindane)	µg/kg	5	**0.64 J**	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	gamma-Chlordane	µg/kg	2200	**1.8**	**1.3**	**3.8**	0.65 U	0.66 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

			Location	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			Sample ID	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			Sample Type	N	N	N	N	FD
			Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min					
SW8081B	Heptachlor	µg/kg	59	0.68 U	0.67 U	1.4 U	0.67 U	0.68 U
SW8081B	Heptachlor Epoxide	µg/kg		0.77 U	0.76 U	1.6 U	0.76 U	0.77 U
SW8081B	Methoxychlor	µg/kg	5100	6.5 U	6.4 U	13 U	6.4 U	6.5 U
SW8082A	Aroclor 1016	µg/kg	1100	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg		12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg		12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	260	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	7.3	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	41	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	880	12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg		12 U	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg		12 U	12 U	25 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	260000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg		2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,1,2-Trichloroethane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethane	µg/kg	210000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethene	µg/kg	11000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	270	10 U	8.3 U	560 UJ	11 U	9.1 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dibromoethane	µg/kg		2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichlorobenzene	µg/kg	920	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloroethane	µg/kg	850	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloropropane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,3-Dichlorobenzene	µg/kg	740	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,4-Dichlorobenzene	µg/kg	890	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	2-Butanone	µg/kg	350000	**2.6 J**	**2.9 J**	280 UJ	5.4 U	4.6 U
SW8260D	2-Hexanone	µg/kg	360	6.3 U	5.2 U	280 UJ	6.7 U	5.7 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	9700	5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Acetone	µg/kg	1200	**47**	**49**	1100 UJ	**25 J**	**21 J**
SW8260D	Benzene	µg/kg	24000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Bromodichloromethane	µg/kg		2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Bromoform	µg/kg		10 U	8.3 U	560 UJ	11 U	9.1 U
SW8260D	Bromomethane	µg/kg		2.5 U	2.1 U	230 UJ	2.7 U	2.3 U
SW8260D	Carbon Disulfide	µg/kg	810	**1.1 J**	**1.2 J**	140 UJ	2.7 U	2.3 U
SW8260D	Carbon tetrachloride	µg/kg	58600	2.5 U	2.1 U	280 UJ	2.7 U	2.3 U
SW8260D	Chlorobenzene	µg/kg	2400	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chlorodibromomethane	µg/kg		1.3 U	1 U	280 UJ	1.3 U	1.1 U
SW8260D	Chloroethane	µg/kg		5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Chloroform	µg/kg	8000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chloromethane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	89600	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,3-Dichloropropene	µg/kg		1.3 U	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Cyclohexane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

				Location	NPS-SP-41	NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
				Sample ID	NPS-SP-41-042326	NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
				Sample Date	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
				Sample Type	N	N	N	N	FD
				Lab Package	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units	Eco_ESV_Min						
SW8260D	Dichlorodifluoromethane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Ethylbenzene	µg/kg		2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Freon 113	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Isopropylbenzene	µg/kg		3.8 U	3.1 U	70 UJ	4 U	3.4 U
SW8260D	Methyl Acetate	µg/kg		5.1 U	**2.4 J**	**900 J-**	5.4 U	4.6 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylcyclohexane	µg/kg		2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylene Chloride	µg/kg	2600	5.1 U	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Styrene	µg/kg	1200	2.5 U	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Tetrachloroethene	µg/kg	180	3.8 U	3.1 U	140 UJ	4 U	3.4 U
SW8260D	Toluene	µg/kg	23000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	89600	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	trans-1,3-Dichloropropene	µg/kg		1.3 U	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Trichloroethylene	µg/kg	1387	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Trichlorofluoromethane	µg/kg	52000	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Vinyl Chloride	µg/kg	120	2.5 U	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Xylenes, Total	µg/kg	1400	2.5 U	2.1 U	200 UJ	2.7 U	2.3 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg		**8.9**	**2.3**	**4**	**1.1 J**	**1.4 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	16000	**12**	**3.5 J**	**5.5**	**1.7 J**	**2 J**
SW8270E-SIM	Acenaphthene	µg/kg	250	**39**	**9.3**	**19**	**1.7 J**	**2**
SW8270E-SIM	Acenaphthylene	µg/kg	29000	**1.3 J**	**1.4 J**	**3.2**	**0.7 J**	**0.81 J**
SW8270E-SIM	Anthracene	µg/kg	6800	**88**	**21**	**50**	**4.5**	**4.8**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	730	**170**	**52**	**130**	**14**	**14**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	1100	**140**	**45**	**120**	**13**	**12**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100	**170**	**57**	**140**	**17**	**16**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	1100	**84**	**30**	**75**	**9.1**	**9.3**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	1100	**72**	**22**	**59**	**6.6**	**5.9**
SW8270E-SIM	Chrysene	µg/kg	1100	**160**	**50**	**130**	**14**	**14**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	1100	**28**	**9.4**	**23**	**2.5**	**2.9**
SW8270E-SIM	Fluoranthene	µg/kg	1100	**340**	**97**	**250**	**24**	**24**
SW8270E-SIM	Fluorene	µg/kg	3700	**39**	**9.8**	**18**	**1.8**	**2**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100	**97**	**33**	**82**	**9.9**	**10**
SW8270E-SIM	Naphthalene	µg/kg	1000	**12**	**6.8**	**9.4**	**22 J**	**7.7 J**
SW8270E-SIM	Phenanthrene	µg/kg	5500	**270**	**72**	**180**	**15**	**17**
SW8270E-SIM	Pyrene	µg/kg	1100	**280**	**85**	**210**	**22**	**22**
SW8321B	2,4,5-T	µg/kg		0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DB	µg/kg		0.54 U	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg		0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	DALAPON	µg/kg		0.27 U	0.22 U	0.28 UJ	0.24 U	0.24 U
SW8321B	DICAMBA	µg/kg		0.54 U	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	MCPA	µg/kg		0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	MCPP (MECOPROP)	µg/kg		0.14 U	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	Pentachlorophenol	µg/kg	360	**0.26**	**0.095 J**	**0.23**	0.12 U	0.12 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	110	0.14 U	0.11 U	0.14 U	0.12 U	0.12 U

Table 4. Stockpile Ecological Screening
Validated Analytical Results in Soil
EAPO Stockpile

Notes:

Table 4 includes Level 2A validated data

Bold formatting indicates the result was detected above the laboratory method detection limit.

Two stockpile samples, NPS-BG-14-102825 (NPS-SP-01) and NPS BG 15 102825 (NPS-SP-02), were inadvertently not tested for asbestos (i.e. not labeled on COCs), and one sample, NPS BG 39-030926 (NPS-SP-26), was compromised with water contamination during shipment and not analyzed for asbestos.

Pesticide results for NPS-BG-14-102825 (NPS-SP-01) were rejected due to low surrogate, matrix spike, and/or matrix spike duplicate recoveries.

mg/kg = milligram(s) per kilogram

µg/kg = microgram(s) per kilogram

ID = identifier

N = Normal sample

FD = Field duplicate

Detected results above screening levels are formatted as follows:

Eco_ESV_Min

-Eco_ESV_Min is the lowest value for each compound from the following value of the following screening levels:

- NPS SLERA Plant invertebrate
- NPS BERA Plant
- NPS BERA invertebrate
- NPS SLERA Mammal Bird
- NPS BERA Mammal
- NPS BERA Bird

Qualifiers:

J	The result is an estimated quantity
J-	The result is an estimated quantity, but may be biased low
J+	The result is an estimated quantity, but may be biased high
U	The analyte was not detected
UJ	The analyte was not detected; the quantitation limit is estimated due to QC exceedance
R	The analyte was not detected; the result was rejected (not usable) due to QC exceedance
EX	The result was exceluded (not usable) due to reanalysis

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

						Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
						Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
						Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
						Sample Type	N	N	N	N	N
						Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)					
CARB435	Asbestos	%					NA	NA	0.25 U COC sample date 11/8/2025, Light-tan soil	0.25 U COC sample date 11/8/2025, Light-tan	0.25 U COC sample date 11/8/2025,
SW6020B	Antimony	mg/kg		31	0.271	0.352	**0.17 J**	**0.14 J**	**0.15 J**	**0.14 J**	**0.19 J**
SW6020B	Arsenic	mg/kg	0.68	35	0.292	0.00151	**4.4**	**7.8**	**4.8**	**3.6**	**5.4**
SW6020B	Beryllium	mg/kg	1600	160	3.16	19.5	**0.56**	**0.58**	**0.56**	**0.55**	**0.62**
SW6020B	Cadmium	mg/kg	2100	7.1	0.376	0.139	**0.054 J**	0.08 U	**0.052 J**	**0.041 J**	**0.065 J**
SW6020B	Chromium	mg/kg			180000		**16**	**48**	**22**	**16**	**18**
SW6020B	Copper	mg/kg		3100	45.8	28.1	**9.9**	**12**	**11**	**9**	**14**
SW6020B	Lead	mg/kg		200	9		**19**	**20**	**14**	**19**	**31**
SW6020B	Nickel	mg/kg	15000	1400		25.6	**11**	**16**	**11**	**11**	**13**
SW6020B	Selenium	mg/kg		390	0.26	0.519	**0.23 J**	**0.26 J**	**0.27 J**	**0.29 J**	**0.27 J**
SW6020B	Silver	mg/kg		390		0.799	0.084 U	0.08 U	**0.047 J**	**0.067 J**	**0.092 J**
SW6020B	Thallium	mg/kg		0.78	0.142	0.0142	**0.13**	**0.14**	**0.13**	**0.14**	**0.16**
SW6020B	Zinc	mg/kg		23000		373	**37**	**37**	**61**	**38**	**44**
SW7471B	Mercury	mg/kg		7.1	0.104	0.0327	**0.34**	**0.11**	**0.092**	**0.18**	**0.23**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg					**5.6 J**	**8.5 J**	**6.2 J**	**7.6 J**	**11 J**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg					3.6 U	**4.2 J**	**1.9 J**	3.5 U	3.8 U
SW8081B	4,4'-DDD	µg/kg	2300	32000		7.46	1.7 R	1.8 U	1.7 U	8.4 U	8.3 UJ
SW8081B	4,4'-DDE	µg/kg	2000	39000		10.9	1.5 R	**3.9**	**2.1**	**7.6 J**	7.3 UJ
SW8081B	4,4'-DDT	µg/kg	1900	37000		77.3	1.3 R	**1.3 J**	**1.2 J**	6.3 U	6.2 UJ
SW8081B	Aldrin	µg/kg	39	2300		0.151	0.77 R	0.81 U	0.75 U	3.8 U	3.7 UJ
SW8081B	Alpha-BHC	µg/kg	86	57000		0.0421	0.81 R	0.85 U	0.79 U	4 U	3.9 UJ
SW8081B	Alpha-Chlordane	µg/kg		36000		487	0.99 R	1 U	0.95 U	4.8 U	4.8 UJ
SW8081B	beta-BHC	µg/kg	300			0.147	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ
SW8081B	Chlorinated Camphene	µg/kg	490	5700	464	10.9	30 R	31 U	29 U	150 U	150 UJ
SW8081B	Delta-Bhc	µg/kg		3.8		0.00424	0.96 R	1 U	0.93 U	4.7 U	4.7 UJ
SW8081B	Dieldrin	µg/kg	34	3200		0.0708	1.3 R	**0.54 J**	1.2 U	6.3 U	6.2 UJ
SW8081B	Endosulfan I	µg/kg					0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	Endosulfan II	µg/kg					2.4 R	2.5 U	2.3 U	12 U	11 UJ
SW8081B	Endosulfan Sulfate	µg/kg		380000		2110	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

					Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
					Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
					Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
					Sample Type	N	N	N	N	N
					Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)					
SW8081B	Endrin	µg/kg		19000	80.8	92.2	1.3 R	1.3 U	1.2 U	6.3 U	6.2 UJ
SW8081B	Endrin Aldehyde	µg/kg					1.8 R	1.9 U	1.8 U	8.9 U	8.8 UJ
SW8081B	Endrin Ketone	µg/kg					1.9 R	2 U	1.9 U	9.4 U	9.3 UJ
SW8081B	gamma-BHC (Lindane)	µg/kg	570	57	1.16	0.0565	0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	gamma-Chlordane	µg/kg					0.64 R	0.67 U	0.62 U	3.1 U	3.1 UJ
SW8081B	Heptachlor	µg/kg	130	7800	33.1	0.115	0.66 R	0.7 U	0.64 U	3.2 U	3.2 UJ
SW8081B	Heptachlor Epoxide	µg/kg	70	1000	4.08	0.0284	0.75 R	0.79 U	0.73 U	3.7 U	3.6 UJ
SW8081B	Methoxychlor	µg/kg		320000	2160	2000	6.3 R	6.6 U	6.1 U	31 U	31 UJ
SW8082A	Aroclor 1016	µg/kg	6600	4100		21.4	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1221	µg/kg	200			0.08	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1232	µg/kg	170			0.08	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1242	µg/kg	230			1.23	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1248	µg/kg	230			1.2	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1254	µg/kg	240	1200		2.05	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1260	µg/kg	240			5.49	12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1262	µg/kg					12 U	12 U	11 U	12 U	11 U
SW8082A	Aroclor 1268	µg/kg					12 U	12 U	11 U	12 U	11 U
SW8260D	1,1,1-Trichloroethane	µg/kg		8100000	70.1	2810	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	600	1600000		0.0296	63 U	58 U	53 U	58 U	51 U
SW8260D	1,1,2-Trichloroethane	µg/kg	1100	1500	1.62	0.0893	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1-Dichloroethane	µg/kg	3600	16000000		0.782	130 U	120 U	110 U	120 U	100 U
SW8260D	1,1-Dichloroethene	µg/kg		4800	2.51	2.94	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	24000	58000	204	3.37	500 U	460 U	420 U	460 U	410 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	5.3	4700	0.0864	0.000144	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dibromoethane	µg/kg	36	73000	0.0141	0.0021	63 U	58 U	53 U	58 U	51 U
SW8260D	1,2-Dichlorobenzene	µg/kg		1800000	584	295	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dichloroethane	µg/kg	460	31000	1.42	0.0484	130 U	120 U	110 U	120 U	100 U
SW8260D	1,2-Dichloropropane	µg/kg	2500	16000	1.66	0.282	130 U	120 U	110 U	120 U	100 U
SW8260D	1,3-Dichlorobenzene	µg/kg					130 U	120 U	110 U	120 U	100 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2600	3400000	72	0.462	63 U	58 U	53 U	58 U	51 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

					Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
					Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
					Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
					Sample Type	N	N	N	N	N
					Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)					
SW8260D	2-Butanone	µg/kg		27000000		1160	250 U	230 U	210 U	230 U	200 U
SW8260D	2-Hexanone	µg/kg		200000		8.75	250 U	230 U	210 U	230 U	200 U
SW8260D	4-Methyl-2-Pentanone	µg/kg		33000000		1410	250 U	230 U	210 U	230 U	200 U
SW8260D	Acetone	µg/kg		70000000		3680	1000 U	920 U	840 U	920 U	820 U
SW8260D	Benzene	µg/kg	1200	82000	2.56	0.233	130 U	120 U	110 U	120 U	100 U
SW8260D	Bromodichloromethane	µg/kg	290	630000	21.7	0.0365	63 U	58 U	53 U	58 U	51 U
SW8260D	Bromoform	µg/kg	19000	1600000	21.2	0.873	500 U	460 U	420 U	460 U	410 U
SW8260D	Bromomethane	µg/kg		6800		1.91	200 U	180 U	170 U	180 U	160 U
SW8260D	Carbon Disulfide	µg/kg		770000		240	130 U	120 U	110 U	120 U	100 U
SW8260D	Carbon tetrachloride	µg/kg	650	100000	1.94	0.177	250 U	230 U	210 U	230 U	200 U
SW8260D	Chlorobenzene	µg/kg		280000	67.9	52.8	130 U	120 U	110 U	120 U	100 U
SW8260D	Chlorodibromomethane	µg/kg	8300	1600000	21.3	0.232	250 U	230 U	210 U	230 U	200 U
SW8260D	Chloroethane	µg/kg		5400000		2370	250 U	230 U	210 U	230 U	200 U
SW8260D	Chloroform	µg/kg	320	5300	22.2	0.0612	130 U	120 U	110 U	120 U	100 U
SW8260D	Chloromethane	µg/kg		110000		48.6	130 U	120 U	110 U	120 U	100 U
SW8260D	cis-1,2-Dichloroethene	µg/kg		63000	20.6	7.41	130 U	120 U	110 U	120 U	100 U
SW8260D	cis-1,3-Dichloropropene	µg/kg					63 U	58 U	53 U	58 U	51 U
SW8260D	Cyclohexane	µg/kg		6500000		13000	130 U	120 U	110 U	120 U	100 U
SW8260D	Dichlorodifluoromethane	µg/kg		87000		304	130 U	120 U	110 U	120 U	100 U
SW8260D	Ethylbenzene	µg/kg	5800	2400000	785	1.68	**130 J**	58 U	53 U	58 U	51 U
SW8260D	Freon 113	µg/kg		6700000		25600	130 U	120 U	110 U	120 U	100 U
SW8260D	Isopropylbenzene	µg/kg		1900000		738	63 U	58 U	53 U	58 U	51 U
SW8260D	Methyl Acetate	µg/kg		78000000		4110	250 U	230 U	210 U	230 U	**77 J**
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	47000	15000000		3.22	130 U	120 U	110 U	120 U	100 U
SW8260D	Methylcyclohexane	µg/kg		98000		443	**67 J**	120 U	110 U	120 U	100 U
SW8260D	Methylene Chloride	µg/kg	57000	350000	1.28	2.91	250 U	230 U	210 U	230 U	200 U
SW8260D	Styrene	µg/kg		6000000	110	1330	63 U	58 U	53 U	58 U	51 U
SW8260D	Tetrachloroethene	µg/kg	24000	81000	2.27	5.13	130 U	120 U	110 U	120 U	100 U
SW8260D	Toluene	µg/kg		4900000	692	762	130 U	120 U	110 U	120 U	100 U
SW8260D	trans-1,2-Dichloroethene	µg/kg		70000	31.3	21.2	130 U	120 U	110 U	120 U	100 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

						Location	NPS-SP-01	NPS-SP-02	NPS-SP-03	NPS-SP-04	NPS-SP-05
						Sample ID	NPS-BG-14-102825 (NPS-SP-01)	NPS-BG-15-102825 (NPS-SP-02)	NPS-BG-16-102825 (NPS-SP-03)	NPS-BG-17-102825 (NPS-SP-04)	NPS-BG-18-102825 (NPS-SP-05)
						Sample Date	10/28/2025	10/28/2025	10/28/2025	10/28/2025	10/28/2025
						Sample Type	N	N	N	N	N
						Lab Package	4102499851	4102499851	4102499851	4102499851	4102499851
Method	Analyte	Units	EPA (2024) Residential Soil RSL - Cancer Effects	EPA (2024) Residential Soil RSL - Noncancer Effects	Soil-to-Groundwater SSL (Maximum Contaminant Level)	Soil-to-Groundwater SSL (Residential Tap Water RSL)					
SW8260D	trans-1,3-Dichloropropene	µg/kg					63 U	58 U	53 U	58 U	51 U
SW8260D	Trichloroethylene	µg/kg	940	4100	1.79	0.176	130 U	120 U	110 U	120 U	100 U
SW8260D	Trichlorofluoromethane	µg/kg		23000000		3310	130 U	120 U	110 U	120 U	100 U
SW8260D	Vinyl Chloride	µg/kg	59	42000	0.69	0.00647	130 U	120 U	110 U	120 U	100 U
SW8260D	Xylenes, Total	µg/kg		580000	9900	191	**780**	160 U	150 U	160 U	140 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	10000	180		0.0329	1.4 UJ	**120**	**1 J**	**1.3 J**	**2 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg		240000		185	2.9 UJ	**190**	**1.5 J**	**1.7 J**	**3 J**
SW8270E-SIM	Acenaphthene	µg/kg		3600000		5490	**3**	**440**	**3.7**	**1.5 J**	**2.4**
SW8270E-SIM	Acenaphthylene	µg/kg					**1.3 J**	**9 J**	**1.4 J**	**4**	**7.2**
SW8270E-SIM	Anthracene	µg/kg		18000000		58100	**5.7**	**660**	**6.7**	**6.1**	**11**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	1100			10.5	**15**	**1000**	**20**	**37**	**62**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	110	18000	235	29.4	**13**	**610**	**16**	**36**	**56**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	1100			300	**19**	**820**	**22**	**48**	**76**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg					**9.1**	**320**	**10**	**25**	**38**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	11000			2940	**5.9**	**300**	**7.1**	**16**	**28**
SW8270E-SIM	Chrysene	µg/kg	110000			9050	**14**	**780**	**18**	**36**	**57**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	110			95.8	**2.8**	**130**	**3.4**	**7.9**	**12**
SW8270E-SIM	Fluoranthene	µg/kg		2400000		89100	**28**	**2000**	**35**	**54**	**95**
SW8270E-SIM	Fluorene	µg/kg		2400000		5450	**2.9**	**370**	**3**	**1.3 J**	**2.6**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	1100			978	**11**	**430**	**13**	**31**	**46**
SW8270E-SIM	Naphthalene	µg/kg	2000	130000		0.385	**2 J**	**97 J+**	**3.4 J**	**4.1 J**	**6.3 J**
SW8270E-SIM	Phenanthrene	µg/kg					**18**	**2200**	**22**	**21**	**38**
SW8270E-SIM	Pyrene	µg/kg		1800000		13200	**21**	**1400**	**26**	**46**	**75**
SW8321B	2,4,5-T	µg/kg		630000		67.5	**0.15 J-**	**0.17 J-**	**0.15 J-**	**0.51 J-**	**6**
SW8321B	2,4-DB	µg/kg					2.6 UJ	2.8 UJ	2.5 UJ	**0.64 J-**	**5.5**
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg		700000	18.1	45.3	**0.17 J-**	0.56 UJ	**0.17 J-**	**0.51 J-**	**6**
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg					0.53 UJ	0.56 UJ	0.5 UJ	**0.42 J-**	**6.1**
SW8321B	DALAPON	µg/kg		1900000	41.3	123	2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**6**
SW8321B	DICAMBA	µg/kg		1900000		147	2.6 UJ	2.8 UJ	2.5 UJ	2.6 UJ	**7.1**
SW8321B	MCPA	µg/kg		32000		1.95	0.26 UJ	0.28 UJ	0.25 UJ	0.26 UJ	**5.1**
SW8321B	MCPP (MECOPROP)	µg/kg		63000		4.65	0.26 UJ	**0.11 J-**	0.25 UJ	**0.38 J-**	**5**
SW8321B	Pentachlorophenol	µg/kg	1000	250000	1.38	0.0571	**0.17 J-**	**0.16 J-**	**0.12 J-**	**0.3 J-**	**2.6**
SW8321B	Silvex (2,4,5-TP)	µg/kg		510000	27.5	61.2	0.53 UJ	0.56 UJ	0.5 UJ	**0.51 J-**	**6.7**

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11
			NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)
			10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025
			N	N	N	FD	N	N	FD	N
			4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891
Method	Analyte	Units								
CARB435	Asbestos	%	0.25 U COC sample date 10/29/2025,	0.25 U COC sample date 10/31/2025,	0.25 U COC sample date 11/1/2025, Brown soil	0.25 U COC sample date 11/1/2025, Brown soil	0.25 U COC sample date 11/3/2025, Brown	0.25 U COC sample date 11/4/2025, Brown	0.25 U COC sample date 11/4/2025, Brown soil	0.25 U COC sample date 11/6/2025,
SW6020B	Antimony	mg/kg	**0.22**	**0.086 J-**	**0.2 J**	**0.53 J**	**0.13 J**	**0.11 J**	**0.11 J**	**0.18 J**
SW6020B	Arsenic	mg/kg	**6.1**	**4.2**	**3 J**	**13 J**	**3.1**	**2.7 J**	**1.9 J**	**3.4**
SW6020B	Beryllium	mg/kg	**0.74**	**0.61**	**0.47 J**	**0.78 J**	**0.71**	**0.79**	**0.66**	**0.96**
SW6020B	Cadmium	mg/kg	**0.12**	**0.058 J**	**0.06 J**	**0.19 J**	**0.077 J**	**0.08 J**	**0.07 J**	**0.12**
SW6020B	Chromium	mg/kg	**20**	**18 J+**	**15**	**21**	**17**	**14**	**15**	**21**
SW6020B	Copper	mg/kg	**20**	**14**	**19**	**23**	**17**	**16**	**14**	**20**
SW6020B	Lead	mg/kg	**90**	**35**	**120 J**	**400 J**	**62**	**15 J**	**9.7 J**	**39**
SW6020B	Nickel	mg/kg	**14**	**13 J+**	**9.5 J**	**14 J**	**17**	**19**	**18**	**23**
SW6020B	Selenium	mg/kg	**0.28 J**	**0.21 J**	**0.18 J**	**1.1 J**	**0.099 J**	0.19 U	0.16 U	**0.11 J**
SW6020B	Silver	mg/kg	**0.099 J**	**0.04 J**	**0.043 J**	**0.2 J**	0.067 U	0.075 U	0.065 U	0.075 U
SW6020B	Thallium	mg/kg	**0.098 J**	**0.13**	**0.1 J**	**0.22 J**	**0.14**	**0.13**	**0.13**	**0.14**
SW6020B	Zinc	mg/kg	**62**	**52 J+**	**69 J**	**110 J**	**61**	**59**	**53**	**94**
SW7471B	Mercury	mg/kg	**0.49**	**0.15 J+**	**0.062 J**	**0.19 J**	**0.095**	**0.023 J**	**0.029 J**	**0.057 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**28**	**30 J+**	**91**	**86**	12 U	11 U	11 U	**17**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	**15 J-**	3.4 U	1.5 U	**1.6**	**0.93 J**	**3 J**	**0.83 J**	1.1 U
SW8081B	4,4'-DDD	µg/kg	8.8 U	1.8 U	9.1 UJ	9.2 UJ	3.7 UJ	1.8 U	1.8 U	2 U
SW8081B	4,4'-DDE	µg/kg	**4.6 J**	**3.9**	**4.5 J-**	8.1 UJ	3.3 UJ	1.6 U	1.6 U	**1.1 J**
SW8081B	4,4'-DDT	µg/kg	6.6 U	**2.6**	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U
SW8081B	Aldrin	µg/kg	4 U	0.8 U	4.1 UJ	4.1 UJ	1.7 UJ	0.81 U	0.81 U	0.91 U
SW8081B	Alpha-BHC	µg/kg	4.2 U	0.84 U	4.3 UJ	4.4 UJ	1.8 UJ	0.85 U	0.86 U	0.96 U
SW8081B	Alpha-Chlordane	µg/kg	5.1 U	1 U	5.2 UJ	5.3 UJ	2.1 UJ	1 U	1 U	1.2 U
SW8081B	beta-BHC	µg/kg	4.9 U	**0.9 J**	5.1 UJ	5.2 UJ	2.1 UJ	1 U	1 U	1.1 U
SW8081B	Chlorinated Camphene	µg/kg	150 U	31 U	160 UJ	160 UJ	65 UJ	31 U	32 U	35 U
SW8081B	Delta-Bhc	µg/kg	4.9 U	1 U	5.1 UJ	5.2 UJ	2.1 UJ	1 U	1 U	1.1 U
SW8081B	Dieldrin	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U
SW8081B	Endosulfan I	µg/kg	3.3 U	0.67 U	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U
SW8081B	Endosulfan II	µg/kg	12 U	2.4 U	13 UJ	13 UJ	5.1 UJ	2.5 U	2.5 U	2.8 U
SW8081B	Endosulfan Sulfate	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11
			NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)
			10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025
			N	N	N	FD	N	N	FD	N
			4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891
Method	Analyte	Units								
SW8081B	Endrin	µg/kg	6.6 U	1.3 U	6.8 UJ	6.9 UJ	2.8 UJ	1.3 U	1.4 U	1.5 U
SW8081B	Endrin Aldehyde	µg/kg	9.3 U	1.9 U	9.7 UJ	9.8 UJ	4 UJ	1.9 U	1.9 U	2.2 U
SW8081B	Endrin Ketone	µg/kg	9.9 U	2 U	10 UJ	10 UJ	4.2 UJ	2 U	2 U	2.3 U
SW8081B	gamma-BHC (Lindane)	µg/kg	3.3 U	**2.8 J-**	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U
SW8081B	gamma-Chlordane	µg/kg	3.3 U	**0.45 J**	3.4 UJ	3.5 UJ	1.4 UJ	0.67 U	0.68 U	0.76 U
SW8081B	Heptachlor	µg/kg	3.4 U	0.69 U	3.5 UJ	3.6 UJ	1.4 UJ	0.7 U	0.7 U	0.79 U
SW8081B	Heptachlor Epoxide	µg/kg	3.8 U	0.78 U	4 UJ	4 UJ	1.6 UJ	0.79 U	0.79 U	0.89 U
SW8081B	Methoxychlor	µg/kg	32 U	6.5 U	34 UJ	34 UJ	14 UJ	6.6 U	6.7 U	7.5 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	13 U	**8.7 J**	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	13 U	12 U	25 U	12 U	12 U	14 UJ
SW8260D	1,1,1-Trichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U
SW8260D	1,1,2-Trichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,1-Dichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,1-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	440 UJ	440 U	530 U	530 U	480 UJ	12 U	11 U	520 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,2-Dibromoethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U
SW8260D	1,2-Dichlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,2-Dichloroethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,2-Dichloropropane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,3-Dichlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	1,4-Dichlorobenzene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11
			NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)
			10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025
			N	N	N	FD	N	N	FD	N
			4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891
Method	Analyte	Units								
SW8260D	2-Butanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U
SW8260D	2-Hexanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	7.6 U	6.9 U	260 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U
SW8260D	Acetone	µg/kg	870 UJ	880 U	1100 U	1100 U	950 UJ	**26 J**	**22 J+**	1000 U
SW8260D	Benzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Bromodichloromethane	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U
SW8260D	Bromoform	µg/kg	440 UJ	440 U	530 U	530 U	480 UJ	12 U	11 U	520 U
SW8260D	Bromomethane	µg/kg	170 UJ	180 U	210 U	210 U	190 UJ	3.1 U	2.8 UJ	210 U
SW8260D	Carbon Disulfide	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Carbon tetrachloride	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	3.1 U	2.8 U	260 U
SW8260D	Chlorobenzene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Chlorodibromomethane	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	1.5 U	1.4 U	260 U
SW8260D	Chloroethane	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 UJ	260 U
SW8260D	Chloroform	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Chloromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	1.5 U	1.4 U	65 U
SW8260D	Cyclohexane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Dichlorodifluoromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Ethylbenzene	µg/kg	**45 J-**	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U
SW8260D	Freon 113	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Isopropylbenzene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	4.6 U	4.1 U	65 U
SW8260D	Methyl Acetate	µg/kg	**1200 J-**	**210 J**	**4900**	**4100**	**470 J-**	6.1 U	5.5 U	260 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Methylcyclohexane	µg/kg	**120 J-**	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Methylene Chloride	µg/kg	220 UJ	220 U	260 U	270 U	240 UJ	6.1 U	5.5 U	260 U
SW8260D	Styrene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	3.1 U	2.8 U	65 U
SW8260D	Tetrachloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	4.6 U	4.1 U	130 U
SW8260D	Toluene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-06	NPS-SP-07	NPS-SP-08	NPS-SP-08	NPS-SP-09	NPS-SP-10	NPS-SP-10	NPS-SP-11
			NPS-BG-19-102925 (NPS-SP-06)	NPS-BG-20-103125 (NPS-SP-07)	NPS-BG-21-110125 (NPS-SP-08)	NPS-BG-21P-110125 (NPS-SP-08)-FD	NPS-BG-22-110325 (NPS-SP-09)	NPS-BG-23-110425 (NPS-SP-10)	NPS-BG-23P-110425 (NPS-SP-10)-FD	NPS-BG-24-110625 (NPS-SP-11)
			10/29/2025	10/31/2025	11/01/2025	11/01/2025	11/03/2025	11/04/2025	11/04/2025	11/06/2025
			N	N	N	FD	N	N	FD	N
			4102504331	4102508261	4102508261	4102508261	4102514391	4102514391	4102514391	4102518891
Method	Analyte	Units								
SW8260D	trans-1,3-Dichloropropene	µg/kg	55 UJ	55 U	66 U	67 U	59 UJ	1.5 U	1.4 U	65 U
SW8260D	Trichloroethylene	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Trichlorofluoromethane	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Vinyl Chloride	µg/kg	110 UJ	110 U	130 U	130 U	120 UJ	3.1 U	2.8 U	130 U
SW8260D	Xylenes, Total	µg/kg	150 UJ	150 U	190 U	190 U	170 UJ	3.1 U	2.8 U	180 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**13 J**	**7.1**	**24**	**17 J**	**5.1**	**4.5**	**4**	**2.7**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**23 J**	**9.2**	**30 J**	**24 J**	**7.1**	**6.1**	**5.1**	**4.7**
SW8270E-SIM	Acenaphthene	µg/kg	**38**	**42 J-**	**230 J**	**110 J**	**17**	**6.6**	**6.1**	**28**
SW8270E-SIM	Acenaphthylene	µg/kg	**36**	**6**	**36**	**32**	**5**	**1.6 J**	**1.4 J**	**6.8**
SW8270E-SIM	Anthracene	µg/kg	**210**	**100 J-**	**540 J**	**300 J**	**39**	**15**	**16**	**92**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**1000**	**270**	**970**	**780**	**120**	**59**	**70**	**440**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**980**	**190**	**660**	**580**	**89**	**47**	**53**	**340**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**1200**	**260**	**890**	**730**	**120**	**63**	**70**	**500**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**570**	**130 J-**	**430**	**420**	**61**	**31**	**34**	**160**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**510**	**93 J-**	**300**	**340**	**46**	**22**	**25**	**190**
SW8270E-SIM	Chrysene	µg/kg	**990**	**210**	**740**	**600**	**94**	**50**	**57**	**410**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**160**	**41 J-**	**130**	**110**	**18**	**9.6**	**11**	**57**
SW8270E-SIM	Fluoranthene	µg/kg	**1900**	**610 J+**	**2400**	**1800**	**270**	**110**	**130**	**760**
SW8270E-SIM	Fluorene	µg/kg	**36**	**34 J-**	**220 J**	**110 J**	**15**	**5.4**	**5.2**	**20**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**630**	**170**	**540**	**510**	**76**	**38**	**42**	**190**
SW8270E-SIM	Naphthalene	µg/kg	**60**	**14**	**68**	**59**	**15**	**9.9**	**7.8**	**9.5**
SW8270E-SIM	Phenanthrene	µg/kg	**800**	**460 J+**	**1800 J**	**1200 J**	**160**	**55**	**60**	**290**
SW8270E-SIM	Pyrene	µg/kg	**1700**	**410 J+**	**1600**	**1200**	**180**	**79**	**91**	**700**
SW8321B	2,4,5-T	µg/kg	0.52 U	0.46 U	0.56 U	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ
SW8321B	2,4-DB	µg/kg	2.6 U	2.3 U	**0.43 J**	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.52 U	0.46 U	**0.33 J**	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.52 U	0.46 U	0.56 U	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ
SW8321B	DALAPON	µg/kg	2.6 U	2.3 U	2.8 U	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ
SW8321B	DICAMBA	µg/kg	2.6 U	2.3 U	2.8 U	2.4 U	2.5 UJ	2.5 UJ	2.3 UJ	2.6 UJ
SW8321B	MCPA	µg/kg	0.26 U	0.23 U	0.28 U	0.24 U	0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ
SW8321B	MCPP (MECOPROP)	µg/kg	0.26 U	0.23 U	**0.26 J**	0.24 U	0.25 UJ	0.25 UJ	0.23 UJ	0.26 UJ
SW8321B	Pentachlorophenol	µg/kg	**0.24**	**1.9**	**13**	**11**	**0.21 J-**	0.25 UJ	0.23 UJ	**0.71 J-**
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.52 U	0.46 U	**0.28 J**	0.48 U	0.51 UJ	0.51 UJ	0.46 UJ	0.53 UJ

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18
			NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)
			11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026
			N	N	N	N	N	N	N	N
			4102518891	4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301
Method	Analyte	Units								
CARB435	Asbestos	%	0.25 U COC sample date 11/6/2025, Tan/gray soil	0.25 U COC sample date 11/7/2025,	0.25 U COC sample date 11/11/2025,	0.25 U COC sample date 11/12/2025, Brown soil	0.25 U COC sample date 12/11/2025,	0.25 U COC sample date 12/20/2025, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil	0.25 U COC sample date 1/8/2026, Brown soil
SW6020B	Antimony	mg/kg	**0.18 J**	**0.11 J**	**0.12 J**	**0.27**	**0.15 J**	**0.12 J**	**0.11 J**	**0.1 J**
SW6020B	Arsenic	mg/kg	**2.9**	**4.2**	**3.8**	**5.7**	**4.5**	**3.6**	**2.8**	**4.1**
SW6020B	Beryllium	mg/kg	**0.79**	**0.64**	**0.48**	**0.57**	**0.91**	**0.58**	**0.76**	**0.85 J**
SW6020B	Cadmium	mg/kg	**0.091 J**	**0.33**	**0.065 J**	**0.29**	**0.087 J**	**0.069 J**	**0.085**	**0.13**
SW6020B	Chromium	mg/kg	**19**	**19**	**19**	**25**	**21**	**17**	**18**	**22 J**
SW6020B	Copper	mg/kg	**18**	**24**	**12**	**25**	**27**	**15**	**16**	**15**
SW6020B	Lead	mg/kg	**54**	**19**	**51**	**180**	**150**	**11**	**16**	**11 J**
SW6020B	Nickel	mg/kg	**19**	**19**	**13**	**16**	**14**	**15**	**22**	**22**
SW6020B	Selenium	mg/kg	**0.13 J**	**0.27 J**	**0.12 J**	**0.27 J**	**0.18 J**	**0.1 J**	0.15 U	**0.17 J**
SW6020B	Silver	mg/kg	0.089 U	0.086 U	**0.032 J**	**0.32**	**0.071 J**	**0.046 J**	0.059 U	0.086 U
SW6020B	Thallium	mg/kg	**0.14**	**0.1 J**	**0.056 J**	**0.1**	**0.14**	**0.072 J**	**0.14**	**0.17 J**
SW6020B	Zinc	mg/kg	**69**	**67**	**46**	**160**	**61**	**43**	**60**	**59**
SW7471B	Mercury	mg/kg	**0.065 J**	**0.078**	**0.21**	**0.2**	**0.21**	**0.071 J**	**0.037 J**	**0.045 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**37 J+**	**14**	**31**	**44**	**8.1 J**	**18 J**	**9 J**	**6.5 J**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	1.4 UJ	1 U	0.85 U	**2.2**	0.9 U	**0.55 J**	0.78 U	0.85 U
SW8081B	4,4'-DDD	µg/kg	2.2 U	1.9 U	87 U	180 U	18 U	1.9 UJ	8.7 U	9.4 U
SW8081B	4,4'-DDE	µg/kg	1.9 U	**1.9 J**	76 U	160 U	16 U	1.7 UJ	7.6 U	8.2 U
SW8081B	4,4'-DDT	µg/kg	1.6 U	1.5 U	**8**	**9.7**	14 U	1.4 UJ	6.5 U	7.1 U
SW8081B	Aldrin	µg/kg	0.97 U	0.87 U	39 U	83 U	8.3 U	0.85 UJ	3.9 U	4.2 U
SW8081B	Alpha-BHC	µg/kg	1 U	0.92 U	0.83 U	0.87 U	8.8 U	0.9 UJ	4.1 U	4.5 U
SW8081B	Alpha-Chlordane	µg/kg	1.2 U	**0.61 J**	**170**	**460**	11 U	**1.4 J**	5 U	5.4 U
SW8081B	beta-BHC	µg/kg	1.2 U	1.1 U	**0.51 J**	**1.2 J**	10 U	1.1 UJ	4.9 U	5.3 U
SW8081B	Chlorinated Camphene	µg/kg	38 U	34 U	31 U	32 U	320 U	33 UJ	150 U	160 U
SW8081B	Delta-Bhc	µg/kg	1.2 U	1.1 U	0.98 U	**2.3**	10 U	1.1 UJ	4.9 U	5.3 U
SW8081B	Dieldrin	µg/kg	1.6 U	1.5 U	**2.5**	140 U	14 U	1.4 UJ	6.5 U	7.1 U
SW8081B	Endosulfan I	µg/kg	0.81 U	0.73 U	**13 J**	**37 J**	6.9 U	0.71 UJ	3.2 U	3.5 U
SW8081B	Endosulfan II	µg/kg	3 U	2.7 U	**2.7**	**11**	25 U	2.6 UJ	12 U	13 U
SW8081B	Endosulfan Sulfate	µg/kg	1.6 U	1.5 U	**2.7**	**9.7**	14 U	1.4 UJ	6.5 U	7.1 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18
			NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)
			11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026
			N	N	N	N	N	N	N	N
			4102518891	4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301
Method	Analyte	Units								
SW8081B	Endrin	µg/kg	1.6 U	1.5 U	1.3 U	140 U	14 U	1.4 UJ	6.5 U	7.1 U
SW8081B	Endrin Aldehyde	µg/kg	2.3 U	2.1 U	93 U	190 U	20 U	2 UJ	9.2 U	10 U
SW8081B	Endrin Ketone	µg/kg	2.4 U	2.2 U	98 U	210 U	21 U	2.1 UJ	9.7 U	11 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.81 U	0.73 U	33 U	69 U	6.9 U	0.71 UJ	3.2 U	3.5 U
SW8081B	gamma-Chlordane	µg/kg	0.81 U	**1**	**190**	**540**	6.9 U	**1.8 J**	**2 J**	3.5 U
SW8081B	Heptachlor	µg/kg	0.83 U	**1.1**	**27 J**	**72 J**	7.2 U	**1.2 J**	3.4 U	3.7 U
SW8081B	Heptachlor Epoxide	µg/kg	0.94 U	0.85 U	38 U	**5.2**	8.1 U	0.83 UJ	3.8 U	4.1 U
SW8081B	Methoxychlor	µg/kg	7.9 U	7.2 U	6.4 U	680 U	68 U	7 UJ	32 U	35 U
SW8082A	Aroclor 1016	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1221	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1232	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1242	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1248	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1254	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1260	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1262	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8082A	Aroclor 1268	µg/kg	15 UJ	13 UJ	240 U	130 U	130 U	13 UJ	12 U	13 U
SW8260D	1,1,1-Trichloroethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U
SW8260D	1,1,2-Trichloroethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,1-Dichloroethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,1-Dichloroethene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	750 U	520 U	370 UJ	580 UJ	530 U	460 UJ	420 UJ	7.3 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,2-Dibromoethane	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U
SW8260D	1,2-Dichlorobenzene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,2-Dichloroethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,2-Dichloropropane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,3-Dichlorobenzene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	1,4-Dichlorobenzene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18
			NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)
			11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026
			N	N	N	N	N	N	N	N
			4102518891	4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301
Method	Analyte	Units								
SW8260D	2-Butanone	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	**2.2 J**
SW8260D	2-Hexanone	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	4.6 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U
SW8260D	Acetone	µg/kg	1500 U	1000 U	750 UJ	1200 UJ	1100 U	910 UJ	830 UJ	**24**
SW8260D	Benzene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Bromodichloromethane	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U
SW8260D	Bromoform	µg/kg	750 U	520 U	370 UJ	580 UJ	530 U	460 UJ	420 UJ	7.3 U
SW8260D	Bromomethane	µg/kg	300 U	210 U	150 UJ	230 UJ	210 U	180 UJ	170 UJ	1.8 U
SW8260D	Carbon Disulfide	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	**2.1 J**
SW8260D	Carbon tetrachloride	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	1.8 U
SW8260D	Chlorobenzene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Chlorodibromomethane	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	0.92 U
SW8260D	Chloroethane	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U
SW8260D	Chloroform	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Chloromethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	0.92 U
SW8260D	Cyclohexane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Dichlorodifluoromethane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Ethylbenzene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U
SW8260D	Freon 113	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Isopropylbenzene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	2.8 U
SW8260D	Methyl Acetate	µg/kg	**140 J**	**500**	**2700 J-**	**670 J-**	**67 J**	**340 J**	210 UJ	3.7 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Methylcyclohexane	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Methylene Chloride	µg/kg	380 U	260 U	190 UJ	290 UJ	260 U	230 UJ	210 UJ	3.7 U
SW8260D	Styrene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	1.8 U
SW8260D	Tetrachloroethene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	2.8 U
SW8260D	Toluene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-11	NPS-SP-12	NPS-SP-12	NPS-SP-14	NPS-SP-15	NPS-SP-16	NPS-SP-17	NPS-SP-18
			NPS-BG-24-110625-1 (NPS-SP-11)	NPS-BG-25-110725 (NPS-SP-12)	NPS-BG-26-111125 (NPS-SP-13)	NPS-BG-27-111225 (NPS-SP-14)	NPS-BG-28-121125 (NPS-SP-15)	NPS-BG-29-12202025 (NPS-SP-16)	NPS-BG-30-01082026 (NPS-SP-17)	NPS-BG-31-01082026 (NPS-SP-18)
			11/06/2025	11/07/2025	11/11/2025	11/12/2025	12/11/2025	12/20/2025	01/08/2026	01/08/2026
			N	N	N	N	N	N	N	N
			4102518891	4102518891	4102525971	4102525971	4102574611	4102589251	4102610301	4102610301
Method	Analyte	Units								
SW8260D	trans-1,3-Dichloropropene	µg/kg	94 U	65 U	47 UJ	72 UJ	66 U	57 UJ	52 UJ	0.92 U
SW8260D	Trichloroethylene	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Trichlorofluoromethane	µg/kg	190 U	130 U	94 UJ	**81 J-**	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Vinyl Chloride	µg/kg	190 U	130 U	94 UJ	140 UJ	130 U	110 UJ	100 UJ	1.8 U
SW8260D	Xylenes, Total	µg/kg	260 U	180 U	130 UJ	200 UJ	180 U	160 UJ	150 UJ	1.8 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**3.6**	**2.2**	15 U	**160**	**63**	**15 J**	**22**	**2**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**5.8**	**3 J**	29 U	**250**	**130**	**23 J**	**40**	**2.6 J**
SW8270E-SIM	Acenaphthene	µg/kg	**72**	**12**	**35**	**510**	**160**	**71 J**	**87**	**7.2**
SW8270E-SIM	Acenaphthylene	µg/kg	**5.1**	**1.8 J**	**12 J**	**37**	**4.9**	**3 J**	**2.6**	1.6 U
SW8270E-SIM	Anthracene	µg/kg	**290**	**31**	**83**	**950**	**290**	**160 J**	**170**	**25**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**2000**	**100**	**310**	**1300**	**340**	**320 J**	**240**	**23**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**1400**	**81**	**270**	**1100**	**270**	**260 J**	**170**	**18**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**2000**	**110**	**330**	**1500**	**330**	**320 J**	**210**	**22**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**420**	**45**	**150**	**660**	**140**	**140 J**	**91**	**9.8**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**730**	**41**	**160**	**530**	**140**	**150 J**	**100**	**11**
SW8270E-SIM	Chrysene	µg/kg	**1900**	**98**	**300**	**1200**	**330**	**290 J**	**210**	**22**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**170**	**14**	**43**	**190**	**48**	**46 J**	**32**	**2.6**
SW8270E-SIM	Fluoranthene	µg/kg	**3500**	**190**	**570**	**3200**	**810**	**730 J**	**520**	**54**
SW8270E-SIM	Fluorene	µg/kg	**38**	**11**	**30**	**430**	**170**	**71 J**	**96**	**9**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**830**	**52**	**170**	**750**	**160**	**160 J**	**110**	**13**
SW8270E-SIM	Naphthalene	µg/kg	**6.9 J+**	**3.6 J**	**15 J**	**640**	**51**	**21 J**	**44**	**4.6**
SW8270E-SIM	Phenanthrene	µg/kg	**950**	**97**	**290**	**3600**	**860**	**570 J**	**570**	**63**
SW8270E-SIM	Pyrene	µg/kg	**3000**	**170**	**500**	**2500**	**550**	**630 J**	**450**	**46**
SW8321B	2,4,5-T	µg/kg	0.6 UJ	0.54 UJ	0.51 UJ	**0.11 J-**	0.52 U	0.59 UJ	0.49 U	0.59 U
SW8321B	2,4-DB	µg/kg	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	2.9 UJ	2.4 U	3 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.6 UJ	**0.21 J-**	**0.1 J-**	0.57 UJ	0.52 U	**0.37 J**	0.49 U	0.59 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.6 UJ	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U	0.59 UJ	0.49 U	0.59 U
SW8321B	DALAPON	µg/kg	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	2.9 UJ	2.4 U	3 U
SW8321B	DICAMBA	µg/kg	3 UJ	2.7 UJ	2.5 UJ	2.8 UJ	2.6 U	**0.6 J**	2.4 U	3 U
SW8321B	MCPA	µg/kg	0.3 UJ	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U	0.29 UJ	0.24 U	0.3 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.3 UJ	0.27 UJ	0.25 UJ	0.28 UJ	0.26 U	**0.15 J**	0.24 U	0.3 U
SW8321B	Pentachlorophenol	µg/kg	**0.51 J-**	**0.77 J-**	**1.2 J-**	**11 J-**	**0.75**	**1.7 J**	**0.37**	0.3 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.6 UJ	0.54 UJ	0.51 UJ	0.57 UJ	0.52 U	0.59 UJ	0.49 U	0.59 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24
			NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD
			01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026
			N	N	N	N	N	N	FD
			4102628621	4102639961	4102660751	4102678441	4102678441	4102687801	4102687801
Method	Analyte	Units							
CARB435	Asbestos	%	0.25 U COC sample date 1/29/2026, Brown soil	0.25 U COC sample date 2/3/2026, Brown soil	0.25 U COC sample date 2/17/2026, Brown soil	0.25 U COC Sample Date 2/24/2026, Brownish-	0.25 U COC Sample Date 2/27/2026, Brownish-	0.25 U COC Sample Date 3/2/2026, Brown soil	0.25 U COC Sample Date 3/2/2026, Brown soil
SW6020B	Antimony	mg/kg	**0.18**	**0.11 J**	**0.12 J**	**0.1 J**	**0.11 J-**	**0.13 J**	**0.13 J**
SW6020B	Arsenic	mg/kg	**2.7**	**3.8**	**3.1**	**3.2**	**2.8**	**4.7**	**5.1**
SW6020B	Beryllium	mg/kg	**0.46**	**0.75**	**0.56**	**0.051 J**	**0.52**	**0.71**	**0.72**
SW6020B	Cadmium	mg/kg	**0.047 J**	**0.13**	**0.07 J**	**0.064 J**	**0.062 J**	**0.056 J**	**0.064 J**
SW6020B	Chromium	mg/kg	**17**	**17**	**14**	**14**	**14**	**15**	**15**
SW6020B	Copper	mg/kg	**16**	**15**	**11**	**11**	**9.6**	**13**	**14**
SW6020B	Lead	mg/kg	**11**	**28**	**8**	**15**	**6.8 J-**	**9.6**	**9.9**
SW6020B	Nickel	mg/kg	**11**	**19**	**15**	**12**	**15**	**14**	**15**
SW6020B	Selenium	mg/kg	**0.17 J**	0.19 U	0.17 U	**0.1 J**	0.22 U	0.21 U	0.2 U
SW6020B	Silver	mg/kg	**0.033 J**	0.076 U	0.066 U	0.083 U	0.09 U	0.085 U	0.081 U
SW6020B	Thallium	mg/kg	**0.039 J**	**0.13**	**0.082 J**	**0.068 J**	**0.077 J-**	**0.095 J**	**0.097 J**
SW6020B	Zinc	mg/kg	**33**	**64**	**46**	**41**	**43**	**47**	**49**
SW7471B	Mercury	mg/kg	**0.034 J**	**0.038 J**	0.044 U	0.043 U	0.041 U	0.041 U	**0.022 J**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**26**	**29**	12 U	**65**	11 U	11 U	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	**1.1 J**	3.8 U	**3.4**	**0.67 J**	**0.83 J**	**2.6 J**	10 UJ
SW8081B	4,4'-DDD	µg/kg	8.6 U	34 U	1.9 U	8.9 U	1.8 U	1.7 U	1.7 U
SW8081B	4,4'-DDE	µg/kg	7.6 U	**240**	1.6 U	7.8 U	1.6 U	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	6.5 U	**20 J**	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	3.9 U	15 U	0.85 U	4 U	0.8 U	0.78 U	0.77 U
SW8081B	Alpha-BHC	µg/kg	4.1 U	16 U	0.89 U	4.2 U	0.85 U	0.82 U	0.82 U
SW8081B	Alpha-Chlordane	µg/kg	5 U	20 U	1.1 U	**4.6 J**	1 U	1 U	0.99 U
SW8081B	beta-BHC	µg/kg	4.9 U	19 U	1.1 U	5 U	1 U	0.98 U	0.97 U
SW8081B	Chlorinated Camphene	µg/kg	150 U	600 U	33 U	160 U	31 U	30 U	30 U
SW8081B	Delta-Bhc	µg/kg	4.9 U	19 U	1.1 U	5 U	1 U	0.98 U	0.97 U
SW8081B	Dieldrin	µg/kg	6.5 U	26 U	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U
SW8081B	Endosulfan I	µg/kg	3.2 U	13 U	0.71 U	3.3 U	0.67 U	0.65 U	0.64 U
SW8081B	Endosulfan II	µg/kg	12 U	47 U	2.6 U	12 U	2.5 U	2.4 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	6.5 U	26 U	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24
			NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD
			01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026
			N	N	N	N	N	N	FD
			4102628621	4102639961	4102660751	4102678441	4102678441	4102687801	4102687801
Method	Analyte	Units							
SW8081B	Endrin	µg/kg	6.5 U	26 U	1.4 U	6.7 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	9.2 U	36 U	2 U	9.4 U	1.9 U	1.8 U	1.8 U
SW8081B	Endrin Ketone	µg/kg	9.7 U	38 U	2.1 U	10 U	2 U	2 U	1.9 U
SW8081B	gamma-BHC (Lindane)	µg/kg	3.2 U	13 U	0.71 U	3.3 U	0.67 U	0.65 U	0.64 U
SW8081B	gamma-Chlordane	µg/kg	3.2 U	13 U	0.71 U	**5.7**	0.67 U	0.65 U	0.64 U
SW8081B	Heptachlor	µg/kg	3.3 U	13 U	0.73 U	3.4 U	0.69 U	0.67 U	0.66 U
SW8081B	Heptachlor Epoxide	µg/kg	3.8 U	15 U	0.82 U	3.9 U	0.78 U	0.76 U	0.75 U
SW8081B	Methoxychlor	µg/kg	32 U	130 U	6.9 U	33 U	6.6 U	6.4 U	6.3 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	13 U	12 U	12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	51 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,1,2-Trichloroethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,1-Dichloroethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,1-Dichloroethene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	410 U	9.2 U	8.4 U	6.8 U	8.1 U	11 U	8 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,2-Dibromoethane	µg/kg	51 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,2-Dichlorobenzene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,2-Dichloroethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,2-Dichloropropane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,3-Dichlorobenzene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	1,4-Dichlorobenzene	µg/kg	51 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24
			NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD
			01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026
			N	N	N	N	N	N	FD
			4102628621	4102639961	4102660751	4102678441	4102678441	4102687801	4102687801
Method	Analyte	Units							
SW8260D	2-Butanone	µg/kg	200 U	4.6 U	**4 J**	**2.8 J**	4.1 U	**3.8 J**	**2.4 J**
SW8260D	2-Hexanone	µg/kg	200 U	5.7 U	5.2 U	4.3 U	5.1 U	6.8 U	5 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	200 U	4.6 U	4.2 U	3.4 U	4.1 U	5.5 U	4 U
SW8260D	Acetone	µg/kg	810 U	**25**	**37 J+**	**26**	**19 J**	**65 J**	**41 J**
SW8260D	Benzene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Bromodichloromethane	µg/kg	51 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Bromoform	µg/kg	410 U	9.2 U	8.4 U	6.8 U	8.1 U	11 U	8 U
SW8260D	Bromomethane	µg/kg	160 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Carbon Disulfide	µg/kg	100 U	**1 J**	**1 J**	**1.9 J**	2 U	**1.3 J**	**1.5 J**
SW8260D	Carbon tetrachloride	µg/kg	200 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Chlorobenzene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Chlorodibromomethane	µg/kg	200 U	1.1 U	1 U	0.85 U	1 U	1.4 U	0.99 U
SW8260D	Chloroethane	µg/kg	200 U	4.6 U	4.2 U	3.4 U	4.1 U	5.5 U	4 U
SW8260D	Chloroform	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Chloromethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	51 U	1.1 U	1 U	0.85 U	1 U	1.4 U	0.99 U
SW8260D	Cyclohexane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Dichlorodifluoromethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Ethylbenzene	µg/kg	**24 J**	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Freon 113	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Isopropylbenzene	µg/kg	51 U	3.4 U	3.1 U	2.6 U	3 U	4.1 U	3 U
SW8260D	Methyl Acetate	µg/kg	**1700**	4.6 U	4.2 U	3.4 U	4.1 U	**11 J**	4 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Methylcyclohexane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Methylene Chloride	µg/kg	200 U	4.6 U	4.2 U	3.4 U	4.1 U	5.5 U	4 U
SW8260D	Styrene	µg/kg	**380**	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Tetrachloroethene	µg/kg	100 U	3.4 U	3.1 U	2.6 U	3 U	4.1 U	3 U
SW8260D	Toluene	µg/kg	100 U	**1.6 J**	**1.1 J**	1.7 U	**1.3 J**	2.7 U	2 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-19	NPS-SP-20	NPS-SP-21	NPS-SP-22	NPS-SP-23	NPS-SP-24	NPS-SP-24
			NPS-BG-32-01222026 (NPS-SP-19)	NPS-BG-33-02032026 (NPS-SP-20)	NPS-BG-34-02172026 (NPS-SP-21)	NPS-BG-35-02242026 (NPS-SP-22)	NPS-BG-36-02272026 (NPS-SP-23)	NPS-BG-37-03022026 (NPS-SP-24)	NPS-BG-37P-03022026 (NPS-SP-24)-FD
			01/22/2026	02/03/2026	02/17/2026	02/24/2026	02/27/2026	03/02/2026	03/02/2026
			N	N	N	N	N	N	FD
			4102628621	4102639961	4102660751	4102678441	4102678441	4102687801	4102687801
Method	Analyte	Units							
SW8260D	trans-1,3-Dichloropropene	µg/kg	51 U	1.1 U	1 U	0.85 U	1 U	1.4 U	0.99 U
SW8260D	Trichloroethylene	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Trichlorofluoromethane	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Vinyl Chloride	µg/kg	100 U	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8260D	Xylenes, Total	µg/kg	**160 J**	2.3 U	2.1 U	1.7 U	2 U	2.7 U	2 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**6**	**63**	**7.8**	**22**	1.5 U	**1.1 J**	**1.6 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**9.4**	**110**	**13**	**36**	3 U	**1.5 J**	**2.6 J**
SW8270E-SIM	Acenaphthene	µg/kg	**8.6**	**380**	**36**	**100**	1.5 U	**2.8 J**	**5.7 J**
SW8270E-SIM	Acenaphthylene	µg/kg	**1.5 J**	**5.5**	**0.5 J**	**2.6**	1.5 U	**0.54 J**	**1.1 J**
SW8270E-SIM	Anthracene	µg/kg	**21**	**750**	**88**	**180**	1.5 U	**7.8 J**	**16 J**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**46**	**1100**	**100**	**260**	**1.5 J**	**16 J**	**32 J**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**39**	**830**	**80**	**190**	**1.1 J**	**11 J**	**24 J**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**51**	**1000**	**95**	**240**	**1.4 J**	**16 J**	**32 J**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**27**	**490**	**47**	**94**	1.5 U	**6.6 J**	**13 J**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**20**	**500**	**41**	**86**	1.5 U	**4.9 J**	**10 J**
SW8270E-SIM	Chrysene	µg/kg	**45**	**950**	**89**	**210**	**1.3 J**	**13 J**	**26 J**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**6.9**	**140**	**14**	**32**	1.5 U	**1.7 J**	**3.5 J**
SW8270E-SIM	Fluoranthene	µg/kg	**94**	**2700**	**240**	**520**	**2.8**	**32 J**	**63 J**
SW8270E-SIM	Fluorene	µg/kg	**9.5**	**420**	**45**	**110**	1.5 U	**3.7 J**	**6.9 J**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**27**	**560**	**53**	**120**	1.5 U	**8 J**	**15 J**
SW8270E-SIM	Naphthalene	µg/kg	**8.3**	**260**	**35**	**31**	3 U	**1.7 J**	**2.8 J**
SW8270E-SIM	Phenanthrene	µg/kg	**80**	**2800**	**280**	**610**	**2.3 J**	**31 J**	**60 J**
SW8270E-SIM	Pyrene	µg/kg	**86**	**2000**	**200**	**420**	**2.4**	**28 J**	**54 J**
SW8321B	2,4,5-T	µg/kg	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U
SW8321B	2,4-DB	µg/kg	2.2 U	2.5 U	2.9 U	2.7 U	2.5 UJ	2.6 U	2.6 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ	**0.12 J**	**0.12 J**
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	**0.13 J**	0.51 U	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U
SW8321B	DALAPON	µg/kg	2.2 U	2.5 U	2.9 U	2.7 U	2.5 UJ	2.6 U	2.6 U
SW8321B	DICAMBA	µg/kg	**2.5**	2.5 U	2.9 U	2.7 U	2.5 UJ	**0.61 J**	**0.47 J**
SW8321B	MCPA	µg/kg	0.22 U	0.25 U	0.29 U	0.27 U	0.25 UJ	0.26 U	0.26 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.22 U	0.25 U	0.29 U	0.27 U	0.25 UJ	0.26 U	0.26 U
SW8321B	Pentachlorophenol	µg/kg	**0.17 J**	**3.1**	0.29 U	**0.43**	0.25 UJ	**0.44 J**	**0.75 J**
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.44 U	0.51 U	0.59 U	0.55 U	0.51 UJ	0.53 U	0.52 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32
			NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326
			03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N
			4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361	4102783361
Method	Analyte	Units								
CARB435	Asbestos	%	0.25 U COC Sample Date 3/5/2026, Brown soil	NA	0.25 U COC sample date 3/14/2026,	0.25 U COC sample date 3/20/2026	0.25 U COC sample date 3/20/2026	0.25 U COC sample date 4/2/2026	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,
SW6020B	Antimony	mg/kg	**0.14 J**	**0.11 J**	0.17 U	**0.09 J**	0.17 U	**0.12 J**	**0.12 J**	**0.33**
SW6020B	Arsenic	mg/kg	**4.8**	**8**	**7.1**	**6.7**	**2.6**	**1.8**	**6.1**	**7.8**
SW6020B	Beryllium	mg/kg	**0.59**	**0.37**	**0.27**	**0.32**	**0.43**	**0.45**	**0.48**	**0.65**
SW6020B	Cadmium	mg/kg	**0.062 J**	**0.049 J**	0.085 U	**0.041 J**	0.086 U	**0.088 J**	**0.077 J**	**0.22**
SW6020B	Chromium	mg/kg	**13**	**12**	**7**	**9.1**	**14**	**13**	**13**	**21**
SW6020B	Copper	mg/kg	**11**	**7.1**	**6.2**	**7.5**	**17**	**12**	**11**	**21**
SW6020B	Lead	mg/kg	**8.6**	**4.6**	**3.9**	**5**	**6.8**	**9.3**	**22**	**190**
SW6020B	Nickel	mg/kg	**13**	**9.8**	**7.9**	**9.1**	**17**	**12**	**12**	**17**
SW6020B	Selenium	mg/kg	0.2 U	0.2 U	0.21 U	0.19 U	0.22 U	**0.19 J**	**0.14 J**	**0.45**
SW6020B	Silver	mg/kg	0.082 U	0.079 U	0.085 U	0.077 U	0.086 U	0.092 U	0.086 U	**0.22**
SW6020B	Thallium	mg/kg	**0.087 J**	**0.068 J**	0.085 U	**0.052 J**	**0.059 J**	**0.14**	**0.077 J**	**0.12**
SW6020B	Zinc	mg/kg	**41**	**27 J**	**20 J**	**23 J**	**50**	**43**	**36**	**83**
SW7471B	Mercury	mg/kg	0.043 U	0.042 U	0.044 U	0.041 U	0.044 U	**0.024 J**	**0.36**	**2.1**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**7 J**	11 U	**5.6 J**	**6.1 J**	11 U	12 U	11 U	**19**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	1.4 U	0.92 U	**27**	0.72 U	1.1 U	**13**	1.4 U	1.1 U
SW8081B	4,4'-DDD	µg/kg	1.7 U	1.7 U	1.8 U	1.6 U	1.8 U	1.9 U	1.7 U	1.7 U
SW8081B	4,4'-DDE	µg/kg	**1.6 J**	1.5 U	1.5 U	1.4 U	1.6 U	1.7 U	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	**1.3 J**	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	0.77 U	0.78 U	0.79 U	0.74 U	0.83 U	0.87 U	0.77 U	0.78 U
SW8081B	Alpha-BHC	µg/kg	0.81 U	0.82 U	0.83 U	0.78 U	0.87 U	0.92 U	0.81 U	0.82 U
SW8081B	Alpha-Chlordane	µg/kg	0.99 U	0.99 U	1 U	0.94 U	1.1 U	1.1 U	0.98 U	1 U
SW8081B	beta-BHC	µg/kg	0.96 U	0.97 U	0.99 U	0.92 U	1 U	1.1 U	0.96 U	0.97 U
SW8081B	Chlorinated Camphene	µg/kg	30 U	30 U	31 U	29 U	32 U	34 U	30 U	30 U
SW8081B	Delta-Bhc	µg/kg	0.96 U	0.97 U	0.99 U	0.92 U	1 U	1.1 U	0.96 U	0.97 U
SW8081B	Dieldrin	µg/kg	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U	1.3 U
SW8081B	Endosulfan I	µg/kg	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U	0.65 U
SW8081B	Endosulfan II	µg/kg	2.4 U	2.4 U	2.4 U	2.3 U	2.5 U	2.7 U	2.3 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U	1.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32
			NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326
			03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N
			4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361	4102783361
Method	Analyte	Units								
SW8081B	Endrin	µg/kg	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.5 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	1.8 U	1.8 U	1.9 U	1.7 U	2 U	2.1 U	1.8 U	1.8 U
SW8081B	Endrin Ketone	µg/kg	1.9 U	1.9 U	2 U	1.8 U	2.1 U	2.2 U	1.9 U	1.9 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U	1.1
SW8081B	gamma-Chlordane	µg/kg	0.64 U	0.65 U	0.66 U	0.62 U	0.69 U	0.73 U	0.64 U	0.65 U
SW8081B	Heptachlor	µg/kg	0.66 U	0.67 U	0.68 U	0.64 U	0.71 U	0.75 U	0.66 U	0.67 U
SW8081B	Heptachlor Epoxide	µg/kg	0.75 U	0.75 U	0.77 U	0.72 U	0.8 U	0.85 U	0.74 U	0.76 U
SW8081B	Methoxychlor	µg/kg	6.3 U	6.4 U	6.5 U	6.1 U	6.8 U	7.2 U	6.3 U	6.4 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	12 U	11 U	13 U	13 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	2.1 U
SW8260D	1,1,2-Trichloroethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,1-Dichloroethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,1-Dichloroethene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	12 U	8.2 U	8.4 U	560 U	9.2 U	490 UJ	8.6 U	8.5 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,2-Dibromoethane	µg/kg	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	2.1 U
SW8260D	1,2-Dichlorobenzene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,2-Dichloroethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,2-Dichloropropane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,3-Dichlorobenzene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	1,4-Dichlorobenzene	µg/kg	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	2.1 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32
			NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326
			03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N
			4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361	4102783361
Method	Analyte	Units								
SW8260D	2-Butanone	µg/kg	6 U	**2.4 J**	**4 J**	280 U	4.6 U	240 UJ	4.3 U	4.3 U
SW8260D	2-Hexanone	µg/kg	**7.7 J**	5.1 U	5.3 U	280 U	5.8 U	240 UJ	5.4 U	5.3 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	6 U	4.1 U	4.2 U	280 U	4.6 U	240 UJ	4.3 U	4.3 U
SW8260D	Acetone	µg/kg	**38**	**36 J+**	**42 J+**	1100 U	**50**	970 UJ	**27**	**18 J**
SW8260D	Benzene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Bromodichloromethane	µg/kg	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	2.1 U
SW8260D	Bromoform	µg/kg	12 U	8.2 U	8.4 U	560 U	9.2 U	490 UJ	8.6 U	8.5 U
SW8260D	Bromomethane	µg/kg	3 U	2.1 U	2.1 U	220 U	2.3 U	190 UJ	2.1 U	2.1 U
SW8260D	Carbon Disulfide	µg/kg	**2.3 J**	**1.5 J**	**1.1 J**	140 U	2.3 U	120 UJ	**1.9 J**	2.1 U
SW8260D	Carbon tetrachloride	µg/kg	3 U	2.1 U	2.1 U	280 U	2.3 U	240 UJ	2.1 U	2.1 U
SW8260D	Chlorobenzene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Chlorodibromomethane	µg/kg	1.5 U	1 U	1.1 U	280 U	1.2 U	240 UJ	1.1 U	1.1 U
SW8260D	Chloroethane	µg/kg	6 U	4.1 U	4.2 U	280 U	4.6 U	240 UJ	4.3 U	4.3 U
SW8260D	Chloroform	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Chloromethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1.5 U	1 U	1.1 U	69 U	1.2 U	61 UJ	1.1 U	1.1 U
SW8260D	Cyclohexane	µg/kg	3 U	2.1 U	**1.1 J**	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Dichlorodifluoromethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Ethylbenzene	µg/kg	3 U	2.1 U	**1.9 J**	69 U	2.3 U	61 UJ	2.1 U	2.1 U
SW8260D	Freon 113	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Isopropylbenzene	µg/kg	4.5 U	3.1 U	3.2 U	69 U	3.5 U	61 UJ	3.2 U	3.2 U
SW8260D	Methyl Acetate	µg/kg	6 U	4.1 U	4.2 U	280 U	4.6 U	**72 J-**	4.3 U	4.3 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Methylcyclohexane	µg/kg	**1.9 J**	2.1 U	**5.1 J**	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Methylene Chloride	µg/kg	6 U	4.1 U	4.2 U	280 U	**24**	240 UJ	4.3 U	4.3 U
SW8260D	Styrene	µg/kg	3 U	2.1 U	2.1 U	69 U	2.3 U	61 UJ	2.1 U	2.1 U
SW8260D	Tetrachloroethene	µg/kg	4.5 U	3.1 U	3.2 U	140 U	3.5 U	**100 J-**	3.2 U	3.2 U
SW8260D	Toluene	µg/kg	**1.6 J**	2.1 U	**1.5 J**	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-25	NPS-SP-26	NPS-SP-27	NPS-SP-28	NPS-SP-29	NPS-SP-30	NPS-SP-31	NPS-SP-32
			NPS-BG-38-03052026 (NPS-SP-25)	NPS-BG-39-030926 (NPS-SP-26)	NPS-BG-40-031426 (NPS-SP-27)	NPS-BG-41-03202026 (NPS-SP-28)-03202026	NPS-BG-42-03252026 (NPS-SP-29)-03252026	NPS-BG-43-040226 (NPS-SP-30)	NPS-SP-31-042326	NPS-SP-32-042326
			03/05/2026	03/09/2026	03/14/2026	03/20/2026	03/25/2026	04/02/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N
			4102687801	4102702561	4102705611	4102723241	4102723241	4102740301	4102783361	4102783361
Method	Analyte	Units								
SW8260D	trans-1,3-Dichloropropene	µg/kg	1.5 U	1 U	1.1 U	69 U	1.2 U	61 UJ	1.1 U	1.1 U
SW8260D	Trichloroethylene	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Trichlorofluoromethane	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 UJ	120 UJ	2.1 U	2.1 U
SW8260D	Vinyl Chloride	µg/kg	3 U	2.1 U	2.1 U	140 U	2.3 U	120 UJ	2.1 U	2.1 U
SW8260D	Xylenes, Total	µg/kg	3 U	2.1 U	**9.5 J**	190 U	2.3 U	170 UJ	2.1 U	2.1 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**1.4 J**	1.4 U	1.5 U	**1.2 J**	1.5 U	**4.3**	**0.9 J**	**31 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**2.3 J**	2.9 U	3 U	**1.9 J**	3.1 U	**6.6**	2.8 UJ	**35 J**
SW8270E-SIM	Acenaphthene	µg/kg	**1.3 J**	1.4 U	1.5 U	**2**	1.5 U	1.6 U	**2.7 J+**	**160**
SW8270E-SIM	Acenaphthylene	µg/kg	**1 J**	1.4 U	1.5 U	1.4 U	1.5 U	**0.48 J**	**1.4 J**	**22**
SW8270E-SIM	Anthracene	µg/kg	**6.5**	**1.3 J**	**0.74 J**	**4.8**	1.5 U	1.6 U	**8.6 J+**	**330**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**15**	**3.3**	**1.2 J**	**11**	1.5 U	**1.3 J**	**24 J**	**540**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**11**	**2.8**	**0.88 J**	**7.8**	1.5 U	**0.98 J**	**23 J**	**530**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**15**	**3.5**	**1 J**	**9.7**	1.5 U	**1.6 J**	**28 J**	**620**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**6.7**	**2**	1.5 U	**4.5**	1.5 U	1.6 U	**16 J+**	**310**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**5.1**	**1.7 J**	1.5 U	**4.5**	1.5 U	1.6 U	**9.7 J+**	**210**
SW8270E-SIM	Chrysene	µg/kg	**13**	**3**	**0.98 J**	**8.9**	1.5 U	**1.4 J**	**24 J**	**570**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**1.7 J**	**0.93 J**	1.5 U	**1.5 J**	1.5 U	1.6 U	**3.8 J+**	**78 J**
SW8270E-SIM	Fluoranthene	µg/kg	**29**	**6.2**	**2**	**20**	1.5 U	**1.9 J**	**40 J**	**1300**
SW8270E-SIM	Fluorene	µg/kg	**2.6**	1.4 U	**0.8 J**	**2.3**	1.5 U	**1.1 J**	**3.2 J+**	**140 J**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**7.6**	**2.1**	1.5 U	**5.3**	1.5 U	1.6 U	**18 J**	**300**
SW8270E-SIM	Naphthalene	µg/kg	**1.7 J**	2.9 U	3 U	2.7 U	3.1 U	**2.1 J**	**2.2 J-**	**36 J**
SW8270E-SIM	Phenanthrene	µg/kg	**20**	**4.2**	**1.9 J**	**14**	2.3 U	**3**	**30 J**	**1300**
SW8270E-SIM	Pyrene	µg/kg	**30**	**5.4**	**2.5**	**18**	1.5 U	**1.6 J**	**42 J**	**1300**
SW8321B	2,4,5-T	µg/kg	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	0.12 U
SW8321B	2,4-DB	µg/kg	2.7 U	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 U	0.47 U	0.5 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	0.12 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	0.12 U
SW8321B	DALAPON	µg/kg	2.7 U	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 UJ	0.24 U	0.25 U
SW8321B	DICAMBA	µg/kg	**0.4 J**	2.6 U	2.7 UJ	2.6 U	2.9 U	2.6 U	0.47 U	0.5 U
SW8321B	MCPA	µg/kg	0.27 U	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	0.12 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.27 U	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	0.12 U
SW8321B	Pentachlorophenol	µg/kg	**0.2 J**	0.26 U	0.27 UJ	0.26 U	0.29 U	0.26 U	0.12 U	0.12 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.54 U	0.51 U	0.54 UJ	0.51 U	0.58 U	0.52 U	0.12 U	0.12 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41
			NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N	N
			4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
CARB435	Asbestos	%	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,
SW6020B	Antimony	mg/kg	**0.18 J**	**0.12 J-**	**0.11 J**	**0.14 J**	**0.13 J**	0.15 U	**0.36**	**0.099 J**	**0.11 J**
SW6020B	Arsenic	mg/kg	**5.3**	**5.2**	**7.9**	**5.1**	**4.4**	**3**	**9.4**	**5.6**	**4.6**
SW6020B	Beryllium	mg/kg	**0.48**	**0.55**	**0.46**	**0.6**	**0.49**	**0.27**	**0.79**	**0.42**	**0.57**
SW6020B	Cadmium	mg/kg	**0.1**	**0.08 J**	**0.056 J**	**0.087 J**	**0.059 J**	0.077 U	**0.26**	**0.056 J**	**0.072 J**
SW6020B	Chromium	mg/kg	**16**	**15**	**13**	**17**	**13**	**20**	**25**	**14**	**15**
SW6020B	Copper	mg/kg	**12**	**13**	**10**	**15**	**12**	**5.1**	**23**	**8.9**	**14**
SW6020B	Lead	mg/kg	**47**	**11 J-**	**8.1**	**30**	**12**	**5.7**	**230**	**14**	**13**
SW6020B	Nickel	mg/kg	**12**	**15**	**12**	**15**	**12**	**7.2**	**20**	**11**	**14**
SW6020B	Selenium	mg/kg	**0.19 J**	**0.14 J**	**0.1 J**	**0.2 J**	**0.15 J**	0.19 U	**0.46**	**0.12 J**	**0.13 J**
SW6020B	Silver	mg/kg	**0.058 J**	0.078 U	0.084 U	0.082 U	0.082 U	0.077 U	**0.3**	0.081 U	0.086 U
SW6020B	Thallium	mg/kg	**0.081 J**	**0.11 J-**	**0.07 J**	**0.09 J**	**0.084 J**	0.077 U	**0.13**	**0.074 J**	**0.081 J**
SW6020B	Zinc	mg/kg	**41**	**43**	**35**	**45**	**36**	**19 J**	**100**	**32**	**43**
SW7471B	Mercury	mg/kg	**0.73 J-**	**0.068**	**0.059 J**	**0.38**	**0.5**	**0.088**	**2.3**	**0.39**	**0.093**
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	**5.7 J**	11 U	11 U	**6.5 J**	11 U	**11 J**	**26**	11 U	**23**
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	0.92 U	1.2 U	1 U	1 U	0.94 U	4.2 U	4.4 U	0.97 U	1.2 U
SW8081B	4,4'-DDD	µg/kg	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.8 U
SW8081B	4,4'-DDE	µg/kg	1.5 U	**0.74 J**	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	0.76 U	0.76 U	0.76 U	0.77 U	0.78 U	0.76 U	0.79 U	0.76 U	0.79 U
SW8081B	Alpha-BHC	µg/kg	0.8 U	0.8 U	0.8 U	0.81 U	0.82 U	0.8 U	0.83 U	0.8 U	0.83 U
SW8081B	Alpha-Chlordane	µg/kg	0.96 U	0.97 U	0.97 U	**0.76 J**	0.99 U	0.97 U	1 U	0.97 U	**1.5**
SW8081B	beta-BHC	µg/kg	0.94 U	0.95 U	0.95 U	0.96 U	0.97 U	0.95 U	0.98 U	0.95 U	0.99 U
SW8081B	Chlorinated Camphene	µg/kg	29 U	30 U	29 U	30 U	30 U	30 U	31 U	30 U	31 U
SW8081B	Delta-Bhc	µg/kg	0.94 U	**3.8**	0.95 U	0.96 U	0.97 U	0.95 U	0.98 U	0.95 U	0.99 U
SW8081B	Dieldrin	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endosulfan I	µg/kg	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U	0.64 U	0.66 U	0.63 U	0.66 U
SW8081B	Endosulfan II	µg/kg	2.3 U	2.3 U	2.3 U	2.4 U	2.4 U	2.3 U	2.4 U	2.3 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41
			NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N	N
			4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
SW8081B	Endrin	µg/kg	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U
SW8081B	Endrin Ketone	µg/kg	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	1.9 U	2 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.63 U	0.63 U	0.63 U	0.64 U	0.65 U	0.64 U	**2**	0.63 U	**0.64 J**
SW8081B	gamma-Chlordane	µg/kg	**0.57 J**	0.63 U	0.63 U	**0.89**	**0.4 J**	**0.34 J**	0.66 U	**0.3 J**	**1.8**
SW8081B	Heptachlor	µg/kg	0.65 U	0.66 U	0.65 U	0.66 U	0.67 U	0.66 U	0.68 U	0.66 U	0.68 U
SW8081B	Heptachlor Epoxide	µg/kg	0.73 U	0.74 U	0.74 U	0.75 U	0.76 U	0.74 U	0.77 U	0.74 U	0.77 U
SW8081B	Methoxychlor	µg/kg	6.2 U	6.2 U	6.2 U	6.3 U	6.4 U	6.2 U	6.5 U	6.2 U	6.5 U
SW8082A	Aroclor 1016	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U
SW8260D	1,1,2-Trichloroethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,1-Dichloroethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,1-Dichloroethene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	8 U	8.5 U	8.6 U	9.2 U	11 U	8.5 U	480 UJ	8.6 U	10 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,2-Dibromoethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U
SW8260D	1,2-Dichlorobenzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,2-Dichloroethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,2-Dichloropropane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,3-Dichlorobenzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41
			NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N	N
			4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
SW8260D	2-Butanone	µg/kg	**2.8 J**	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U	**2.6 J**
SW8260D	2-Hexanone	µg/kg	5 U	5.3 U	5.4 U	5.7 U	7 U	5.3 U	240 UJ	5.4 U	6.3 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U	5.1 U
SW8260D	Acetone	µg/kg	**36**	**21 J**	**28**	**12 J**	**45**	**20 J**	960 UJ	**23 J**	**47**
SW8260D	Benzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Bromodichloromethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U
SW8260D	Bromoform	µg/kg	8 U	8.5 U	8.6 U	9.2 U	11 U	8.5 U	480 UJ	8.6 U	10 U
SW8260D	Bromomethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	190 UJ	2.1 U	2.5 U
SW8260D	Carbon Disulfide	µg/kg	**1.3 J**	**1.2 J**	**0.99 J**	2.3 U	**1.3 J**	**1.7 J**	120 UJ	**0.87 J**	**1.1 J**
SW8260D	Carbon tetrachloride	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	240 UJ	2.1 U	2.5 U
SW8260D	Chlorobenzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Chlorodibromomethane	µg/kg	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	240 UJ	1.1 U	1.3 U
SW8260D	Chloroethane	µg/kg	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U	5.1 U
SW8260D	Chloroform	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Chloromethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	60 UJ	1.1 U	1.3 U
SW8260D	Cyclohexane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Dichlorodifluoromethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Ethylbenzene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U
SW8260D	Freon 113	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Isopropylbenzene	µg/kg	3 U	3.2 U	3.2 U	3.4 U	4.2 U	3.2 U	60 UJ	3.2 U	3.8 U
SW8260D	Methyl Acetate	µg/kg	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	**150 J-**	4.3 U	5.1 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Methylcyclohexane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Methylene Chloride	µg/kg	4 U	4.3 U	4.3 U	4.6 U	5.6 U	4.3 U	240 UJ	4.3 U	5.1 U
SW8260D	Styrene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	60 UJ	2.1 U	2.5 U
SW8260D	Tetrachloroethene	µg/kg	3 U	3.2 U	3.2 U	3.4 U	4.2 U	3.2 U	120 UJ	3.2 U	3.8 U
SW8260D	Toluene	µg/kg	2 U	2.1 U	2.1 U	**1.3 J**	2.8 U	**1.1 J**	120 UJ	2.1 U	2.5 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-33	NPS-SP-34	NPS-SP-35	NPS-SP-36	NPS-SP-37	NPS-SP-38	NPS-SP-39	NPS-SP-40	NPS-SP-41
			NPS-SP-33-042326	NPS-SP-34-042326	NPS-SP-35-042326	NPS-SP-36-042326	NPS-SP-37-042326	NPS-SP-38-042326	NPS-SP-39-042326	NPS-SP-40-042326	NPS-SP-41-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	N	N	N	N	N	N
			4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units									
SW8260D	trans-1,3-Dichloropropene	µg/kg	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.1 U	60 UJ	1.1 U	1.3 U
SW8260D	Trichloroethylene	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Trichlorofluoromethane	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Vinyl Chloride	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	120 UJ	2.1 U	2.5 U
SW8260D	Xylenes, Total	µg/kg	2 U	2.1 U	2.1 U	2.3 U	2.8 U	2.1 U	170 UJ	2.1 U	2.5 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**1.3 J**	**6.1**	**0.75 J**	**4.1**	**2**	**7**	**46**	**3.4**	**8.9**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**1.7 J**	**9.7**	2.8 U	**7.2**	**3.2 J**	**9.9**	**43**	**5.5**	**12**
SW8270E-SIM	Acenaphthene	µg/kg	**3**	**31**	**3.9**	**23**	**8.4**	**31**	**100**	**13**	**39**
SW8270E-SIM	Acenaphthylene	µg/kg	**2.4**	**1.4 J**	**0.44 J**	**1.3 J**	**1.1 J**	**1.5 J**	**69**	**0.99 J**	**1.3 J**
SW8270E-SIM	Anthracene	µg/kg	**8.7**	**57**	**9.4**	**54**	**16**	**62**	**350**	**28**	**88**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**31**	**100**	**22**	**82**	**29**	**110**	**940**	**59**	**170**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**33**	**85**	**19**	**67**	**24**	**86**	**890**	**46**	**140**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**42**	**110**	**24**	**84**	**32**	**110**	**1100**	**61**	**170**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**24**	**50**	**12**	**38**	**16**	**51**	**560**	**31**	**84**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**16**	**40**	**9.1**	**31**	**11**	**43**	**310**	**23**	**72**
SW8270E-SIM	Chrysene	µg/kg	**37**	**92**	**20**	**77**	**26**	**96**	**990**	**53**	**160**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**7.5**	**17**	**3.8**	**13**	**4.8**	**17**	**130**	**9.1**	**28**
SW8270E-SIM	Fluoranthene	µg/kg	**57**	**210**	**41**	**160**	**54**	**210**	**1900**	**130**	**340**
SW8270E-SIM	Fluorene	µg/kg	**3.1**	**31**	**3.7**	**27**	**9**	**33**	**110**	**14**	**39**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**25**	**59**	**14**	**44**	**18**	**58**	**580**	**34**	**97**
SW8270E-SIM	Naphthalene	µg/kg	**2.1 J**	**6.3**	2.8 U	**6.6**	**2.7 J**	**6.1**	**50**	**2.8 J**	**12**
SW8270E-SIM	Phenanthrene	µg/kg	**33**	**180**	**31**	**150**	**52**	**190**	**1500**	**120**	**270**
SW8270E-SIM	Pyrene	µg/kg	**53**	**170**	**36**	**130**	**46**	**170**	**1900**	**100**	**280**
SW8321B	2,4,5-T	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U
SW8321B	2,4-DB	µg/kg	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U	0.49 U	0.45 U	0.46 U	0.54 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U
SW8321B	DALAPON	µg/kg	0.24 U	0.23 U	0.26 U	0.25 U	0.23 U	0.24 U	0.23 U	0.23 U	0.27 U
SW8321B	DICAMBA	µg/kg	0.49 U	0.47 U	0.51 U	0.5 U	0.47 U	0.49 U	0.45 U	0.46 U	0.54 U
SW8321B	MCPA	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U
SW8321B	Pentachlorophenol	µg/kg	0.12 U	**0.095 J**	0.13 U	**0.15**	0.12 U	**0.2**	0.11 U	**0.1 J**	**0.26**
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.12 U	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	0.14 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	FD
			4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units				
CARB435	Asbestos	%	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026,	0.25 U COC Sample Date 4/23/2026, Brown
SW6020B	Antimony	mg/kg	**0.16 J**	**0.14 J**	**0.13 J**	**0.086 J**
SW6020B	Arsenic	mg/kg	**5.5**	**4.2**	**3.5**	**2.8**
SW6020B	Beryllium	mg/kg	**0.61**	**0.61**	**0.5**	**0.43**
SW6020B	Cadmium	mg/kg	**0.11**	**0.14**	**0.071 J**	**0.076 J**
SW6020B	Chromium	mg/kg	**18**	**18**	**12**	**11**
SW6020B	Copper	mg/kg	**17**	**14**	**11**	**9.9**
SW6020B	Lead	mg/kg	**46**	**49**	**11**	**9**
SW6020B	Nickel	mg/kg	**16**	**15**	**13**	**11**
SW6020B	Selenium	mg/kg	**0.22 J**	**0.23 J**	**0.13 J**	**0.16 J**
SW6020B	Silver	mg/kg	**0.048 J**	**0.11**	0.082 U	0.084 U
SW6020B	Thallium	mg/kg	**0.099 J**	**0.1 J**	**0.089 J**	**0.069 J**
SW6020B	Zinc	mg/kg	**56**	**55**	**36**	**33**
SW7471B	Mercury	mg/kg	**0.39**	**1**	**0.12**	0.044 U
SW8015D	Diesel Range Organics (C10 - C28)	mg/kg	11 U	**16**	11 U	11 U
SW8015D	Gasoline Range Organics (C6 - C10)	mg/kg	1.4 U	1.4 U	0.98 U	1 U
SW8081B	4,4'-DDD	µg/kg	1.7 U	3.6 U	1.7 U	1.8 U
SW8081B	4,4'-DDE	µg/kg	1.5 U	**11**	1.5 U	1.5 U
SW8081B	4,4'-DDT	µg/kg	1.3 U	**3.9 J**	1.3 U	1.3 U
SW8081B	Aldrin	µg/kg	0.78 U	1.6 U	0.78 U	0.79 U
SW8081B	Alpha-BHC	µg/kg	0.82 U	1.7 U	0.82 U	0.84 U
SW8081B	Alpha-Chlordane	µg/kg	**1.1**	**3.4**	1 U	1 U
SW8081B	beta-BHC	µg/kg	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Chlorinated Camphene	µg/kg	30 U	64 U	30 U	31 U
SW8081B	Delta-Bhc	µg/kg	0.97 U	2 U	0.98 U	0.99 U
SW8081B	Dieldrin	µg/kg	1.3 U	2.7 U	1.3 U	**0.39 J**
SW8081B	Endosulfan I	µg/kg	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	Endosulfan II	µg/kg	2.4 U	5 U	2.4 U	2.4 U
SW8081B	Endosulfan Sulfate	µg/kg	1.3 U	2.7 U	1.3 U	1.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	FD
			4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units				
SW8081B	Endrin	µg/kg	1.3 U	2.7 U	1.3 U	1.3 U
SW8081B	Endrin Aldehyde	µg/kg	1.8 U	3.9 U	1.8 U	1.9 U
SW8081B	Endrin Ketone	µg/kg	1.9 U	4.1 U	2 U	2 U
SW8081B	gamma-BHC (Lindane)	µg/kg	0.65 U	1.4 U	0.65 U	0.66 U
SW8081B	gamma-Chlordane	µg/kg	**1.3**	**3.8**	0.65 U	0.66 U
SW8081B	Heptachlor	µg/kg	0.67 U	1.4 U	0.67 U	0.68 U
SW8081B	Heptachlor Epoxide	µg/kg	0.76 U	1.6 U	0.76 U	0.77 U
SW8081B	Methoxychlor	µg/kg	6.4 U	13 U	6.4 U	6.5 U
SW8082A	Aroclor 1016	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1221	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1232	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1242	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1248	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1254	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1260	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1262	µg/kg	12 U	25 U	12 U	12 U
SW8082A	Aroclor 1268	µg/kg	12 U	25 U	12 U	12 U
SW8260D	1,1,1-Trichloroethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1,2,2-Tetrachloroethane	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,1,2-Trichloroethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,1-Dichloroethene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2,4-Trichlorobenzene	µg/kg	8.3 U	560 UJ	11 U	9.1 U
SW8260D	1,2-Dibromo-3-chloropropane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dibromoethane	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichlorobenzene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloroethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,2-Dichloropropane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,3-Dichlorobenzene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	1,4-Dichlorobenzene	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	FD
			4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units				
SW8260D	2-Butanone	µg/kg	**2.9 J**	280 UJ	5.4 U	4.6 U
SW8260D	2-Hexanone	µg/kg	5.2 U	280 UJ	6.7 U	5.7 U
SW8260D	4-Methyl-2-Pentanone	µg/kg	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Acetone	µg/kg	**49**	1100 UJ	**25 J**	**21 J**
SW8260D	Benzene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Bromodichloromethane	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Bromoform	µg/kg	8.3 U	560 UJ	11 U	9.1 U
SW8260D	Bromomethane	µg/kg	2.1 U	230 UJ	2.7 U	2.3 U
SW8260D	Carbon Disulfide	µg/kg	**1.2 J**	140 UJ	2.7 U	2.3 U
SW8260D	Carbon tetrachloride	µg/kg	2.1 U	280 UJ	2.7 U	2.3 U
SW8260D	Chlorobenzene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chlorodibromomethane	µg/kg	1 U	280 UJ	1.3 U	1.1 U
SW8260D	Chloroethane	µg/kg	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Chloroform	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Chloromethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,2-Dichloroethene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	cis-1,3-Dichloropropene	µg/kg	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Cyclohexane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Dichlorodifluoromethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Ethylbenzene	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Freon 113	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Isopropylbenzene	µg/kg	3.1 U	70 UJ	4 U	3.4 U
SW8260D	Methyl Acetate	µg/kg	**2.4 J**	**900 J-**	5.4 U	4.6 U
SW8260D	Methyl tert-butyl ether (MTBE)	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylcyclohexane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Methylene Chloride	µg/kg	4.2 U	280 UJ	5.4 U	4.6 U
SW8260D	Styrene	µg/kg	2.1 U	70 UJ	2.7 U	2.3 U
SW8260D	Tetrachloroethene	µg/kg	3.1 U	140 UJ	4 U	3.4 U
SW8260D	Toluene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	trans-1,2-Dichloroethene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

			NPS-SP-42	NPS-SP-43	NPS-SP-44	NPS-SP-44
			NPS-SP-42-042326	NPS-SP-43-042326	NPS-SP-44-042326	NPS-SP-44P-042326
			04/23/2026	04/23/2026	04/23/2026	04/23/2026
			N	N	N	FD
			4102783361	4102783361	4102783361	4102783361
Method	Analyte	Units				
SW8260D	trans-1,3-Dichloropropene	µg/kg	1 U	70 UJ	1.3 U	1.1 U
SW8260D	Trichloroethylene	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Trichlorofluoromethane	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Vinyl Chloride	µg/kg	2.1 U	140 UJ	2.7 U	2.3 U
SW8260D	Xylenes, Total	µg/kg	2.1 U	200 UJ	2.7 U	2.3 U
SW8270E-SIM	1-Methylnaphthalene	µg/kg	**2.3**	**4**	**1.1 J**	**1.4 J**
SW8270E-SIM	2-Methylnaphthalene	µg/kg	**3.5 J**	**5.5**	**1.7 J**	**2 J**
SW8270E-SIM	Acenaphthene	µg/kg	**9.3**	**19**	**1.7 J**	**2**
SW8270E-SIM	Acenaphthylene	µg/kg	**1.4 J**	**3.2**	**0.7 J**	**0.81 J**
SW8270E-SIM	Anthracene	µg/kg	**21**	**50**	**4.5**	**4.8**
SW8270E-SIM	Benzo(a)anthracene	µg/kg	**52**	**130**	**14**	**14**
SW8270E-SIM	Benzo(a)pyrene	µg/kg	**45**	**120**	**13**	**12**
SW8270E-SIM	Benzo(b)fluoranthene	µg/kg	**57**	**140**	**17**	**16**
SW8270E-SIM	Benzo(g,h,i)perylene	µg/kg	**30**	**75**	**9.1**	**9.3**
SW8270E-SIM	Benzo(k)fluoranthene	µg/kg	**22**	**59**	**6.6**	**5.9**
SW8270E-SIM	Chrysene	µg/kg	**50**	**130**	**14**	**14**
SW8270E-SIM	Dibenzo(a,h)anthracene	µg/kg	**9.4**	**23**	**2.5**	**2.9**
SW8270E-SIM	Fluoranthene	µg/kg	**97**	**250**	**24**	**24**
SW8270E-SIM	Fluorene	µg/kg	**9.8**	**18**	**1.8**	**2**
SW8270E-SIM	Indeno(1,2,3-Cd)Pyrene	µg/kg	**33**	**82**	**9.9**	**10**
SW8270E-SIM	Naphthalene	µg/kg	**6.8**	**9.4**	**22 J**	**7.7 J**
SW8270E-SIM	Phenanthrene	µg/kg	**72**	**180**	**15**	**17**
SW8270E-SIM	Pyrene	µg/kg	**85**	**210**	**22**	**22**
SW8321B	2,4,5-T	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DB	µg/kg	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	2,4-Dichlorophenoxyacetic acid	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	2,4-DP (DICHLOROPROP)	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	DALAPON	µg/kg	0.22 U	0.28 UJ	0.24 U	0.24 U
SW8321B	DICAMBA	µg/kg	0.44 U	0.57 U	0.49 U	0.48 U
SW8321B	MCPA	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	MCPP (MECOPROP)	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U
SW8321B	Pentachlorophenol	µg/kg	**0.095 J**	**0.23**	0.12 U	0.12 U
SW8321B	Silvex (2,4,5-TP)	µg/kg	0.11 U	0.14 U	0.12 U	0.12 U

Table 5. Stockpile Human Health Screening
Validated Analytical Results in Soil
EAPO Stockpile

Notes:

Table 5 includes Level 2A validated data

Bold formatting indicates the result was detected above the laboratory method detection limit.

Two stockpile samples, NPS-BG-14-102825 (NPS-SP-01) and NPS BG 15 102825 (NPS-SP-02), were inadvertently not tested for asbestos (i.e. not labeled on COCs), and one sample, NPS BG 39-030926 (NPS-SP-26), was compromised with water contamination during shipment and not analyzed for asbestos.

Pesticide results for NPS-BG-14-102825 (NPS-SP-01) were rejected due to low surrogate, matrix spike, and/or matrix spike duplicate recoveries.

mg/kg = milligram(s) per kilogram

µg/kg = microgram(s) per kilogram

ID = identifier

N = Normal sample

FD = Field duplicate

RSL = regional screening level

SSL = soil screening level

Detected Shaded results are above screening levels and are formatted as follows:

Screening Level

Qualifiers:

J	The result is an estimated quantity
J-	The result is an estimated quantity, but may be biased low
J+	The result is an estimated quantity, but may be biased high
U	The analyte was not detected
UJ	The analyte was not detected; the quantitation limit is estimated due to QC exceedance
R	The analyte was not detected; the result was rejected (not usable) due to QC exceedance
EX	The result was exceluded (not usable) due to reanalysis

Table 6. Preliminary Background Threshold Values and Exposure Point Concentrations

EAPO Stockpile

Analyte	Units	Maximum Detect	Baseline BTV	BTV Basis	Stockpile EPC	EPC Basis	Stockpile Surface EPC	EPC Basis
Ethylbenzene	µg/kg	ND	ND	All ND	18.12	95% KM (t) UCL	ND	All ND
Styrene	µg/kg	ND	ND	All ND	38.82	95% KM (t) UCL	ND	All ND
Heptachlor Epoxide	µg/kg	ND	ND	All ND	ND	Only 1 detect. EPC may be unreliable	ND	All ND
Endosulfan Sulfate	µg/kg	ND	ND	All ND	2.124	95% KM (t) UCL. Only 2 detects, EPC may be unreliable	ND	All ND
Methylcyclohexane	µg/kg	ND	ND	All ND	22.49	95% KM (t) UCL	ND	All ND
Toluene	µg/kg	110	170	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	1.584	95% KM (t) UCL	1.3	Maximum detected value. Only 2 detects, EPC may be unreliable
Aroclor 1254	µg/kg	ND	ND	All ND	11.73	95% KM (t) UCL	ND	All ND
Anthracene	µg/kg	790	775.5	95% Approx. Gamma UTL with 95% Coverage	261.7	95% KM Adjusted Gamma UCL	152.9	95% Adjusted Gamma UCL
2,4-DP (DICHLOROPROP)	µg/kg	1.2	1.128	Only 3 detects. BTV may be unreliable. 95% KM UTL (Lognormal)95% Coverage	0.814	95% KM (t) UCL	ND	All ND
Tetrachloroethene	µg/kg	77	n/a	Only 1 detect. BTV cannot be calcualted.	ND	Only 1 detect. EPC may be unreliable	ND	All ND
Pyrene	µg/kg	1500	2121	95% WH Approx. Gamma UTL with 95% Coverage	905.8	95% KM Adjusted Gamma UCL	891.3	95% H-UCL
Xylenes, Total	µg/kg	ND	ND	All ND	74.59	95% KM (t) UCL. Only 3 detects, EPC may be unreliable	ND	All ND
Benzo(g,h,i)perylene	µg/kg	340	404.6	95% UTL with 95% Coverage	234.4	95% KM Adjusted Gamma UCL	210.6	95% H-UCL
DICAMBA	µg/kg	0.79	n/a	Only 1 detect. BTV cannot be calcualted.	1.396	95% KM (t) UCL	ND	All ND
Indeno(1,2,3-Cd)Pyrene	µg/kg	450	503.2	95% UTL with 95% Coverage, Normal Distribution	295.4	95% KM Adjusted Gamma UCL	184.4	95% Adjusted Gamma UCL
Benzo(b)fluoranthene	µg/kg	730	795.8	95% UTL with 95% Coverage, Normal Distribution	547	95% KM Adjusted Gamma UCL	358	95% Adjusted Gamma UCL
Fluoranthene	µg/kg	800	1007	95% UTL with 95% Coverage, Normal Distribution	1155	95% KM Adjusted Gamma UCL	681.4	95% Adjusted Gamma UCL
Benzo(k)fluoranthene	µg/kg	300	306.9	95% UTL with 95% Coverage, Normal Distribution	212.7	95% KM Adjusted Gamma UCL	113.8	95% Adjusted Gamma UCL
Acenaphthylene	µg/kg	39	48.42	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	11.26	95% KM Adjusted Gamma UCL	15.4	95% Student's-t UCL
Chrysene	µg/kg	730	761.6	95% UTL with 95% Coverage, Normal Distribution	482.4	95% KM Adjusted Gamma UCL	326.5	95% Adjusted Gamma UCL
beta-BHC	µg/kg	ND	ND	All ND	1.003	95% KM (t) UCL	ND	All ND
Delta-Bhc	µg/kg	6.9	6.9	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	ND	Only 1 detect. EPC may be unreliable	ND	All ND
Endosulfan II	µg/kg	ND	ND	All ND	3.529	95% KM (t) UCL. Only 2 detects, EPC may be unreliable	ND	All ND
4,4'-DDT	µg/kg	1.4	n/a	Only 1 detect. BTV cannot be calcualted.	3.274	95% KM (t) UCL	ND	Only 1 detect. EPC may be unreliable
Benzo(a)pyrene	µg/kg	590	634.8	95% UTL with 95% Coverage, Normal Distribution	412.1	95% KM Adjusted Gamma UCL	296.1	95% Adjusted Gamma UCL
Alpha-Chlordane	µg/kg	4.3	5.8	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	8.4	KM H-UCL	1.359	95% KM (t) UCL
Dibenzo(a,h)anthracene	µg/kg	120	127	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	70.76	95% KM Adjusted Gamma UCL	45.33	95% Adjusted Gamma UCL
gamma-Chlordane	µg/kg	4.1	4.1	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	10.66	KM H-UCL	1.255	95% KM (t) UCL
Benzo(a)anthracene	µg/kg	1000	1397	95% WH Approx. Gamma UTL with 95% Coverage	542	95% KM Adjusted Gamma UCL	315.9	95% Adjusted Gamma UCL
gamma-BHC (Lindane)	µg/kg	0.31	n/a	Only 1 detect. BTV cannot be calcualted.	1.059	95% KM (t) UCL. Only 2 detects, EPC may be unreliable	0.954	95% KM (t) UCL
Dieldrin	µg/kg	0.36	n/a	Only 1 detect. BTV cannot be calcualted.	0.851	95% KM (t) UCL. Only 2 detects, EPC may be unreliable	ND	Only 1 detect. EPC may be unreliable
4,4'-DDE	µg/kg	4.3	4.049	Only 3 detects. BTV may be unreliable. 95% UTL 95% Coverage, Lognormal ROS Assuming Lognormal Distribution Using Imputed Non-Detects	19.7	95% KM (t) UCL	3.07	95% KM (t) UCL. Only 2 detects, EPC may be unreliable
Lead	mg/kg	340	436.4	95% UTL with 95% Coverage, Normal Distribution	61.72	95% Student's-t UCL	77.64	95% Student's-t UCL
Mercury	mg/kg	13	19.54	95% WH Approx. Gamma UTL with 95% Coverage	0.133	95% KM Adjusted Gamma UCL	1.199	95% KM Adjusted Gamma UCL
Nickel	mg/kg	30	35.59	95% WH Approx. Gamma UTL with 95% Coverage	15.89	95% Student's-t UCL	14.86	95% Student's-t UCL
Silver	mg/kg	0.82	0.978	95% UTL with 95% Coverage, Normal Distribution	0.076	95% KM (t) UCL	0.121	95% KM (t) UCL
Thallium	mg/kg	0.27	0.284	95% UTL with 95% Coverage, Normal Distribution	0.118	95% KM (t) UCL	0.0982	95% KM (t) UCL
Antimony	mg/kg	0.59	0.708	95% UTL with 95% Coverage, Normal Distribution	0.183	95% KM (t) UCL	0.192	95% KM (t) UCL
Arsenic	mg/kg	7.9	10.13	95% UTL with 95% Coverage, Normal Distribution	4.942	95% Student's-t UCL	6.201	95% Student's-t UCL

Table 6. Preliminary Background Threshold Values and Exposure Point Concentrations
EAPO Stockpile

Analyte	Units	Maximum Detect	Baseline BTV	BTV Basis	Stockpile EPC	EPC Basis	Stockpile Surface EPC	EPC Basis
Beryllium	mg/kg	1.2	1.269	95% UTL with 95% Coverage, Normal Distribution	0.652	95% Student's-t UCL	0.582	95% Student's-t UCL
Cadmium	mg/kg	0.39	0.529	95% UTL with 95% Coverage, Normal Distribution	0.106	95% KM (t) UCL	0.13	95% KM (t) UCL
Chromium	mg/kg	44	44	Nonparametric 95% UTL with 95% Coverage	20.67	95% Adjusted Gamma UCL	17.81	95% Student's-t UCL
Copper	mg/kg	53	53.56	95% UTL with 95% Coverage, Normal Distribution	17.04	95% Student's-t UCL	15.21	95% Student's-t UCL
Zinc	mg/kg	110	162	95% UTL with 95% Coverage, Normal Distribution	60.91	95% Adjusted Gamma UCL	57.59	95% Adjusted Gamma UCL
Methylene Chloride	µg/kg	ND	ND	All ND	ND	Only 1 detect. EPC may be unreliable	ND	All ND
DALAPON	µg/kg	ND	ND	All ND	ND	Only 1 detect. EPC may be unreliable	ND	All ND
Heptachlor	µg/kg	0.37	n/a	Only 1 detect. BTV cannot be calcualted.	11.81	95% KM Adjusted Gamma UCL	ND	All ND
Selenium	mg/kg	0.72	0.808	95% UTL with 95% Coverage, Normal Distribution	0.245	95% KM (t) UCL	0.248	95% KM (t) UCL
Trichloroethylene	µg/kg	80	n/a	Only 1 detect. BTV cannot be calcualted.	ND	All ND	ND	All ND
Methyl Acetate	µg/kg	360	419.6	95% UTL with 95% Coverage, Normal Distribution	890	95% KM (t) UCL	197	95% KM (t) UCL. Only 3 detects, EPC may be unreliable
Acenaphthene	µg/kg	190	165.5	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	170	95% KM Adjusted Gamma UCL	62.06	95% Adjusted Gamma UCL
Phenanthrene	µg/kg	580	580	Nonparametric 95% UTL with 95% Coverage	948.6	95% KM Adjusted Gamma UCL	1001	95% H-UCL
Fluorene	µg/kg	270	242.7	95% Approx. Gamma UTL with 95% Coverage and KM Estimates	126.8	95% KM Adjusted Gamma UCL	60.69	95% Adjusted Gamma UCL
Pentachlorophenol	µg/kg	1.9	1.792	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	3.453	95% KM (t) UCL	0.154	95% KM (t) UCL
1-Methylnaphthalene	µg/kg	180	144.9	95% Approx. Gamma UTL with 95% Coverage and KM Estimates	33.61	95% KM Adjusted Gamma UCL	16.3	95% Adjusted Gamma UCL
Naphthalene	µg/kg	200	169.7	95% Approx. Gamma UTL with 95% Coverage and KM Estimates	126.4	KM H-UCL	23.61	95% KM Adjusted Gamma UCL
2-Methylnaphthalene	µg/kg	190	153.3	95% Approx. Gamma UTL with 95% Coverage and KM Estimates	55.33	95% KM Adjusted Gamma UCL	20.81	95% KM Adjusted Gamma UCL
MCPP (MECOPROP)	µg/kg	0.95	0.927	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	0.719	95% KM (t) UCL	ND	All ND
Silvex (2,4,5-TP)	µg/kg	1.7	1.638	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	0.817	95% KM (t) UCL	ND	All ND
2,4,5-T	µg/kg	1.9	1.783	Only 3 detects. BTV may be unreliable. 95% KM UTL (Lognormal)95% Coverage. KM estimates on Logged Data and Assuming Lognormal Distribution.	0.32	KM H-UCL	ND	All ND
MCPA	µg/kg	1.2	1.135	95% UTL 95% Coverage, KM Background Statistics Assuming Normal Distribution	0.683	95% KM (t) UCL. Only 3 detects, EPC may be unreliable	ND	All ND
2,4-Dichlorophenoxyacetic acid	µg/kg	1.5	1.5	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	0.769	KM H-UCL	ND	All ND
2,4-DB	µg/kg	2.6	2.977	Only 2 detects. BTV may be unreliable. KM Background Statistics Assuming Normal Distribution	1.116	95% KM (t) UCL	ND	All ND
Endosulfan I	µg/kg	2.8	3.8	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	4.363	95% KM (t) UCL. Only 2 detects, EPC may be unreliable	ND	All ND
Diesel Range Organics (C10 - C28)	mg/kg	52	63.23	95% UTL with 95% Coverage, Normal Distribution	30.8	95% KM (t) UCL	13.76	95% KM (t) UCL
Gasoline Range Organics (C6 - C10)	mg/kg	22	22	Only 2 detects. BTV may be unreliable. Nonparametric 95% UTL with 95% Coverage	5.021	95% KM Adjusted Gamma UCL	ND	All ND

Notes:
µg/kg = micrograms per kilogram
BTV = Background threshold value
EPC = Exposure point concentration
mg/kg = miligrams per kilogram
n/a = value could not be calculated
ND = nondetect
KM = Kaplan Meier

BTVs and EPCs calcualted for analytes that exceeded at least one human health- or ecological risk-based screening value
BTVs represent 95% Upper Tolerance Limit with 95% confidence (95/95 UTL)
EPCs represent Upper Confidence Limits of the Mean (95 UCL)
BTVs and EPCs are preliminary and may be revised during a streamlined risk assessment

Table 7. Human Health Risk Evaluation of the Chemicals of Potential Concern
EAPO Stockpile

Exposure Area	Chemical Class	Chemical of Potential Concern [a]	CAS Number	Unit	No of Detects	No of Samples	Detection Frequency	Minimum Nondetect	Maximum Nondetect	Minimum Detected Concentration	Average Detected Concentration	Maximum Detect Concentration (MDC)	Residentail Soil RSL [b]	No of Detects > Residential Soil RSL	BTV [c]	No of Samples > BTV	MDC > BTV?	Full-Time Worker RSL [b]	No of Detects > Industrial RSL	Exposure Point Concentration	EPC Greater than Full-Time Worker RSL?
Baseline	Metals	Arsenic	7440-38-2	mg/kg	12	12	100%	0.25	0.38	1.5	5	7.9	0.0317	12	10	0	No	0.141	12	n/a	n/a
Baseline	Metals	Lead	7439-92-1	mg/kg	12	12	100%	0.12	0.19	9.9	140	340	200	3	436	0	No	800	0	n/a	n/a
Baseline	cPAH	Benzo(a)anthracene	56-55-3	µg/kg	12	12	100%	1.4	7.9	13	191	1,000	1,100	0	1,397	0	No	21,000	0	n/a	n/a
Baseline	cPAH	Benzo(a)pyrene	50-32-8	µg/kg	12	12	100%	1.4	7.9	12	140	590	110	4	635	0	No	2,100	0	n/a	n/a
Baseline	cPAH	Benzo(b)fluoranthene	205-99-2	µg/kg	12	12	100%	1.4	7.9	17	180	730	1,100	0	796	0	No	21,000	0	n/a	n/a
Baseline	cPAH	Benzo(k)fluoranthene	207-08-9	µg/kg	12	12	100%	1.4	7.9	5.7	66	300	11,000	0	307	0	No	210,000	0	n/a	n/a
Baseline	cPAH	Chrysene	218-01-9	µg/kg	12	12	100%	1.4	7.9	13	161	730	110,000	0	762	0	No	2,100,000	0	n/a	n/a
Baseline	cPAH	Dibenzo(a,h)anthracene	53-70-3	µg/kg	11	12	92%	1.4	7.9	5	32	120	110	1	127	0	No	2,100	0	n/a	n/a
Baseline	cPAH	Indeno(1,2,3-Cd)Pyrene	193-39-5	µg/kg	12	12	100%	1.4	7.9	11	116	450	1,100	0	503	0	No	21,000	0	n/a	n/a
Stockpile	Metals	Arsenic	7440-38-2	mg/kg	37	37	100%	0.24	0.37	1.8	4	13	0.0317	37	10	1	Yes	0.141	37	4.9	Yes
Stockpile	Metals	Lead	7439-92-1	mg/kg	37	37	100%	0.12	0.18	3.9	41	400	200	1	436	0	No	800	0	62	No
Stockpile	cPAH	Benzo(a)anthracene	56-55-3	µg/kg	36	37	97%	1.4	18	1.2	353	2,000	1,100	3	1,397	1	Yes	21,000	0	542	No
Stockpile	cPAH	Benzo(a)pyrene	50-32-8	µg/kg	36	37	97%	1.4	18	0.88	269	1,400	110	17	635	6	Yes	2,100	0	412	No
Stockpile	cPAH	Benzo(b)fluoranthene	205-99-2	µg/kg	36	37	97%	1.4	18	1	354	2,000	1,100	4	796	7	Yes	21,000	0	547	No
Stockpile	cPAH	Benzo(k)fluoranthene	207-08-9	µg/kg	33	37	89%	1.4	18	1.7	152	730	11,000	0	307	6	Yes	210,000	0	213	No
Stockpile	cPAH	Chrysene	218-01-9	µg/kg	36	37	97%	1.4	18	0.98	310	1,900	110,000	0	762	6	Yes	2,100,000	0	482	No
Stockpile	cPAH	Dibenzo(a,h)anthracene	53-70-3	µg/kg	33	37	89%	1.4	15	0.93	52	210	110	7	127	7	Yes	2,100	0	71	No
Stockpile	cPAH	Indeno(1,2,3-Cd)Pyrene	193-39-5	µg/kg	33	37	89%	1.4	18	2.1	211	960	1,100	0	503	7	Yes	21,000	0	295	No
Surface Stockpile	Metals	Arsenic	7440-38-2	mg/kg	15	15	100%	0.31	0.36	2.8	5	9.4	0.0317	15	10	0	No	0.141	15	6.2	Yes
Surface Stockpile	Metals	Lead	7439-92-1	mg/kg	15	15	100%	0.15	0.18	5.7	47	230	200	1	436	0	No	800	0	78	No
Surface Stockpile	cPAH	Benzo(a)anthracene	56-55-3	µg/kg	15	15	100%	1.4	15	14	154	940	1,100	0	1,397	0	No	21,000	0	316	No
Surface Stockpile	cPAH	Benzo(a)pyrene	50-32-8	µg/kg	15	15	100%	1.4	15	12	142	890	110	4	635	1	Yes	2,100	0	296	No
Surface Stockpile	cPAH	Benzo(b)fluoranthene	205-99-2	µg/kg	15	15	100%	1.4	15	16	174	1,100	1,100	0	796	1	Yes	21,000	0	358	No
Surface Stockpile	cPAH	Benzo(k)fluoranthene	207-08-9	µg/kg	15	15	100%	1.4	1.5	5.9	58	310	11,000	0	307	1	Yes	210,000	0	114	No
Surface Stockpile	cPAH	Chrysene	218-01-9	µg/kg	15	15	100%	1.4	15	14	157	990	110,000	0	762	1	Yes	2,100,000	0	327	No
Surface Stockpile	cPAH	Dibenzo(a,h)anthracene	53-70-3	µg/kg	15	15	100%	1.4	1.5	2.5	23	130	110	1	127	1	Yes	2,100	0	45	No
Surface Stockpile	cPAH	Indeno(1,2,3-Cd)Pyrene	193-39-5	µg/kg	15	15	100%	1.4	15	9.9	92	580	1,100	0	503	1	Yes	21,000	0	184	No

[a] Chemicals of potential concern (COPCs) identified for all normal stock pile and surface stock pile based on the following criteria: detected at least once and a maximum detected concentration greater than the residential soil RSL.
Four of seven carcinogenic PAHs were identified a COPC; Benzo(k)fluoranthene, chrysene, and indeno(1,2,3-Cd)Pyrene were included as COPCs because they are also carcinogenic PAHs, which are evaluted together.

[b] The Regional Screening Level (RSL) is based on a tarrget cancer risk of 1 x 10^{-6} or a target noncancer hazard quotient of 1, whichever results in a lower RSL (EPA 2024). The full-time worker soil RSL is the EPA Industrial Composite (Indoor/Outdoor) Worker RSL (EPA 2024).

[c] Background threshold value (BTV) is the 95/95 Upper Tolerance Limit (UTL) of the baseline samples.

Notes:
Summary statistics and comparison includes normal samples; field duplicate samples are included in this analysis. Rejected data (flagged with 'R') are not included.
Stockpile exposure area includes haul road
n/a = not available or not applicable
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
cPAH = Carcinogenic PAH
BTV = background threshold value
MDC = maximum detected concentration
PAH = polycyclic aromatic hydrocarbon
RBSL = risk-based screening level
RSL = regional screening level
SVOC = semivolatile organic compound (Pentachlorophenol is a polar/semi-polar organic compound)

U.S. Environmental Protection Agency (EPA). 2024. Regional Screening Levels - Generic Tables. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables.
Risk Assessment Information System (RAIS). 2026. *RAIS Chemical PRG Calculator* . Accessed May 30, 2026. https://rais.ornl.gov/cgi-bin/prg/PRG_search?select=chem

Table 8. Preliminary Ecological Risk-Based Evaluation Results

EAPO Stockpile

Analyte	Units	Minimum ESV	Baseline Maximum Detect	Stockpile Maximum Detect	Surface Stockpile Maximum Detect
Asbestos	%	No ESV	All ND	All ND	All ND
Antimony	mg/kg	0.248	**0.59**	**0.53**	**0.36**
Arsenic	mg/kg	0.25	**7.9**	**13**	**9.4**
Beryllium	mg/kg	2.42	1.2	0.96	0.79
Cadmium	mg/kg	0.27	**0.39**	**0.33**	0.26
Chromium	mg/kg	0.34	**44**	**48**	**25**
Copper	mg/kg	14	**53**	**27**	**23**
Lead	mg/kg	0.94	**340**	**400**	**230**
Nickel	mg/kg	10	**30**	**23**	**20**
Selenium	mg/kg	0.331	**0.72**	**1.1**	**0.46**
Silver	mg/kg	2	0.82	0.32	0.3
Thallium	mg/kg	0.027	**0.27**	**0.22**	**0.13**
Zinc	mg/kg	6.6	**110**	**160**	**100**
Mercury	mg/kg	0.013	**13**	**0.49**	**2.3**
Diesel Range Organics (C10 - C28)	mg/kg	No ESV	52	91	26
Gasoline Range Organics (C6 - C10)	mg/kg	No ESV	22	27	All ND
4,4'-DDD	ug/kg	2	All ND	All ND	All ND
4,4'-DDE	ug/kg	2	**4.3**	**240**	**11**
4,4'-DDT	ug/kg	2	1.4	**20**	**3.9**
Aldrin	ug/kg	3.3	All ND	All ND	All ND
Alpha-BHC	ug/kg	70	All ND	All ND	All ND
Alpha-Chlordane	ug/kg	270	4.3	**460**	3.4
beta-BHC	ug/kg	4	All ND	1.2	All ND
Chlorinated Camphene	ug/kg	No ESV	All ND	All ND	All ND
Delta-Bhc	ug/kg	70	6.9	2.3	3.8
Dieldrin	ug/kg	4.5	0.36	2.5	0.39
Endosulfan I	ug/kg	560	2.8	37	All ND
Endosulfan II	ug/kg	560	All ND	11	All ND
Endosulfan Sulfate	ug/kg	560	All ND	9.7	All ND
Endrin	ug/kg	1.4	All ND	All ND	All ND
Endrin Aldehyde	ug/kg	No ESV	All ND	All ND	All ND
Endrin Ketone	ug/kg	No ESV	All ND	All ND	All ND
gamma-BHC (Lindane)	ug/kg	5	0.31	2.8	2
gamma-Chlordane	ug/kg	2200	4.1	540	3.8
Heptachlor	ug/kg	59	0.37	**72**	All ND
Heptachlor Epoxide	ug/kg	No ESV	All ND	5.2	All ND
Methoxychlor	ug/kg	5100	All ND	All ND	All ND
Aroclor 1016	ug/kg	1100	All ND	All ND	All ND
Aroclor 1221	ug/kg	No ESV	All ND	All ND	All ND

Table 8. Preliminary Ecological Risk-Based Evaluation Results
EAPO Stockpile

Analyte	Units	Minimum ESV	Baseline Maximum Detect	Stockpile Maximum Detect	Surface Stockpile Maximum Detect
Aroclor 1232	ug/kg	No ESV	All ND	All ND	All ND
Aroclor 1242	ug/kg	260	All ND	All ND	All ND
Aroclor 1248	ug/kg	7.3	All ND	All ND	All ND
Aroclor 1254	ug/kg	41	All ND	30	All ND
Aroclor 1260	ug/kg	880	All ND	All ND	All ND
Aroclor 1262	ug/kg	No ESV	All ND	All ND	All ND
Aroclor 1268	ug/kg	No ESV	All ND	All ND	All ND
Total PCBs	ug/kg	40000	216	2277	225
1,1,1-Trichloroethane	ug/kg	260000	All ND	All ND	All ND
1,1,2,2-Tetrachloroethane	ug/kg	No ESV	All ND	All ND	All ND
1,1,2-Trichloroethane	ug/kg	No ESV	All ND	All ND	All ND
1,1-Dichloroethane	ug/kg	210000	All ND	All ND	All ND
1,1-Dichloroethene	ug/kg	11000	All ND	All ND	All ND
1,2,4-Trichlorobenzene	ug/kg	270	All ND	All ND	All ND
1,2-Dibromo-3-chloropropane	ug/kg	No ESV	All ND	All ND	All ND
1,2-Dibromoethane	ug/kg	No ESV	All ND	All ND	All ND
1,2-Dichlorobenzene	ug/kg	920	All ND	All ND	All ND
1,2-Dichloroethane	ug/kg	850	All ND	All ND	All ND
1,2-Dichloropropane	ug/kg	No ESV	All ND	All ND	All ND
1,3-Dichlorobenzene	ug/kg	740	All ND	All ND	All ND
1,4-Dichlorobenzene	ug/kg	890	All ND	All ND	All ND
2-Butanone	ug/kg	350000	All ND	4	2.9
2-Hexanone	ug/kg	360	All ND	7.7	All ND
4-Methyl-2-Pentanone	ug/kg	9700	All ND	All ND	All ND
Acetone	ug/kg	1200	All ND	65	49
Benzene	ug/kg	24000	All ND	All ND	All ND
Bromodichloromethane	ug/kg	No ESV	All ND	All ND	All ND
Bromoform	ug/kg	No ESV	All ND	All ND	All ND
Bromomethane	ug/kg	No ESV	All ND	All ND	All ND
Carbon Disulfide	ug/kg	810	All ND	2.3	1.9
Carbon tetrachloride	ug/kg	58600	All ND	All ND	All ND
Chlorobenzene	ug/kg	2400	All ND	All ND	All ND
Chlorodibromomethane	ug/kg	No ESV	All ND	All ND	All ND
Chloroethane	ug/kg	No ESV	All ND	All ND	All ND
Chloroform	ug/kg	8000	All ND	All ND	All ND
Chloromethane	ug/kg	No ESV	All ND	All ND	All ND
cis-1,2-Dichloroethene	ug/kg	89600	All ND	All ND	All ND
cis-1,3-Dichloropropene	ug/kg	No ESV	All ND	All ND	All ND
Cyclohexane	ug/kg	No ESV	All ND	1.1	All ND

Table 8. Preliminary Ecological Risk-Based Evaluation Results
EAPO Stockpile

Analyte	Units	Minimum ESV	Baseline Maximum Detect	Stockpile Maximum Detect	Surface Stockpile Maximum Detect
Dichlorodifluoromethane	ug/kg	No ESV	All ND	All ND	All ND
Ethylbenzene	ug/kg	No ESV	All ND	130	All ND
Freon 113	ug/kg	No ESV	All ND	All ND	All ND
Isopropylbenzene	ug/kg	No ESV	All ND	All ND	All ND
Methyl Acetate	ug/kg	No ESV	360	4900	900
Methyl tert-butyl ether (MTBE)	ug/kg	No ESV	All ND	All ND	All ND
Methylcyclohexane	ug/kg	No ESV	All ND	120	All ND
Methylene Chloride	ug/kg	2600	All ND	24	All ND
Styrene	ug/kg	1200	All ND	380	All ND
Tetrachloroethene	ug/kg	180	77	100	All ND
Toluene	ug/kg	23000	110	1.6	1.3
trans-1,2-Dichloroethene	ug/kg	89600	All ND	All ND	All ND
trans-1,3-Dichloropropene	ug/kg	No ESV	All ND	All ND	All ND
Trichloroethylene	ug/kg	1387	80	All ND	All ND
Trichlorofluoromethane	ug/kg	52000	All ND	81	All ND
Vinyl Chloride	ug/kg	120	All ND	All ND	All ND
Xylenes, Total	ug/kg	1400	All ND	780	All ND
1-Methylnaphthalene	ug/kg	No ESV	180	160	46
2-Methylnaphthalene	ug/kg	16000	190	250	43
Acenaphthene	ug/kg	250	190	**800**	160
Acenaphthylene	ug/kg	29000	39	37	69
Anthracene	ug/kg	6800	790	950	350
Benzo(a)anthracene	ug/kg	730	**1000**	**2000**	**940**
Benzo(a)pyrene	ug/kg	1100	590	**1400**	890
Benzo(b)fluoranthene	ug/kg	1100	730	**2000**	1100
Benzo(g,h,i)perylene	ug/kg	1100	340	780	560
Benzo(k)fluoranthene	ug/kg	1100	300	730	310
Chrysene	ug/kg	1100	730	**1900**	990
Dibenzo(a,h)anthracene	ug/kg	1100	120	210	130
Fluoranthene	ug/kg	1100	800	**3500**	**1900**
Fluorene	ug/kg	3700	270	430	140
Indeno(1,2,3-Cd)Pyrene	ug/kg	1100	450	960	580
Naphthalene	ug/kg	1000	200	640	50
Phenanthrene	ug/kg	5500	580	3600	1500
Pyrene	ug/kg	1100	**1500**	**3000**	**1900**
Sum LMW PAHs	ug/kg	29000	3315	6577	2268
Sum HMW PAHs	ug/kg	1100	**8982**	**19697**	**9300**
2,4,5-T	ug/kg	No ESV	1.9	6	All ND
2,4-DB	ug/kg	No ESV	2.6	5.5	All ND

Table 8. Preliminary Ecological Risk-Based Evaluation Results

EAPO Stockpile

Analyte	Units	Minimum ESV	Baseline Maximum Detect	Stockpile Maximum Detect	Surface Stockpile Maximum Detect
2,4-Dichlorophenoxyacetic acid	ug/kg	No ESV	1.5	6	All ND
2,4-DP (DICHLOROPROP)	ug/kg	No ESV	1.2	6.1	All ND
DALAPON	ug/kg	No ESV	All ND	6	All ND
DICAMBA	ug/kg	No ESV	0.79	7.1	All ND
MCPA	ug/kg	No ESV	1.2	5.1	All ND
MCPP (MECOPROP)	ug/kg	No ESV	0.95	5	All ND
Pentachlorophenol	ug/kg	360	1.9	13	0.26
Silvex (2,4,5-TP)	ug/kg	110	1.7	6.7	All ND

Notes:

ESV = Ecological Screening Value

ND = nondetect

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

Shaded cells indicate maximum detected concentrations exceed the minimum ESV.

Minimum ESV selected as the lowest available screening value for plants, soil invertebrates, mammals, and birds from NPS 2025.

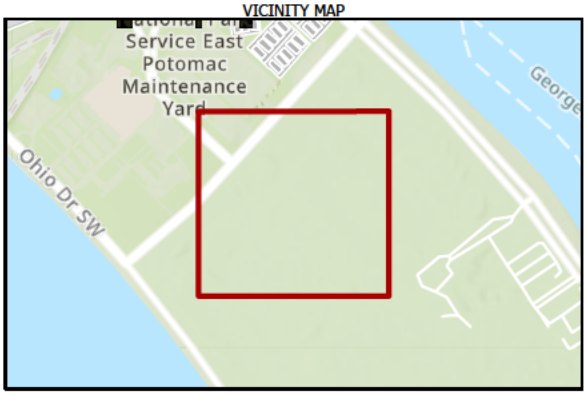
For sum PCBs and sum low and high molecular weight PAHs (LMW PAHs and HMW PAHs), nondetect values were treated as the reporting limit.

Figure

LEGEND

- HR and BG = Baseline Soil Samples
- Limits of Disturbance
- Silt Fencing
- Access Road

VICINITY MAP



N

0 500 1,000 2,000 Feet

Figure 1
EAPO Baseline Samples
National Park Service
EAPO Soil Storage Stockpile

Jacobs

Attachment 1
Stockpile ProUcL Calculations

Attachment 1 - Background Threshold Value ProUCL Outputs

Background Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.2 5/22/2026 12:04:52 PM
From File	Baseline_ProUCLInput.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
Different or Future K Observations	1
Number of Bootstrap Operations	2000

Ethylbenzene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	12		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	12
Minimum Detect	N/A	Minimum Non-Detect	44
Maximum Detect	N/A	Maximum Non-Detect	87
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Ethylbenzene was not processed!

Styrene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	12		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	12
Minimum Detect	N/A	Minimum Non-Detect	44
Maximum Detect	N/A	Maximum Non-Detect	87
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Styrene was not processed!

Heptachlor Epoxide

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	9
Minimum Detect	N/A	Minimum Non-Detect	0.73
Maximum Detect	N/A	Maximum Non-Detect	4.4
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor Epoxide was not processed!

Endosulfan Sulfate

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	9
Minimum Detect	N/A	Minimum Non-Detect	1.3
Maximum Detect	N/A	Maximum Non-Detect	7.6
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan Sulfate was not processed!

Methylcyclohexane

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	7		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	7
Minimum Detect	N/A	Minimum Non-Detect	88
Maximum Detect	N/A	Maximum Non-Detect	170
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Methylcyclohexane was not processed!

Toluene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	7
Minimum Detect	55	Minimum Non-Detect	88
Maximum Detect	110	Maximum Non-Detect	170
Variance Detected	1513	Percent Non-Detects	83.33%
Mean Detected	82.5	SD Detected	38.89
Mean of Detected Logged Data	4.354	SD of Detected Logged Data	0.49

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only
Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	73.33	KM SD	25.93
95% UTL95% Coverage	144.3	95% KM UPL (t)	121.8
90% KM Percentile (z)	106.6	95% KM Percentile (z)	116
99% KM Percentile (z)	133.6	95% KM USL	132.6

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	70.75	SD	16.64
95% UTL95% Coverage	116.3	95% UPL (t)	101.8
90% Percentile (z)	92.07	95% Percentile (z)	98.11
99% Percentile (z)	109.5	95% USL	108.8

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only
Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	8.653	k star (bias corrected MLE)	N/A
Theta hat (MLE)	9.534	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	34.61	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	73.33	SD (KM)	25.93
Variance (KM)	672.2	SE of Mean (KM)	21.17
k hat (KM)	8	k star (KM)	6.056
nu hat (KM)	192	nu star (KM)	145.3
theta hat (KM)	9.167	theta star (KM)	12.11
80% gamma percentile (KM)	96.53	90% gamma percentile (KM)	113.2
95% gamma percentile (KM)	128.2	99% gamma percentile (KM)	159.7

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	158.1	160.5	95% Approx. Gamma UPL	125.3	125.8
95% KM Gamma Percentile	117.6	117.8	95% Gamma USL	140.4	141.7

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	70.3	Mean in Log Scale	4.225
SD in Original Scale	18.04	SD in Log Scale	0.24
95% UTL95% Coverage	132	95% BCA UTL95% Coverage	110
95% Bootstrap (%) UTL95% Coverage	110	95% UPL (t)	107.2
90% Percentile (z)	93.07	95% Percentile (z)	101.6
99% Percentile (z)	119.6	95% USL	118.5

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	4.238	95% KM UTL (Lognormal)95% Coverage	169.4
KM SD of Logged Data	0.327	95% KM UPL (Lognormal)	127.6
95% KM Percentile Lognormal (z)	118.6	95% KM USL (Lognormal)	146.2

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	70.75	Mean in Log Scale	4.235
SD in Original Scale	16.64	SD in Log Scale	0.23
95% UTL95% Coverage	129.5	95% UPL (t)	106.1
90% Percentile (z)	92.7	95% Percentile (z)	100.8
99% Percentile (z)	117.9	95% USL	116.7

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	170
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	170
95% USL	170	95% KM Chebyshev UPL	191

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Aroclor 1254

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	3		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3
Minimum Detect	N/A	Minimum Non-Detect	12
Maximum Detect	N/A	Maximum Non-Detect	14
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Aroclor 1254 was not processed!

Anthracene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	12		
Number of Detects	11	Number of Non-Detects	1
Number of Distinct Detects	11	Number of Distinct Non-Detects	1
Minimum Detect	5.7	Minimum Non-Detect	6.9
Maximum Detect	790	Maximum Non-Detect	6.9
Variance Detected	54196	Percent Non-Detects	8.333%
Mean Detected	106.8	SD Detected	232.8
Mean of Detected Logged Data	3.194	SD of Detected Logged Data	1.656

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.503	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.792	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.345	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.291	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	98.37	KM SD	214.3
95% UTL95% Coverage	684.8	95% KM UPL (t)	499
90% KM Percentile (z)	373	95% KM Percentile (z)	450.9
99% KM Percentile (z)	597	95% KM USL	588.1

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	98.15	SD	224
95% UTL95% Coverage	710.9	95% UPL (t)	516.8
90% Percentile (z)	385.2	95% Percentile (z)	466.5
99% Percentile (z)	619.2	95% USL	609.9

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.19	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.793	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.271	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.271	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.439	k star (bias corrected MLE)	0.38
Theta hat (MLE)	243.2	Theta star (bias corrected MLE)	281.1
nu hat (MLE)	9.657	nu star (bias corrected)	8.357
MLE Mean (bias corrected)	106.8		
MLE Sd (bias corrected)	173.2	95% Percentile of Chisquare (2kstar)	3.213

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	97.87
Maximum	790	Median	9.5
SD	224.1	CV	2.29
k hat (MLE)	0.332	k star (bias corrected MLE)	0.305
Theta hat (MLE)	294.4	Theta star (bias corrected MLE)	321
nu hat (MLE)	7.978	nu star (bias corrected)	7.317
MLE Mean (bias corrected)	97.87	MLE Sd (bias corrected)	177.2
95% Percentile of Chisquare (2kstar)	2.775	90% Percentile	288.1
95% Percentile	445.4	99% Percentile	853.3

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	910.1	1106	95% Approx. Gamma UPL	441.3	468.3
95% Gamma USL	638.3	723.6			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	98.37	SD (KM)	214.3
Variance (KM)	45938	SE of Mean (KM)	64.89
k hat (KM)	0.211	k star (KM)	0.214
nu hat (KM)	5.055	nu star (KM)	5.125
theta hat (KM)	467	theta star (KM)	460.7
80% gamma percentile (KM)	133.9	90% gamma percentile (KM)	297.4
95% gamma percentile (KM)	498.1	99% gamma percentile (KM)	1045

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	775.5	844.1	95% Approx. Gamma UPL	390.9	384.3
95% KM Gamma Percentile	318.1	304.9	95% Gamma USL	553.7	571.5

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.844	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.876	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.25	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.231	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	98.2	Mean in Log Scale	3.042
SD in Original Scale	223.9	SD in Log Scale	1.664
95% UTL95% Coverage	1989	95% BCA UTL95% Coverage	790
95% Bootstrap (%) UTL95% Coverage	790	95% UPL (t)	470
90% Percentile (z)	176.8	95% Percentile (z)	323.6
99% Percentile (z)	1006	95% USL	938.8

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	3.077	95% KM UTL (Lognormal)95% Coverage	1551
KM SD of Logged Data	1.56	95% KM UPL (Lognormal)	401
95% KM Percentile Lognormal (z)	282.6	95% KM USL (Lognormal)	767.2

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	98.15	Mean in Log Scale	3.031
SD in Original Scale	224	SD in Log Scale	1.677
95% UTL95% Coverage	2036	95% UPL (t)	475.9
90% Percentile (z)	177.6	95% Percentile (z)	326.7
99% Percentile (z)	1024	95% USL	955.6

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	790
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	790
95% USL	790	95% KM Chebyshev UPL	1071

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

2,4-DP (DICHLOROPROP)

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	3	Number of Non-Detects	9
Number of Distinct Detects	3	Number of Distinct Non-Detects	6
Minimum Detect	0.38	Minimum Non-Detect	0.51
Maximum Detect	1.2	Maximum Non-Detect	0.62
Variance Detected	0.171	Percent Non-Detects	75%
Mean Detected	0.757	SD Detected	0.414
Mean of Detected Logged Data	-0.385	SD of Detected Logged Data	0.575

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.981	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.231	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.474	KM SD	0.235
95% UTL95% Coverage	1.117	95% KM UPL (t)	0.913
90% KM Percentile (z)	0.775	95% KM Percentile (z)	0.861
99% KM Percentile (z)	1.021	95% KM USL	1.011

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.392	SD	0.283
95% UTL95% Coverage	1.165	95% UPL (t)	0.92
90% Percentile (z)	0.754	95% Percentile (z)	0.856
99% Percentile (z)	1.049	95% USL	1.037

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.247	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.227	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.434	Detected data appear Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.85	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.156	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	29.1	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.167	Mean	0.44
Maximum	1.2	Median	0.333
SD	0.274	CV	0.623
k hat (MLE)	3.977	k star (bias corrected MLE)	3.039
Theta hat (MLE)	0.111	Theta star (bias corrected MLE)	0.145
nu hat (MLE)	95.46	nu star (bias corrected)	72.93
MLE Mean (bias corrected)	0.44	MLE Sd (bias corrected)	0.253
95% Percentile of Chisquare (2kstar)	12.71	90% Percentile	0.779
95% Percentile	0.921	99% Percentile	1.228

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.334	1.372	95% Approx. Gamma UPL	0.958	0.964
95% Gamma USL	1.128	1.146			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.474	SD (KM)	0.235
Variance (KM)	0.0552	SE of Mean (KM)	0.083
k hat (KM)	4.075	k star (KM)	3.112
nu hat (KM)	97.8	nu star (KM)	74.68
theta hat (KM)	0.116	theta star (KM)	0.152
80% gamma percentile (KM)	0.673	90% gamma percentile (KM)	0.835
95% gamma percentile (KM)	0.985	99% gamma percentile (KM)	1.31

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.12	1.121	95% Approx. Gamma UPL	0.863	0.857
95% KM Gamma Percentile	0.804	0.796	95% Gamma USL	0.981	0.977

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	1	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.178	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.466	Mean in Log Scale	-0.856
SD in Original Scale	0.256	SD in Log Scale	0.41
95% UTL95% Coverage	1.304	95% BCA UTL95% Coverage	1.2
95% Bootstrap (%) UTL95% Coverage	1.2	95% UPL (t)	0.914
90% Percentile (z)	0.718	95% Percentile (z)	0.834
99% Percentile (z)	1.102	95% USL	1.084

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.822	95% KM UTL (Lognormal)95% Coverage	1.128
KM SD of Logged Data	0.344	95% KM UPL (Lognormal)	0.837
95% KM Percentile Lognormal (z)	0.775	95% KM USL (Lognormal)	0.966

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.392	Mean in Log Scale	-1.08
SD in Original Scale	0.283	SD in Log Scale	0.488
95% UTL95% Coverage	1.29	95% UPL (t)	0.845
90% Percentile (z)	0.635	95% Percentile (z)	0.758
99% Percentile (z)	1.057	95% USL	1.035

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.2
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.2
95% USL	1.2	95% KM Chebyshev UPL	1.54

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Tetrachloroethene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	7
Minimum Detect	77	Minimum Non-Detect	88
Maximum Detect	77	Maximum Non-Detect	170
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	77	SD Detected	N/A
Mean of Detected Logged Data	4.344	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Tetrachloroethene was not processed!

Pyrene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	17	First Quartile	53.25
Second Largest	720	Median	78
Maximum	1500	Third Quartile	315
Mean	292.6	SD	438.2
Coefficient of Variation	1.498	Skewness	2.266
Mean of logged Data	4.817	SD of logged Data	1.345

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.669	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.289	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	1491	90% Percentile (z)	854.1
	95% UPL (t)	1112	95% Percentile (z)	1013
	95% USL	1294	99% Percentile (z)	1312

Gamma GOF Test

A-D Test Statistic	0.708	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.769	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.264	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.256	Data Not Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.701	k star (bias corrected MLE)	0.582
Theta hat (MLE)	417.2	Theta star (bias corrected MLE)	503.1
nu hat (MLE)	16.83	nu star (bias corrected)	13.96
MLE Mean (bias corrected)	292.6	MLE Sd (bias corrected)	383.7

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	1163	90% Percentile	766.3
95% Hawkins Wixley (HW) Approx. Gamma UPL	1207	95% Percentile	1065
95% WH Approx. Gamma UTL with 95% Coverage	2121	99% Percentile	1789
95% HW Approx. Gamma UTL with 95% Coverage	2394		
95% WH USL	1575	95% HW USL	1701

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.21	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	4898	90% Percentile (z)	692.8
95% UPL (t)	1527	95% Percentile (z)	1129
95% USL	2671	99% Percentile (z)	2824

Nonparametric Distribution Free Background Statistics

Data appear Approximate Gamma Distribution at 5% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	1500
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	1500	95% BCA Bootstrap UTL with 95% Coverage	1500
95% UPL	1500	90% Percentile	699
90% Chebyshev UPL	1661	95% Percentile	1071
95% Chebyshev UPL	2281	99% Percentile	1414
95% USL	1500		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Xylenes, Total

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	9
Minimum Detect	N/A	Minimum Non-Detect	120
Maximum Detect	N/A	Maximum Non-Detect	240
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Xylenes, Total was not processed!

Benzo(g,h,i)perylene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	10	First Quartile	24.25
Second Largest	300	Median	41.5
Maximum	340	Third Quartile	120
Mean	96.83	SD	112.5
Coefficient of Variation	1.162	Skewness	1.556
Mean of logged Data	3.988	SD of logged Data	1.129

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.747	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.267	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	404.6	90% Percentile (z)	241
	95% UPL (t)	307.1	95% Percentile (z)	281.9
	95% USL	353.9	99% Percentile (z)	358.6

Gamma GOF Test

A-D Test Statistic	0.55	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.757	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.222	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.252	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.989	k star (bias corrected MLE)	0.797
Theta hat (MLE)	97.95	Theta star (bias corrected MLE)	121.5
nu hat (MLE)	23.73	nu star (bias corrected)	19.13
MLE Mean (bias corrected)	96.83	MLE Sd (bias corrected)	108.5

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	345.7	90% Percentile	235.7
95% Hawkins Wixley (HW) Approx. Gamma UPL	360	95% Percentile	314.5
95% WH Approx. Gamma UTL with 95% Coverage	592.7	99% Percentile	500.9
95% HW Approx. Gamma UTL with 95% Coverage	661.4		
95% WH USL	453.2	95% HW USL	487.6

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.948	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.163	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	1184	90% Percentile (z)	229.3
95% UPL (t)	445.1	95% Percentile (z)	345.5
95% USL	711.7	99% Percentile (z)	745.7

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	340
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	340	95% BCA Bootstrap UTL with 95% Coverage	340
95% UPL	340	90% Percentile	285
90% Chebyshev UPL	448.1	95% Percentile	318
95% Chebyshev UPL	607.2	99% Percentile	335.6
95% USL	340		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

DICAMBA

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	6		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	5
Minimum Detect	0.79	Minimum Non-Detect	2.6
Maximum Detect	0.79	Maximum Non-Detect	3.1
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	0.79	SD Detected	N/A
Mean of Detected Logged Data	-0.236	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DICAMBA was not processed!

Indeno(1,2,3-Cd)Pyrene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	11	First Quartile	27.25
Second Largest	340	Median	44.5
Maximum	450	Third Quartile	142.5
Mean	115.9	SD	141.5
Coefficient of Variation	1.221	Skewness	1.693
Mean of logged Data	4.124	SD of logged Data	1.164

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.741	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.27	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	503.2	90% Percentile (z)	297.3
95% UPL (t)	380.5	95% Percentile (z)	348.7
95% USL	439.3	99% Percentile (z)	445.2

Gamma GOF Test

A-D Test Statistic	0.583	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.759	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.234	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.253	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.926	k star (bias corrected MLE)	0.75
Theta hat (MLE)	125.1	Theta star (bias corrected MLE)	154.5
nu hat (MLE)	22.23	nu star (bias corrected)	18.01
MLE Mean (bias corrected)	115.9	MLE Sd (bias corrected)	133.8

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	422.9	90% Percentile	286.2
95% Hawkins Wixley (HW) Approx. Gamma UPL	440	95% Percentile	384.8
95% WH Approx. Gamma UTL with 95% Coverage	733.4	99% Percentile	618.8
95% HW Approx. Gamma UTL with 95% Coverage	819.6		
95% WH USL	557.7	95% HW USL	600.1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.948	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.176	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	1492	90% Percentile (z)		274.6
	95% UPL (t)	544.1	95% Percentile (z)		419
	95% USL	882.5	99% Percentile (z)		926.1

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	450
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	450	95% BCA Bootstrap UTL with	95% Coverage	450
	95% UPL	450		90% Percentile	324
	90% Chebyshev UPL	557.9		95% Percentile	389.5
	95% Chebyshev UPL	758		99% Percentile	437.9
	95% USL	450			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Benzo(b)fluoranthene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	17	First Quartile	42.5
Second Largest	520	Median	69
Maximum	730	Third Quartile	215
Mean	180.3	SD	225
Coefficient of Variation	1.248	Skewness	1.796
Mean of logged Data	4.55	SD of logged Data	1.176

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.733	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.271	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	795.8	90% Percentile (z)		468.6
	95% UPL (t)	600.8	95% Percentile (z)		550.3
	95% USL	694.3	99% Percentile (z)		703.7

Gamma GOF Test

A-D Test Statistic	0.572	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.76	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.241	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.253	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.907	k star (bias corrected MLE)	0.735
Theta hat (MLE)	198.8	Theta star (bias corrected MLE)	245.1
nu hat (MLE)	21.76	nu star (bias corrected)	17.65
MLE Mean (bias corrected)	180.3	MLE Sd (bias corrected)	210.2

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	662	90% Percentile	447.2
95% Hawkins Wixley (HW) Approx. Gamma UPL	688.4	95% Percentile	602.7
95% WH Approx. Gamma UTL with 95% Coverage	1152	99% Percentile	972.4
95% HW Approx. Gamma UTL with 95% Coverage	1288		
95% WH USL	874.7	95% HW USL	941.3

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.184	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	2364	90% Percentile (z)	427.3
95% UPL (t)	852.9	95% Percentile (z)	655.1
95% USL	1391	99% Percentile (z)	1460

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	730
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	730	95% BCA Bootstrap UTL with 95% Coverage	730
95% UPL	730	90% Percentile	494
90% Chebyshev UPL	882.8	95% Percentile	614.5
95% Chebyshev UPL	1201	99% Percentile	706.9
95% USL	730		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Fluoranthene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	24	First Quartile	49
Second Largest	720	Median	87.5
Maximum	800	Third Quartile	357.5
Mean	241.7	SD	279.8
Coefficient of Variation	1.158	Skewness	1.264
Mean of logged Data	4.83	SD of logged Data	1.213

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.763	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.279	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	1007	90% Percentile (z)	600.3
95% UPL (t)	764.7	95% Percentile (z)	702
95% USL	881.1	99% Percentile (z)	892.7

Gamma GOF Test

A-D Test Statistic	0.7	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.761	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.226	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.253	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.89	k star (bias corrected MLE)	0.723
Theta hat (MLE)	271.5	Theta star (bias corrected MLE)	334.2
nu hat (MLE)	21.36	nu star (bias corrected)	17.35
MLE Mean (bias corrected)	241.7	MLE Sd (bias corrected)	284.2

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	901.9	90% Percentile	602
95% Hawkins Wixley (HW) Approx. Gamma UPL	947	95% Percentile	813
95% WH Approx. Gamma UTL with 95% Coverage	1576	99% Percentile	1315
95% HW Approx. Gamma UTL with 95% Coverage	1785		
95% WH USL	1194	95% HW USL	1300

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.911	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.173	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	3462	90% Percentile (z)		592.8
	95% UPL (t)	1209	95% Percentile (z)		921.2
	95% USL	2003	99% Percentile (z)		2106

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	800
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	800	95% BCA Bootstrap UTL with	95% Coverage	800
	95% UPL	800		90% Percentile	698
	90% Chebyshev UPL	1115		95% Percentile	756
	95% Chebyshev UPL	1511		99% Percentile	791.2
	95% USL	800			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Benzo(k)fluoranthene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Minimum	5.7	First Quartile	14.25
Second Largest	170	Median	25.5
Maximum	300	Third Quartile	76.75
Mean	65.98	SD	88.07
Coefficient of Variation	1.335	Skewness	2.081
Mean of logged Data	3.496	SD of logged Data	1.21

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.708	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.27	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	306.9	90% Percentile (z)	178.8
	95% UPL (t)	230.6	95% Percentile (z)	210.8
	95% USL	267.2	99% Percentile (z)	270.9

Gamma GOF Test

A-D Test Statistic	0.574	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.762	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.224	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.85	k star (bias corrected MLE)	0.693
Theta hat (MLE)	77.63	Theta star (bias corrected MLE)	95.21
nu hat (MLE)	20.4	nu star (bias corrected)	16.63
MLE Mean (bias corrected)	65.98	MLE Sd (bias corrected)	79.26

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	246.9	90% Percentile	166
95% Hawkins Wixley (HW) Approx. Gamma UPL	256.1	95% Percentile	225.4
95% WH Approx. Gamma UTL with 95% Coverage	434.7	99% Percentile	367.3
95% HW Approx. Gamma UTL with 95% Coverage	485.8		
95% WH USL	328.2	95% HW USL	352.6

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.954	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.161	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	903	90% Percentile (z)	155.5
	95% UPL (t)	316.5	95% Percentile (z)	241.3
	95% USL	523.3	99% Percentile (z)	550.2

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	300
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	300	95% BCA Bootstrap UTL with 95% Coverage	300
95% UPL	300	90% Percentile	163
90% Chebyshev UPL	341	95% Percentile	228.5
95% Chebyshev UPL	465.6	99% Percentile	285.7
95% USL	300		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Acenaphthylene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	11	Number of Non-Detects	1
Number of Distinct Detects	10	Number of Distinct Non-Detects	1
Minimum Detect	4.3	Minimum Non-Detect	6.9
Maximum Detect	39	Maximum Non-Detect	6.9
Variance Detected	176.6	Percent Non-Detects	8.333%
Mean Detected	15.16	SD Detected	13.29
Mean of Detected Logged Data	2.378	SD of Detected Logged Data	0.859

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.792	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.792	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.261	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.291	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	14.29	KM SD	12.48
95% UTL95% Coverage	48.42	95% KM UPL (t)	37.61
90% KM Percentile (z)	30.28	95% KM Percentile (z)	34.81
99% KM Percentile (z)	43.31	95% KM USL	42.8

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	14.19	SD	13.12
95% UTL95% Coverage	50.07	95% UPL (t)	38.7
90% Percentile (z)	31	95% Percentile (z)	35.76
99% Percentile (z)	44.7	95% USL	44.16

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.654	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.741	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.24	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.259	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.613	k star (bias corrected MLE)	1.234
Theta hat (MLE)	9.4	Theta star (bias corrected MLE)	12.29
nu hat (MLE)	35.49	nu star (bias corrected)	27.14
MLE Mean (bias corrected)	15.16		
MLE Sd (bias corrected)	13.65	95% Percentile of Chisquare (2kstar)	6.869

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	2.875	Mean	14.14
Maximum	39	Median	7.6
SD	13.16	CV	0.931
k hat (MLE)	1.456	k star (bias corrected MLE)	1.148
Theta hat (MLE)	9.711	Theta star (bias corrected MLE)	12.32
nu hat (MLE)	34.94	nu star (bias corrected)	27.54
MLE Mean (bias corrected)	14.14	MLE Sd (bias corrected)	13.2
95% Percentile of Chisquare (2kstar)	6.551	90% Percentile	31.47
95% Percentile	40.36	99% Percentile	60.8

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	70.48	76.7	95% Approx. Gamma UPL	43.84	45.27
95% Gamma USL	55.57	58.8			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	14.29	SD (KM)	12.48
Variance (KM)	155.7	SE of Mean (KM)	3.778
k hat (KM)	1.311	k star (KM)	1.039
nu hat (KM)	31.47	nu star (KM)	24.94
theta hat (KM)	10.9	theta star (KM)	13.75
80% gamma percentile (KM)	22.92	90% gamma percentile (KM)	32.59
95% gamma percentile (KM)	42.23	99% gamma percentile (KM)	64.54

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	64.56	69.15	95% Approx. Gamma UPL	41.11	42.05
95% KM Gamma Percentile	36.14	36.58	95% Gamma USL	51.48	53.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.878	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.876	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.204	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.231	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	14.29	Mean in Log Scale	2.309
SD in Original Scale	13.03	SD in Log Scale	0.853
95% UTL95% Coverage	103.8	95% BCA UTL95% Coverage	39
95% Bootstrap (%) UTL95% Coverage	39	95% UPL (t)	49.56
90% Percentile (z)	30.03	95% Percentile (z)	40.93
99% Percentile (z)	73.2	95% USL	70.66

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	2.308	95% KM UTL (Lognormal)95% Coverage	94.31
KM SD of Logged Data	0.818	95% KM UPL (Lognormal)	46.4
95% KM Percentile Lognormal (z)	38.61	95% KM USL (Lognormal)	65.2

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	14.19	Mean in Log Scale	2.283
SD in Original Scale	13.12	SD in Log Scale	0.882
95% UTL95% Coverage	109.6	95% UPL (t)	51.02
90% Percentile (z)	30.38	95% Percentile (z)	41.86
99% Percentile (z)	76.37	95% USL	73.64

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	39
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	39
95% USL	39	95% KM Chebyshev UPL	70.89

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Chrysene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	13	First Quartile	29.75
Second Largest	450	Median	53.5
Maximum	730	Third Quartile	180
Mean	160.5	SD	219.7
Coefficient of Variation	1.369	Skewness	2.001
Mean of logged Data	4.324	SD of logged Data	1.265

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.706	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.269	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	761.6	90% Percentile (z)	442.1
	95% UPL (t)	571.2	95% Percentile (z)	521.9
	95% USL	662.5	99% Percentile (z)	671.6

Gamma GOF Test

A-D Test Statistic	0.615	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.764	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.246	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.789	k star (bias corrected MLE)	0.647
Theta hat (MLE)	203.5	Theta star (bias corrected MLE)	248
nu hat (MLE)	18.93	nu star (bias corrected)	15.53
MLE Mean (bias corrected)	160.5	MLE Sd (bias corrected)	199.5

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	617	90% Percentile	410.3
95% Hawkins Wixley (HW) Approx. Gamma UPL	641.4	95% Percentile	562
95% WH Approx. Gamma UTL with 95% Coverage	1101	99% Percentile	926.5
95% HW Approx. Gamma UTL with 95% Coverage	1239		
95% WH USL	826	95% HW USL	891.4

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.188	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	2405	90% Percentile (z)	382
95% UPL (t)	803.4	95% Percentile (z)	604.9
95% USL	1359	99% Percentile (z)	1432

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	730
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	730	95% BCA Bootstrap UTL with 95% Coverage	730
95% UPL	730	90% Percentile	429
90% Chebyshev UPL	846.5	95% Percentile	576
95% Chebyshev UPL	1157	99% Percentile	699.2
95% USL	730		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

beta-BHC

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	9
Minimum Detect	N/A	Minimum Non-Detect	0.94
Maximum Detect	N/A	Maximum Non-Detect	5.7
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable beta-BHC was not processed!

Delta-Bhc

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	3.2	Minimum Non-Detect	0.94
Maximum Detect	6.9	Maximum Non-Detect	5.4
Variance Detected	6.845	Percent Non-Detects	83.33%
Mean Detected	5.05	SD Detected	2.616
Mean of Detected Logged Data	1.547	SD of Detected Logged Data	0.543

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only
Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.955	KM SD	1.761
95% UTL95% Coverage	6.773	95% KM UPL (t)	5.246
90% KM Percentile (z)	4.211	95% KM Percentile (z)	4.851
99% KM Percentile (z)	6.051	95% KM USL	5.978

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.426	SD	1.706
95% UTL95% Coverage	7.095	95% UPL (t)	5.616
90% Percentile (z)	4.613	95% Percentile (z)	5.233
99% Percentile (z)	6.396	95% USL	6.325

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	7.102	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.711	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	28.41	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.955	SD (KM)	1.761
Variance (KM)	3.101	SE of Mean (KM)	0.879
k hat (KM)	1.232	k star (KM)	0.979
nu hat (KM)	29.57	nu star (KM)	23.51
theta hat (KM)	1.587	theta star (KM)	1.996
80% gamma percentile (KM)	3.151	90% gamma percentile (KM)	4.524
95% gamma percentile (KM)	5.899	99% gamma percentile (KM)	9.096

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	7.938	8.245	95% Approx. Gamma UPL	5.209	5.227
95% KM Gamma Percentile	4.622	4.604	95% Gamma USL	6.422	6.547

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.949	Mean in Log Scale	0.468
SD in Original Scale	1.683	SD in Log Scale	0.58
95% UTL95% Coverage	7.808	95% BCA UTL95% Coverage	6.9
95% Bootstrap (%) UTL95% Coverage	6.9	95% UPL (t)	4.722
90% Percentile (z)	3.358	95% Percentile (z)	4.146
99% Percentile (z)	6.156	95% USL	6.01

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.385	95% KM UTL (Lognormal)95% Coverage	9.693
KM SD of Logged Data	0.689	95% KM UPL (Lognormal)	5.332
95% KM Percentile Lognormal (z)	4.568	95% KM USL (Lognormal)	7.102

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.426	Mean in Log Scale	0.613
SD in Original Scale	1.706	SD in Log Scale	0.855
95% UTL95% Coverage	19.16	95% UPL (t)	9.132
90% Percentile (z)	5.525	95% Percentile (z)	7.537
99% Percentile (z)	13.5	95% USL	13.03

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	6.9
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	6.9
95% USL	6.9	95% KM Chebyshev UPL	9.944

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Endosulfan II

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	6		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	6
Minimum Detect	N/A	Minimum Non-Detect	2.3
Maximum Detect	N/A	Maximum Non-Detect	14
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan II was not processed!

4,4'-DDT

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	8
Minimum Detect	1.4	Minimum Non-Detect	1.3
Maximum Detect	1.4	Maximum Non-Detect	7.6
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	1.4	SD Detected	N/A
Mean of Detected Logged Data	0.336	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 4,4'-DDT was not processed!

Benzo(a)pyrene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	12	First Quartile	28.25
Second Largest	400	Median	53
Maximum	590	Third Quartile	172.5
Mean	140.2	SD	180.8
Coefficient of Variation	1.29	Skewness	1.84
Mean of logged Data	4.252	SD of logged Data	1.217

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.726	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.27	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	634.8	90% Percentile (z)	371.9
	95% UPL (t)	478.1	95% Percentile (z)	437.6
	95% USL	553.3	99% Percentile (z)	560.8

Gamma GOF Test

A-D Test Statistic	0.613	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.762	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.225	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.853	k star (bias corrected MLE)	0.695
Theta hat (MLE)	164.4	Theta star (bias corrected MLE)	201.7
nu hat (MLE)	20.46	nu star (bias corrected)	16.68
MLE Mean (bias corrected)	140.2	MLE Sd (bias corrected)	168.1

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	526	90% Percentile	352.4
95% Hawkins Wixley (HW) Approx. Gamma UPL	547.4	95% Percentile	478.3
95% WH Approx. Gamma UTL with 95% Coverage	925.6	99% Percentile	779
95% HW Approx. Gamma UTL with 95% Coverage	1039		
95% WH USL	699	95% HW USL	754

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.166	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	1965	90% Percentile (z)	334.5
95% UPL (t)	684	95% Percentile (z)	520.5
95% USL	1135	99% Percentile (z)	1193

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	590
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	590	95% BCA Bootstrap UTL with 95% Coverage	590
95% UPL	590	90% Percentile	381
90% Chebyshev UPL	704.7	95% Percentile	485.5
95% Chebyshev UPL	960.4	99% Percentile	569.1
95% USL	590		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Alpha-Chlordane

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	7
Minimum Detect	4	Minimum Non-Detect	1
Maximum Detect	4.3	Maximum Non-Detect	5.8
Variance Detected	0.045	Percent Non-Detects	83.33%
Mean Detected	4.15	SD Detected	0.212
Mean of Detected Logged Data	1.422	SD of Detected Logged Data	0.0511

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	2.575	KM SD	1.579
95% UTL95% Coverage	6.894	95% KM UPL (t)	5.526
90% KM Percentile (z)	4.598	95% KM Percentile (z)	5.172
99% KM Percentile (z)	6.247	95% KM USL	6.182

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	2.513	SD	1.118
95% UTL95% Coverage	5.573	95% UPL (t)	4.603
90% Percentile (z)	3.946	95% Percentile (z)	4.352
99% Percentile (z)	5.114	95% USL	5.068

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	765.1	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00542	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3060	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.575	SD (KM)	1.579
Variance (KM)	2.492	SE of Mean (KM)	1.116
k hat (KM)	2.661	k star (KM)	2.051
nu hat (KM)	63.86	nu star (KM)	49.23
theta hat (KM)	0.968	theta star (KM)	1.255
80% gamma percentile (KM)	3.844	90% gamma percentile (KM)	4.978
95% gamma percentile (KM)	6.059	99% gamma percentile (KM)	8.453

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	9.722	10.46	95% Approx. Gamma UPL	6.55	6.771
95% KM Gamma Percentile	5.86	6.001	95% Gamma USL	7.968	8.391

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	3.783	Mean in Log Scale	1.328
SD in Original Scale	0.266	SD in Log Scale	0.0702
95% UTL95% Coverage	4.574	95% BCA UTL95% Coverage	4.3
95% Bootstrap (%) UTL95% Coverage	4.3	95% UPL (t)	4.304
90% Percentile (z)	4.13	95% Percentile (z)	4.236
99% Percentile (z)	4.444	95% USL	4.431

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.711	95% KM UTL (Lognormal)95% Coverage	14.27
KM SD of Logged Data	0.712	95% KM UPL (Lognormal)	7.702
95% KM Percentile Lognormal (z)	6.566	95% KM USL (Lognormal)	10.35

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	2.513	Mean in Log Scale	0.759
SD in Original Scale	1.118	SD in Log Scale	0.703
95% UTL95% Coverage	14.62	95% UPL (t)	7.951
90% Percentile (z)	5.26	95% Percentile (z)	6.791
99% Percentile (z)	10.96	95% USL	10.65

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	5.8
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	5.8
95% USL	5.8	95% KM Chebyshev UPL	9.737

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Dibenzo(a,h)anthracene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	11	Number of Non-Detects	1
Number of Distinct Detects	10	Number of Distinct Non-Detects	1
Minimum Detect	5	Minimum Non-Detect	6.9
Maximum Detect	120	Maximum Non-Detect	6.9
Variance Detected	1449	Percent Non-Detects	8.333%
Mean Detected	32.08	SD Detected	38.07
Mean of Detected Logged Data	2.892	SD of Detected Logged Data	1.101

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.742	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.792	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.251	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.291	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	29.87	KM SD	35.52
95% UTL95% Coverage	127	95% KM UPL (t)	96.26
90% KM Percentile (z)	75.38	95% KM Percentile (z)	88.29
99% KM Percentile (z)	112.5	95% KM USL	111

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	29.7	SD	37.22
95% UTL95% Coverage	131.5	95% UPL (t)	99.28
90% Percentile (z)	77.4	95% Percentile (z)	90.92
99% Percentile (z)	116.3	95% USL	114.8

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.651	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.752	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.234	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.262	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.002	k star (bias corrected MLE)	0.789
Theta hat (MLE)	32.02	Theta star (bias corrected MLE)	40.65
nu hat (MLE)	22.04	nu star (bias corrected)	17.36
MLE Mean (bias corrected)	32.08		
MLE Sd (bias corrected)	36.11	95% Percentile of Chisquare (2kstar)	5.146

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	29.41
Maximum	120	Median	10.65
SD	37.46	CV	1.274
k hat (MLE)	0.56	k star (bias corrected MLE)	0.476
Theta hat (MLE)	52.48	Theta star (bias corrected MLE)	61.8
nu hat (MLE)	13.45	nu star (bias corrected)	11.42
MLE Mean (bias corrected)	29.41	MLE Sd (bias corrected)	42.63
95% Percentile of Chisquare (2kstar)	3.721	90% Percentile	80.38
95% Percentile	115	99% Percentile	200.5

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	227.3	297.2	95% Approx. Gamma UPL	124	144.2
95% Gamma USL	168.4	207.3			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	29.87	SD (KM)	35.52
Variance (KM)	1262	SE of Mean (KM)	10.75
k hat (KM)	0.707	k star (KM)	0.586
nu hat (KM)	16.97	nu star (KM)	14.06
theta hat (KM)	42.24	theta star (KM)	50.98
80% gamma percentile (KM)	49.23	90% gamma percentile (KM)	78.09
95% gamma percentile (KM)	108.4	99% gamma percentile (KM)	181.8

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	172.7	188.6	95% Approx. Gamma UPL	101.4	103.9
95% KM Gamma Percentile	86.86	87.61	95% Gamma USL	132.5	139.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.909	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.876	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.19	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.231	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	29.73	Mean in Log Scale	2.764
SD in Original Scale	37.2	SD in Log Scale	1.14
95% UTL95% Coverage	358.9	95% BCA UTL95% Coverage	120
95% Bootstrap (%) UTL95% Coverage	120	95% UPL (t)	133.6
90% Percentile (z)	68.36	95% Percentile (z)	103.4
99% Percentile (z)	225	95% USL	214.6

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	2.793	95% KM UTL (Lognormal)95% Coverage	294.9
KM SD of Logged Data	1.058	95% KM UPL (Lognormal)	117.9
95% KM Percentile Lognormal (z)	93	95% KM USL (Lognormal)	183

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	29.7	Mean in Log Scale	2.754
SD in Original Scale	37.22	SD in Log Scale	1.153
95% UTL95% Coverage	368.2	95% UPL (t)	135.6
90% Percentile (z)	68.85	95% Percentile (z)	104.7
99% Percentile (z)	229.6	95% USL	218.9

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	120
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	120
95% USL	120	95% KM Chebyshev UPL	191

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

gamma-Chlordane

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	1.5	Minimum Non-Detect	0.66
Maximum Detect	4.1	Maximum Non-Detect	3.8
Variance Detected	3.38	Percent Non-Detects	83.33%
Mean Detected	2.8	SD Detected	1.838
Mean of Detected Logged Data	0.908	SD of Detected Logged Data	0.711

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.203	KM SD	0.952
95% UTL95% Coverage	3.808	95% KM UPL (t)	2.983
90% KM Percentile (z)	2.424	95% KM Percentile (z)	2.769
99% KM Percentile (z)	3.418	95% KM USL	3.379

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.66	SD	0.933
95% UTL95% Coverage	4.214	95% UPL (t)	3.405
90% Percentile (z)	2.856	95% Percentile (z)	3.195
99% Percentile (z)	3.832	95% USL	3.793

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	4.278	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.654	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	17.11	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.203	SD (KM)	0.952
Variance (KM)	0.907	SE of Mean (KM)	0.464
k hat (KM)	1.597	k star (KM)	1.254
nu hat (KM)	38.34	nu star (KM)	30.09
theta hat (KM)	0.753	theta star (KM)	0.96
80% gamma percentile (KM)	1.897	90% gamma percentile (KM)	2.62
95% gamma percentile (KM)	3.331	99% gamma percentile (KM)	4.956

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	4.133	4.227	95% Approx. Gamma UPL	2.851	2.846
95% KM Gamma Percentile	2.57	2.551	95% Gamma USL	3.427	3.457

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.997	Mean in Log Scale	-0.262
SD in Original Scale	1.025	SD in Log Scale	0.651
95% UTL95% Coverage	4.567	95% BCA UTL95% Coverage	4.1
95% Bootstrap (%) UTL95% Coverage	4.1	95% UPL (t)	2.598
90% Percentile (z)	1.772	95% Percentile (z)	2.245
99% Percentile (z)	3.498	95% USL	3.405

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.0125	95% KM UTL (Lognormal)95% Coverage	4.659
KM SD of Logged Data	0.567	95% KM UPL (Lognormal)	2.85
95% KM Percentile Lognormal (z)	2.51	95% KM USL (Lognormal)	3.608

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.66	Mean in Log Scale	0.324
SD in Original Scale	0.933	SD in Log Scale	0.712
95% UTL95% Coverage	9.711	95% UPL (t)	5.237
90% Percentile (z)	3.446	95% Percentile (z)	4.464
99% Percentile (z)	7.253	95% USL	7.043

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	4.1
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	4.1
95% USL	4.1	95% KM Chebyshev UPL	5.523

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Benzo(a)anthracene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Minimum	13	First Quartile	33
Second Largest	470	Median	49
Maximum	1000	Third Quartile	212.5
Mean	190.8	SD	290.9
Coefficient of Variation	1.525	Skewness	2.323
Mean of logged Data	4.37	SD of logged Data	1.351

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.662	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.289	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	986.8	90% Percentile (z)	563.7
	95% UPL (t)	734.6	95% Percentile (z)	669.4
	95% USL	855.6	99% Percentile (z)	867.6

Gamma GOF Test

A-D Test Statistic	0.735	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.77	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.256	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.256	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.687	k star (bias corrected MLE)	0.571
Theta hat (MLE)	277.7	Theta star (bias corrected MLE)	334.3
nu hat (MLE)	16.49	nu star (bias corrected)	13.7
MLE Mean (bias corrected)	190.8	MLE Sd (bias corrected)	252.6

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	763.1	90% Percentile	501.9
95% Hawkins Wixley (HW) Approx. Gamma UPL	790.3	95% Percentile	699.1
95% WH Approx. Gamma UTL with 95% Coverage	1397	99% Percentile	1178
95% HW Approx. Gamma UTL with 95% Coverage	1575		
95% WH USL	1036	95% HW USL	1117

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.934	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.2	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	3182	90% Percentile (z)	446.1
95% UPL (t)	986.8	95% Percentile (z)	728.8
95% USL	1730	99% Percentile (z)	1830

Nonparametric Distribution Free Background Statistics

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	1000
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	1000	95% BCA Bootstrap UTL with 95% Coverage	1000
95% UPL	1000	90% Percentile	454
90% Chebyshev UPL	1099	95% Percentile	708.5
95% Chebyshev UPL	1511	99% Percentile	941.7
95% USL	1000		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

gamma-BHC (Lindane)

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	8
Minimum Detect	0.31	Minimum Non-Detect	0.63
Maximum Detect	0.31	Maximum Non-Detect	3.8
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	0.31	SD Detected	N/A
Mean of Detected Logged Data	-1.171	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable gamma-BHC (Lindane) was not processed!

Dieldrin

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	9
Minimum Detect	0.36	Minimum Non-Detect	1.3
Maximum Detect	0.36	Maximum Non-Detect	7.6
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	0.36	SD Detected	N/A
Mean of Detected Logged Data	-1.022	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Dieldrin was not processed!

4,4'-DDE

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	12		
Number of Detects	3	Number of Non-Detects	9
Number of Distinct Detects	3	Number of Distinct Non-Detects	9
Minimum Detect	0.95	Minimum Non-Detect	1.5
Maximum Detect	4.3	Maximum Non-Detect	8.9
Variance Detected	3.483	Percent Non-Detects	75%
Mean Detected	2.15	SD Detected	1.866
Mean of Detected Logged Data	0.53	SD of Detected Logged Data	0.813

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.806	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.361	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.881	KM SD	1.401
95% UTL95% Coverage	5.713	95% KM UPL (t)	4.499
90% KM Percentile (z)	3.676	95% KM Percentile (z)	4.185
99% KM Percentile (z)	5.14	95% KM USL	5.082

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	3.25	SD	1.399
95% UTL95% Coverage	7.078	95% UPL (t)	5.865
90% Percentile (z)	5.043	95% Percentile (z)	5.551
99% Percentile (z)	6.505	95% USL	6.447

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.476	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.382	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.435	Detected data appear Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.275	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.945	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	13.65	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.95	Mean	1.714
Maximum	4.3	Median	1.625
SD	0.85	CV	0.496
k hat (MLE)	6.974	k star (bias corrected MLE)	5.286
Theta hat (MLE)	0.246	Theta star (bias corrected MLE)	0.324
nu hat (MLE)	167.4	nu star (bias corrected)	126.9
MLE Mean (bias corrected)	1.714	MLE Sd (bias corrected)	0.745
95% Percentile of Chisquare (2kstar)	19.09	90% Percentile	2.711
95% Percentile	3.095	99% Percentile	3.904

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	4.145	4.176	95% Approx. Gamma UPL	3.177	3.167
95% Gamma USL	3.62	3.625			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.881	SD (KM)	1.401
Variance (KM)	1.962	SE of Mean (KM)	0.859
k hat (KM)	1.804	k star (KM)	1.409
nu hat (KM)	43.3	nu star (KM)	33.8
theta hat (KM)	1.043	theta star (KM)	1.336
80% gamma percentile (KM)	2.931	90% gamma percentile (KM)	3.981
95% gamma percentile (KM)	5.005	99% gamma percentile (KM)	7.328

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	6.801	7.039	95% Approx. Gamma UPL	4.626	4.65
95% KM Gamma Percentile	4.151	4.147	95% Gamma USL	5.599	5.704

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.863	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.332	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.62	Mean in Log Scale	0.405
SD in Original Scale	0.863	SD in Log Scale	0.363
95% UTL95% Coverage	4.049	95% BCA UTL95% Coverage	4.3
95% Bootstrap (%) UTL95% Coverage	4.3	95% UPL (t)	2.956
90% Percentile (z)	2.388	95% Percentile (z)	2.724
99% Percentile (z)	3.489	95% USL	3.437

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.414	95% KM UTL (Lognormal)95% Coverage	8.063
KM SD of Logged Data	0.612	95% KM UPL (Lognormal)	4.745
95% KM Percentile Lognormal (z)	4.137	95% KM USL (Lognormal)	6.119

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	3.25	Mean in Log Scale	1.027
SD in Original Scale	1.399	SD in Log Scale	0.661
95% UTL95% Coverage	17.05	95% UPL (t)	9.611
90% Percentile (z)	6.517	95% Percentile (z)	8.286
99% Percentile (z)	13	95% USL	12.65

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	8.9
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	8.9
95% USL	8.9	95% KM Chebyshev UPL	8.236

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Lead

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	9.9	First Quartile	61
Second Largest	320	Median	104
Maximum	340	Third Quartile	192.5
Mean	140.5	SD	108.2
Coefficient of Variation	0.77	Skewness	0.858
Mean of logged Data	4.598	SD of logged Data	0.986

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.895	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.186	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	436.4	90% Percentile (z)	279.1
	95% UPL (t)	342.7	95% Percentile (z)	318.4
	95% USL	387.6	99% Percentile (z)	392.1

Gamma GOF Test

A-D Test Statistic	0.226	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.745	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.121	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.249	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.585	k star (bias corrected MLE)	1.244
Theta hat (MLE)	88.64	Theta star (bias corrected MLE)	112.9
nu hat (MLE)	38.04	nu star (bias corrected)	29.86
MLE Mean (bias corrected)	140.5	MLE Sd (bias corrected)	125.9

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL		423	90% Percentile	306.5
95% Hawkins Wixley (HW) Approx. Gamma UPL		450.5	95% Percentile	389.9
95% WH Approx. Gamma UTL with	95% Coverage	667.9	99% Percentile	580.7
95% HW Approx. Gamma UTL with	95% Coverage	754.6		
	95% WH USL	531.2	95% HW USL	581.8

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.923	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.16	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	1472	90% Percentile (z)		351
	95% UPL (t)	626.4	95% Percentile (z)		502.1
	95% USL	943.7	99% Percentile (z)		983

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	340
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	340	95% BCA Bootstrap UTL with	95% Coverage	340
	95% UPL	340		90% Percentile	311
	90% Chebyshev UPL	478.2		95% Percentile	329
	95% Chebyshev UPL	631.2		99% Percentile	337.8
	95% USL	340			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Mercury

General Statistics

Total Number of Observations	12	Number of Distinct Observations	10
Minimum	0.045	First Quartile	1.35
Second Largest	8.6	Median	1.75
Maximum	13	Third Quartile	2.9
Mean	3.204	SD	3.76
Coefficient of Variation	1.173	Skewness	2.111
Mean of logged Data	0.551	SD of logged Data	1.388

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.692	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.366	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	13.49		90% Percentile (z)	8.022
	95% UPL (t)	10.23		95% Percentile (z)	9.388
	95% USL	11.79		99% Percentile (z)	11.95

Gamma GOF Test

A-D Test Statistic	0.662	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.759	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.233	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.253	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.948	k star (bias corrected MLE)	0.766
Theta hat (MLE)	3.381	Theta star (bias corrected MLE)	4.181
nu hat (MLE)	22.74	nu star (bias corrected)	18.39
MLE Mean (bias corrected)	3.204	MLE Sd (bias corrected)	3.66

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL		11.45		90% Percentile	7.871
95% Hawkins Wixley (HW) Approx. Gamma UPL		12.4		95% Percentile	10.56
95% WH Approx. Gamma UTL with	95% Coverage	19.54		99% Percentile	16.91
95% HW Approx. Gamma UTL with	95% Coverage	22.92			
	95% WH USL	14.97		95% HW USL	16.84

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.833	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.262	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	77.38		90% Percentile (z)	10.28
	95% UPL (t)	23.23		95% Percentile (z)	17.02
	95% USL	41.37		99% Percentile (z)	43.82

Nonparametric Distribution Free Background Statistics

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	13
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	13	95% BCA Bootstrap UTL with	95% Coverage	13
	95% UPL	13		90% Percentile	8.03
	90% Chebyshev UPL	14.94		95% Percentile	10.58
	95% Chebyshev UPL	20.26		99% Percentile	12.52
	95% USL	13			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Nickel

General Statistics

Total Number of Observations	12	Number of Distinct Observations	10
Minimum	8.5	First Quartile	10.5
Second Largest	25	Median	12.5
Maximum	30	Third Quartile	15
Mean	14.45	SD	6.577
Coefficient of Variation	0.455	Skewness	1.656
Mean of logged Data	2.594	SD of logged Data	0.389

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.789	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.3	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	32.44	90% Percentile (z)	22.88
	95% UPL (t)	26.74	95% Percentile (z)	25.27
	95% USL	29.48	99% Percentile (z)	29.75

Gamma GOF Test

A-D Test Statistic	0.689	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.244	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.705	k star (bias corrected MLE)	5.084
Theta hat (MLE)	2.155	Theta star (bias corrected MLE)	2.842
nu hat (MLE)	160.9	nu star (bias corrected)	122
MLE Mean (bias corrected)	14.45	MLE Sd (bias corrected)	6.409

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL		27.15	90% Percentile	23.03
95% Hawkins Wixley (HW) Approx. Gamma UPL		27.26	95% Percentile	26.35
95% WH Approx. Gamma UTL with	95% Coverage	35.59	99% Percentile	33.35
95% HW Approx. Gamma UTL with	95% Coverage	36.24		
	95% WH USL	31.01	95% HW USL	31.32

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.894	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.218	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	38.79	90% Percentile (z)	22.03
	95% UPL (t)	27.69	95% Percentile (z)	25.38
	95% USL	32.55	99% Percentile (z)	33.08

Nonparametric Distribution Free Background Statistics

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with 95% Coverage	30
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
			Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with	95% Coverage	30	95% BCA Bootstrap UTL with 95% Coverage	30
	95% UPL	30	90% Percentile	24
	90% Chebyshev UPL	34.99	95% Percentile	27.25
	95% Chebyshev UPL	44.29	99% Percentile	29.45
	95% USL	30		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Silver

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Minimum	0.048	First Quartile	0.135
Second Largest	0.7	Median	0.18
Maximum	0.82	Third Quartile	0.418
Mean	0.298	SD	0.248
Coefficient of Variation	0.833	Skewness	1.214
Mean of logged Data	-1.525	SD of logged Data	0.845

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.842	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.237	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	0.978	90% Percentile (z)	0.617
	95% UPL (t)	0.762	95% Percentile (z)	0.707
	95% USL	0.866	99% Percentile (z)	0.876

Gamma GOF Test

A-D Test Statistic	0.375	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.744	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.183	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.249	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.734	k star (bias corrected MLE)	1.356
Theta hat (MLE)	0.172	Theta star (bias corrected MLE)	0.22
nu hat (MLE)	41.61	nu star (bias corrected)	32.54
MLE Mean (bias corrected)	0.298	MLE Sd (bias corrected)	0.256

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.867	90% Percentile	0.637
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.898	95% Percentile	0.804
95% WH Approx. Gamma UTL with 95% Coverage	1.354	99% Percentile	1.183
95% HW Approx. Gamma UTL with 95% Coverage	1.472		
95% WH USL	1.083	95% HW USL	1.147

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.142	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	2.197	90% Percentile (z)	0.643
	95% UPL (t)	1.056	95% Percentile (z)	0.874
	95% USL	1.501	99% Percentile (z)	1.554

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	0.82
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	0.82	95% BCA Bootstrap UTL with 95% Coverage	0.82
95% UPL	0.82	90% Percentile	0.674
90% Chebyshev UPL	1.074	95% Percentile	0.754
95% Chebyshev UPL	1.425	99% Percentile	0.807
95% USL	0.82		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Thallium

General Statistics

Total Number of Observations	12	Number of Distinct Observations	8
Minimum	0.054	First Quartile	0.108
Second Largest	0.19	Median	0.13
Maximum	0.27	Third Quartile	0.15
Mean	0.136	SD	0.054
Coefficient of Variation	0.396	Skewness	1.301
Mean of logged Data	-2.062	SD of logged Data	0.391

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.892	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.232	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	0.284	90% Percentile (z)	0.205
95% UPL (t)	0.237	95% Percentile (z)	0.225
95% USL	0.259	99% Percentile (z)	0.262

Gamma GOF Test

A-D Test Statistic	0.379	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.182	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.455	k star (bias corrected MLE)	5.646
Theta hat (MLE)	0.0183	Theta star (bias corrected MLE)	0.0241
nu hat (MLE)	178.9	nu star (bias corrected)	135.5
MLE Mean (bias corrected)	0.136	MLE Sd (bias corrected)	0.0573

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.249	90% Percentile	0.213
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.252	95% Percentile	0.242
95% WH Approx. Gamma UTL with 95% Coverage	0.323	99% Percentile	0.303
95% HW Approx. Gamma UTL with 95% Coverage	0.332		
95% WH USL	0.283	95% HW USL	0.288

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.944	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.186	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	0.371	90% Percentile (z)	0.21
95% UPL (t)	0.264	95% Percentile (z)	0.242
95% USL	0.311	99% Percentile (z)	0.316

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	0.27
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	0.27	95% BCA Bootstrap UTL with 95% Coverage	0.27
95% UPL	0.27	90% Percentile	0.186
90% Chebyshev UPL	0.305	95% Percentile	0.226
95% Chebyshev UPL	0.381	99% Percentile	0.261
95% USL	0.27		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Antimony

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	0.084	First Quartile	0.253
Second Largest	0.49	Median	0.285
Maximum	0.59	Third Quartile	0.435
Mean	0.328	SD	0.139
Coefficient of Variation	0.424	Skewness	0.317
Mean of logged Data	-1.216	SD of logged Data	0.507

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.96	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.191	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	0.708	90% Percentile (z)	0.506
95% UPL (t)	0.588	95% Percentile (z)	0.557
95% USL	0.646	99% Percentile (z)	0.651

Gamma GOF Test

A-D Test Statistic	0.343	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.16	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	5.131	k star (bias corrected MLE)	3.904
Theta hat (MLE)	0.0639	Theta star (bias corrected MLE)	0.084
nu hat (MLE)	123.1	nu star (bias corrected)	93.69
MLE Mean (bias corrected)	0.328	MLE Sd (bias corrected)	0.166

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.664	90% Percentile	0.55
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.683	95% Percentile	0.64
95% WH Approx. Gamma UTL with 95% Coverage	0.896	99% Percentile	0.831
95% HW Approx. Gamma UTL with 95% Coverage	0.945		
95% WH USL	0.77	95% HW USL	0.801

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.897	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.195	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	1.188	90% Percentile (z)		0.568
	95% UPL (t)	0.765	95% Percentile (z)		0.683
	95% USL	0.945	99% Percentile (z)		0.965

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	0.59
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	0.59	95% BCA Bootstrap UTL with	95% Coverage	0.59
	95% UPL	0.59		90% Percentile	0.486
	90% Chebyshev UPL	0.762		95% Percentile	0.535
	95% Chebyshev UPL	0.959		99% Percentile	0.579
	95% USL	0.59			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Arsenic

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	1.5	First Quartile	3.625
Second Largest	7.6	Median	4.4
Maximum	7.9	Third Quartile	6.025
Mean	4.792	SD	1.953
Coefficient of Variation	0.408	Skewness	0.173
Mean of logged Data	1.477	SD of logged Data	0.47

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.967	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.143	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	10.13	90% Percentile (z)		7.294
	95% UPL (t)	8.442	95% Percentile (z)		8.004
	95% USL	9.254	99% Percentile (z)		9.335

Gamma GOF Test

A-D Test Statistic	0.202	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0996	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	5.728	k star (bias corrected MLE)	4.351
Theta hat (MLE)	0.837	Theta star (bias corrected MLE)	1.101
nu hat (MLE)	137.5	nu star (bias corrected)	104.4
MLE Mean (bias corrected)	4.792	MLE Sd (bias corrected)	2.297

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	9.419	90% Percentile	7.869
95% Hawkins Wixley (HW) Approx. Gamma UPL	9.635	95% Percentile	9.086
95% WH Approx. Gamma UTL with 95% Coverage	12.56	99% Percentile	11.67
95% HW Approx. Gamma UTL with 95% Coverage	13.14		
95% WH USL	10.85	95% HW USL	11.21

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.128	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	15.83	90% Percentile (z)	7.995
95% UPL (t)	10.54	95% Percentile (z)	9.482
95% USL	12.81	99% Percentile (z)	13.06

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	7.9
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	7.9	95% BCA Bootstrap UTL with 95% Coverage	7.9
95% UPL	7.9	90% Percentile	7.51
90% Chebyshev UPL	10.89	95% Percentile	7.735
95% Chebyshev UPL	13.65	99% Percentile	7.867
95% USL	7.9		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Beryllium

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	0.27	First Quartile	0.33
Second Largest	0.92	Median	0.39
Maximum	1.2	Third Quartile	0.51
Mean	0.496	SD	0.282
Coefficient of Variation	0.57	Skewness	1.883
Mean of logged Data	-0.812	SD of logged Data	0.458

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.747	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.271	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	1.269	90% Percentile (z)	0.858
95% UPL (t)	1.024	95% Percentile (z)	0.96
95% USL	1.141	99% Percentile (z)	1.153

Gamma GOF Test

A-D Test Statistic	0.822	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.2	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	4.678	k star (bias corrected MLE)	3.564
Theta hat (MLE)	0.106	Theta star (bias corrected MLE)	0.139
nu hat (MLE)	112.3	nu star (bias corrected)	85.53
MLE Mean (bias corrected)	0.496	MLE Sd (bias corrected)	0.263

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	1.029	90% Percentile	0.848
95% Hawkins Wixley (HW) Approx. Gamma UPL	1.032	95% Percentile	0.991
95% WH Approx. Gamma UTL with 95% Coverage	1.404	99% Percentile	1.3
95% HW Approx. Gamma UTL with 95% Coverage	1.434		
95% WH USL	1.199	95% HW USL	1.212

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.877	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.168	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	1.555	90% Percentile (z)	0.799
	95% UPL (t)	1.045	95% Percentile (z)	0.943
	95% USL	1.265	99% Percentile (z)	1.289

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12		95% UTL with 95% Coverage	1.2
Approx, f used to compute achieved CC	0.632		Approximate Actual Confidence Coefficient achieved by UTL	0.46
			Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with	95% Coverage	1.2	95% BCA Bootstrap UTL with 95% Coverage	1.2
	95% UPL	1.2	90% Percentile	0.882
	90% Chebyshev UPL	1.378	95% Percentile	1.046
	95% Chebyshev UPL	1.777	99% Percentile	1.169
	95% USL	1.2		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Cadmium

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Minimum	0.048	First Quartile	0.16
Second Largest	0.36	Median	0.23
Maximum	0.39	Third Quartile	0.318
Mean	0.236	SD	0.107
Coefficient of Variation	0.455	Skewness	-0.193
Mean of logged Data	-1.579	SD of logged Data	0.602

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.143	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	0.529	90% Percentile (z)	0.373
	95% UPL (t)	0.436	95% Percentile (z)	0.412
	95% USL	0.48	99% Percentile (z)	0.485

Gamma GOF Test

A-D Test Statistic	0.361	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.736	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.163	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	3.91	k star (bias corrected MLE)	2.988
Theta hat (MLE)	0.0603	Theta star (bias corrected MLE)	0.0789
nu hat (MLE)	93.85	nu star (bias corrected)	71.72
MLE Mean (bias corrected)	0.236	MLE Sd (bias corrected)	0.136

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.519	90% Percentile	0.418
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.539	95% Percentile	0.495
95% WH Approx. Gamma UTL with 95% Coverage	0.723	99% Percentile	0.661
95% HW Approx. Gamma UTL with 95% Coverage	0.777		
95% WH USL	0.611	95% HW USL	0.645

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.881	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.17	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Approximate Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	1.07	90% Percentile (z)	0.446
	95% UPL (t)	0.635	95% Percentile (z)	0.555
	95% USL	0.816	99% Percentile (z)	0.836

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	0.39
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	0.39	95% BCA Bootstrap UTL with 95% Coverage	0.39
95% UPL	0.39	90% Percentile	0.358
90% Chebyshev UPL	0.57	95% Percentile	0.374
95% Chebyshev UPL	0.722	99% Percentile	0.387
95% USL	0.39		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Chromium

General Statistics

Total Number of Observations	12	Number of Distinct Observations	8
Minimum	13	First Quartile	14.75
Second Largest	34	Median	15.5
Maximum	44	Third Quartile	20
Mean	19.92	SD	9.784
Coefficient of Variation	0.491	Skewness	1.821
Mean of logged Data	2.908	SD of logged Data	0.397

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.711	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	46.68	90% Percentile (z)	32.45
95% UPL (t)	38.2	95% Percentile (z)	36.01
95% USL	42.27	99% Percentile (z)	42.68

Gamma GOF Test

A-D Test Statistic	1.329	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.732	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.317	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.246	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.154	k star (bias corrected MLE)	4.671
Theta hat (MLE)	3.237	Theta star (bias corrected MLE)	4.264
nu hat (MLE)	147.7	nu star (bias corrected)	112.1
MLE Mean (bias corrected)	19.92	MLE Sd (bias corrected)	9.216

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	38.26	90% Percentile	32.26
95% Hawkins Wixley (HW) Approx. Gamma UPL	38.31	95% Percentile	37.09
95% WH Approx. Gamma UTL with 95% Coverage	50.63	99% Percentile	47.32
95% HW Approx. Gamma UTL with 95% Coverage	51.4		
95% WH USL	43.9	95% HW USL	44.23

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.787	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.3	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	54.35	90% Percentile (z)	30.49
95% UPL (t)	38.51	95% Percentile (z)	35.23
95% USL	45.43	99% Percentile (z)	46.18

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	44
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	44	95% BCA Bootstrap UTL with 95% Coverage	44
95% UPL	44	90% Percentile	33.2
90% Chebyshev UPL	50.47	95% Percentile	38.5
95% Chebyshev UPL	64.3	99% Percentile	42.9
95% USL	44		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Copper

General Statistics

Total Number of Observations	12	Number of Distinct Observations	10
Minimum	9.3	First Quartile	11.75
Second Largest	31	Median	12.5
Maximum	53	Third Quartile	21.75
Mean	19.03	SD	12.62
Coefficient of Variation	0.663	Skewness	2.042
Mean of logged Data	2.798	SD of logged Data	0.531

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.746	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.267	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	53.56	90% Percentile (z)	35.2
95% UPL (t)	42.62	95% Percentile (z)	39.78
95% USL	47.86	99% Percentile (z)	48.38

Gamma GOF Test

A-D Test Statistic	0.797	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.737	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.271	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.247	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	3.536	k star (bias corrected MLE)	2.707
Theta hat (MLE)	5.381	Theta star (bias corrected MLE)	7.027
nu hat (MLE)	84.86	nu star (bias corrected)	64.98
MLE Mean (bias corrected)	19.03	MLE Sd (bias corrected)	11.56

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	42.98	90% Percentile	34.52
95% Hawkins Wixley (HW) Approx. Gamma UPL	43.2	95% Percentile	41.14
95% WH Approx. Gamma UTL with 95% Coverage	60.74	99% Percentile	55.55
95% HW Approx. Gamma UTL with 95% Coverage	62.47		
95% WH USL	50.99	95% HW USL	51.78

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.879	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.253	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	70.11	90% Percentile (z)		32.4
	95% UPL (t)	44.25	95% Percentile (z)		39.29
	95% USL	55.18	99% Percentile (z)		56.41

Nonparametric Distribution Free Background Statistics

Data appear Approximate Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	53
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	53	95% BCA Bootstrap UTL with	95% Coverage	53
	95% UPL	53		90% Percentile	30.3
	90% Chebyshev UPL	58.43		95% Percentile	40.9
	95% Chebyshev UPL	76.28		99% Percentile	50.58
	95% USL	53			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Zinc

General Statistics

Total Number of Observations	12	Number of Distinct Observations	9
Minimum	32	First Quartile	44
Second Largest	110	Median	72
Maximum	110	Third Quartile	102.5
Mean	72.58	SD	32.67
Coefficient of Variation	0.45	Skewness	-0.00377
Mean of logged Data	4.179	SD of logged Data	0.495

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.821	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.246	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	162	90% Percentile (z)		114.5
	95% UPL (t)	133.7	95% Percentile (z)		126.3
	95% USL	147.2	99% Percentile (z)		148.6

Gamma GOF Test

A-D Test Statistic	0.937	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.732	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.264	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	4.887	k star (bias corrected MLE)	3.721
Theta hat (MLE)	14.85	Theta star (bias corrected MLE)	19.51
nu hat (MLE)	117.3	nu star (bias corrected)	89.3
MLE Mean (bias corrected)	72.58	MLE Sd (bias corrected)	37.63

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	149.5	90% Percentile	123
95% Hawkins Wixley (HW) Approx. Gamma UPL	152.6	95% Percentile	143.4
95% WH Approx. Gamma UTL with 95% Coverage	203.1	99% Percentile	187.2
95% HW Approx. Gamma UTL with 95% Coverage	212.3		
95% WH USL	173.9	95% HW USL	179.4

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.836	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.263	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	252.8	90% Percentile (z)	123.1
95% UPL (t)	164.6	95% Percentile (z)	147.3
95% USL	202.2	99% Percentile (z)	206.4

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	110
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	110	95% BCA Bootstrap UTL with 95% Coverage	110
95% UPL	110	90% Percentile	110
90% Chebyshev UPL	174.6	95% Percentile	110
95% Chebyshev UPL	220.8	99% Percentile	110
95% USL	110		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Methylene Chloride

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	10
Minimum Detect	N/A	Minimum Non-Detect	180
Maximum Detect	N/A	Maximum Non-Detect	350
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Methylene Chloride was not processed!

DALAPON

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	5
Minimum Detect	N/A	Minimum Non-Detect	2.6
Maximum Detect	N/A	Maximum Non-Detect	3.1
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Mean of Detected Logged Data	N/A	SD of Detected Logged Data	N/A

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DALAPON was not processed!

Heptachlor

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	7
Minimum Detect	0.37	Minimum Non-Detect	0.65
Maximum Detect	0.37	Maximum Non-Detect	3.9
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	0.37	SD Detected	N/A
Mean of Detected Logged Data	-0.994	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor was not processed!

Selenium

General Statistics

Total Number of Observations	12	Number of Distinct Observations	10
Minimum	0.18	First Quartile	0.25
Second Largest	0.63	Median	0.295
Maximum	0.72	Third Quartile	0.385
Mean	0.358	SD	0.165
Coefficient of Variation	0.461	Skewness	1.425
Mean of logged Data	-1.11	SD of logged Data	0.406

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.819	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.244	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	0.808	90% Percentile (z)	0.569
	95% UPL (t)	0.665	95% Percentile (z)	0.629
	95% USL	0.734	99% Percentile (z)	0.741

Gamma GOF Test

A-D Test Statistic	0.678	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.198	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.292	k star (bias corrected MLE)	4.774
Theta hat (MLE)	0.0568	Theta star (bias corrected MLE)	0.0749
nu hat (MLE)	151	nu star (bias corrected)	114.6
MLE Mean (bias corrected)	0.358	MLE Sd (bias corrected)	0.164

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	0.684	90% Percentile	0.577
95% Hawkins Wixley (HW) Approx. Gamma UPL	0.687	95% Percentile	0.662
95% WH Approx. Gamma UTL with 95% Coverage	0.902	99% Percentile	0.843
95% HW Approx. Gamma UTL with 95% Coverage	0.922		
95% WH USL	0.783	95% HW USL	0.793

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.915	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.175	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	0.999	90% Percentile (z)	0.554
95% UPL (t)	0.703	95% Percentile (z)	0.642
95% USL	0.832	99% Percentile (z)	0.846

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	0.72
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	0.72	95% BCA Bootstrap UTL with 95% Coverage	0.72
95% UPL	0.72	90% Percentile	0.613
90% Chebyshev UPL	0.872	95% Percentile	0.671
95% Chebyshev UPL	1.105	99% Percentile	0.71
95% USL	0.72		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Trichloroethylene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	7
Minimum Detect	80	Minimum Non-Detect	88
Maximum Detect	80	Maximum Non-Detect	170
Variance Detected	N/A	Percent Non-Detects	91.67%
Mean Detected	80	SD Detected	N/A
Mean of Detected Logged Data	4.382	SD of Detected Logged Data	N/A

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Trichloroethylene was not processed!

Methyl Acetate

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	9	Number of Non-Detects	3
Number of Distinct Detects	9	Number of Distinct Non-Detects	3
Minimum Detect	79	Minimum Non-Detect	240
Maximum Detect	360	Maximum Non-Detect	300
Variance Detected	8849	Percent Non-Detects	25%
Mean Detected	197.7	SD Detected	94.07
Mean of Detected Logged Data	5.175	SD of Detected Logged Data	0.517

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.948	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.764	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.175	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.316	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	186.5	KM SD	85.21
95% UTL95% Coverage	419.6	95% KM UPL (t)	345.8
90% KM Percentile (z)	295.7	95% KM Percentile (z)	326.7
99% KM Percentile (z)	384.7	95% KM USL	381.2

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	181.6	SD	85.58
95% UTL95% Coverage	415.7	95% UPL (t)	341.6
90% Percentile (z)	291.3	95% Percentile (z)	322.4
99% Percentile (z)	380.7	95% USL	377.1

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.285	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.724	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.168	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.28	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.636	k star (bias corrected MLE)	3.165
Theta hat (MLE)	42.64	Theta star (bias corrected MLE)	62.46
nu hat (MLE)	83.45	nu star (bias corrected)	56.97
MLE Mean (bias corrected)	197.7		
MLE Sd (bias corrected)	111.1	95% Percentile of Chisquare (2kstar)	13.08

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	79	Mean	185.8
Maximum	360	Median	159.1
SD	83.32	CV	0.448
k hat (MLE)	5.627	k star (bias corrected MLE)	4.276
Theta hat (MLE)	33.02	Theta star (bias corrected MLE)	43.46
nu hat (MLE)	135	nu star (bias corrected)	102.6
MLE Mean (bias corrected)	185.8	MLE Sd (bias corrected)	89.86
95% Percentile of Chisquare (2kstar)	16.29	90% Percentile	306.2
95% Percentile	353.9	99% Percentile	455.5

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	490.4	507.4	95% Approx. Gamma UPL	366.9	372.2
95% Gamma USL	423.2	433.1			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	186.5	SD (KM)	85.21
Variance (KM)	7260	SE of Mean (KM)	28.19
k hat (KM)	4.791	k star (KM)	3.649
nu hat (KM)	115	nu star (KM)	87.58
theta hat (KM)	38.93	theta star (KM)	51.11
80% gamma percentile (KM)	259.9	90% gamma percentile (KM)	317.4
95% gamma percentile (KM)	370.6	99% gamma percentile (KM)	484.6

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	509.9	530.3	95% Approx. Gamma UPL	377.1	383.6
95% KM Gamma Percentile	347	351.2	95% Gamma USL	437.5	449.5

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.947	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.186	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.252	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	183.9	Mean in Log Scale	5.12
SD in Original Scale	84.24	SD in Log Scale	0.454
95% UTL95% Coverage	579.8	95% BCA UTL95% Coverage	360
95% Bootstrap (%) UTL95% Coverage	360	95% UPL (t)	391.1
90% Percentile (z)	299.5	95% Percentile (z)	353.2
99% Percentile (z)	481.4	95% USL	472.4

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	5.118	95% KM UTL (Lognormal)95% Coverage	619.8
KM SD of Logged Data	0.479	95% KM UPL (Lognormal)	409.1
95% KM Percentile Lognormal (z)	367.4	95% KM USL (Lognormal)	499.3

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	181.6	Mean in Log Scale	5.103
SD in Original Scale	85.58	SD in Log Scale	0.462
95% UTL95% Coverage	582.6	95% UPL (t)	390.3
90% Percentile (z)	297.5	95% Percentile (z)	351.9
99% Percentile (z)	482.1	95% USL	473

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	360
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	360
95% USL	360	95% KM Chebyshev UPL	573.1

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Acenaphthene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	12		
Number of Detects	8	Number of Non-Detects	4
Number of Distinct Detects	8	Number of Distinct Non-Detects	4
Minimum Detect	1.2	Minimum Non-Detect	6.9
Maximum Detect	190	Maximum Non-Detect	7.6
Variance Detected	4208	Percent Non-Detects	33.33%
Mean Detected	34.45	SD Detected	64.87
Mean of Detected Logged Data	2.145	SD of Detected Logged Data	1.761

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.594	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.749	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.326	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.333	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	24.01	KM SD	51.71
95% UTL95% Coverage	165.5	95% KM UPL (t)	120.7
90% KM Percentile (z)	90.27	95% KM Percentile (z)	109.1
99% KM Percentile (z)	144.3	95% KM USL	142.2

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	24.19	SD	53.92
95% UTL95% Coverage	171.7	95% UPL (t)	125
90% Percentile (z)	93.29	95% Percentile (z)	112.9
99% Percentile (z)	149.6	95% USL	147.4

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.641	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.769	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.288	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.311	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.461	k star (bias corrected MLE)	0.372
Theta hat (MLE)	74.69	Theta star (bias corrected MLE)	92.7
nu hat (MLE)	7.38	nu star (bias corrected)	5.946
MLE Mean (bias corrected)	34.45		
MLE Sd (bias corrected)	56.51	95% Percentile of Chisquare (2kstar)	3.167

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	22.97
Maximum	190	Median	2.2
SD	54.45	CV	2.371
k hat (MLE)	0.223	k star (bias corrected MLE)	0.223
Theta hat (MLE)	102.9	Theta star (bias corrected MLE)	103
nu hat (MLE)	5.359	nu star (bias corrected)	5.352
MLE Mean (bias corrected)	22.97	MLE Sd (bias corrected)	48.64
95% Percentile of Chisquare (2kstar)	2.232	90% Percentile	69.36
95% Percentile	114.9	99% Percentile	238.2

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	245.6	326.7	95% Approx. Gamma UPL	111.3	123.5
95% Gamma USL	167	202.8			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	24.01	SD (KM)	51.71
Variance (KM)	2674	SE of Mean (KM)	15.96
k hat (KM)	0.216	k star (KM)	0.217
nu hat (KM)	5.173	nu star (KM)	5.213
theta hat (KM)	111.4	theta star (KM)	110.5
80% gamma percentile (KM)	32.94	90% gamma percentile (KM)	72.55
95% gamma percentile (KM)	121	99% gamma percentile (KM)	252.6

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	184.7	198.8	95% Approx. Gamma UPL	94.1	92.02
95% KM Gamma Percentile	76.86	73.4	95% Gamma USL	132.5	135.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.922	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.851	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.216	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.265	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	24.03	Mean in Log Scale	1.817
SD in Original Scale	53.99	SD in Log Scale	1.486
95% UTL95% Coverage	358.6	95% BCA UTL95% Coverage	190
95% Bootstrap (%) UTL95% Coverage	190	95% UPL (t)	98.92
90% Percentile (z)	41.32	95% Percentile (z)	70.88
99% Percentile (z)	195.1	95% USL	183.5

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.76	95% KM UTL (Lognormal)95% Coverage	338.7
KM SD of Logged Data	1.486	95% KM UPL (Lognormal)	93.42
95% KM Percentile Lognormal (z)	66.94	95% KM USL (Lognormal)	173.3

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	24.19	Mean in Log Scale	1.864
SD in Original Scale	53.92	SD in Log Scale	1.465
95% UTL95% Coverage	354.9	95% UPL (t)	99.68
90% Percentile (z)	42.14	95% Percentile (z)	71.76
99% Percentile (z)	194.7	95% USL	183.3

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	190
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	190
95% USL	190	95% KM Chebyshev UPL	258.6

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Phenanthrene

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
Minimum	12	First Quartile	21.75
Second Largest	540	Median	38.5
Maximum	580	Third Quartile	197.5
Mean	159.9	SD	215.5
Coefficient of Variation	1.348	Skewness	1.366
Mean of logged Data	4.19	SD of logged Data	1.383

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.694	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.305	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with	95% Coverage	749.6	90% Percentile (z)	436.1
	95% UPL (t)	562.8	95% Percentile (z)	514.5
	95% USL	652.4	99% Percentile (z)	661.3

Gamma GOF Test

A-D Test Statistic	0.984	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.771	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.275	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.256	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.685	k star (bias corrected MLE)	0.569
Theta hat (MLE)	233.5	Theta star (bias corrected MLE)	280.9
nu hat (MLE)	16.44	nu star (bias corrected)	13.66
MLE Mean (bias corrected)	159.9	MLE Sd (bias corrected)	212

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	650.3	90% Percentile	420.8
95% Hawkins Wixley (HW) Approx. Gamma UPL	681.4	95% Percentile	586.5
95% WH Approx. Gamma UTL with 95% Coverage	1192	99% Percentile	988.9
95% HW Approx. Gamma UTL with 95% Coverage	1365		
95% WH USL	883.1	95% HW USL	965.4

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.878	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.225	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with	95% Coverage	2903	90% Percentile (z)	388.4
	95% UPL (t)	875.5	95% Percentile (z)	641.9
	95% USL	1556	99% Percentile (z)	1648

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order		12	95% UTL with	95% Coverage	580
Approx, f used to compute achieved CC		0.632	Approximate Actual Confidence Coefficient achieved by UTL		0.46
			Approximate Sample Size needed to achieve specified CC		59
95% Percentile Bootstrap UTL with	95% Coverage	580	95% BCA Bootstrap UTL with	95% Coverage	580
	95% UPL	580		90% Percentile	526
	90% Chebyshev UPL	832.9		95% Percentile	558
	95% Chebyshev UPL	1138		99% Percentile	575.6
	95% USL	580			

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Fluorene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	8	Number of Non-Detects	4
Number of Distinct Detects	8	Number of Distinct Non-Detects	4
Minimum Detect	1.2	Minimum Non-Detect	6.9
Maximum Detect	270	Maximum Non-Detect	7.6
Variance Detected	8512	Percent Non-Detects	33.33%
Mean Detected	44.94	SD Detected	92.26
Mean of Detected Logged Data	2.267	SD of Detected Logged Data	1.83

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.548	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.749	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.37	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.333	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	30.92	KM SD	73.2
95% UTL95% Coverage	231.2	95% KM UPL (t)	167.8
90% KM Percentile (z)	124.7	95% KM Percentile (z)	151.3
99% KM Percentile (z)	201.2	95% KM USL	198.2

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	31.18	SD	76.35
95% UTL95% Coverage	240.1	95% UPL (t)	173.9
90% Percentile (z)	129	95% Percentile (z)	156.8
99% Percentile (z)	208.8	95% USL	205.6

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.667	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.776	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.265	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.312	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.424	k star (bias corrected MLE)	0.348
Theta hat (MLE)	106.1	Theta star (bias corrected MLE)	129.1
nu hat (MLE)	6.779	nu star (bias corrected)	5.57
MLE Mean (bias corrected)	44.94		
MLE Sd (bias corrected)	76.16	95% Percentile of Chisquare (2kstar)	3.033

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	29.96
Maximum	270	Median	2.25
SD	76.85	CV	2.565
k hat (MLE)	0.213	k star (bias corrected MLE)	0.215
Theta hat (MLE)	140.8	Theta star (bias corrected MLE)	139.2
nu hat (MLE)	5.108	nu star (bias corrected)	5.165
MLE Mean (bias corrected)	29.96	MLE Sd (bias corrected)	64.59
95% Percentile of Chisquare (2kstar)	2.175	90% Percentile	90.57
95% Percentile	151.4	99% Percentile	316.9

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	315	412.2	95% Approx. Gamma UPL	141.3	154
95% Gamma USL	213.2	254.5			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	30.92	SD (KM)	73.2
Variance (KM)	5359	SE of Mean (KM)	22.59
k hat (KM)	0.178	k star (KM)	0.189
nu hat (KM)	4.283	nu star (KM)	4.546
theta hat (KM)	173.3	theta star (KM)	163.3
80% gamma percentile (KM)	39.55	90% gamma percentile (KM)	93.45
95% gamma percentile (KM)	161.6	99% gamma percentile (KM)	350.8

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	242.7	259.4	95% Approx. Gamma UPL	120.9	116.6
95% KM Gamma Percentile	97.94	92.13	95% Gamma USL	172.3	174.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.932	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.851	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.18	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.265	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	30.84	Mean in Log Scale	1.835
SD in Original Scale	76.49	SD in Log Scale	1.595
95% UTL95% Coverage	491.7	95% BCA UTL95% Coverage	270
95% Bootstrap (%) UTL95% Coverage	270	95% UPL (t)	123.4
90% Percentile (z)	48.34	95% Percentile (z)	86.29
99% Percentile (z)	255.8	95% USL	239.5

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.812	95% KM UTL (Lognormal)95% Coverage	451.6
KM SD of Logged Data	1.572	95% KM UPL (Lognormal)	115.6
95% KM Percentile Lognormal (z)	81.27	95% KM USL (Lognormal)	222.3

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	31.18	Mean in Log Scale	1.945
SD in Original Scale	76.35	SD in Log Scale	1.536
95% UTL95% Coverage	467.2	95% UPL (t)	123.4
90% Percentile (z)	50.04	95% Percentile (z)	87.43
99% Percentile (z)	249	95% USL	233.7

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	270
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	270
95% USL	270	95% KM Chebyshev UPL	363

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Pentachlorophenol

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	5	Number of Non-Detects	7
Number of Distinct Detects	5	Number of Distinct Non-Detects	3
Minimum Detect	0.19	Minimum Non-Detect	0.26
Maximum Detect	1.9	Maximum Non-Detect	0.31
Variance Detected	0.465	Percent Non-Detects	58.33%
Mean Detected	0.794	SD Detected	0.682
Mean of Detected Logged Data	-0.539	SD of Detected Logged Data	0.9

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.887	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.686	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.221	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.396	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.442	KM SD	0.493
95% UTL95% Coverage	1.792	95% KM UPL (t)	1.364
90% KM Percentile (z)	1.074	95% KM Percentile (z)	1.253
99% KM Percentile (z)	1.59	95% KM USL	1.569

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.41	SD	0.533
95% UTL95% Coverage	1.867	95% UPL (t)	1.406
90% Percentile (z)	1.093	95% Percentile (z)	1.286
99% Percentile (z)	1.649	95% USL	1.627

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.202	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.685	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.184	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.361	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.772	k star (bias corrected MLE)	0.842
Theta hat (MLE)	0.448	Theta star (bias corrected MLE)	0.943
nu hat (MLE)	17.72	nu star (bias corrected)	8.422
MLE Mean (bias corrected)	0.794		
MLE Sd (bias corrected)	0.865	95% Percentile of Chisquare (2kstar)	5.364

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.356
Maximum	1.9	Median	0.122
SD	0.567	CV	1.592
k hat (MLE)	0.436	k star (bias corrected MLE)	0.383
Theta hat (MLE)	0.816	Theta star (bias corrected MLE)	0.93
nu hat (MLE)	10.47	nu star (bias corrected)	9.183
MLE Mean (bias corrected)	0.356	MLE Sd (bias corrected)	0.575
95% Percentile of Chisquare (2kstar)	3.229	90% Percentile	1.013
95% Percentile	1.502	99% Percentile	2.736

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.312	4.148	95% Approx. Gamma UPL	1.67	1.841
95% Gamma USL	2.365	2.775			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.442	SD (KM)	0.493
Variance (KM)	0.244	SE of Mean (KM)	0.159
k hat (KM)	0.801	k star (KM)	0.656
nu hat (KM)	19.23	nu star (KM)	15.75
theta hat (KM)	0.551	theta star (KM)	0.673
80% gamma percentile (KM)	0.727	90% gamma percentile (KM)	1.125
95% gamma percentile (KM)	1.539	99% gamma percentile (KM)	2.53

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.018	2.086	95% Approx. Gamma UPL	1.274	1.266
95% KM Gamma Percentile	1.117	1.101	95% Gamma USL	1.603	1.621

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.987	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.806	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.148	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.319	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.424	Mean in Log Scale	-1.35
SD in Original Scale	0.528	SD in Log Scale	0.964
95% UTL95% Coverage	3.622	95% BCA UTL95% Coverage	1.9
95% Bootstrap (%) UTL95% Coverage	1.9	95% UPL (t)	1.571
90% Percentile (z)	0.892	95% Percentile (z)	1.266
99% Percentile (z)	2.441	95% USL	2.345

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.193	95% KM UTL (Lognormal)95% Coverage	2.418
KM SD of Logged Data	0.759	95% KM UPL (Lognormal)	1.253
95% KM Percentile Lognormal (z)	1.056	95% KM USL (Lognormal)	1.717

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.41	Mean in Log Scale	-1.387
SD in Original Scale	0.533	SD in Log Scale	0.926
95% UTL95% Coverage	3.146	95% UPL (t)	1.41
90% Percentile (z)	0.818	95% Percentile (z)	1.145
99% Percentile (z)	2.153	95% USL	2.072

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.9
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.9
95% USL	1.9	95% KM Chebyshev UPL	2.68

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

1-Methylnaphthalene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	6	Number of Non-Detects	6
Number of Distinct Detects	6	Number of Distinct Non-Detects	6
Minimum Detect	2.2	Minimum Non-Detect	1.6
Maximum Detect	180	Maximum Non-Detect	7.9
Variance Detected	4940	Percent Non-Detects	50%
Mean Detected	37.17	SD Detected	70.28
Mean of Detected Logged Data	2.37	SD of Detected Logged Data	1.634

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.579	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.713	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.43	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.373	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	19.69	KM SD	48.62
95% UTL95% Coverage	152.7	95% KM UPL (t)	110.6
90% KM Percentile (z)	82.01	95% KM Percentile (z)	99.67
99% KM Percentile (z)	132.8	95% KM USL	130.8

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	20.2	SD	50.6
95% UTL95% Coverage	158.6	95% UPL (t)	114.8
90% Percentile (z)	85.05	95% Percentile (z)	103.4
99% Percentile (z)	137.9	95% USL	135.8

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.642	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.3	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.348	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.509	k star (bias corrected MLE)	0.366
Theta hat (MLE)	73.04	Theta star (bias corrected MLE)	101.7
nu hat (MLE)	6.106	nu star (bias corrected)	4.386
MLE Mean (bias corrected)	37.17		
MLE Sd (bias corrected)	61.47	95% Percentile of Chisquare (2kstar)	3.133

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	18.59
Maximum	180	Median	1.105
SD	51.2	CV	2.755
k hat (MLE)	0.184	k star (bias corrected MLE)	0.194
Theta hat (MLE)	100.8	Theta star (bias corrected MLE)	95.87
nu hat (MLE)	4.427	nu star (bias corrected)	4.654
MLE Mean (bias corrected)	18.59	MLE Sd (bias corrected)	42.21
95% Percentile of Chisquare (2kstar)	2.014	90% Percentile	56.2
95% Percentile	96.55	99% Percentile	208.2

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	197.8	257.6	95% Approx. Gamma UPL	86.08	91.9
95% Gamma USL	132.1	155.8			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	19.69	SD (KM)	48.62
Variance (KM)	2364	SE of Mean (KM)	15.38
k hat (KM)	0.164	k star (KM)	0.179
nu hat (KM)	3.937	nu star (KM)	4.286
theta hat (KM)	120.1	theta star (KM)	110.3
80% gamma percentile (KM)	24.31	90% gamma percentile (KM)	59.37
95% gamma percentile (KM)	104.4	99% gamma percentile (KM)	230.7

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	144.9	148.4	95% Approx. Gamma UPL	73.62	69.18
95% KM Gamma Percentile	60.08	55.3	95% Gamma USL	103.8	101.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.903	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.826	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.184	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.298	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	19.1	Mean in Log Scale	1.124
SD in Original Scale	51	SD in Log Scale	1.778
95% UTL95% Coverage	399	95% BCA UTL95% Coverage	180
95% Bootstrap (%) UTL95% Coverage	180	95% UPL (t)	85.43
90% Percentile (z)	30.05	95% Percentile (z)	57.33
99% Percentile (z)	192.6	95% USL	178.9

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.546	95% KM UTL (Lognormal)95% Coverage	193.5
KM SD of Logged Data	1.359	95% KM UPL (Lognormal)	59.56
95% KM Percentile Lognormal (z)	43.9	95% KM USL (Lognormal)	104.8

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	20.2	Mean in Log Scale	1.715
SD in Original Scale	50.6	SD in Log Scale	1.365
95% UTL95% Coverage	232.6	95% UPL (t)	71.24
90% Percentile (z)	31.94	95% Percentile (z)	52.45
99% Percentile (z)	133	95% USL	125.7

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	180
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	180
95% USL	180	95% KM Chebyshev UPL	240.3

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Naphthalene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	7	Number of Non-Detects	5
Number of Distinct Detects	7	Number of Distinct Non-Detects	4
Minimum Detect	3.3	Minimum Non-Detect	3.2
Maximum Detect	200	Maximum Non-Detect	16
Variance Detected	5104	Percent Non-Detects	41.67%
Mean Detected	39.61	SD Detected	71.44
Mean of Detected Logged Data	2.684	SD of Detected Logged Data	1.396

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.575	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.4	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	25.28	KM SD	53.32
95% UTL95% Coverage	171.1	95% KM UPL (t)	124.9
90% KM Percentile (z)	93.6	95% KM Percentile (z)	113
99% KM Percentile (z)	149.3	95% KM USL	147.1

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	25.74	SD	55.5
95% UTL95% Coverage	177.6	95% UPL (t)	129.5
90% Percentile (z)	96.87	95% Percentile (z)	117
99% Percentile (z)	154.9	95% USL	152.6

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.679	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.744	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.25	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.325	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.618	k star (bias corrected MLE)	0.449
Theta hat (MLE)	64.07	Theta star (bias corrected MLE)	88.31
nu hat (MLE)	8.657	nu star (bias corrected)	6.28
MLE Mean (bias corrected)	39.61		
MLE Sd (bias corrected)	59.15	95% Percentile of Chisquare (2kstar)	3.581

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	23.11
Maximum	200	Median	3.95
SD	56.57	CV	2.448
k hat (MLE)	0.209	k star (bias corrected MLE)	0.212
Theta hat (MLE)	110.5	Theta star (bias corrected MLE)	108.8
nu hat (MLE)	5.02	nu star (bias corrected)	5.099
MLE Mean (bias corrected)	23.11	MLE Sd (bias corrected)	50.14
95% Percentile of Chisquare (2kstar)	2.154	90% Percentile	69.88
95% Percentile	117.2	99% Percentile	246.2

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	252.4	349.4	95% Approx. Gamma UPL	113.9	130.2
95% Gamma USL	171.3	215.5			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	25.28	SD (KM)	53.32
Variance (KM)	2843	SE of Mean (KM)	16.64
k hat (KM)	0.225	k star (KM)	0.224
nu hat (KM)	5.394	nu star (KM)	5.379
theta hat (KM)	112.5	theta star (KM)	112.8
80% gamma percentile (KM)	35.16	90% gamma percentile (KM)	76.31
95% gamma percentile (KM)	126.3	99% gamma percentile (KM)	261.4

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	169.7	174.9	95% Approx. Gamma UPL	91.55	87.98
95% KM Gamma Percentile	76.26	72.11	95% Gamma USL	125	124.1

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.921	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.185	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	24.62	Mean in Log Scale	1.991
SD in Original Scale	55.94	SD in Log Scale	1.453
95% UTL95% Coverage	390.7	95% BCA UTL95% Coverage	200
95% Bootstrap (%) UTL95% Coverage	200	95% UPL (t)	110.9
90% Percentile (z)	47.18	95% Percentile (z)	80
99% Percentile (z)	215.4	95% USL	202.8

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	2.209	95% KM UTL (Lognormal)95% Coverage	224.7
KM SD of Logged Data	1.172	95% KM UPL (Lognormal)	81.38
95% KM Percentile Lognormal (z)	62.57	95% KM USL (Lognormal)	132.5

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	25.74	Mean in Log Scale	2.276
SD in Original Scale	55.5	SD in Log Scale	1.221
95% UTL95% Coverage	275.3	95% UPL (t)	95.51
90% Percentile (z)	46.59	95% Percentile (z)	72.62
99% Percentile (z)	166.9	95% USL	158.7

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	200
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	200
95% USL	200	95% KM Chebyshev UPL	267.2

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

2-Methylnaphthalene

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	6	Number of Non-Detects	6
Number of Distinct Detects	6	Number of Distinct Non-Detects	4
Minimum Detect	2.8	Minimum Non-Detect	3.2
Maximum Detect	190	Maximum Non-Detect	16
Variance Detected	5448	Percent Non-Detects	50%
Mean Detected	39.9	SD Detected	73.81
Mean of Detected Logged Data	2.546	SD of Detected Logged Data	1.551

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.575	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.713	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.45	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.373	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	22.09	KM SD	50.9
95% UTL95% Coverage	161.4	95% KM UPL (t)	117.2
90% KM Percentile (z)	87.32	95% KM Percentile (z)	105.8
99% KM Percentile (z)	140.5	95% KM USL	138.4

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	23.21	SD	52.75
95% UTL95% Coverage	167.5	95% UPL (t)	121.8
90% Percentile (z)	90.81	95% Percentile (z)	110
99% Percentile (z)	145.9	95% USL	143.7

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.689	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.353	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.348	Data Not Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.549	k star (bias corrected MLE)	0.386
Theta hat (MLE)	72.67	Theta star (bias corrected MLE)	103.5
nu hat (MLE)	6.589	nu star (bias corrected)	4.628
MLE Mean (bias corrected)	39.9		
MLE Sd (bias corrected)	64.25	95% Percentile of Chisquare (2kstar)	3.245

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	20.17
Maximum	190	Median	2.701
SD	53.86	CV	2.67
k hat (MLE)	0.205	k star (bias corrected MLE)	0.21
Theta hat (MLE)	98.26	Theta star (bias corrected MLE)	96.27
nu hat (MLE)	4.927	nu star (bias corrected)	5.028
MLE Mean (bias corrected)	20.17	MLE Sd (bias corrected)	44.07
95% Percentile of Chisquare (2kstar)	2.133	90% Percentile	61
95% Percentile	102.7	99% Percentile	216.5

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	212.8	281.5	95% Approx. Gamma UPL	94.94	104.1
95% Gamma USL	143.7	173			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	22.09	SD (KM)	50.9
Variance (KM)	2591	SE of Mean (KM)	16.12
k hat (KM)	0.188	k star (KM)	0.197
nu hat (KM)	4.519	nu star (KM)	4.723
theta hat (KM)	117.3	theta star (KM)	112.2
80% gamma percentile (KM)	28.86	90% gamma percentile (KM)	66.8
95% gamma percentile (KM)	114.3	99% gamma percentile (KM)	245.4

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	153.3	156.8	95% Approx. Gamma UPL	80.82	76.67
95% KM Gamma Percentile	66.78	62.26	95% Gamma USL	111.8	109.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.888	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.826	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.246	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.298	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	21.95	Mean in Log Scale	1.908
SD in Original Scale	53.2	SD in Log Scale	1.29
95% UTL95% Coverage	229.8	95% BCA UTL95% Coverage	190
95% Bootstrap (%) UTL95% Coverage	190	95% UPL (t)	75.12
90% Percentile (z)	35.2	95% Percentile (z)	56.24
99% Percentile (z)	135.5	95% USL	128.4

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.924	95% KM UTL (Lognormal)95% Coverage	198.4
KM SD of Logged Data	1.23	95% KM UPL (Lognormal)	68.29
95% KM Percentile Lognormal (z)	51.82	95% KM USL (Lognormal)	113.9

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	23.21	Mean in Log Scale	2.151
SD in Original Scale	52.75	SD in Log Scale	1.202
95% UTL95% Coverage	230.6	95% UPL (t)	81.34
90% Percentile (z)	40.13	95% Percentile (z)	62.11
99% Percentile (z)	140.9	95% USL	134.1

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	190
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	190
95% USL	190	95% KM Chebyshev UPL	253

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

MCPP (MECOPROP)

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	7	Number of Non-Detects	5
Number of Distinct Detects	6	Number of Distinct Non-Detects	3
Minimum Detect	0.11	Minimum Non-Detect	0.26
Maximum Detect	0.95	Maximum Non-Detect	0.31
Variance Detected	0.1	Percent Non-Detects	41.67%
Mean Detected	0.34	SD Detected	0.316
Mean of Detected Logged Data	-1.404	SD of Detected Logged Data	0.838

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.782	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.255	KM SD	0.246
95% UTL95% Coverage	0.927	95% KM UPL (t)	0.714
90% KM Percentile (z)	0.57	95% KM Percentile (z)	0.659
99% KM Percentile (z)	0.827	95% KM USL	0.816

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.255	SD	0.256
95% UTL95% Coverage	0.956	95% UPL (t)	0.734
90% Percentile (z)	0.583	95% Percentile (z)	0.677
99% Percentile (z)	0.851	95% USL	0.841

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.568	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.719	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.275	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.316	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.686	k star (bias corrected MLE)	1.059
Theta hat (MLE)	0.202	Theta star (bias corrected MLE)	0.321
nu hat (MLE)	23.6	nu star (bias corrected)	14.82
MLE Mean (bias corrected)	0.34		
MLE Sd (bias corrected)	0.33	95% Percentile of Chisquare (2kstar)	6.216

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0166	Mean	0.249
Maximum	0.95	Median	0.13
SD	0.264	CV	1.058
k hat (MLE)	1.321	k star (bias corrected MLE)	1.047
Theta hat (MLE)	0.188	Theta star (bias corrected MLE)	0.238
nu hat (MLE)	31.72	nu star (bias corrected)	25.12
MLE Mean (bias corrected)	0.249	MLE Sd (bias corrected)	0.243
95% Percentile of Chisquare (2kstar)	6.171	90% Percentile	0.567
95% Percentile	0.734	99% Percentile	1.121

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.288	1.42	95% Approx. Gamma UPL	0.792	0.824
95% Gamma USL	1.01	1.08			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.255	SD (KM)	0.246
Variance (KM)	0.0605	SE of Mean (KM)	0.077
k hat (KM)	1.072	k star (KM)	0.86
nu hat (KM)	25.73	nu star (KM)	20.63
theta hat (KM)	0.237	theta star (KM)	0.296
80% gamma percentile (KM)	0.414	90% gamma percentile (KM)	0.608
95% gamma percentile (KM)	0.805	99% gamma percentile (KM)	1.266

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.036	1.065	95% Approx. Gamma UPL	0.679	0.675
95% KM Gamma Percentile	0.602	0.595	95% Gamma USL	0.838	0.846

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.874	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.241	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.26	Mean in Log Scale	-1.63
SD in Original Scale	0.255	SD in Log Scale	0.705
95% UTL95% Coverage	1.347	95% BCA UTL95% Coverage	0.95
95% Bootstrap (%) UTL95% Coverage	0.95	95% UPL (t)	0.731
90% Percentile (z)	0.483	95% Percentile (z)	0.624
99% Percentile (z)	1.009	95% USL	0.98

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.658	95% KM UTL (Lognormal)95% Coverage	1.198
KM SD of Logged Data	0.672	95% KM UPL (Lognormal)	0.669
95% KM Percentile Lognormal (z)	0.575	95% KM USL (Lognormal)	0.885

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.255	Mean in Log Scale	-1.651
SD in Original Scale	0.256	SD in Log Scale	0.692
95% UTL95% Coverage	1.273	95% UPL (t)	0.699
90% Percentile (z)	0.465	95% Percentile (z)	0.598
99% Percentile (z)	0.959	95% USL	0.932

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	0.95
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	0.95
95% USL	0.95	95% KM Chebyshev UPL	1.37

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Silvex (2,4,5-TP)

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	4	Number of Non-Detects	8
Number of Distinct Detects	4	Number of Distinct Non-Detects	6
Minimum Detect	0.19	Minimum Non-Detect	0.51
Maximum Detect	1.7	Maximum Non-Detect	0.62
Variance Detected	0.415	Percent Non-Detects	66.67%
Mean Detected	0.85	SD Detected	0.644
Mean of Detected Logged Data	-0.439	SD of Detected Logged Data	0.929

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.194	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.414	KM SD	0.448
95% UTL95% Coverage	1.638	95% KM UPL (t)	1.25
90% KM Percentile (z)	0.987	95% KM Percentile (z)	1.15
99% KM Percentile (z)	1.455	95% KM USL	1.436

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.465	SD	0.441
95% UTL95% Coverage	1.671	95% UPL (t)	1.289
90% Percentile (z)	1.03	95% Percentile (z)	1.19
99% Percentile (z)	1.49	95% USL	1.472

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.195	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.661	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.173	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.398	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.962	k star (bias corrected MLE)	0.657
Theta hat (MLE)	0.433	Theta star (bias corrected MLE)	1.294
nu hat (MLE)	15.69	nu star (bias corrected)	5.257
MLE Mean (bias corrected)	0.85		
MLE Sd (bias corrected)	1.049	95% Percentile of Chisquare (2kstar)	4.577

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.34
Maximum	1.7	Median	0.0816
SD	0.51	CV	1.498
k hat (MLE)	0.638	k star (bias corrected MLE)	0.534
Theta hat (MLE)	0.533	Theta star (bias corrected MLE)	0.637
nu hat (MLE)	15.31	nu star (bias corrected)	12.82
MLE Mean (bias corrected)	0.34	MLE Sd (bias corrected)	0.466
95% Percentile of Chisquare (2kstar)	4.008	90% Percentile	0.908
95% Percentile	1.277	99% Percentile	2.178

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.597	2.997	95% Approx. Gamma UPL	1.402	1.474
95% Gamma USL	1.914	2.105			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.414	SD (KM)	0.448
Variance (KM)	0.2	SE of Mean (KM)	0.15
k hat (KM)	0.854	k star (KM)	0.696
nu hat (KM)	20.49	nu star (KM)	16.7
theta hat (KM)	0.484	theta star (KM)	0.594
80% gamma percentile (KM)	0.68	90% gamma percentile (KM)	1.039
95% gamma percentile (KM)	1.411	99% gamma percentile (KM)	2.297

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.855	1.915	95% Approx. Gamma UPL	1.178	1.171
95% KM Gamma Percentile	1.034	1.02	95% Gamma USL	1.477	1.494

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.976	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.197	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.409	Mean in Log Scale	-1.287
SD in Original Scale	0.47	SD in Log Scale	0.831
95% UTL95% Coverage	2.68	95% BCA UTL95% Coverage	1.7
95% Bootstrap (%) UTL95% Coverage	1.7	95% UPL (t)	1.305
90% Percentile (z)	0.801	95% Percentile (z)	1.083
99% Percentile (z)	1.907	95% USL	1.843

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.243	95% KM UTL (Lognormal)95% Coverage	2.197
KM SD of Logged Data	0.742	95% KM UPL (Lognormal)	1.155
95% KM Percentile Lognormal (z)	0.978	95% KM USL (Lognormal)	1.572

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.465	Mean in Log Scale	-1.015
SD in Original Scale	0.441	SD in Log Scale	0.647
95% UTL95% Coverage	2.13	95% UPL (t)	1.215
90% Percentile (z)	0.831	95% Percentile (z)	1.051
99% Percentile (z)	1.634	95% USL	1.59

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.7
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.7
95% USL	1.7	95% KM Chebyshev UPL	2.444

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

2,4,5-T

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	9		
Number of Detects	3	Number of Non-Detects	9
Number of Distinct Detects	3	Number of Distinct Non-Detects	6
Minimum Detect	0.64	Minimum Non-Detect	0.51
Maximum Detect	1.9	Maximum Non-Detect	0.62
Variance Detected	0.421	Percent Non-Detects	75%
Mean Detected	1.18	SD Detected	0.649
Mean of Detected Logged Data	0.0652	SD of Detected Logged Data	0.547

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.678	KM SD	0.393
95% UTL95% Coverage	1.752	95% KM UPL (t)	1.412
90% KM Percentile (z)	1.181	95% KM Percentile (z)	1.324
99% KM Percentile (z)	1.592	95% KM USL	1.575

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.498	SD	0.496
95% UTL95% Coverage	1.855	95% UPL (t)	1.425
90% Percentile (z)	1.133	95% Percentile (z)	1.314
99% Percentile (z)	1.652	95% USL	1.631

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.278	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.252	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.433	Detected data appear Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	5.145	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.229	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	30.87	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.303
Maximum	1.9	Median	0.01
SD	0.597	CV	1.974
k hat (MLE)	0.307	k star (bias corrected MLE)	0.285
Theta hat (MLE)	0.987	Theta star (bias corrected MLE)	1.06
nu hat (MLE)	7.356	nu star (bias corrected)	6.85
MLE Mean (bias corrected)	0.303	MLE Sd (bias corrected)	0.566
95% Percentile of Chisquare (2kstar)	2.653	90% Percentile	0.897
95% Percentile	1.406	99% Percentile	2.736

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.088	3.654	95% Approx. Gamma UPL	1.435	1.468
95% Gamma USL	2.124	2.333			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.678	SD (KM)	0.393
Variance (KM)	0.154	SE of Mean (KM)	0.139
k hat (KM)	2.973	k star (KM)	2.286
nu hat (KM)	71.36	nu star (KM)	54.86
theta hat (KM)	0.228	theta star (KM)	0.296
80% gamma percentile (KM)	0.998	90% gamma percentile (KM)	1.277
95% gamma percentile (KM)	1.541	99% gamma percentile (KM)	2.123

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.761	1.765	95% Approx. Gamma UPL	1.319	1.307
95% KM Gamma Percentile	1.218	1.205	95% Gamma USL	1.52	1.514

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.989	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.214	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.364	Mean in Log Scale	-1.856
SD in Original Scale	0.566	SD in Log Scale	1.263
95% UTL95% Coverage	4.955	95% BCA UTL95% Coverage	1.9
95% Bootstrap (%) UTL95% Coverage	1.9	95% UPL (t)	1.658
90% Percentile (z)	0.789	95% Percentile (z)	1.249
99% Percentile (z)	2.953	95% USL	2.803

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.489	95% KM UTL (Lognormal)95% Coverage	1.783
KM SD of Logged Data	0.39	95% KM UPL (Lognormal)	1.272
95% KM Percentile Lognormal (z)	1.165	95% KM USL (Lognormal)	1.496

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.498	Mean in Log Scale	-0.967
SD in Original Scale	0.496	SD in Log Scale	0.667
95% UTL95% Coverage	2.355	95% UPL (t)	1.322
90% Percentile (z)	0.893	95% Percentile (z)	1.138
99% Percentile (z)	1.793	95% USL	1.744

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.9
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.9
95% USL	1.9	95% KM Chebyshev UPL	2.46

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

MCPA

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	7		
Number of Detects	4	Number of Non-Detects	8
Number of Distinct Detects	4	Number of Distinct Non-Detects	3
Minimum Detect	0.17	Minimum Non-Detect	0.26
Maximum Detect	1.2	Maximum Non-Detect	0.31
Variance Detected	0.194	Percent Non-Detects	66.67%
Mean Detected	0.603	SD Detected	0.44
Mean of Detected Logged Data	-0.736	SD of Detected Logged Data	0.82

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.953	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.225	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.314	KM SD	0.3
95% UTL95% Coverage	1.135	95% KM UPL (t)	0.875
90% KM Percentile (z)	0.699	95% KM Percentile (z)	0.808
99% KM Percentile (z)	1.012	95% KM USL	1

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.291	SD	0.325
95% UTL95% Coverage	1.181	95% UPL (t)	0.899
90% Percentile (z)	0.708	95% Percentile (z)	0.826
99% Percentile (z)	1.048	95% USL	1.034

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.193	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.66	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.169	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.397	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.335	k star (bias corrected MLE)	0.75
Theta hat (MLE)	0.258	Theta star (bias corrected MLE)	0.803
nu hat (MLE)	18.68	nu star (bias corrected)	6.003
MLE Mean (bias corrected)	0.603		
MLE Sd (bias corrected)	0.696	95% Percentile of Chisquare (2kstar)	4.982

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.266
Maximum	1.2	Median	0.147
SD	0.349	CV	1.311
k hat (MLE)	0.644	k star (bias corrected MLE)	0.538
Theta hat (MLE)	0.413	Theta star (bias corrected MLE)	0.494
nu hat (MLE)	15.45	nu star (bias corrected)	12.92
MLE Mean (bias corrected)	0.266	MLE Sd (bias corrected)	0.363
95% Percentile of Chisquare (2kstar)	4.029	90% Percentile	0.709
95% Percentile	0.996	99% Percentile	1.696

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	2.053	2.504	95% Approx. Gamma UPL	1.117	1.228
95% Gamma USL	1.519	1.756			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.314	SD (KM)	0.3
Variance (KM)	0.0901	SE of Mean (KM)	0.1
k hat (KM)	1.096	k star (KM)	0.878
nu hat (KM)	26.3	nu star (KM)	21.06
theta hat (KM)	0.287	theta star (KM)	0.358
80% gamma percentile (KM)	0.511	90% gamma percentile (KM)	0.747
95% gamma percentile (KM)	0.986	99% gamma percentile (KM)	1.546

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.232	1.258	95% Approx. Gamma UPL	0.816	0.809
95% KM Gamma Percentile	0.726	0.716	95% Gamma USL	1.001	1.006

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.993	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.175	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.31	Mean in Log Scale	-1.51
SD in Original Scale	0.321	SD in Log Scale	0.801
95% UTL95% Coverage	1.98	95% BCA UTL95% Coverage	1.2
95% Bootstrap (%) UTL95% Coverage	1.2	95% UPL (t)	0.989
90% Percentile (z)	0.617	95% Percentile (z)	0.826
99% Percentile (z)	1.426	95% USL	1.379

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-1.427	95% KM UTL (Lognormal)95% Coverage	1.374
KM SD of Logged Data	0.638	95% KM UPL (Lognormal)	0.791
95% KM Percentile Lognormal (z)	0.685	95% KM USL (Lognormal)	1.031

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.291	Mean in Log Scale	-1.578
SD in Original Scale	0.325	SD in Log Scale	0.757
95% UTL95% Coverage	1.635	95% UPL (t)	0.849
90% Percentile (z)	0.544	95% Percentile (z)	0.716
99% Percentile (z)	1.199	95% USL	1.162

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.2
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.2
95% USL	1.2	95% KM Chebyshev UPL	1.676

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

2,4-Dichlorophenoxyacetic acid

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	8		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	6
Minimum Detect	0.87	Minimum Non-Detect	0.51
Maximum Detect	1.5	Maximum Non-Detect	0.62
Variance Detected	0.198	Percent Non-Detects	83.33%
Mean Detected	1.185	SD Detected	0.445
Mean of Detected Logged Data	0.133	SD of Detected Logged Data	0.385

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	0.623	KM SD	0.283
95% UTL95% Coverage	1.395	95% KM UPL (t)	1.151
90% KM Percentile (z)	0.985	95% KM Percentile (z)	1.087
99% KM Percentile (z)	1.28	95% KM USL	1.268

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	0.423	SD	0.381
95% UTL95% Coverage	1.465	95% UPL (t)	1.135
90% Percentile (z)	0.911	95% Percentile (z)	1.049
99% Percentile (z)	1.309	95% USL	1.293

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	13.81	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0858	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	55.24	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.623	SD (KM)	0.283
Variance (KM)	0.0798	SE of Mean (KM)	0.115
k hat (KM)	4.855	k star (KM)	3.697
nu hat (KM)	116.5	nu star (KM)	88.72
theta hat (KM)	0.128	theta star (KM)	0.168
80% gamma percentile (KM)	0.866	90% gamma percentile (KM)	1.057
95% gamma percentile (KM)	1.232	99% gamma percentile (KM)	1.609

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	1.396	1.397	95% Approx. Gamma UPL	1.092	1.085
95% KM Gamma Percentile	1.022	1.013	95% Gamma USL	1.232	1.227

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.297	Mean in Log Scale	-1.853
SD in Original Scale	0.44	SD in Log Scale	1.05
95% UTL95% Coverage	2.771	95% BCA UTL95% Coverage	1.5
95% Bootstrap (%) UTL95% Coverage	1.5	95% UPL (t)	1.115
90% Percentile (z)	0.602	95% Percentile (z)	0.881
99% Percentile (z)	1.802	95% USL	1.726

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.539	95% KM UTL (Lognormal)95% Coverage	1.402
KM SD of Logged Data	0.32	95% KM UPL (Lognormal)	1.062
95% KM Percentile Lognormal (z)	0.988	95% KM USL (Lognormal)	1.213

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	0.423	Mean in Log Scale	-1.069
SD in Original Scale	0.381	SD in Log Scale	0.575
95% UTL95% Coverage	1.658	95% UPL (t)	1.007
90% Percentile (z)	0.718	95% Percentile (z)	0.885
99% Percentile (z)	1.31	95% USL	1.279

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	1.5
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	1.5
95% USL	1.5	95% KM Chebyshev UPL	1.904

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

2,4-DB

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	5		
Number of Detects	3	Number of Non-Detects	9
Number of Distinct Detects	3	Number of Distinct Non-Detects	3
Minimum Detect	0.95	Minimum Non-Detect	2.6
Maximum Detect	2.6	Maximum Non-Detect	3.1
Variance Detected	0.691	Percent Non-Detects	75%
Mean Detected	1.717	SD Detected	0.831
Mean of Detected Logged Data	0.458	SD of Detected Logged Data	0.504

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.985	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.222	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.464	KM SD	0.553
95% UTL95% Coverage	2.977	95% KM UPL (t)	2.497
90% KM Percentile (z)	2.173	95% KM Percentile (z)	2.373
99% KM Percentile (z)	2.75	95% KM USL	2.727

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.442	SD	0.397
95% UTL95% Coverage	2.528	95% UPL (t)	2.184
90% Percentile (z)	1.951	95% Percentile (z)	2.095
99% Percentile (z)	2.365	95% USL	2.349

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.246	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.226	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.433	Detected data appear Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	6.236	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.275	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	37.42	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.797	Mean	1.438
Maximum	2.6	Median	1.393
SD	0.523	CV	0.363
k hat (MLE)	8.795	k star (bias corrected MLE)	6.652
Theta hat (MLE)	0.164	Theta star (bias corrected MLE)	0.216
nu hat (MLE)	211.1	nu star (bias corrected)	159.6
MLE Mean (bias corrected)	1.438	MLE Sd (bias corrected)	0.558
95% Percentile of Chisquare (2kstar)	22.77	90% Percentile	2.183
95% Percentile	2.461	99% Percentile	3.041

The following statistics are computed using Gamma ROS Statistics on Imputed Data

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.222	3.294	95% Approx. Gamma UPL	2.527	2.549
95% Gamma USL	2.846	2.888			

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.464	SD (KM)	0.553
Variance (KM)	0.306	SE of Mean (KM)	0.323
k hat (KM)	7.018	k star (KM)	5.319
nu hat (KM)	168.4	nu star (KM)	127.7
theta hat (KM)	0.209	theta star (KM)	0.275
80% gamma percentile (KM)	1.955	90% gamma percentile (KM)	2.314
95% gamma percentile (KM)	2.64	99% gamma percentile (KM)	3.328

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	3.308	3.373	95% Approx. Gamma UPL	2.585	2.602
95% KM Gamma Percentile	2.417	2.426	95% Gamma USL	2.917	2.954

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	1	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.177	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	1.417	Mean in Log Scale	0.294
SD in Original Scale	0.509	SD in Log Scale	0.338
95% UTL95% Coverage	3.387	95% BCA UTL95% Coverage	2.6
95% Bootstrap (%) UTL95% Coverage	2.6	95% UPL (t)	2.526
90% Percentile (z)	2.071	95% Percentile (z)	2.341
99% Percentile (z)	2.949	95% USL	2.908

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	0.316	95% KM UTL (Lognormal)95% Coverage	3.628
KM SD of Logged Data	0.356	95% KM UPL (Lognormal)	2.666
95% KM Percentile Lognormal (z)	2.461	95% KM USL (Lognormal)	3.09

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.442	Mean in Log Scale	0.339
SD in Original Scale	0.397	SD in Log Scale	0.231
95% UTL95% Coverage	2.642	95% UPL (t)	2.162
90% Percentile (z)	1.887	95% Percentile (z)	2.053
99% Percentile (z)	2.403	95% USL	2.38

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data appear to follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	3.1
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.1
95% USL	3.1	95% KM Chebyshev UPL	3.972

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Endosulfan I

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	10		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	0.61	Minimum Non-Detect	0.66
Maximum Detect	2.8	Maximum Non-Detect	3.8
Variance Detected	2.398	Percent Non-Detects	83.33%
Mean Detected	1.705	SD Detected	1.549
Mean of Detected Logged Data	0.268	SD of Detected Logged Data	1.078

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	1.158	KM SD	0.948
95% UTL95% Coverage	3.752	95% KM UPL (t)	2.93
90% KM Percentile (z)	2.373	95% KM Percentile (z)	2.717
99% KM Percentile (z)	3.364	95% KM USL	3.324

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	1.478	SD	0.714
95% UTL95% Coverage	3.431	95% UPL (t)	2.812
90% Percentile (z)	2.393	95% Percentile (z)	2.652
99% Percentile (z)	3.139	95% USL	3.109

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.031	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.839	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	8.125	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.158	SD (KM)	0.948
Variance (KM)	0.899	SE of Mean (KM)	0.671
k hat (KM)	1.49	k star (KM)	1.173
nu hat (KM)	35.76	nu star (KM)	28.15
theta hat (KM)	0.777	theta star (KM)	0.987
80% gamma percentile (KM)	1.837	90% gamma percentile (KM)	2.562
95% gamma percentile (KM)	3.279	99% gamma percentile (KM)	4.924

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	4.521	4.691	95% Approx. Gamma UPL	3.003	3.017
95% KM Gamma Percentile	2.676	2.668	95% Gamma USL	3.68	3.751

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	0.981	Mean in Log Scale	-0.147
SD in Original Scale	0.634	SD in Log Scale	0.481
95% UTL95% Coverage	3.221	95% BCA UTL95% Coverage	2.8
95% Bootstrap (%) UTL95% Coverage	2.8	95% UPL (t)	2.122
90% Percentile (z)	1.6	95% Percentile (z)	1.905
99% Percentile (z)	2.645	95% USL	2.592

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	-0.113	95% KM UTL (Lognormal)95% Coverage	5.431
KM SD of Logged Data	0.66	95% KM UPL (Lognormal)	3.065
95% KM Percentile Lognormal (z)	2.643	95% KM USL (Lognormal)	4.033

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	1.478	Mean in Log Scale	0.217
SD in Original Scale	0.714	SD in Log Scale	0.702
95% UTL95% Coverage	8.491	95% UPL (t)	4.619
90% Percentile (z)	3.057	95% Percentile (z)	3.946
99% Percentile (z)	6.368	95% USL	6.185

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	3.8
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	3.8
95% USL	3.8	95% KM Chebyshev UPL	5.46

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Diesel Range Organics (C10 - C28)

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Minimum	9.5	First Quartile	25.5
Second Largest	42	Median	32
Maximum	52	Third Quartile	40.25
Mean	31.88	SD	11.46
Coefficient of Variation	0.36	Skewness	-0.222
Mean of logged Data	3.384	SD of logged Data	0.449

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test

Shapiro Wilk Test Statistic	0.984	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.805	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.105	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.281	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Background Statistics Assuming Normal Distribution

95% UTL with 95% Coverage	63.23	90% Percentile (z)	46.56
95% UPL (t)	53.3	95% Percentile (z)	50.73
95% USL	58.06	99% Percentile (z)	58.54

Gamma GOF Test

A-D Test Statistic	0.336	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.139	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.246	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.62	k star (bias corrected MLE)	5.021
Theta hat (MLE)	4.815	Theta star (bias corrected MLE)	6.349
nu hat (MLE)	158.9	nu star (bias corrected)	120.5
MLE Mean (bias corrected)	31.88	MLE Sd (bias corrected)	14.23

Background Statistics Assuming Gamma Distribution

95% Wilson Hilferty (WH) Approx. Gamma UPL	60.22	90% Percentile	50.92
95% Hawkins Wixley (HW) Approx. Gamma UPL	61.76	95% Percentile	58.29
95% WH Approx. Gamma UTL with 95% Coverage	78.98	99% Percentile	73.88
95% HW Approx. Gamma UTL with 95% Coverage	82.8		
95% WH USL	68.8	95% HW USL	71.27

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.886	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.883	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.156	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.223	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Background Statistics assuming Lognormal Distribution

95% UTL with 95% Coverage	100.6	90% Percentile (z)	52.42
95% UPL (t)	68.23	95% Percentile (z)	61.69
95% USL	82.21	99% Percentile (z)	83.75

Nonparametric Distribution Free Background Statistics

Data appear Normal at 1% Significance Level

Nonparametric Upper Limits for Background Threshold Values

Order of Statistic, order	12	95% UTL with 95% Coverage	52
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
		Approximate Sample Size needed to achieve specified CC	59
95% Percentile Bootstrap UTL with 95% Coverage	52	95% BCA Bootstrap UTL with 95% Coverage	52
95% UPL	52	90% Percentile	41.9
90% Chebyshev UPL	67.66	95% Percentile	46.5
95% Chebyshev UPL	83.88	99% Percentile	50.9
95% USL	52		

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20. Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.

The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Gasoline Range Organics (C6 - C10)

General Statistics

Total Number of Observations	12	Number of Missing Observations	0
Number of Distinct Observations	11		
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	9
Minimum Detect	3.3	Minimum Non-Detect	3.1
Maximum Detect	22	Maximum Non-Detect	5.5
Variance Detected	174.8	Percent Non-Detects	83.33%
Mean Detected	12.65	SD Detected	13.22
Mean of Detected Logged Data	2.142	SD of Detected Logged Data	1.341

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Critical Values for Background Threshold Values (BTVs)

Tolerance Factor K (For UTL)	2.736	d2max (for USL)	2.285

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan Meier (KM) Background Statistics Assuming Normal Distribution

KM Mean	4.767	KM SD	5.197
95% UTL95% Coverage	18.99	95% KM UPL (t)	14.48
90% KM Percentile (z)	11.43	95% KM Percentile (z)	13.31
99% KM Percentile (z)	16.86	95% KM USL	16.64

DL/2 Substitution Background Statistics Assuming Normal Distribution

Mean	3.85	SD	5.735
95% UTL95% Coverage	19.54	95% UPL (t)	14.57
90% Percentile (z)	11.2	95% Percentile (z)	13.28
99% Percentile (z)	17.19	95% USL	16.95

DL/2 is not a recommended method. DL/2 provided for comparisons and historical reasons

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	1.409	k star (bias corrected MLE)	N/A
Theta hat (MLE)	8.98	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	5.635	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A		
MLE Sd (bias corrected)	N/A	95% Percentile of Chisquare (2kstar)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4.767	SD (KM)	5.197
Variance (KM)	27.01	SE of Mean (KM)	2.123
k hat (KM)	0.841	k star (KM)	0.687
nu hat (KM)	20.19	nu star (KM)	16.48
theta hat (KM)	5.666	theta star (KM)	6.943
80% gamma percentile (KM)	7.84	90% gamma percentile (KM)	12.02
95% gamma percentile (KM)	16.34	99% gamma percentile (KM)	26.67

The following statistics are computed using gamma distribution and KM estimates

Upper Limits using Wilson Hilferty (WH) and Hawkins Wixley (HW) Methods

	WH	HW		WH	HW
95% Approx. Gamma UTL with 95% Coverage	17.37	17.1	95% Approx. Gamma UPL	11.71	11.33
95% KM Gamma Percentile	10.48	10.11	95% Gamma USL	14.24	13.88

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Background Lognormal ROS Statistics Assuming Lognormal Distribution Using Imputed Non-Detects

Mean in Original Scale	3.189	Mean in Log Scale	0.514
SD in Original Scale	5.969	SD in Log Scale	0.941
95% UTL95% Coverage	21.94	95% BCA UTL95% Coverage	22
95% Bootstrap (%) UTL95% Coverage	22	95% UPL (t)	9.706
90% Percentile (z)	5.584	95% Percentile (z)	7.859
99% Percentile (z)	14.92	95% USL	14.35

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean of Logged Data	1.323	95% KM UTL (Lognormal)95% Coverage	16.18
KM SD of Logged Data	0.534	95% KM UPL (Lognormal)	10.19
95% KM Percentile Lognormal (z)	9.038	95% KM USL (Lognormal)	12.72

Background DL/2 Statistics Assuming Lognormal Distribution

Mean in Original Scale	3.85	Mean in Log Scale	0.961
SD in Original Scale	5.735	SD in Log Scale	0.7
95% UTL95% Coverage	17.75	95% UPL (t)	9.676
90% Percentile (z)	6.413	95% Percentile (z)	8.27
99% Percentile (z)	13.32	95% USL	12.94

DL/2 is not a Recommended Method. DL/2 provided for comparisons and historical reasons.

Nonparametric Distribution Free Background Statistics

Data do not follow a Discernible Distribution

Nonparametric Upper Limits for BTVs(no distinction made between detects and nondetects)

Order of Statistic, r	12	95% UTL with95% Coverage	22
Approx, f used to compute achieved CC	0.632	Approximate Actual Confidence Coefficient achieved by UTL	0.46
Approximate Sample Size needed to achieve specified CC	59	95% UPL	22
95% USL	22	95% KM Chebyshev UPL	28.34

Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.
Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers and consists of observations collected from clean unimpacted locations.
The use of USL tends to provide a balance between false positives and false negatives provided the data represents a background data set and when many onsite observations need to be compared with the BTV.

Attachment 2
Stockpile Surface ProUcL Calculations

Attachment 2 - Exposure Point Concentrations ProUCL Outputs

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/22/2026 12:08:50 PM
From File	SP_ProUCLInput.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Ethylbenzene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
Number of Detects	4	Number of Non-Detects	33
Number of Distinct Detects	4	Number of Distinct Non-Detects	25
Minimum Detect	1.9	Minimum Non-Detect	1.7
Maximum Detect	130	Maximum Non-Detect	94
Variance Detects	3138	Percent Non-Detects	89.19%
Mean Detects	50.23	SD Detects	56.02
Median Detects	34.5	CV Detects	1.115
Skewness Detects	1.428	Kurtosis Detects	2.215
Mean of Logged Detects	3.124	SD of Logged Detects	1.795

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.89	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.287	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	9.479	KM Standard Error of Mean	5.118
90KM SD	23.2	95% KM (BCA) UCL	N/A
95% KM (t) UCL	18.12	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	17.9	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	24.83	95% KM Chebyshev UCL	31.79
97.5% KM Chebyshev UCL	41.44	99% KM Chebyshev UCL	60.41

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.214	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.67	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.184	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.405	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	0.754	k star (bias corrected MLE)	0.355
Theta hat (MLE)	66.58	Theta star (bias corrected MLE)	141.4
nu hat (MLE)	6.035	nu star (bias corrected)	2.842
Mean (detects)	50.23		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	5.439
Maximum	130	Median	0.01
SD	22.61	CV	4.158
k hat (MLE)	0.142	k star (bias corrected MLE)	0.148
Theta hat (MLE)	38.35	Theta star (bias corrected MLE)	36.66
nu hat (MLE)	10.5	nu star (bias corrected)	10.98
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (10.98, α)	4.561	Adjusted Chi Square Value (10.98, β)	4.382
95% Gamma Approximate UCL	13.09	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	9.479	SD (KM)	23.2
Variance (KM)	538.3	SE of Mean (KM)	5.118
k hat (KM)	0.167	k star (KM)	0.171
nu hat (KM)	12.35	nu star (KM)	12.68
theta hat (KM)	56.78	theta star (KM)	55.3
80% gamma percentile (KM)	11.39	90% gamma percentile (KM)	28.5
95% gamma percentile (KM)	50.72	99% gamma percentile (KM)	113.5

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (12.68, α)	5.681	Adjusted Chi Square Value (12.68, β)	5.478
95% KM Approximate Gamma UCL	21.16	95% KM Adjusted Gamma UCL	21.95

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.262	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	6.099	Mean in Log Scale	-0.164
SD in Original Scale	22.46	SD in Log Scale	1.469
95% t UCL (assumes normality of ROS data)	12.33	95% Percentile Bootstrap UCL	12.5
95% BCA Bootstrap UCL	16.91	95% Bootstrap t UCL	34.19
95% H-UCL (Log ROS)	5.174		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.063	KM Geo Mean	2.896
KM SD (logged)	1.174	95% Critical H Value (KM-Log)	2.595
KM Standard Error of Mean (logged)	0.316	95% H-UCL (KM -Log)	9.59
KM SD (logged)	1.174	95% Critical H Value (KM-Log)	2.595
KM Standard Error of Mean (logged)	0.316		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	23.64	Mean in Log Scale	2.33
SD in Original Scale	23.63	SD in Log Scale	1.64
95% t UCL (Assumes normality)	30.2	95% H-Stat UCL	94.98

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 18.12

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Styrene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	28
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	26
Minimum Detect	86	Minimum Non-Detect	1.7
Maximum Detect	380	Maximum Non-Detect	94
Variance Detects	43218	Percent Non-Detects	94.59%
Mean Detects	233	SD Detects	207.9
Median Detects	233	CV Detects	0.892
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	5.197	SD of Logged Detects	1.051

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	14.27	KM Standard Error of Mean	14.54
90KM SD	62.51	95% KM (BCA) UCL	N/A
95% KM (t) UCL	38.82	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	38.19	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	57.9	95% KM Chebyshev UCL	77.66
97.5% KM Chebyshev UCL	105.1	99% KM Chebyshev UCL	159

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.122	k star (bias corrected MLE)	N/A
Theta hat (MLE)	109.8	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	8.487	nu star (bias corrected)	N/A
Mean (detects)	233		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	14.27	SD (KM)	62.51
Variance (KM)	3907	SE of Mean (KM)	14.54
k hat (KM)	0.0521	k star (KM)	0.0659
nu hat (KM)	3.855	nu star (KM)	4.876
theta hat (KM)	273.9	theta star (KM)	216.5
80% gamma percentile (KM)	4.418	90% gamma percentile (KM)	29.29
95% gamma percentile (KM)	81.38	99% gamma percentile (KM)	276.3

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (4.88, α)	1.095	Adjusted Chi Square Value (4.88, β)	1.021
95% KM Approximate Gamma UCL	63.52	95% KM Adjusted Gamma UCL	68.12

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	13	Mean in Log Scale	-0.909
SD in Original Scale	63.59	SD in Log Scale	1.756
95% t UCL (assumes normality of ROS data)	30.65	95% Percentile Bootstrap UCL	33.46
95% BCA Bootstrap UCL	46.04	95% Bootstrap t UCL	2040
95% H-UCL (Log ROS)	5.059		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.786	KM Geo Mean	2.194
KM SD (logged)	1.074	95% Critical H Value (KM-Log)	2.475
KM Standard Error of Mean (logged)	0.251	95% H-UCL (KM -Log)	6.085
KM SD (logged)	1.074	95% Critical H Value (KM-Log)	2.475
KM Standard Error of Mean (logged)	0.251		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	31.61	Mean in Log Scale	2.365
SD in Original Scale	61.67	SD in Log Scale	1.736
95% t UCL (Assumes normality)	48.72	95% H-Stat UCL	126.4

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 38.82

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Heptachlor Epoxide

General Statistics

Total Number of Observations	37	Number of Distinct Observations	25
Number of Detects	1	Number of Non-Detects	36
Number of Distinct Detects	1	Number of Distinct Non-Detects	24

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor Epoxide was not processed!

Endosulfan Sulfate

General Statistics

Total Number of Observations	37	Number of Distinct Observations	20
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	18
Minimum Detect	2.7	Minimum Non-Detect	1.2
Maximum Detect	9.7	Maximum Non-Detect	26
Variance Detects	24.5	Percent Non-Detects	94.59%
Mean Detects	6.2	SD Detects	4.95
Median Detects	6.2	CV Detects	0.798
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	1.633	SD of Logged Detects	0.904

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.519	KM Standard Error of Mean	0.358
90KM SD	1.458	95% KM (BCA) UCL	N/A
95% KM (t) UCL	2.124	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	2.109	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	2.595	95% KM Chebyshev UCL	3.082
97.5% KM Chebyshev UCL	3.758	99% KM Chebyshev UCL	5.085

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.761	k star (bias corrected MLE)	N/A
Theta hat (MLE)	2.245	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	11.05	nu star (bias corrected)	N/A
Mean (detects)	6.2		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.519	SD (KM)	1.458
Variance (KM)	2.127	SE of Mean (KM)	0.358
k hat (KM)	1.085	k star (KM)	1.015
nu hat (KM)	80.31	nu star (KM)	75.13
theta hat (KM)	1.4	theta star (KM)	1.496
80% gamma percentile (KM)	2.442	90% gamma percentile (KM)	3.485
95% gamma percentile (KM)	4.527	99% gamma percentile (KM)	6.944

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (75.13, α)	56.17	Adjusted Chi Square Value (75.13, β)	55.46
95% KM Approximate Gamma UCL	2.032	95% KM Adjusted Gamma UCL	2.058

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.426	Mean in Log Scale	-2.666
SD in Original Scale	1.629	SD in Log Scale	1.527
95% t UCL (assumes normality of ROS data)	0.878	95% Percentile Bootstrap UCL	0.939
95% BCA Bootstrap UCL	1.307	95% Bootstrap t UCL	5.28
95% H-UCL (Log ROS)	0.485		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.281	KM Geo Mean	1.325
KM SD (logged)	0.386	95% Critical H Value (KM-Log)	1.835
KM Standard Error of Mean (logged)	0.0987	95% H-UCL (KM -Log)	1.606
KM SD (logged)	0.386	95% Critical H Value (KM-Log)	1.835
KM Standard Error of Mean (logged)	0.0987		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.435	Mean in Log Scale	0.412
SD in Original Scale	2.754	SD in Log Scale	0.953
95% t UCL (Assumes normality)	3.2	95% H-Stat UCL	3.445

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	2.124

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Methylcyclohexane

General Statistics

Total Number of Observations	37	Number of Distinct Observations	18
Number of Detects	4	Number of Non-Detects	33
Number of Distinct Detects	4	Number of Distinct Non-Detects	15
Minimum Detect	1.9	Minimum Non-Detect	1.7
Maximum Detect	120	Maximum Non-Detect	190
Variance Detects	3170	Percent Non-Detects	89.19%
Mean Detects	48.5	SD Detects	56.3
Median Detects	36.05	CV Detects	1.161
Skewness Detects	0.706	Kurtosis Detects	-2.05
Mean of Logged Detects	2.816	SD of Logged Detects	1.996

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.881	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.28	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	10.86	KM Standard Error of Mean	6.886
90KM SD	26.99	95% KM (BCA) UCL	N/A
95% KM (t) UCL	22.49	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	22.19	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	31.52	95% KM Chebyshev UCL	40.88
97.5% KM Chebyshev UCL	53.87	99% KM Chebyshev UCL	79.38

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.37	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.677	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.284	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.409	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	0.582	k star (bias corrected MLE)	0.312
Theta hat (MLE)	83.29	Theta star (bias corrected MLE)	155.3
nu hat (MLE)	4.659	nu star (bias corrected)	2.498
Mean (detects)	48.5		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	6.153
Maximum	120	Median	0.01
SD	22.38	CV	3.637
k hat (MLE)	0.151	k star (bias corrected MLE)	0.157
Theta hat (MLE)	40.7	Theta star (bias corrected MLE)	39.21
nu hat (MLE)	11.19	nu star (bias corrected)	11.61
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (11.61, α)	4.974	Adjusted Chi Square Value (11.61, β)	4.785
95% Gamma Approximate UCL	14.37	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	10.86	SD (KM)	26.99
Variance (KM)	728.5	SE of Mean (KM)	6.886
k hat (KM)	0.162	k star (KM)	0.167
nu hat (KM)	11.98	nu star (KM)	12.35
theta hat (KM)	67.07	theta star (KM)	65.1
80% gamma percentile (KM)	12.82	90% gamma percentile (KM)	32.59
95% gamma percentile (KM)	58.47	99% gamma percentile (KM)	132

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (12.35, α)	5.456	Adjusted Chi Square Value (12.35, β)	5.257
95% KM Approximate Gamma UCL	24.58	95% KM Adjusted Gamma UCL	25.51

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.901	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.257	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	6.086	Mean in Log Scale	-0.636
SD in Original Scale	22.15	SD in Log Scale	1.918
95% t UCL (assumes normality of ROS data)	12.23	95% Percentile Bootstrap UCL	12.74
95% BCA Bootstrap UCL	16.17	95% Bootstrap t UCL	79.26
95% H-UCL (Log ROS)	10.55		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.047	KM Geo Mean	2.85
KM SD (logged)	1.191	95% Critical H Value (KM-Log)	2.616
KM Standard Error of Mean (logged)	0.329	95% H-UCL (KM -Log)	9.741
KM SD (logged)	1.191	95% Critical H Value (KM-Log)	2.616
KM Standard Error of Mean (logged)	0.329		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	42.52	Mean in Log Scale	2.783
SD in Original Scale	33.03	SD in Log Scale	1.907
95% t UCL (Assumes normality)	51.69	95% H-Stat UCL	312

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 22.49

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Toluene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	19
Number of Detects	5	Number of Non-Detects	32
Number of Distinct Detects	4	Number of Distinct Non-Detects	15
Minimum Detect	1.1	Minimum Non-Detect	1.7
Maximum Detect	1.6	Maximum Non-Detect	190
Variance Detects	0.047	Percent Non-Detects	86.49%
Mean Detects	1.42	SD Detects	0.217
Median Detects	1.5	CV Detects	0.153
Skewness Detects	-0.913	Kurtosis Detects	-0.738
Mean of Logged Detects	0.341	SD of Logged Detects	0.161

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.686	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.244	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.396	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.42	KM Standard Error of Mean	0.097
90KM SD	0.194	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.584	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1.579	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.711	95% KM Chebyshev UCL	1.843
97.5% KM Chebyshev UCL	2.025	99% KM Chebyshev UCL	2.385

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.437	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.678	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.269	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.357	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	50.03	k star (bias corrected MLE)	20.14
Theta hat (MLE)	0.0284	Theta star (bias corrected MLE)	0.0705
nu hat (MLE)	500.3	nu star (bias corrected)	201.4
Mean (detects)	1.42		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	1.1	Mean	1.418
Maximum	1.718	Median	1.414
SD	0.153	CV	0.108
k hat (MLE)	86.49	k star (bias corrected MLE)	79.5
Theta hat (MLE)	0.0164	Theta star (bias corrected MLE)	0.0178
nu hat (MLE)	6400	nu star (bias corrected)	5883
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (N/A, α)	5705	Adjusted Chi Square Value (N/A, β)	5698
95% Gamma Approximate UCL	1.462	95% Gamma Adjusted UCL	1.464

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.42	SD (KM)	0.194
Variance (KM)	0.0376	SE of Mean (KM)	0.097
k hat (KM)	53.63	k star (KM)	49.3
nu hat (KM)	3968	nu star (KM)	3648
theta hat (KM)	0.0265	theta star (KM)	0.0288
80% gamma percentile (KM)	1.587	90% gamma percentile (KM)	1.685
95% gamma percentile (KM)	1.768	99% gamma percentile (KM)	1.932

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (N/A, α)	3509	Adjusted Chi Square Value (N/A, β)	3503
95% KM Approximate Gamma UCL	1.476	95% KM Adjusted Gamma UCL	1.479

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.86	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.806	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.256	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.319	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.415	Mean in Log Scale	0.341
SD in Original Scale	0.16	SD in Log Scale	0.114
95% t UCL (assumes normality of ROS data)	1.459	95% Percentile Bootstrap UCL	1.458
95% BCA Bootstrap UCL	1.457	95% Bootstrap t UCL	1.458
95% H-UCL (Log ROS)	1.461		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.341	KM Geo Mean	1.406
KM SD (logged)	0.144	95% Critical H Value (KM-Log)	1.712
KM Standard Error of Mean (logged)	0.0721	95% H-UCL (KM -Log)	1.48
KM SD (logged)	0.144	95% Critical H Value (KM-Log)	1.712
KM Standard Error of Mean (logged)	0.0721		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	40.63	Mean in Log Scale	2.741
SD in Original Scale	30.48	SD in Log Scale	1.9
95% t UCL (Assumes normality)	49.09	95% H-Stat UCL	293.5

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1.584

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Aroclor 1254

General Statistics

Total Number of Observations	37	Number of Distinct Observations	11
Number of Detects	4	Number of Non-Detects	33
Number of Distinct Detects	4	Number of Distinct Non-Detects	8
Minimum Detect	8.7	Minimum Non-Detect	11
Maximum Detect	30	Maximum Non-Detect	240
Variance Detects	98.49	Percent Non-Detects	89.19%
Mean Detects	17.93	SD Detects	9.924
Median Detects	16.5	CV Detects	0.554
Skewness Detects	0.485	Kurtosis Detects	-2.821
Mean of Logged Detects	2.763	SD of Logged Detects	0.58

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.919	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.257	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	10.16	KM Standard Error of Mean	0.929
90KM SD	4.191	95% KM (BCA) UCL	N/A
95% KM (t) UCL	11.73	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	11.69	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	12.95	95% KM Chebyshev UCL	14.21
97.5% KM Chebyshev UCL	15.96	99% KM Chebyshev UCL	19.41

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.327	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.659	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.276	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.396	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	4.23	k star (bias corrected MLE)	1.224
Theta hat (MLE)	4.237	Theta star (bias corrected MLE)	14.64
nu hat (MLE)	33.84	nu star (bias corrected)	9.794
Mean (detects)	17.93		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.105	Mean	8.813
Maximum	30	Median	7.715
SD	5.86	CV	0.665
k hat (MLE)	1.945	k star (bias corrected MLE)	1.805
Theta hat (MLE)	4.532	Theta star (bias corrected MLE)	4.883
nu hat (MLE)	143.9	nu star (bias corrected)	133.6
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (133.56, α)	107.9	Adjusted Chi Square Value (133.56, β)	106.9
95% Gamma Approximate UCL	10.91	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	10.16	SD (KM)	4.191
Variance (KM)	17.57	SE of Mean (KM)	0.929
k hat (KM)	5.879	k star (KM)	5.421
nu hat (KM)	435.1	nu star (KM)	401.1
theta hat (KM)	1.728	theta star (KM)	1.875
80% gamma percentile (KM)	13.54	90% gamma percentile (KM)	16
95% gamma percentile (KM)	18.24	99% gamma percentile (KM)	22.95

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (401.14, α)	355.7	Adjusted Chi Square Value (401.14, β)	353.9
95% KM Approximate Gamma UCL	11.46	95% KM Adjusted Gamma UCL	11.52

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.928	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.236	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	9.893	Mean in Log Scale	2.202
SD in Original Scale	4.913	SD in Log Scale	0.411
95% t UCL (assumes normality of ROS data)	11.26	95% Percentile Bootstrap UCL	11.35
95% BCA Bootstrap UCL	11.7	95% Bootstrap t UCL	11.83
95% H-UCL (Log ROS)	11.17		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.272	KM Geo Mean	9.699
KM SD (logged)	0.264	95% Critical H Value (KM-Log)	1.766
KM Standard Error of Mean (logged)	0.0672	95% H-UCL (KM -Log)	10.85
KM SD (logged)	0.264	95% Critical H Value (KM-Log)	1.766
KM Standard Error of Mean (logged)	0.0672		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	13.86	Mean in Log Scale	2.145
SD in Original Scale	22.72	SD in Log Scale	0.767
95% t UCL (Assumes normality)	20.16	95% H-Stat UCL	15.07

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	11.73

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Anthracene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	32
Number of Detects	34	Number of Non-Detects	3
Number of Distinct Detects	30	Number of Distinct Non-Detects	2
Minimum Detect	0.74	Minimum Non-Detect	1.5
Maximum Detect	950	Maximum Non-Detect	1.6
Variance Detects	61720	Percent Non-Detects	8.108%
Mean Detects	174.9	SD Detects	248.4
Median Detects	85.5	CV Detects	1.42
Skewness Detects	1.819	Kurtosis Detects	2.536
Mean of Logged Detects	3.906	SD of Logged Detects	1.896

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.715	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.908	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.25	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.175	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	160.8	KM Standard Error of Mean	39.94
90KM SD	239.4	95% KM (BCA) UCL	228.2
95% KM (t) UCL	228.2	95% KM (Percentile Bootstrap) UCL	229.8
95% KM (z) UCL	226.5	95% KM Bootstrap t UCL	254.3
90% KM Chebyshev UCL	280.6	95% KM Chebyshev UCL	334.9
97.5% KM Chebyshev UCL	410.3	99% KM Chebyshev UCL	558.2

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.584	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.811	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.119	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.16	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.504	k star (bias corrected MLE)	0.479
Theta hat (MLE)	347	Theta star (bias corrected MLE)	365
nu hat (MLE)	34.28	nu star (bias corrected)	32.59
Mean (detects)	174.9		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	160.7
Maximum	950	Median	39
SD	242.7	CV	1.51
k hat (MLE)	0.359	k star (bias corrected MLE)	0.348
Theta hat (MLE)	447.4	Theta star (bias corrected MLE)	461.7
nu hat (MLE)	26.58	nu star (bias corrected)	25.76
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (25.76, α)	15.2	Adjusted Chi Square Value (25.76, β)	14.84
95% Gamma Approximate UCL	272.5	95% Gamma Adjusted UCL	279

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	160.8	SD (KM)	239.4
Variance (KM)	57301	SE of Mean (KM)	39.94
k hat (KM)	0.451	k star (KM)	0.433
nu hat (KM)	33.39	nu star (KM)	32.02
theta hat (KM)	356.3	theta star (KM)	371.6
80% gamma percentile (KM)	261.6	90% gamma percentile (KM)	447.7
95% gamma percentile (KM)	650.1	99% gamma percentile (KM)	1155

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (32.02, α)	20.09	Adjusted Chi Square Value (32.02, β)	19.68
95% KM Approximate Gamma UCL	256.3	95% KM Adjusted Gamma UCL	261.7

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.943	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.136	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.137	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	160.8	Mean in Log Scale	3.614
SD in Original Scale	242.7	SD in Log Scale	2.073
95% t UCL (assumes normality of ROS data)	228.2	95% Percentile Bootstrap UCL	226.5
95% BCA Bootstrap UCL	235.2	95% Bootstrap t UCL	250.2
95% H-UCL (Log ROS)	1199		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.587	KM Geo Mean	36.14
KM SD (logged)	2.088	95% Critical H Value (KM-Log)	3.86
KM Standard Error of Mean (logged)	0.349	95% H-UCL (KM -Log)	1227
KM SD (logged)	2.088	95% Critical H Value (KM-Log)	3.86
KM Standard Error of Mean (logged)	0.349		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	160.8	Mean in Log Scale	3.567
SD in Original Scale	242.7	SD in Log Scale	2.152
95% t UCL (Assumes normality)	228.1	95% H-Stat UCL	1480

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 261.7

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2,4-DP (DICHLOROPROP)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	17
Number of Detects	3	Number of Non-Detects	34
Number of Distinct Detects	3	Number of Distinct Non-Detects	14
Minimum Detect	0.13	Minimum Non-Detect	0.46
Maximum Detect	6.1	Maximum Non-Detect	0.6
Variance Detects	11.33	Percent Non-Detects	91.89%
Mean Detects	2.217	SD Detects	3.366
Median Detects	0.42	CV Detects	1.519
Skewness Detects	1.718	Kurtosis Detects	N/A
Mean of Logged Detects	-0.366	SD of Logged Detects	1.973

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.786	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.37	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.432	KM Standard Error of Mean	0.226
90KM SD	0.955	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.814	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.804	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.111	95% KM Chebyshev UCL	1.418
97.5% KM Chebyshev UCL	1.844	99% KM Chebyshev UCL	2.682

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.383	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.649	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.349	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.448	Detected data appear Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.54	k star (bias corrected MLE)	N/A
Theta hat (MLE)	4.105	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3.24	nu star (bias corrected)	N/A
Mean (detects)	2.217		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.554
Maximum	6.1	Median	0.193
SD	1.061	CV	1.917
k hat (MLE)	0.472	k star (bias corrected MLE)	0.452
Theta hat (MLE)	1.172	Theta star (bias corrected MLE)	1.224
nu hat (MLE)	34.96	nu star (bias corrected)	33.46
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (33.46, α)	21.23	Adjusted Chi Square Value (33.46, β)	20.81
95% Gamma Approximate UCL	0.872	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.432	SD (KM)	0.955
Variance (KM)	0.913	SE of Mean (KM)	0.226
k hat (KM)	0.205	k star (KM)	0.206
nu hat (KM)	15.16	nu star (KM)	15.27
theta hat (KM)	2.111	theta star (KM)	2.096
80% gamma percentile (KM)	0.579	90% gamma percentile (KM)	1.308
95% gamma percentile (KM)	2.21	99% gamma percentile (KM)	4.681

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.27, α)	7.446	Adjusted Chi Square Value (15.27, β)	7.209
95% KM Approximate Gamma UCL	0.886	95% KM Adjusted Gamma UCL	0.916

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.952	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.267	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.469	Mean in Log Scale	-1.366
SD in Original Scale	0.984	SD in Log Scale	0.945
95% t UCL (assumes normality of ROS data)	0.742	95% Percentile Bootstrap UCL	0.767
95% BCA Bootstrap UCL	0.983	95% Bootstrap t UCL	1.438
95% H-UCL (Log ROS)	0.575		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.366	KM Geo Mean	0.255
KM SD (logged)	0.784	95% Critical H Value (KM-Log)	2.16
KM Standard Error of Mean (logged)	0.505	95% H-UCL (KM -Log)	0.46
KM SD (logged)	0.784	95% Critical H Value (KM-Log)	2.16
KM Standard Error of Mean (logged)	0.505		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.423	Mean in Log Scale	-1.252
SD in Original Scale	0.96	SD in Log Scale	0.54
95% t UCL (Assumes normality)	0.69	95% H-Stat UCL	0.394

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.814

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Tetrachloroethene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	18
Number of Detects	1	Number of Non-Detects	36
Number of Distinct Detects	1	Number of Distinct Non-Detects	18

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Tetrachloroethene was not processed!

Pyrene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	36
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	35	Number of Distinct Non-Detects	1
Minimum Detect	1.6	Minimum Non-Detect	1.5
Maximum Detect	3000	Maximum Non-Detect	1.5
Variance Detects	675917	Percent Non-Detects	2.703%
Mean Detects	589.5	SD Detects	822.1
Median Detects	190	CV Detects	1.395
Skewness Detects	1.628	Kurtosis Detects	1.664
Mean of Logged Detects	5.007	SD of Logged Detects	2.082

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.728	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.241	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	573.6	KM Standard Error of Mean	134.3
90KM SD	805.3	95% KM (BCA) UCL	807.3
95% KM (t) UCL	800.3	95% KM (Percentile Bootstrap) UCL	800
95% KM (z) UCL	794.5	95% KM Bootstrap t UCL	867.6
90% KM Chebyshev UCL	976.4	95% KM Chebyshev UCL	1159
97.5% KM Chebyshev UCL	1412	99% KM Chebyshev UCL	1910

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.428	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.82	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.122	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.468	k star (bias corrected MLE)	0.447
Theta hat (MLE)	1260	Theta star (bias corrected MLE)	1318
nu hat (MLE)	33.67	nu star (bias corrected)	32.2
Mean (detects)	589.5		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	573.6
Maximum	3000	Median	180
SD	816.4	CV	1.423
k hat (MLE)	0.409	k star (bias corrected MLE)	0.394
Theta hat (MLE)	1404	Theta star (bias corrected MLE)	1457
nu hat (MLE)	30.24	nu star (bias corrected)	29.12
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (29.12, α)	17.8	Adjusted Chi Square Value (29.12, β)	17.42
95% Gamma Approximate UCL	938.2	95% Gamma Adjusted UCL	958.9

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	573.6	SD (KM)	805.3
Variance (KM)	648473	SE of Mean (KM)	134.3
k hat (KM)	0.507	k star (KM)	0.484
nu hat (KM)	37.55	nu star (KM)	35.84
theta hat (KM)	1131	theta star (KM)	1184
80% gamma percentile (KM)	940.6	90% gamma percentile (KM)	1562
95% gamma percentile (KM)	2229	99% gamma percentile (KM)	3873

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (35.84, α)	23.14	Adjusted Chi Square Value (35.84, β)	22.69
95% KM Approximate Gamma UCL	888.5	95% KM Adjusted Gamma UCL	905.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.943	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.945	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.103	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	573.6	Mean in Log Scale	4.865
SD in Original Scale	816.4	SD in Log Scale	2.226
95% t UCL (assumes normality of ROS data)	800.2	95% Percentile Bootstrap UCL	796.2
95% BCA Bootstrap UCL	816.1	95% Bootstrap t UCL	862.6
95% H-UCL (Log ROS)	6980		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.883	KM Geo Mean	132
KM SD (logged)	2.158	95% Critical H Value (KM-Log)	3.964
KM Standard Error of Mean (logged)	0.36	95% H-UCL (KM -Log)	5634
KM SD (logged)	2.158	95% Critical H Value (KM-Log)	3.964
KM Standard Error of Mean (logged)	0.36		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	573.6	Mean in Log Scale	4.864
SD in Original Scale	816.4	SD in Log Scale	2.23
95% t UCL (Assumes normality)	800.2	95% H-Stat UCL	7062

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 905.8

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Xylenes, Total

General Statistics

Total Number of Observations	37	Number of Distinct Observations	20
Number of Detects	3	Number of Non-Detects	34
Number of Distinct Detects	3	Number of Distinct Non-Detects	18
Minimum Detect	9.5	Minimum Non-Detect	1.7
Maximum Detect	780	Maximum Non-Detect	260
Variance Detects	166787	Percent Non-Detects	91.89%
Mean Detects	316.5	SD Detects	408.4
Median Detects	160	CV Detects	1.29
Skewness Detects	1.471	Kurtosis Detects	N/A
Mean of Logged Detects	4.662	SD of Logged Detects	2.233

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.89	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.316	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	29.99	KM Standard Error of Mean	26.41
90KM SD	129	95% KM (BCA) UCL	N/A
95% KM (t) UCL	74.59	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	73.44	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	109.2	95% KM Chebyshev UCL	145.1
97.5% KM Chebyshev UCL	195	99% KM Chebyshev UCL	292.8

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.243	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.649	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.223	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.447	Detected data appear Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.569	k star (bias corrected MLE)	N/A
Theta hat (MLE)	556.6	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3.412	nu star (bias corrected)	N/A
Mean (detects)	316.5		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	25.67
Maximum	780	Median	0.01
SD	130.1	CV	5.069
k hat (MLE)	0.113	k star (bias corrected MLE)	0.122
Theta hat (MLE)	227.9	Theta star (bias corrected MLE)	211.2
nu hat (MLE)	8.336	nu star (bias corrected)	8.994
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (8.99, α)	3.323	Adjusted Chi Square Value (8.99, β)	3.175
95% Gamma Approximate UCL	69.48	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	29.99	SD (KM)	129
Variance (KM)	16636	SE of Mean (KM)	26.41
k hat (KM)	0.0541	k star (KM)	0.0677
nu hat (KM)	4.001	nu star (KM)	5.01
theta hat (KM)	554.7	theta star (KM)	443
80% gamma percentile (KM)	9.925	90% gamma percentile (KM)	62.99
95% gamma percentile (KM)	171.8	99% gamma percentile (KM)	573.7

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (5.01, α)	1.157	Adjusted Chi Square Value (5.01, β)	1.08
95% KM Approximate Gamma UCL	129.9	95% KM Adjusted Gamma UCL	139.1

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.974	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.24	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	25.79	Mean in Log Scale	-2.855
SD in Original Scale	130.1	SD in Log Scale	2.989
95% t UCL (assumes normality of ROS data)	61.91	95% Percentile Bootstrap UCL	67.7
95% BCA Bootstrap UCL	97.41	95% Bootstrap t UCL	2149
95% H-UCL (Log ROS)	68.26		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.012	KM Geo Mean	2.75
KM SD (logged)	1.367	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.327	95% H-UCL (KM -Log)	13.38
KM SD (logged)	1.367	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.327		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	77.93	Mean in Log Scale	3.07
SD in Original Scale	127.1	SD in Log Scale	2.138
95% t UCL (Assumes normality)	113.2	95% H-Stat UCL	861.3

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 74.59

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(g,h,i)perylene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	33
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	31	Number of Distinct Non-Detects	2
Minimum Detect	2	Minimum Non-Detect	1.5
Maximum Detect	780	Maximum Non-Detect	1.6
Variance Detects	45847	Percent Non-Detects	10.81%
Mean Detects	168.3	SD Detects	214.1
Median Detects	89	CV Detects	1.272
Skewness Detects	1.513	Kurtosis Detects	1.294
Mean of Logged Detects	4.146	SD of Logged Detects	1.615

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.753	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.906	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.273	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.177	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	150.3	KM Standard Error of Mean	34.35
90KM SD	205.8	95% KM (BCA) UCL	209
95% KM (t) UCL	208.3	95% KM (Percentile Bootstrap) UCL	209
95% KM (z) UCL	206.8	95% KM Bootstrap t UCL	225.2
90% KM Chebyshev UCL	253.3	95% KM Chebyshev UCL	300
97.5% KM Chebyshev UCL	364.8	99% KM Chebyshev UCL	492

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.578	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.799	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.107	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.161	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.627	k star (bias corrected MLE)	0.59
Theta hat (MLE)	268.6	Theta star (bias corrected MLE)	285.3
nu hat (MLE)	41.36	nu star (bias corrected)	38.93
Mean (detects)	168.3		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	150.1
Maximum	780	Median	47
SD	208.7	CV	1.39
k hat (MLE)	0.368	k star (bias corrected MLE)	0.356
Theta hat (MLE)	407.7	Theta star (bias corrected MLE)	421.2
nu hat (MLE)	27.24	nu star (bias corrected)	26.37
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (26.37, α)	15.66	Adjusted Chi Square Value (26.37, β)	15.3
95% Gamma Approximate UCL	252.7	95% Gamma Adjusted UCL	258.6

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	150.3	SD (KM)	205.8
Variance (KM)	42334	SE of Mean (KM)	34.35
k hat (KM)	0.533	k star (KM)	0.508
nu hat (KM)	39.47	nu star (KM)	37.6
theta hat (KM)	281.7	theta star (KM)	295.7
80% gamma percentile (KM)	247	90% gamma percentile (KM)	405.2
95% gamma percentile (KM)	573.9	99% gamma percentile (KM)	988.3

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (37.60, α)	24.56	Adjusted Chi Square Value (37.60, β)	24.1
95% KM Approximate Gamma UCL	230	95% KM Adjusted Gamma UCL	234.4

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.958	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.942	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.0992	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.139	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	150.3	Mean in Log Scale	3.749
SD in Original Scale	208.6	SD in Log Scale	1.915
95% t UCL (assumes normality of ROS data)	208.2	95% Percentile Bootstrap UCL	208.1
95% BCA Bootstrap UCL	212.8	95% Bootstrap t UCL	225.2
95% H-UCL (Log ROS)	840.3		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.742	KM Geo Mean	42.16
KM SD (logged)	1.899	95% Critical H Value (KM-Log)	3.581
KM Standard Error of Mean (logged)	0.317	95% H-UCL (KM -Log)	794
KM SD (logged)	1.899	95% Critical H Value (KM-Log)	3.581
KM Standard Error of Mean (logged)	0.317		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	150.2	Mean in Log Scale	3.668
SD in Original Scale	208.6	SD in Log Scale	2.062
95% t UCL (Assumes normality)	208.1	95% H-Stat UCL	1221

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 234.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DICAMBA

General Statistics

Total Number of Observations	37	Number of Distinct Observations	14
Number of Detects	7	Number of Non-Detects	30
Number of Distinct Detects	7	Number of Distinct Non-Detects	8
Minimum Detect	0.4	Minimum Non-Detect	2.3
Maximum Detect	7.1	Maximum Non-Detect	3
Variance Detects	5.899	Percent Non-Detects	81.08%
Mean Detects	1.854	SD Detects	2.429
Median Detects	0.61	CV Detects	1.31
Skewness Detects	2.196	Kurtosis Detects	4.933
Mean of Logged Detects	0.066	SD of Logged Detects	1.052

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.675	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.305	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.961	KM Standard Error of Mean	0.258
90KM SD	1.154	95% KM (BCA) UCL	1.402
95% KM (t) UCL	1.396	95% KM (Percentile Bootstrap) UCL	1.403
95% KM (z) UCL	1.385	95% KM Bootstrap t UCL	1.702
90% KM Chebyshev UCL	1.735	95% KM Chebyshev UCL	2.085
97.5% KM Chebyshev UCL	2.572	99% KM Chebyshev UCL	3.528

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.657	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.727	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.3	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.319	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	1.042	k star (bias corrected MLE)	0.691
Theta hat (MLE)	1.78	Theta star (bias corrected MLE)	2.685
nu hat (MLE)	14.58	nu star (bias corrected)	9.667
Mean (detects)	1.854		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.935
Maximum	7.1	Median	0.6
SD	1.266	CV	1.353
k hat (MLE)	0.613	k star (bias corrected MLE)	0.581
Theta hat (MLE)	1.526	Theta star (bias corrected MLE)	1.609
nu hat (MLE)	45.36	nu star (bias corrected)	43.02
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (43.02, α)	28.98	Adjusted Chi Square Value (43.02, β)	28.48
95% Gamma Approximate UCL	1.389	95% Gamma Adjusted UCL	1.413

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.961	SD (KM)	1.154
Variance (KM)	1.331	SE of Mean (KM)	0.258
k hat (KM)	0.693	k star (KM)	0.655
nu hat (KM)	51.29	nu star (KM)	48.46
theta hat (KM)	1.386	theta star (KM)	1.467
80% gamma percentile (KM)	1.582	90% gamma percentile (KM)	2.449
95% gamma percentile (KM)	3.349	99% gamma percentile (KM)	5.51

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (48.46, α)	33.48	Adjusted Chi Square Value (48.46, β)	32.94
95% KM Approximate Gamma UCL	1.39	95% KM Adjusted Gamma UCL	1.413

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.874	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.274	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.981	Mean in Log Scale	-0.306
SD in Original Scale	1.145	SD in Log Scale	0.678
95% t UCL (assumes normality of ROS data)	1.299	95% Percentile Bootstrap UCL	1.312
95% BCA Bootstrap UCL	1.481	95% Bootstrap t UCL	1.699
95% H-UCL (Log ROS)	1.169		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.332	KM Geo Mean	0.718
KM SD (logged)	0.638	95% Critical H Value (KM-Log)	2.023
KM Standard Error of Mean (logged)	0.21	95% H-UCL (KM -Log)	1.091
KM SD (logged)	0.638	95% Critical H Value (KM-Log)	2.023
KM Standard Error of Mean (logged)	0.21		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1.416	Mean in Log Scale	0.232
SD in Original Scale	1.018	SD in Log Scale	0.441
95% t UCL (Assumes normality)	1.698	95% H-Stat UCL	1.594

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1.396

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,

it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Indeno(1,2,3-Cd)Pyrene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	31
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	29	Number of Distinct Non-Detects	2
Minimum Detect	2.1	Minimum Non-Detect	1.5
Maximum Detect	960	Maximum Non-Detect	1.6
Variance Detects	74124	Percent Non-Detects	10.81%
Mean Detects	210.5	SD Detects	272.3
Median Detects	98	CV Detects	1.293
Skewness Detects	1.482	Kurtosis Detects	1.055
Mean of Logged Detects	4.335	SD of Logged Detects	1.643

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.743	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.906	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.288	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.177	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	187.9	KM Standard Error of Mean	43.64
90KM SD	261.4	95% KM (BCA) UCL	264.3
95% KM (t) UCL	261.6	95% KM (Percentile Bootstrap) UCL	262.4
95% KM (z) UCL	259.7	95% KM Bootstrap t UCL	286.9
90% KM Chebyshev UCL	318.9	95% KM Chebyshev UCL	378.2
97.5% KM Chebyshev UCL	460.5	99% KM Chebyshev UCL	622.1

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.646	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.801	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.118	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.161	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.608	k star (bias corrected MLE)	0.573
Theta hat (MLE)	346.6	Theta star (bias corrected MLE)	367.8
nu hat (MLE)	40.1	nu star (bias corrected)	37.79
Mean (detects)	210.5		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	187.8
Maximum	960	Median	53
SD	265.1	CV	1.412
k hat (MLE)	0.359	k star (bias corrected MLE)	0.348
Theta hat (MLE)	523.5	Theta star (bias corrected MLE)	540.2
nu hat (MLE)	26.54	nu star (bias corrected)	25.72
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (25.72, α)	15.17	Adjusted Chi Square Value (25.72, β)	14.81
95% Gamma Approximate UCL	318.5	95% Gamma Adjusted UCL	326.1

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	187.9	SD (KM)	261.4
Variance (KM)	68321	SE of Mean (KM)	43.64
k hat (KM)	0.517	k star (KM)	0.493
nu hat (KM)	38.26	nu star (KM)	36.49
theta hat (KM)	363.5	theta star (KM)	381.1
80% gamma percentile (KM)	308.5	90% gamma percentile (KM)	510
95% gamma percentile (KM)	725.6	99% gamma percentile (KM)	1256

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (36.49, α)	23.66	Adjusted Chi Square Value (36.49, β)	23.21
95% KM Approximate Gamma UCL	289.8	95% KM Adjusted Gamma UCL	295.4

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.959	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.942	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0962	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.139	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	188	Mean in Log Scale	3.931
SD in Original Scale	265	SD in Log Scale	1.948
95% t UCL (assumes normality of ROS data)	261.5	95% Percentile Bootstrap UCL	261.6
95% BCA Bootstrap UCL	267.6	95% Bootstrap t UCL	282.3
95% H-UCL (Log ROS)	1113		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.91	KM Geo Mean	49.89
KM SD (logged)	1.955	95% Critical H Value (KM-Log)	3.664
KM Standard Error of Mean (logged)	0.326	95% H-UCL (KM -Log)	1113
KM SD (logged)	1.955	95% Critical H Value (KM-Log)	3.664
KM Standard Error of Mean (logged)	0.326		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	187.9	Mean in Log Scale	3.837
SD in Original Scale	265	SD in Log Scale	2.122
95% t UCL (Assumes normality)	261.4	95% H-Stat UCL	1755

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	295.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	35
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	34	Number of Distinct Non-Detects	1
Minimum Detect	1	Minimum Non-Detect	1.5
Maximum Detect	2000	Maximum Non-Detect	1.5
Variance Detects	249160	Percent Non-Detects	2.703%
Mean Detects	354.1	SD Detects	499.2
Median Detects	115	CV Detects	1.41
Skewness Detects	1.793	Kurtosis Detects	2.681
Mean of Logged Detects	4.538	SD of Logged Detects	2.051

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.728	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.269	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	344.5	KM Standard Error of Mean	81.5
90KM SD	488.8	95% KM (BCA) UCL	487.8
95% KM (t) UCL	482.1	95% KM (Percentile Bootstrap) UCL	481.4
95% KM (z) UCL	478.6	95% KM Bootstrap t UCL	531
90% KM Chebyshev UCL	589	95% KM Chebyshev UCL	699.8
97.5% KM Chebyshev UCL	853.5	99% KM Chebyshev UCL	1155

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.334	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.817	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0806	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.48	k star (bias corrected MLE)	0.459
Theta hat (MLE)	737.4	Theta star (bias corrected MLE)	772
nu hat (MLE)	34.57	nu star (bias corrected)	33.02
Mean (detects)	354.1		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	344.5
Maximum	2000	Median	110
SD	495.6	CV	1.439
k hat (MLE)	0.421	k star (bias corrected MLE)	0.405
Theta hat (MLE)	818.6	Theta star (bias corrected MLE)	851.2
nu hat (MLE)	31.14	nu star (bias corrected)	29.95
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (29.95, α)	18.45	Adjusted Chi Square Value (29.95, β)	18.06
95% Gamma Approximate UCL	559.1	95% Gamma Adjusted UCL	571.3

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	344.5	SD (KM)	488.8
Variance (KM)	238966	SE of Mean (KM)	81.5
k hat (KM)	0.497	k star (KM)	0.474
nu hat (KM)	36.76	nu star (KM)	35.11
theta hat (KM)	693.6	theta star (KM)	726.1
80% gamma percentile (KM)	564.3	90% gamma percentile (KM)	942.2
95% gamma percentile (KM)	1348	99% gamma percentile (KM)	2352

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (35.11, α)	22.55	Adjusted Chi Square Value (35.11, β)	22.12
95% KM Approximate Gamma UCL	536.3	95% KM Adjusted Gamma UCL	547

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0796	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	344.5	Mean in Log Scale	4.431
SD in Original Scale	495.6	SD in Log Scale	2.125
95% t UCL (assumes normality of ROS data)	482.1	95% Percentile Bootstrap UCL	483.2
95% BCA Bootstrap UCL	495	95% Bootstrap t UCL	528.3
95% H-UCL (Log ROS)	3210		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.42	KM Geo Mean	83.1
KM SD (logged)	2.117	95% Critical H Value (KM-Log)	3.903
KM Standard Error of Mean (logged)	0.353	95% H-UCL (KM -Log)	3097
KM SD (logged)	2.117	95% Critical H Value (KM-Log)	3.903
KM Standard Error of Mean (logged)	0.353		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	344.5	Mean in Log Scale	4.408
SD in Original Scale	495.6	SD in Log Scale	2.172
95% t UCL (Assumes normality)	482.1	95% H-Stat UCL	3678

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 547

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Fluoranthene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	35
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	34	Number of Distinct Non-Detects	1
Minimum Detect	1.9	Minimum Non-Detect	1.5
Maximum Detect	3500	Maximum Non-Detect	1.5
Variance Detects	1079152	Percent Non-Detects	2.703%
Mean Detects	757.7	SD Detects	1039
Median Detects	255	CV Detects	1.371
Skewness Detects	1.484	Kurtosis Detects	0.93
Mean of Logged Detects	5.221	SD of Logged Detects	2.144

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.727	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.258	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	737.3	KM Standard Error of Mean	169.7
90KM SD	1018	95% KM (BCA) UCL	1035
95% KM (t) UCL	1024	95% KM (Percentile Bootstrap) UCL	1024
95% KM (z) UCL	1016	95% KM Bootstrap t UCL	1107
90% KM Chebyshev UCL	1246	95% KM Chebyshev UCL	1477
97.5% KM Chebyshev UCL	1797	99% KM Chebyshev UCL	2426

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.485	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.822	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.1	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.457	k star (bias corrected MLE)	0.438
Theta hat (MLE)	1658	Theta star (bias corrected MLE)	1732
nu hat (MLE)	32.91	nu star (bias corrected)	31.5
Mean (detects)	757.7		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	737.2
Maximum	3500	Median	240
SD	1032	CV	1.4
k hat (MLE)	0.4	k star (bias corrected MLE)	0.385
Theta hat (MLE)	1845	Theta star (bias corrected MLE)	1914
nu hat (MLE)	29.56	nu star (bias corrected)	28.5
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (28.50, α)	17.32	Adjusted Chi Square Value (28.50, β)	16.94
95% Gamma Approximate UCL	1213	95% Gamma Adjusted UCL	1240

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	737.3	SD (KM)	1018
Variance (KM)	1035856	SE of Mean (KM)	169.7
k hat (KM)	0.525	k star (KM)	0.5
nu hat (KM)	38.83	nu star (KM)	37.01
theta hat (KM)	1405	theta star (KM)	1474
80% gamma percentile (KM)	1211	90% gamma percentile (KM)	1995
95% gamma percentile (KM)	2832	99% gamma percentile (KM)	4891

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (37.01, α)	24.09	Adjusted Chi Square Value (37.01, β)	23.63
95% KM Approximate Gamma UCL	1133	95% KM Adjusted Gamma UCL	1155

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.125	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	737.2	Mean in Log Scale	5.076
SD in Original Scale	1032	SD in Log Scale	2.291
95% t UCL (assumes normality of ROS data)	1024	95% Percentile Bootstrap UCL	1021
95% BCA Bootstrap UCL	1044	95% Bootstrap t UCL	1103
95% H-UCL (Log ROS)	10818		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.091	KM Geo Mean	162.5
KM SD (logged)	2.227	95% Critical H Value (KM-Log)	4.067
KM Standard Error of Mean (logged)	0.371	95% H-UCL (KM -Log)	8770
KM SD (logged)	2.227	95% Critical H Value (KM-Log)	4.067
KM Standard Error of Mean (logged)	0.371		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	737.2	Mean in Log Scale	5.072
SD in Original Scale	1032	SD in Log Scale	2.3
95% t UCL (Assumes normality)	1024	95% H-Stat UCL	11134

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 1155

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	33
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	31	Number of Distinct Non-Detects	2
Minimum Detect	1.7	Minimum Non-Detect	1.5
Maximum Detect	730	Maximum Non-Detect	1.6
Variance Detects	38304	Percent Non-Detects	10.81%
Mean Detects	151.8	SD Detects	195.7
Median Detects	53	CV Detects	1.289
Skewness Detects	1.506	Kurtosis Detects	1.361
Mean of Logged Detects	3.973	SD of Logged Detects	1.676

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.758	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.906	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.241	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.177	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	135.5	KM Standard Error of Mean	31.37
90KM SD	187.9	95% KM (BCA) UCL	188.4
95% KM (t) UCL	188.5	95% KM (Percentile Bootstrap) UCL	187.3
95% KM (z) UCL	187.1	95% KM Bootstrap t UCL	204.2
90% KM Chebyshev UCL	229.7	95% KM Chebyshev UCL	272.3
97.5% KM Chebyshev UCL	331.4	99% KM Chebyshev UCL	447.7

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.582	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.803	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.106	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.161	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.59	k star (bias corrected MLE)	0.557
Theta hat (MLE)	257.2	Theta star (bias corrected MLE)	272.6
nu hat (MLE)	38.96	nu star (bias corrected)	36.75
Mean (detects)	151.8		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	135.4
Maximum	730	Median	41
SD	190.6	CV	1.408
k hat (MLE)	0.36	k star (bias corrected MLE)	0.348
Theta hat (MLE)	376.6	Theta star (bias corrected MLE)	388.6
nu hat (MLE)	26.6	nu star (bias corrected)	25.78
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (25.78, α)	15.21	Adjusted Chi Square Value (25.78, β)	14.86
95% Gamma Approximate UCL	229.5	95% Gamma Adjusted UCL	234.9

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	135.5	SD (KM)	187.9
Variance (KM)	35305	SE of Mean (KM)	31.37
k hat (KM)	0.52	k star (KM)	0.496
nu hat (KM)	38.51	nu star (KM)	36.72
theta hat (KM)	260.5	theta star (KM)	273.2
80% gamma percentile (KM)	222.5	90% gamma percentile (KM)	367.3
95% gamma percentile (KM)	522.1	99% gamma percentile (KM)	903.1

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (36.72, α)	23.85	Adjusted Chi Square Value (36.72, β)	23.4
95% KM Approximate Gamma UCL	208.7	95% KM Adjusted Gamma UCL	212.7

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.942	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0915	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.139	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	135.5	Mean in Log Scale	3.56
SD in Original Scale	190.5	SD in Log Scale	1.99
95% t UCL (assumes normality of ROS data)	188.4	95% Percentile Bootstrap UCL	187.3
95% BCA Bootstrap UCL	193.7	95% Bootstrap t UCL	202.9
95% H-UCL (Log ROS)	873.7		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.587	KM Geo Mean	36.14
KM SD (logged)	1.912	95% Critical H Value (KM-Log)	3.602
KM Standard Error of Mean (logged)	0.319	95% H-UCL (KM -Log)	709.3
KM SD (logged)	1.912	95% Critical H Value (KM-Log)	3.602
KM Standard Error of Mean (logged)	0.319		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	135.5	Mean in Log Scale	3.514
SD in Original Scale	190.5	SD in Log Scale	2.07
95% t UCL (Assumes normality)	188.4	95% H-Stat UCL	1073

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 212.7

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Acenaphthylene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	28
Number of Detects	31	Number of Non-Detects	6
Number of Distinct Detects	28	Number of Distinct Non-Detects	3
Minimum Detect	0.48	Minimum Non-Detect	1.4
Maximum Detect	37	Maximum Non-Detect	1.6
Variance Detects	122.2	Percent Non-Detects	16.22%
Mean Detects	8.091	SD Detects	11.05
Median Detects	4.9	CV Detects	1.366
Skewness Detects	2.032	Kurtosis Detects	2.865
Mean of Logged Detects	1.359	SD of Logged Detects	1.238

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.636	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.902	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.292	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.182	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	6.926	KM Standard Error of Mean	1.722
90KM SD	10.3	95% KM (BCA) UCL	10.06
95% KM (t) UCL	9.832	95% KM (Percentile Bootstrap) UCL	9.953
95% KM (z) UCL	9.757	95% KM Bootstrap t UCL	11.67
90% KM Chebyshev UCL	12.09	95% KM Chebyshev UCL	14.43
97.5% KM Chebyshev UCL	17.68	99% KM Chebyshev UCL	24.05

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.155	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.785	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.148	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.164	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.809	k star (bias corrected MLE)	0.753
Theta hat (MLE)	9.996	Theta star (bias corrected MLE)	10.75
nu hat (MLE)	50.18	nu star (bias corrected)	46.66
Mean (detects)	8.091		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	6.781
Maximum	37	Median	2.6
SD	10.53	CV	1.553
k hat (MLE)	0.428	k star (bias corrected MLE)	0.411
Theta hat (MLE)	15.86	Theta star (bias corrected MLE)	16.5
nu hat (MLE)	31.64	nu star (bias corrected)	30.41
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (30.41, α)	18.82	Adjusted Chi Square Value (30.41, β)	18.42
95% Gamma Approximate UCL	10.96	95% Gamma Adjusted UCL	11.19

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	6.926	SD (KM)	10.3
Variance (KM)	106.1	SE of Mean (KM)	1.722
k hat (KM)	0.452	k star (KM)	0.433
nu hat (KM)	33.46	nu star (KM)	32.08
theta hat (KM)	15.32	theta star (KM)	15.98
80% gamma percentile (KM)	11.27	90% gamma percentile (KM)	19.28
95% gamma percentile (KM)	27.98	99% gamma percentile (KM)	49.69

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (32.08, α)	20.13	Adjusted Chi Square Value (32.08, β)	19.72
95% KM Approximate Gamma UCL	11.03	95% KM Adjusted Gamma UCL	11.26

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.94	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.09	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.143	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	6.916	Mean in Log Scale	1.101
SD in Original Scale	10.45	SD in Log Scale	1.285
95% t UCL (assumes normality of ROS data)	9.816	95% Percentile Bootstrap UCL	9.807
95% BCA Bootstrap UCL	10.21	95% Bootstrap t UCL	11.3
95% H-UCL (Log ROS)	12.33		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.107	KM Geo Mean	3.026
KM SD (logged)	1.265	95% Critical H Value (KM-Log)	2.709
KM Standard Error of Mean (logged)	0.215	95% H-UCL (KM -Log)	11.92
KM SD (logged)	1.265	95% Critical H Value (KM-Log)	2.709
KM Standard Error of Mean (logged)	0.215		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	6.899	Mean in Log Scale	1.09
SD in Original Scale	10.46	SD in Log Scale	1.289
95% t UCL (Assumes normality)	9.801	95% H-Stat UCL	12.29

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	11.26

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chrysene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	33
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	32	Number of Distinct Non-Detects	1
Minimum Detect	0.98	Minimum Non-Detect	1.5
Maximum Detect	1900	Maximum Non-Detect	1.5
Variance Detects	196022	Percent Non-Detects	2.703%
Mean Detects	310.5	SD Detects	442.7
Median Detects	96	CV Detects	1.426
Skewness Detects	1.941	Kurtosis Detects	3.777
Mean of Logged Detects	4.396	SD of Logged Detects	2.051

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.724	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.256	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	302.1	KM Standard Error of Mean	72.28
90KM SD	433.5	95% KM (BCA) UCL	429.8
95% KM (t) UCL	424.2	95% KM (Percentile Bootstrap) UCL	425.3
95% KM (z) UCL	421	95% KM Bootstrap t UCL	469.2
90% KM Chebyshev UCL	519	95% KM Chebyshev UCL	617.2
97.5% KM Chebyshev UCL	753.5	99% KM Chebyshev UCL	1021

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.353	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.818	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.101	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.477	k star (bias corrected MLE)	0.455
Theta hat (MLE)	651.4	Theta star (bias corrected MLE)	681.7
nu hat (MLE)	34.32	nu star (bias corrected)	32.79
Mean (detects)	310.5		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	302.1
Maximum	1900	Median	94
SD	439.5	CV	1.455
k hat (MLE)	0.419	k star (bias corrected MLE)	0.403
Theta hat (MLE)	720.8	Theta star (bias corrected MLE)	749.3
nu hat (MLE)	31.01	nu star (bias corrected)	29.83
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (29.83, α)	18.36	Adjusted Chi Square Value (29.83, β)	17.97
95% Gamma Approximate UCL	490.8	95% Gamma Adjusted UCL	501.5

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	302.1	SD (KM)	433.5
Variance (KM)	187942	SE of Mean (KM)	72.28
k hat (KM)	0.486	k star (KM)	0.464
nu hat (KM)	35.94	nu star (KM)	34.36
theta hat (KM)	622.1	theta star (KM)	650.7
80% gamma percentile (KM)	494.2	90% gamma percentile (KM)	829.8
95% gamma percentile (KM)	1192	99% gamma percentile (KM)	2087

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (34.36, α)	21.95	Adjusted Chi Square Value (34.36, β)	21.52
95% KM Approximate Gamma UCL	472.9	95% KM Adjusted Gamma UCL	482.4

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.947	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0953	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	302.2	Mean in Log Scale	4.297
SD in Original Scale	439.5	SD in Log Scale	2.109
95% t UCL (assumes normality of ROS data)	424.1	95% Percentile Bootstrap UCL	424.6
95% BCA Bootstrap UCL	439.6	95% Bootstrap t UCL	467.6
95% H-UCL (Log ROS)	2667		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.282	KM Geo Mean	72.39
KM SD (logged)	2.108	95% Critical H Value (KM-Log)	3.89
KM Standard Error of Mean (logged)	0.352	95% H-UCL (KM -Log)	2621
KM SD (logged)	2.108	95% Critical H Value (KM-Log)	3.89
KM Standard Error of Mean (logged)	0.352		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	302.1	Mean in Log Scale	4.269
SD in Original Scale	439.5	SD in Log Scale	2.164
95% t UCL (Assumes normality)	424.1	95% H-Stat UCL	3114

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 482.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

beta-BHC

General Statistics

Total Number of Observations	37	Number of Distinct Observations	22
Number of Detects	3	Number of Non-Detects	34
Number of Distinct Detects	3	Number of Distinct Non-Detects	20
Minimum Detect	0.51	Minimum Non-Detect	0.92
Maximum Detect	1.2	Maximum Non-Detect	19
Variance Detects	0.12	Percent Non-Detects	91.89%
Mean Detects	0.87	SD Detects	0.346
Median Detects	0.9	CV Detects	0.398
Skewness Detects	-0.387	Kurtosis Detects	N/A
Mean of Logged Detects	-0.199	SD of Logged Detects	0.435

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.994	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.201	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level
Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.728	KM Standard Error of Mean	0.163
90KM SD	0.217	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.003	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.996	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.218	95% KM Chebyshev UCL	1.44
97.5% KM Chebyshev UCL	1.748	99% KM Chebyshev UCL	2.354

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.277	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.636	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.251	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.433	Detected data appear Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	8.562	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.102	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	51.37	nu star (bias corrected)	N/A
Mean (detects)	0.87		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.506	Mean	0.708
Maximum	1.2	Median	0.697
SD	0.132	CV	0.186
k hat (MLE)	32.54	k star (bias corrected MLE)	29.92
Theta hat (MLE)	0.0218	Theta star (bias corrected MLE)	0.0237
nu hat (MLE)	2408	nu star (bias corrected)	2214
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (N/A, α)	2106	Adjusted Chi Square Value (N/A, β)	2101
95% Gamma Approximate UCL	0.745	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.728	SD (KM)	0.217
Variance (KM)	0.0469	SE of Mean (KM)	0.163
k hat (KM)	11.28	k star (KM)	10.38
nu hat (KM)	834.6	nu star (KM)	768.2
theta hat (KM)	0.0645	theta star (KM)	0.0701
80% gamma percentile (KM)	0.908	90% gamma percentile (KM)	1.028
95% gamma percentile (KM)	1.134	99% gamma percentile (KM)	1.353

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (768.24, α)	704.9	Adjusted Chi Square Value (768.24, β)	702.3
95% KM Approximate Gamma UCL	0.793	95% KM Adjusted Gamma UCL	0.796

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.252	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.686	Mean in Log Scale	-0.394
SD in Original Scale	0.135	SD in Log Scale	0.182
95% t UCL (assumes normality of ROS data)	0.723	95% Percentile Bootstrap UCL	0.722
95% BCA Bootstrap UCL	0.727	95% Bootstrap t UCL	0.731
95% H-UCL (Log ROS)	0.722		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.363	KM Geo Mean	0.695
KM SD (logged)	0.302	95% Critical H Value (KM-Log)	1.786
KM Standard Error of Mean (logged)	0.237	95% H-UCL (KM -Log)	0.796
KM SD (logged)	0.302	95% Critical H Value (KM-Log)	1.786
KM Standard Error of Mean (logged)	0.237		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.62	Mean in Log Scale	0.0544
SD in Original Scale	1.811	SD in Log Scale	0.888
95% t UCL (Assumes normality)	2.123	95% H-Stat UCL	2.189

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1.003

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Delta-Bhc

General Statistics

Total Number of Observations	37	Number of Distinct Observations	21
Number of Detects	1	Number of Non-Detects	36
Number of Distinct Detects	1	Number of Distinct Non-Detects	20

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Delta-Bhc was not processed!

Endosulfan II

General Statistics

Total Number of Observations	37	Number of Distinct Observations	14
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	14
Minimum Detect	2.7	Minimum Non-Detect	2.3
Maximum Detect	11	Maximum Non-Detect	47
Variance Detects	34.45	Percent Non-Detects	94.59%
Mean Detects	6.85	SD Detects	5.869
Median Detects	6.85	CV Detects	0.857
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	1.696	SD of Logged Detects	0.993

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.683	KM Standard Error of Mean	0.501
90KM SD	1.736	95% KM (BCA) UCL	N/A
95% KM (t) UCL	3.529	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	3.507	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	4.187	95% KM Chebyshev UCL	4.868
97.5% KM Chebyshev UCL	5.814	99% KM Chebyshev UCL	7.672

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.34	k star (bias corrected MLE)	N/A
Theta hat (MLE)	2.928	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	9.359	nu star (bias corrected)	N/A
Mean (detects)	6.85		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.683	SD (KM)	1.736
Variance (KM)	3.015	SE of Mean (KM)	0.501
k hat (KM)	2.387	k star (KM)	2.211
nu hat (KM)	176.6	nu star (KM)	163.6
theta hat (KM)	1.124	theta star (KM)	1.213
80% gamma percentile (KM)	3.969	90% gamma percentile (KM)	5.097
95% gamma percentile (KM)	6.166	99% gamma percentile (KM)	8.525

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (163.63, α)	135.1	Adjusted Chi Square Value (163.63, β)	133.9
95% KM Approximate Gamma UCL	3.25	95% KM Adjusted Gamma UCL	3.278

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.478	Mean in Log Scale	-2.865
SD in Original Scale	1.838	SD in Log Scale	1.801
95% t UCL (assumes normality of ROS data)	0.988	95% Percentile Bootstrap UCL	1.048
95% BCA Bootstrap UCL	1.477	95% Bootstrap t UCL	4.235
95% H-UCL (Log ROS)	0.811		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.906	KM Geo Mean	2.475
KM SD (logged)	0.313	95% Critical H Value (KM-Log)	1.792
KM Standard Error of Mean (logged)	0.0905	95% H-UCL (KM -Log)	2.854
KM SD (logged)	0.313	95% Critical H Value (KM-Log)	1.792
KM Standard Error of Mean (logged)	0.0905		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	4.227	Mean in Log Scale	0.997
SD in Original Scale	4.616	SD in Log Scale	0.918
95% t UCL (Assumes normality)	5.508	95% H-Stat UCL	5.873

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	3.529

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

4,4'-DDT

General Statistics

Total Number of Observations	37	Number of Distinct Observations	21
Number of Detects	7	Number of Non-Detects	30
Number of Distinct Detects	6	Number of Distinct Non-Detects	17
Minimum Detect	1.2	Minimum Non-Detect	1.2
Maximum Detect	20	Maximum Non-Detect	14
Variance Detects	48.64	Percent Non-Detects	81.08%
Mean Detects	6.3	SD Detects	6.974
Median Detects	2.6	CV Detects	1.107
Skewness Detects	1.501	Kurtosis Detects	1.994
Mean of Logged Detects	1.287	SD of Logged Detects	1.151

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.792	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.274	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.226	KM Standard Error of Mean	0.621
90KM SD	3.462	95% KM (BCA) UCL	3.437
95% KM (t) UCL	3.274	95% KM (Percentile Bootstrap) UCL	3.343
95% KM (z) UCL	3.247	95% KM Bootstrap t UCL	4.192
90% KM Chebyshev UCL	4.089	95% KM Chebyshev UCL	4.932
97.5% KM Chebyshev UCL	6.103	99% KM Chebyshev UCL	8.404

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.538	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.727	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.25	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.319	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	1.038	k star (bias corrected MLE)	0.689
Theta hat (MLE)	6.067	Theta star (bias corrected MLE)	9.149
nu hat (MLE)	14.54	nu star (bias corrected)	9.641
Mean (detects)	6.3		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.2
Maximum	20	Median	0.01
SD	3.787	CV	3.156
k hat (MLE)	0.2	k star (bias corrected MLE)	0.202
Theta hat (MLE)	5.99	Theta star (bias corrected MLE)	5.938
nu hat (MLE)	14.82	nu star (bias corrected)	14.96
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (14.96, α)	7.23	Adjusted Chi Square Value (14.96, β)	6.997
95% Gamma Approximate UCL	2.482	95% Gamma Adjusted UCL	2.565

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.226	SD (KM)	3.462
Variance (KM)	11.98	SE of Mean (KM)	0.621
k hat (KM)	0.413	k star (KM)	0.398
nu hat (KM)	30.6	nu star (KM)	29.45
theta hat (KM)	5.383	theta star (KM)	5.593
80% gamma percentile (KM)	3.59	90% gamma percentile (KM)	6.293
95% gamma percentile (KM)	9.264	99% gamma percentile (KM)	16.74

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (29.45, α)	18.06	Adjusted Chi Square Value (29.45, β)	17.67
95% KM Approximate Gamma UCL	3.629	95% KM Adjusted Gamma UCL	3.709

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.862	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.596	Mean in Log Scale	-0.476
SD in Original Scale	3.672	SD in Log Scale	1.155
95% t UCL (assumes normality of ROS data)	2.616	95% Percentile Bootstrap UCL	2.637
95% BCA Bootstrap UCL	3.129	95% Bootstrap t UCL	4.031
95% H-UCL (Log ROS)	1.986		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.421	KM Geo Mean	1.523
KM SD (logged)	0.643	95% Critical H Value (KM-Log)	2.028
KM Standard Error of Mean (logged)	0.118	95% H-UCL (KM -Log)	2.327
KM SD (logged)	0.643	95% Critical H Value (KM-Log)	2.028
KM Standard Error of Mean (logged)	0.118		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.872	Mean in Log Scale	0.547
SD in Original Scale	3.671	SD in Log Scale	0.97
95% t UCL (Assumes normality)	3.89	95% H-Stat UCL	4.049

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 3.274

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	34
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	33	Number of Distinct Non-Detects	1
Minimum Detect	0.88	Minimum Non-Detect	1.5
Maximum Detect	1400	Maximum Non-Detect	1.5
Variance Detects	138534	Percent Non-Detects	2.703%
Mean Detects	269.4	SD Detects	372.2
Median Detects	85	CV Detects	1.382
Skewness Detects	1.641	Kurtosis Detects	1.783
Mean of Logged Detects	4.266	SD of Logged Detects	2.057

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.732	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.251	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	262.1	KM Standard Error of Mean	60.79
90KM SD	364.6	95% KM (BCA) UCL	368.8
95% KM (t) UCL	364.8	95% KM (Percentile Bootstrap) UCL	365.1
95% KM (z) UCL	362.1	95% KM Bootstrap t UCL	397.4
90% KM Chebyshev UCL	444.5	95% KM Chebyshev UCL	527.1
97.5% KM Chebyshev UCL	641.8	99% KM Chebyshev UCL	867

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.358	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.817	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0844	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.48	k star (bias corrected MLE)	0.459
Theta hat (MLE)	560.7	Theta star (bias corrected MLE)	587
nu hat (MLE)	34.59	nu star (bias corrected)	33.04
Mean (detects)	269.4		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	262.1
Maximum	1400	Median	81
SD	369.7	CV	1.41
k hat (MLE)	0.423	k star (bias corrected MLE)	0.407
Theta hat (MLE)	619.9	Theta star (bias corrected MLE)	644.7
nu hat (MLE)	31.29	nu star (bias corrected)	30.08
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (30.08, α)	18.56	Adjusted Chi Square Value (30.08, β)	18.16
95% Gamma Approximate UCL	424.9	95% Gamma Adjusted UCL	434.1

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	262.1	SD (KM)	364.6
Variance (KM)	132940	SE of Mean (KM)	60.79
k hat (KM)	0.517	k star (KM)	0.493
nu hat (KM)	38.25	nu star (KM)	36.48
theta hat (KM)	507.2	theta star (KM)	531.7
80% gamma percentile (KM)	430.2	90% gamma percentile (KM)	711.3
95% gamma percentile (KM)	1012	99% gamma percentile (KM)	1753

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (36.48, α)	23.65	Adjusted Chi Square Value (36.48, β)	23.2
95% KM Approximate Gamma UCL	404.2	95% KM Adjusted Gamma UCL	412.1

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.94	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0805	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	262.1	Mean in Log Scale	4.167
SD in Original Scale	369.6	SD in Log Scale	2.115
95% t UCL (assumes normality of ROS data)	364.7	95% Percentile Bootstrap UCL	363.1
95% BCA Bootstrap UCL	374	95% Bootstrap t UCL	393.7
95% H-UCL (Log ROS)	2388		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.15	KM Geo Mean	63.44
KM SD (logged)	2.118	95% Critical H Value (KM-Log)	3.904
KM Standard Error of Mean (logged)	0.353	95% H-UCL (KM -Log)	2372
KM SD (logged)	2.118	95% Critical H Value (KM-Log)	3.904
KM Standard Error of Mean (logged)	0.353		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	262.1	Mean in Log Scale	4.143
SD in Original Scale	369.6	SD in Log Scale	2.162
95% t UCL (Assumes normality)	364.7	95% H-Stat UCL	2727

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 412.1

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Alpha-Chlordane

General Statistics

Total Number of Observations	37	Number of Distinct Observations	23
Number of Detects	8	Number of Non-Detects	29
Number of Distinct Detects	8	Number of Distinct Non-Detects	15
Minimum Detect	0.61	Minimum Non-Detect	0.94
Maximum Detect	460	Maximum Non-Detect	20
Variance Detects	26639	Percent Non-Detects	78.38%
Mean Detects	82.33	SD Detects	163.2
Median Detects	6.35	CV Detects	1.983
Skewness Detects	2.266	Kurtosis Detects	5.064
Mean of Logged Detects	2.312	SD of Logged Detects	2.255

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.592	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.749	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.423	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.333	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	18.41	KM Standard Error of Mean	13.8
90KM SD	78.53	95% KM (BCA) UCL	43.55
95% KM (t) UCL	41.71	95% KM (Percentile Bootstrap) UCL	42.9
95% KM (z) UCL	41.11	95% KM Bootstrap t UCL	633.4
90% KM Chebyshev UCL	59.82	95% KM Chebyshev UCL	78.57
97.5% KM Chebyshev UCL	104.6	99% KM Chebyshev UCL	155.7

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.846	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.793	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.371	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.316	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.324	k star (bias corrected MLE)	0.286
Theta hat (MLE)	253.8	Theta star (bias corrected MLE)	287.8
nu hat (MLE)	5.189	nu star (bias corrected)	4.577
Mean (detects)	82.33		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	17.81
Maximum	460	Median	0.01
SD	79.75	CV	4.478
k hat (MLE)	0.131	k star (bias corrected MLE)	0.138
Theta hat (MLE)	136.1	Theta star (bias corrected MLE)	128.8
nu hat (MLE)	9.682	nu star (bias corrected)	10.23
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (10.23, α)	4.087	Adjusted Chi Square Value (10.23, β)	3.919
95% Gamma Approximate UCL	44.58	95% Gamma Adjusted UCL	46.49

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	18.41	SD (KM)	78.53
Variance (KM)	6167	SE of Mean (KM)	13.8
k hat (KM)	0.0549	k star (KM)	0.0685
nu hat (KM)	4.066	nu star (KM)	5.07
theta hat (KM)	335	theta star (KM)	268.7
80% gamma percentile (KM)	6.269	90% gamma percentile (KM)	39.05
95% gamma percentile (KM)	105.6	99% gamma percentile (KM)	350.3

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (5.07, α)	1.185	Adjusted Chi Square Value (5.07, β)	1.107
95% KM Approximate Gamma UCL	78.79	95% KM Adjusted Gamma UCL	84.34

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.906	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.851	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.264	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.265	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	18.05	Mean in Log Scale	-0.798
SD in Original Scale	79.69	SD in Log Scale	2.19
95% t UCL (assumes normality of ROS data)	40.17	95% Percentile Bootstrap UCL	42.38
95% BCA Bootstrap UCL	55.12	95% Bootstrap t UCL	727.4
95% H-UCL (Log ROS)	21.39		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.179	KM Geo Mean	1.197
KM SD (logged)	1.529	95% Critical H Value (KM-Log)	3.058
KM Standard Error of Mean (logged)	0.277	95% H-UCL (KM -Log)	8.4
KM SD (logged)	1.529	95% Critical H Value (KM-Log)	3.058
KM Standard Error of Mean (logged)	0.277		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	19.05	Mean in Log Scale	0.487
SD in Original Scale	79.49	SD in Log Scale	1.605
95% t UCL (Assumes normality)	41.11	95% H-Stat UCL	13.76

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 10% Significance Level

Suggested UCL to Use

KM H-UCL 8.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	30
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	29	Number of Distinct Non-Detects	2
Minimum Detect	0.93	Minimum Non-Detect	1.5
Maximum Detect	210	Maximum Non-Detect	1.6
Variance Detects	4005	Percent Non-Detects	10.81%
Mean Detects	51.62	SD Detects	63.28
Median Detects	25	CV Detects	1.226
Skewness Detects	1.296	Kurtosis Detects	0.337
Mean of Logged Detects	2.971	SD of Logged Detects	1.614

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.763	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.906	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.25	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.177	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	46.14	KM Standard Error of Mean	10.17
90KM SD	60.92	95% KM (BCA) UCL	63.91
95% KM (t) UCL	63.31	95% KM (Percentile Bootstrap) UCL	63.74
95% KM (z) UCL	62.87	95% KM Bootstrap t UCL	68.15
90% KM Chebyshev UCL	76.66	95% KM Chebyshev UCL	90.48
97.5% KM Chebyshev UCL	109.7	99% KM Chebyshev UCL	147.3

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.634	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.799	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.112	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.161	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.631	k star (bias corrected MLE)	0.593
Theta hat (MLE)	81.86	Theta star (bias corrected MLE)	86.99
nu hat (MLE)	41.62	nu star (bias corrected)	39.17
Mean (detects)	51.62		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	46.04
Maximum	210	Median	14
SD	61.84	CV	1.343
k hat (MLE)	0.393	k star (bias corrected MLE)	0.379
Theta hat (MLE)	117.1	Theta star (bias corrected MLE)	121.3
nu hat (MLE)	29.11	nu star (bias corrected)	28.08
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (28.08, α)	16.99	Adjusted Chi Square Value (28.08, β)	16.62
95% Gamma Approximate UCL	76.09	95% Gamma Adjusted UCL	77.81

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	46.14	SD (KM)	60.92
Variance (KM)	3711	SE of Mean (KM)	10.17
k hat (KM)	0.574	k star (KM)	0.545
nu hat (KM)	42.46	nu star (KM)	40.35
theta hat (KM)	80.42	theta star (KM)	84.62
80% gamma percentile (KM)	76	90% gamma percentile (KM)	122.6
95% gamma percentile (KM)	171.9	99% gamma percentile (KM)	292.1

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (40.35, α)	26.8	Adjusted Chi Square Value (40.35, β)	26.32
95% KM Approximate Gamma UCL	69.49	95% KM Adjusted Gamma UCL	70.76

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.942	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.1	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.139	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	46.13	Mean in Log Scale	2.615
SD in Original Scale	61.77	SD in Log Scale	1.846
95% t UCL (assumes normality of ROS data)	63.27	95% Percentile Bootstrap UCL	63.21
95% BCA Bootstrap UCL	64.55	95% Bootstrap t UCL	67.97
95% H-UCL (Log ROS)	220.6		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.645	KM Geo Mean	14.08
KM SD (logged)	1.77	95% Critical H Value (KM-Log)	3.396
KM Standard Error of Mean (logged)	0.296	95% H-UCL (KM -Log)	183.7
KM SD (logged)	1.77	95% Critical H Value (KM-Log)	3.396
KM Standard Error of Mean (logged)	0.296		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	46.12	Mean in Log Scale	2.621
SD in Original Scale	61.77	SD in Log Scale	1.832
95% t UCL (Assumes normality)	63.27	95% H-Stat UCL	213.5

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	70.76

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

gamma-Chlordane

General Statistics

Total Number of Observations	37	Number of Distinct Observations	27
Number of Detects	10	Number of Non-Detects	27
Number of Distinct Detects	9	Number of Distinct Non-Detects	19
Minimum Detect	0.45	Minimum Non-Detect	0.62
Maximum Detect	540	Maximum Non-Detect	13
Variance Detects	29833	Percent Non-Detects	72.97%
Mean Detects	77.19	SD Detects	172.7
Median Detects	6.3	CV Detects	2.238
Skewness Detects	2.629	Kurtosis Detects	7.005
Mean of Logged Detects	2.066	SD of Logged Detects	2.236

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.525	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.781	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.447	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.304	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	21.26	KM Standard Error of Mean	15.9
90KM SD	91.74	95% KM (BCA) UCL	50.41
95% KM (t) UCL	48.1	95% KM (Percentile Bootstrap) UCL	49.99
95% KM (z) UCL	47.41	95% KM Bootstrap t UCL	675.6
90% KM Chebyshev UCL	68.95	95% KM Chebyshev UCL	90.56
97.5% KM Chebyshev UCL	120.5	99% KM Chebyshev UCL	179.4

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.062	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.813	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.362	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.288	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.302	k star (bias corrected MLE)	0.278
Theta hat (MLE)	255.5	Theta star (bias corrected MLE)	277.5
nu hat (MLE)	6.042	nu star (bias corrected)	5.563
Mean (detects)	77.19		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	20.87
Maximum	540	Median	0.01
SD	93.09	CV	4.461
k hat (MLE)	0.134	k star (bias corrected MLE)	0.141
Theta hat (MLE)	156	Theta star (bias corrected MLE)	148.1
nu hat (MLE)	9.899	nu star (bias corrected)	10.43
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (10.43, α)	4.212	Adjusted Chi Square Value (10.43, β)	4.041
95% Gamma Approximate UCL	51.67	95% Gamma Adjusted UCL	53.86

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	21.26	SD (KM)	91.74
Variance (KM)	8415	SE of Mean (KM)	15.9
k hat (KM)	0.0537	k star (KM)	0.0674
nu hat (KM)	3.975	nu star (KM)	4.986
theta hat (KM)	395.8	theta star (KM)	315.6
80% gamma percentile (KM)	6.954	90% gamma percentile (KM)	44.47
95% gamma percentile (KM)	121.7	99% gamma percentile (KM)	407.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.99, α)	1.146	Adjusted Chi Square Value (4.99, β)	1.069
95% KM Approximate Gamma UCL	92.53	95% KM Adjusted Gamma UCL	99.13

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.919	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.869	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.226	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.241	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	20.98	Mean in Log Scale	-1.021
SD in Original Scale	93.06	SD in Log Scale	2.333
95% t UCL (assumes normality of ROS data)	46.81	95% Percentile Bootstrap UCL	49.52
95% BCA Bootstrap UCL	64.54	95% Bootstrap t UCL	705.5
95% H-UCL (Log ROS)	28.34		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.0291	KM Geo Mean	1.03
KM SD (logged)	1.684	95% Critical H Value (KM-Log)	3.274
KM Standard Error of Mean (logged)	0.297	95% H-UCL (KM -Log)	10.66
KM SD (logged)	1.684	95% Critical H Value (KM-Log)	3.274
KM Standard Error of Mean (logged)	0.297		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	21.62	Mean in Log Scale	0.229
SD in Original Scale	92.93	SD in Log Scale	1.77
95% t UCL (Assumes normality)	47.41	95% H-Stat UCL	16.4

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 10% Significance Level

Suggested UCL to Use

KM H-UCL 10.66

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	32
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	32	Number of Distinct Non-Detects	1
Minimum Detect	1.2	Minimum Non-Detect	1.5
Maximum Detect	2000	Maximum Non-Detect	1.5
Variance Detects	242210	Percent Non-Detects	2.703%
Mean Detects	352.6	SD Detects	492.1
Median Detects	110	CV Detects	1.396
Skewness Detects	1.731	Kurtosis Detects	2.518
Mean of Logged Detects	4.519	SD of Logged Detects	2.06

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.729	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.26	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	343.1	KM Standard Error of Mean	80.37
90KM SD	482	95% KM (BCA) UCL	478.1
95% KM (t) UCL	478.8	95% KM (Percentile Bootstrap) UCL	476.4
95% KM (z) UCL	475.3	95% KM Bootstrap t UCL	526.5
90% KM Chebyshev UCL	584.2	95% KM Chebyshev UCL	693.4
97.5% KM Chebyshev UCL	845	99% KM Chebyshev UCL	1143

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.445	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.818	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0955	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.475	k star (bias corrected MLE)	0.454
Theta hat (MLE)	741.6	Theta star (bias corrected MLE)	776
nu hat (MLE)	34.23	nu star (bias corrected)	32.71
Mean (detects)	352.6		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	343.1
Maximum	2000	Median	100
SD	488.7	CV	1.425
k hat (MLE)	0.417	k star (bias corrected MLE)	0.402
Theta hat (MLE)	821.9	Theta star (bias corrected MLE)	854.2
nu hat (MLE)	30.89	nu star (bias corrected)	29.72
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (29.72, α)	18.27	Adjusted Chi Square Value (29.72, β)	17.88
95% Gamma Approximate UCL	558	95% Gamma Adjusted UCL	570.2

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	343.1	SD (KM)	482
Variance (KM)	232364	SE of Mean (KM)	80.37
k hat (KM)	0.507	k star (KM)	0.484
nu hat (KM)	37.49	nu star (KM)	35.78
theta hat (KM)	677.3	theta star (KM)	709.6
80% gamma percentile (KM)	562.6	90% gamma percentile (KM)	934.7
95% gamma percentile (KM)	1334	99% gamma percentile (KM)	2318

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (35.78, α)	23.09	Adjusted Chi Square Value (35.78, β)	22.65
95% KM Approximate Gamma UCL	531.6	95% KM Adjusted Gamma UCL	542

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.94	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0964	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	343.1	Mean in Log Scale	4.411
SD in Original Scale	488.7	SD in Log Scale	2.134
95% t UCL (assumes normality of ROS data)	478.7	95% Percentile Bootstrap UCL	477.7
95% BCA Bootstrap UCL	492	95% Bootstrap t UCL	521.5
95% H-UCL (Log ROS)	3243		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.403	KM Geo Mean	81.67
KM SD (logged)	2.121	95% Critical H Value (KM-Log)	3.909
KM Standard Error of Mean (logged)	0.354	95% H-UCL (KM -Log)	3086
KM SD (logged)	2.121	95% Critical H Value (KM-Log)	3.909
KM Standard Error of Mean (logged)	0.354		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	343.1	Mean in Log Scale	4.389
SD in Original Scale	488.7	SD in Log Scale	2.18
95% t UCL (Assumes normality)	478.7	95% H-Stat UCL	3698

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 542

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

gamma-BHC (Lindane)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	24
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	22
Minimum Detect	2.1	Minimum Non-Detect	0.62
Maximum Detect	2.8	Maximum Non-Detect	69
Variance Detects	0.245	Percent Non-Detects	94.59%
Mean Detects	2.45	SD Detects	0.495
Median Detects	2.45	CV Detects	0.202
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	0.886	SD of Logged Detects	0.203

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.786	KM Standard Error of Mean	0.162
90KM SD	0.537	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.059	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1.052	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.272	95% KM Chebyshev UCL	1.492
97.5% KM Chebyshev UCL	1.797	99% KM Chebyshev UCL	2.396

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	48.66	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0503	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	194.7	nu star (bias corrected)	N/A
Mean (detects)	2.45		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.786	SD (KM)	0.537
Variance (KM)	0.288	SE of Mean (KM)	0.162
k hat (KM)	2.148	k star (KM)	1.992
nu hat (KM)	158.9	nu star (KM)	147.4
theta hat (KM)	0.366	theta star (KM)	0.395
80% gamma percentile (KM)	1.178	90% gamma percentile (KM)	1.531
95% gamma percentile (KM)	1.868	99% gamma percentile (KM)	2.615

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (147.39, α)	120.3	Adjusted Chi Square Value (147.39, β)	119.3
95% KM Approximate Gamma UCL	0.963	95% KM Adjusted Gamma UCL	0.972

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.636	Mean in Log Scale	-0.6
SD in Original Scale	0.479	SD in Log Scale	0.486
95% t UCL (assumes normality of ROS data)	0.769	95% Percentile Bootstrap UCL	0.78
95% BCA Bootstrap UCL	0.824	95% Bootstrap t UCL	0.952
95% H-UCL (Log ROS)	0.72		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.354	KM Geo Mean	0.702
KM SD (logged)	0.394	95% Critical H Value (KM-Log)	1.84
KM Standard Error of Mean (logged)	0.119	95% H-UCL (KM -Log)	0.856
KM SD (logged)	0.394	95% Critical H Value (KM-Log)	1.84
KM Standard Error of Mean (logged)	0.119		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.505	Mean in Log Scale	-0.095
SD in Original Scale	6.094	SD in Log Scale	1.212
95% t UCL (Assumes normality)	4.196	95% H-Stat UCL	3.233

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 1.059

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Dieldrin

General Statistics

Total Number of Observations	37	Number of Distinct Observations	21
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	19
Minimum Detect	0.54	Minimum Non-Detect	1.2
Maximum Detect	2.5	Maximum Non-Detect	140
Variance Detects	1.921	Percent Non-Detects	94.59%
Mean Detects	1.52	SD Detects	1.386
Median Detects	1.52	CV Detects	0.912
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	0.15	SD of Logged Detects	1.084

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.633	KM Standard Error of Mean	0.129
90KM SD	0.417	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.851	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.845	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.02	95% KM Chebyshev UCL	1.195
97.5% KM Chebyshev UCL	1.438	99% KM Chebyshev UCL	1.915

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.012	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.756	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	8.047	nu star (bias corrected)	N/A
Mean (detects)	1.52		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.633	SD (KM)	0.417
Variance (KM)	0.174	SE of Mean (KM)	0.129
k hat (KM)	2.302	k star (KM)	2.134
nu hat (KM)	170.4	nu star (KM)	157.9
theta hat (KM)	0.275	theta star (KM)	0.297
80% gamma percentile (KM)	0.941	90% gamma percentile (KM)	1.213
95% gamma percentile (KM)	1.472	99% gamma percentile (KM)	2.044

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (157.89, α)	129.8	Adjusted Chi Square Value (157.89, β)	128.7
95% KM Approximate Gamma UCL	0.77	95% KM Adjusted Gamma UCL	0.777

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.635	Mean in Log Scale	-0.561
SD in Original Scale	0.378	SD in Log Scale	0.437
95% t UCL (assumes normality of ROS data)	0.74	95% Percentile Bootstrap UCL	0.748
95% BCA Bootstrap UCL	0.79	95% Bootstrap t UCL	0.824
95% H-UCL (Log ROS)	0.719		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.543	KM Geo Mean	0.581
KM SD (logged)	0.326	95% Critical H Value (KM-Log)	1.8
KM Standard Error of Mean (logged)	0.101	95% H-UCL (KM -Log)	0.676
KM SD (logged)	0.326	95% Critical H Value (KM-Log)	1.8
KM Standard Error of Mean (logged)	0.101		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	4.056	Mean in Log Scale	0.459
SD in Original Scale	11.41	SD in Log Scale	1.107
95% t UCL (Assumes normality)	7.224	95% H-Stat UCL	4.641

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	0.851

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

4,4'-DDE

General Statistics

Total Number of Observations	37	Number of Distinct Observations	22
Number of Detects	10	Number of Non-Detects	27
Number of Distinct Detects	9	Number of Distinct Non-Detects	16
Minimum Detect	1.1	Minimum Non-Detect	1.4
Maximum Detect	240	Maximum Non-Detect	160
Variance Detects	5598	Percent Non-Detects	72.97%
Mean Detects	27.12	SD Detects	74.82
Median Detects	3.9	CV Detects	2.759
Skewness Detects	3.158	Kurtosis Detects	9.982
Mean of Logged Detects	1.521	SD of Logged Detects	1.509

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.389	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.781	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.503	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.304	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	8.39	KM Standard Error of Mean	6.697
90KM SD	38.63	95% KM (BCA) UCL	21.73
95% KM (t) UCL	19.7	95% KM (Percentile Bootstrap) UCL	21.3
95% KM (z) UCL	19.4	95% KM Bootstrap t UCL	203.1
90% KM Chebyshev UCL	28.48	95% KM Chebyshev UCL	37.58
97.5% KM Chebyshev UCL	50.21	99% KM Chebyshev UCL	75.02

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.131	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.8	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.429	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.285	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.374	k star (bias corrected MLE)	0.328
Theta hat (MLE)	72.53	Theta star (bias corrected MLE)	82.58
nu hat (MLE)	7.478	nu star (bias corrected)	6.568
Mean (detects)	27.12		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	7.337
Maximum	240	Median	0.01
SD	39.35	CV	5.364
k hat (MLE)	0.155	k star (bias corrected MLE)	0.16
Theta hat (MLE)	47.4	Theta star (bias corrected MLE)	45.78
nu hat (MLE)	11.45	nu star (bias corrected)	11.86
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (11.86, α)	5.135	Adjusted Chi Square Value (11.86, β)	4.943
95% Gamma Approximate UCL	16.95	95% Gamma Adjusted UCL	17.6

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	8.39	SD (KM)	38.63
Variance (KM)	1492	SE of Mean (KM)	6.697
k hat (KM)	0.0472	k star (KM)	0.0614
nu hat (KM)	3.49	nu star (KM)	4.54
theta hat (KM)	177.9	theta star (KM)	136.7
80% gamma percentile (KM)	2.155	90% gamma percentile (KM)	16.13
95% gamma percentile (KM)	47.24	99% gamma percentile (KM)	167.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.54, α)	0.946	Adjusted Chi Square Value (4.54, β)	0.879
95% KM Approximate Gamma UCL	40.27	95% KM Adjusted Gamma UCL	43.34

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.736	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.869	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.299	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.241	Detected Data Not Lognormal at 10% Significance Level

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	7.805	Mean in Log Scale	-0.0583
SD in Original Scale	39.27	SD in Log Scale	1.377
95% t UCL (assumes normality of ROS data)	18.7	95% Percentile Bootstrap UCL	20.64
95% BCA Bootstrap UCL	27.29	95% Bootstrap t UCL	237.7
95% H-UCL (Log ROS)	4.69		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.596	KM Geo Mean	1.816
KM SD (logged)	0.996	95% Critical H Value (KM-Log)	2.385
KM Standard Error of Mean (logged)	0.185	95% H-UCL (KM -Log)	4.429
KM SD (logged)	0.996	95% Critical H Value (KM-Log)	2.385
KM Standard Error of Mean (logged)	0.185		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	12.11	Mean in Log Scale	0.954
SD in Original Scale	40.96	SD in Log Scale	1.358
95% t UCL (Assumes normality)	23.48	95% H-Stat UCL	12.39

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	19.7

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Lead

General Statistics

Total Number of Observations	37	Number of Distinct Observations	30
		Number of Missing Observations	0
Minimum	3.9	Mean	41.46
Maximum	400	Median	15
SD	72.97	Std. Error of Mean	12
Coefficient of Variation	1.76	Skewness	3.773

Normal GOF Test

Shapiro Wilk Test Statistic	0.523	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.814	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.303	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.168	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	61.72	95% Adjusted-CLT UCL (Chen-1995)	69.15
		95% Modified-t UCL (Johnson-1978)	62.96

Gamma GOF Test

A-D Test Statistic	2.566	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.786	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.239	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.15	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.809	k star (bias corrected MLE)	0.762
Theta hat (MLE)	51.23	Theta star (bias corrected MLE)	54.43
nu hat (MLE)	59.89	nu star (bias corrected)	56.37
MLE Mean (bias corrected)	41.46	MLE Sd (bias corrected)	47.51
		Approximate Chi Square Value (0.05)	40.11
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	39.52

Assuming Gamma Distribution

95% Approximate Gamma UCL	58.27	95% Adjusted Gamma UCL	59.15

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.924	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.946	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.157	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.132	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.361	Mean of logged Data	2.993
Maximum of Logged Data	5.991	SD of logged Data	1.088

Assuming Lognormal Distribution

95% H-UCL	56.57	90% Chebyshev (MVUE) UCL	57.49
95% Chebyshev (MVUE) UCL	67.6	97.5% Chebyshev (MVUE) UCL	81.64
99% Chebyshev (MVUE) UCL	109.2		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	61.2	95% BCA Bootstrap UCL	70.51
95% Standard Bootstrap UCL	61.02	95% Bootstrap-t UCL	83.33
95% Hall's Bootstrap UCL	130.9	95% Percentile Bootstrap UCL	62.61
90% Chebyshev(Mean, Sd) UCL	77.46	95% Chebyshev(Mean, Sd) UCL	93.76
97.5% Chebyshev(Mean, Sd) UCL	116.4	99% Chebyshev(Mean, Sd) UCL	160.8

Suggested UCL to Use

95% Student's-t UCL 61.72

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Mercury

General Statistics

Total Number of Observations	37	Number of Distinct Observations	30
Number of Detects	28	Number of Non-Detects	9
Number of Distinct Detects	26	Number of Distinct Non-Detects	4
Minimum Detect	0.022	Minimum Non-Detect	0.041
Maximum Detect	0.49	Maximum Non-Detect	0.044
Variance Detects	0.0119	Percent Non-Detects	24.32%
Mean Detects	0.116	SD Detects	0.109
Median Detects	0.071	CV Detects	0.944
Skewness Detects	1.887	Kurtosis Detects	4.135
Mean of Logged Detects	-2.524	SD of Logged Detects	0.867

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.786	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.896	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.218	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.191	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0949	KM Standard Error of Mean	0.0168
90KM SD	0.1	95% KM (BCA) UCL	0.125
95% KM (t) UCL	0.123	95% KM (Percentile Bootstrap) UCL	0.123
95% KM (z) UCL	0.123	95% KM Bootstrap t UCL	0.133
90% KM Chebyshev UCL	0.145	95% KM Chebyshev UCL	0.168
97.5% KM Chebyshev UCL	0.2	99% KM Chebyshev UCL	0.262

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.678	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.763	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.143	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.168	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.505	k star (bias corrected MLE)	1.368
Theta hat (MLE)	0.0769	Theta star (bias corrected MLE)	0.0847
nu hat (MLE)	84.28	nu star (bias corrected)	76.59
Mean (detects)	0.116		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.0913
Maximum	0.49	Median	0.057
SD	0.104	CV	1.143
k hat (MLE)	1.024	k star (bias corrected MLE)	0.959
Theta hat (MLE)	0.0891	Theta star (bias corrected MLE)	0.0952
nu hat (MLE)	75.81	nu star (bias corrected)	71
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (71.00, α)	52.6	Adjusted Chi Square Value (71.00, β)	51.91
95% Gamma Approximate UCL	0.123	95% Gamma Adjusted UCL	0.125

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0949	SD (KM)	0.1
Variance (KM)	0.0101	SE of Mean (KM)	0.0168
k hat (KM)	0.893	k star (KM)	0.838
nu hat (KM)	66.05	nu star (KM)	62.03
theta hat (KM)	0.106	theta star (KM)	0.113
80% gamma percentile (KM)	0.155	90% gamma percentile (KM)	0.228
95% gamma percentile (KM)	0.303	99% gamma percentile (KM)	0.478

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (62.03, α)	44.92	Adjusted Chi Square Value (62.03, β)	44.28
95% KM Approximate Gamma UCL	0.131	95% KM Adjusted Gamma UCL	0.133

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.936	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.11	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.151	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.095	Mean in Log Scale	-2.769
SD in Original Scale	0.102	SD in Log Scale	0.881
95% t UCL (assumes normality of ROS data)	0.123	95% Percentile Bootstrap UCL	0.124
95% BCA Bootstrap UCL	0.127	95% Bootstrap t UCL	0.137
95% H-UCL (Log ROS)	0.129		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.77	KM Geo Mean	0.0627
KM SD (logged)	0.864	95% Critical H Value (KM-Log)	2.241
KM Standard Error of Mean (logged)	0.147	95% H-UCL (KM -Log)	0.126
KM SD (logged)	0.864	95% Critical H Value (KM-Log)	2.241
KM Standard Error of Mean (logged)	0.147		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0928	Mean in Log Scale	-2.846
SD in Original Scale	0.103	SD in Log Scale	0.947
95% t UCL (Assumes normality)	0.121	95% H-Stat UCL	0.131

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	0.133	95% GROS Adjusted Gamma UCL	0.125

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Nickel

General Statistics

Total Number of Observations	37	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	7.9	Mean	14.85
Maximum	23	Median	15
SD	3.748	Std. Error of Mean	0.616
Coefficient of Variation	0.252	Skewness	0.324

Normal GOF Test

Shapiro Wilk Test Statistic	0.968	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.105	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.168	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	15.89	95% Adjusted-CLT UCL (Chen-1995)	15.89
		95% Modified-t UCL (Johnson-1978)	15.89

Gamma GOF Test

A-D Test Statistic	0.25	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.747	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0823	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.145	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	15.91	k star (bias corrected MLE)	14.64
Theta hat (MLE)	0.933	Theta star (bias corrected MLE)	1.014
nu hat (MLE)	1177	nu star (bias corrected)	1083
MLE Mean (bias corrected)	14.85	MLE Sd (bias corrected)	3.88
		Approximate Chi Square Value (0.05)	1008
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	1005

Assuming Gamma Distribution

95% Approximate Gamma UCL	15.96	95% Adjusted Gamma UCL	16.01

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.975	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.946	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.0801	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.132	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.067	Mean of logged Data	2.666
Maximum of Logged Data	3.135	SD of logged Data	0.258

Assuming Lognormal Distribution

95% H-UCL	16.04	90% Chebyshev (MVUE) UCL	16.77
95% Chebyshev (MVUE) UCL	17.64	97.5% Chebyshev (MVUE) UCL	18.85
99% Chebyshev (MVUE) UCL	21.22		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	15.86	95% BCA Bootstrap UCL	15.89
95% Standard Bootstrap UCL	15.83	95% Bootstrap-t UCL	15.91
95% Hall's Bootstrap UCL	15.9	95% Percentile Bootstrap UCL	15.83
90% Chebyshev(Mean, Sd) UCL	16.69	95% Chebyshev(Mean, Sd) UCL	17.53
97.5% Chebyshev(Mean, Sd) UCL	18.69	99% Chebyshev(Mean, Sd) UCL	20.98

Suggested UCL to Use

95% Student's-t UCL	15.89

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Silver

General Statistics

Total Number of Observations	37	Number of Distinct Observations	30
Number of Detects	15	Number of Non-Detects	22
Number of Distinct Detects	14	Number of Distinct Non-Detects	18
Minimum Detect	0.032	Minimum Non-Detect	0.059
Maximum Detect	0.32	Maximum Non-Detect	0.092
Variance Detects	0.0061	Percent Non-Detects	59.46%
Mean Detects	0.0829	SD Detects	0.0781
Median Detects	0.047	CV Detects	0.942
Skewness Detects	2.478	Kurtosis Detects	6.222
Mean of Logged Detects	-2.744	SD of Logged Detects	0.659

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.647	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.294	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0605	KM Standard Error of Mean	0.00918
90KM SD	0.0522	95% KM (BCA) UCL	0.0784
95% KM (t) UCL	0.076	95% KM (Percentile Bootstrap) UCL	0.0764
95% KM (z) UCL	0.0756	95% KM Bootstrap t UCL	0.0928
90% KM Chebyshev UCL	0.0881	95% KM Chebyshev UCL	0.101
97.5% KM Chebyshev UCL	0.118	99% KM Chebyshev UCL	0.152

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.212	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.747	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.23	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.224	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.123	k star (bias corrected MLE)	1.743
Theta hat (MLE)	0.039	Theta star (bias corrected MLE)	0.0476
nu hat (MLE)	63.69	nu star (bias corrected)	52.28
Mean (detects)	0.0829		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0158	Mean	0.0572
Maximum	0.32	Median	0.0411
SD	0.0541	CV	0.946
k hat (MLE)	2.663	k star (bias corrected MLE)	2.465
Theta hat (MLE)	0.0215	Theta star (bias corrected MLE)	0.0232
nu hat (MLE)	197.1	nu star (bias corrected)	182.4
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (182.44, α)	152.2	Adjusted Chi Square Value (182.44, β)	151
95% Gamma Approximate UCL	0.0686	95% Gamma Adjusted UCL	0.0691

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0605	SD (KM)	0.0522
Variance (KM)	0.00272	SE of Mean (KM)	0.00918
k hat (KM)	1.345	k star (KM)	1.254
nu hat (KM)	99.53	nu star (KM)	92.8
theta hat (KM)	0.045	theta star (KM)	0.0483
80% gamma percentile (KM)	0.0954	90% gamma percentile (KM)	0.132
95% gamma percentile (KM)	0.168	99% gamma percentile (KM)	0.249

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (92.80, α)	71.58	Adjusted Chi Square Value (92.80, β)	70.77
95% KM Approximate Gamma UCL	0.0785	95% KM Adjusted Gamma UCL	0.0794

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.861	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.901	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.216	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.202	Detected Data Not Lognormal at 10% Significance Level

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0615	Mean in Log Scale	-2.937
SD in Original Scale	0.0522	SD in Log Scale	0.457
95% t UCL (assumes normality of ROS data)	0.076	95% Percentile Bootstrap UCL	0.0767
95% BCA Bootstrap UCL	0.0821	95% Bootstrap t UCL	0.107
95% H-UCL (Log ROS)	0.0679		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.969	KM Geo Mean	0.0513
KM SD (logged)	0.481	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0951	95% H-UCL (KM -Log)	0.0671
KM SD (logged)	0.481	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0951		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0572	Mean in Log Scale	-3.034
SD in Original Scale	0.0533	SD in Log Scale	0.486
95% t UCL (Assumes normality)	0.072	95% H-Stat UCL	0.0631

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	0.076

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Thallium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	20
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	19	Number of Distinct Non-Detects	1
Minimum Detect	0.039	Minimum Non-Detect	0.085
Maximum Detect	0.22	Maximum Non-Detect	0.085
Variance Detects	0.00168	Percent Non-Detects	2.703%
Mean Detects	0.107	SD Detects	0.041
Median Detects	0.1	CV Detects	0.382
Skewness Detects	0.309	Kurtosis Detects	0.0127
Mean of Logged Detects	-2.31	SD of Logged Detects	0.421

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.912	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.181	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.106	KM Standard Error of Mean	0.00679
90KM SD	0.0407	95% KM (BCA) UCL	0.118
95% KM (t) UCL	0.118	95% KM (Percentile Bootstrap) UCL	0.117
95% KM (z) UCL	0.117	95% KM Bootstrap t UCL	0.118
90% KM Chebyshev UCL	0.127	95% KM Chebyshev UCL	0.136
97.5% KM Chebyshev UCL	0.149	99% KM Chebyshev UCL	0.174

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.918	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.75	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.208	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.147	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	6.459	k star (bias corrected MLE)	5.94
Theta hat (MLE)	0.0166	Theta star (bias corrected MLE)	0.0181
nu hat (MLE)	465.1	nu star (bias corrected)	427.7
Mean (detects)	0.107		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.039	Mean	0.106
Maximum	0.22	Median	0.1
SD	0.041	CV	0.385
k hat (MLE)	6.434	k star (bias corrected MLE)	5.931
Theta hat (MLE)	0.0165	Theta star (bias corrected MLE)	0.0179
nu hat (MLE)	476.1	nu star (bias corrected)	438.9
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (438.86, α)	391.3	Adjusted Chi Square Value (438.86, β)	389.4
95% Gamma Approximate UCL	0.119	95% Gamma Adjusted UCL	0.12

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.106	SD (KM)	0.0407
Variance (KM)	0.00165	SE of Mean (KM)	0.00679
k hat (KM)	6.824	k star (KM)	6.289
nu hat (KM)	505	nu star (KM)	465.4
theta hat (KM)	0.0156	theta star (KM)	0.0169
80% gamma percentile (KM)	0.139	90% gamma percentile (KM)	0.163
95% gamma percentile (KM)	0.184	99% gamma percentile (KM)	0.229

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (465.35, α)	416.3	Adjusted Chi Square Value (465.35, β)	414.3
95% KM Approximate Gamma UCL	0.119	95% KM Adjusted Gamma UCL	0.119

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.932	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.945	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.212	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.134	Detected Data Not Lognormal at 10% Significance Level	

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.106	Mean in Log Scale	-2.321
SD in Original Scale	0.0411	SD in Log Scale	0.42
95% t UCL (assumes normality of ROS data)	0.118	95% Percentile Bootstrap UCL	0.118
95% BCA Bootstrap UCL	0.117	95% Bootstrap t UCL	0.118
95% H-UCL (Log ROS)	0.122		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.324	KM Geo Mean	0.0979
KM SD (logged)	0.419	95% Critical H Value (KM-Log)	1.855
KM Standard Error of Mean (logged)	0.0701	95% H-UCL (KM -Log)	0.122
KM SD (logged)	0.419	95% Critical H Value (KM-Log)	1.855
KM Standard Error of Mean (logged)	0.0701		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.106	Mean in Log Scale	-2.333
SD in Original Scale	0.0419	SD in Log Scale	0.437
95% t UCL (Assumes normality)	0.117	95% H-Stat UCL	0.122

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.118

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Antimony

General Statistics

Total Number of Observations	37	Number of Distinct Observations	16
Number of Detects	35	Number of Non-Detects	2
Number of Distinct Detects	16	Number of Distinct Non-Detects	1
Minimum Detect	0.086	Minimum Non-Detect	0.17
Maximum Detect	0.53	Maximum Non-Detect	0.17
Variance Detects	0.00813	Percent Non-Detects	5.405%
Mean Detects	0.161	SD Detects	0.0902
Median Detects	0.13	CV Detects	0.56
Skewness Detects	2.925	Kurtosis Detects	9.487
Mean of Logged Detects	-1.92	SD of Logged Detects	0.397

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.654	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.91	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.234	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.172	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.159	KM Standard Error of Mean	0.0145
90KM SD	0.087	95% KM (BCA) UCL	0.185
95% KM (t) UCL	0.183	95% KM (Percentile Bootstrap) UCL	0.184
95% KM (z) UCL	0.183	95% KM Bootstrap t UCL	0.205
90% KM Chebyshev UCL	0.202	95% KM Chebyshev UCL	0.222
97.5% KM Chebyshev UCL	0.25	99% KM Chebyshev UCL	0.303

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.085	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.75	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.194	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.149	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	5.479	k star (bias corrected MLE)	5.028
Theta hat (MLE)	0.0294	Theta star (bias corrected MLE)	0.032
nu hat (MLE)	383.5	nu star (bias corrected)	352
Mean (detects)	0.161		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.086	Mean	0.159
Maximum	0.53	Median	0.13
SD	0.0883	CV	0.556
k hat (MLE)	5.599	k star (bias corrected MLE)	5.163
Theta hat (MLE)	0.0284	Theta star (bias corrected MLE)	0.0308
nu hat (MLE)	414.3	nu star (bias corrected)	382.1
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (382.06, α)	337.8	Adjusted Chi Square Value (382.06, β)	336
95% Gamma Approximate UCL	0.18	95% Gamma Adjusted UCL	0.181

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.159	SD (KM)	0.087
Variance (KM)	0.00758	SE of Mean (KM)	0.0145
k hat (KM)	3.329	k star (KM)	3.077
nu hat (KM)	246.4	nu star (KM)	227.7
theta hat (KM)	0.0477	theta star (KM)	0.0516
80% gamma percentile (KM)	0.226	90% gamma percentile (KM)	0.28
95% gamma percentile (KM)	0.331	99% gamma percentile (KM)	0.441

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (227.73, α)	193.8	Adjusted Chi Square Value (227.73, β)	192.4
95% KM Approximate Gamma UCL	0.187	95% KM Adjusted Gamma UCL	0.188

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.862	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.944	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.163	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.136	Detected Data Not Lognormal at 10% Significance Level	

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.159	Mean in Log Scale	-1.929
SD in Original Scale	0.0881	SD in Log Scale	0.389
95% t UCL (assumes normality of ROS data)	0.184	95% Percentile Bootstrap UCL	0.184
95% BCA Bootstrap UCL	0.191	95% Bootstrap t UCL	0.207
95% H-UCL (Log ROS)	0.176		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.932	KM Geo Mean	0.145
KM SD (logged)	0.385	95% Critical H Value (KM-Log)	1.834
KM Standard Error of Mean (logged)	0.0645	95% H-UCL (KM -Log)	0.176
KM SD (logged)	0.385	95% Critical H Value (KM-Log)	1.834
KM Standard Error of Mean (logged)	0.0645		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.157	Mean in Log Scale	-1.95
SD in Original Scale	0.0894	SD in Log Scale	0.406
95% t UCL (Assumes normality)	0.182	95% H-Stat UCL	0.175

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	0.183

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Arsenic

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
		Number of Missing Observations	0
Minimum	1.8	Mean	4.351
Maximum	13	Median	3.8
SD	2.128	Std. Error of Mean	0.35
Coefficient of Variation	0.489	Skewness	2.14

Normal GOF Test

Shapiro Wilk Test Statistic	0.826	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.173	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.168	Data Not Normal at 1% Significance Level

Data appear Approximate Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	4.942	95% Adjusted-CLT UCL (Chen-1995)	5.058
		95% Modified-t UCL (Johnson-1978)	4.962

Gamma GOF Test

A-D Test Statistic	0.549	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.75	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.11	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.145	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	5.651	k star (bias corrected MLE)	5.211
Theta hat (MLE)	0.77	Theta star (bias corrected MLE)	0.835
nu hat (MLE)	418.2	nu star (bias corrected)	385.6
MLE Mean (bias corrected)	4.351	MLE Sd (bias corrected)	1.906
		Approximate Chi Square Value (0.05)	341.1
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	339.3

Assuming Gamma Distribution

95% Approximate Gamma UCL	4.919	95% Adjusted Gamma UCL	4.946

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.977	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.946	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0829	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.132	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.588	Mean of logged Data	1.379
Maximum of Logged Data	2.565	SD of logged Data	0.417

Assuming Lognormal Distribution

95% H-UCL	4.93	90% Chebyshev (MVUE) UCL	5.242
95% Chebyshev (MVUE) UCL	5.658	97.5% Chebyshev (MVUE) UCL	6.236
99% Chebyshev (MVUE) UCL	7.371		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	4.927	95% BCA Bootstrap UCL	5.086
95% Standard Bootstrap UCL	4.924	95% Bootstrap-t UCL	5.135
95% Hall's Bootstrap UCL	5.334	95% Percentile Bootstrap UCL	4.989
90% Chebyshev(Mean, Sd) UCL	5.401	95% Chebyshev(Mean, Sd) UCL	5.876
97.5% Chebyshev(Mean, Sd) UCL	6.536	99% Chebyshev(Mean, Sd) UCL	7.831

Suggested UCL to Use

95% Student's-t UCL 4.942

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Beryllium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
		Number of Missing Observations	0
Minimum	0.051	Mean	0.602
Maximum	0.96	Median	0.58
SD	0.182	Std. Error of Mean	0.0299
Coefficient of Variation	0.302	Skewness	-0.629

Normal GOF Test

Shapiro Wilk Test Statistic	0.969	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.117	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.168	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.652	95% Adjusted-CLT UCL (Chen-1995)	0.648
		95% Modified-t UCL (Johnson-1978)	0.652

Gamma GOF Test

A-D Test Statistic	1.566	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.75	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.19	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.145	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.681	k star (bias corrected MLE)	6.157
Theta hat (MLE)	0.0901	Theta star (bias corrected MLE)	0.0978
nu hat (MLE)	494.4	nu star (bias corrected)	455.7
MLE Mean (bias corrected)	0.602	MLE Sd (bias corrected)	0.243
		Approximate Chi Square Value (0.05)	407.2
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	405.2

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.674	95% Adjusted Gamma UCL	0.677

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.689	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.946	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.219	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.132	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.976	Mean of logged Data	-0.584
Maximum of Logged Data	-0.0408	SD of logged Data	0.489

Assuming Lognormal Distribution

95% H-UCL	0.734	90% Chebyshev (MVUE) UCL	0.784
95% Chebyshev (MVUE) UCL	0.855	97.5% Chebyshev (MVUE) UCL	0.954
99% Chebyshev (MVUE) UCL	1.149		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.651	95% BCA Bootstrap UCL	0.645
95% Standard Bootstrap UCL	0.65	95% Bootstrap-t UCL	0.648
95% Hall's Bootstrap UCL	0.648	95% Percentile Bootstrap UCL	0.649
90% Chebyshev(Mean, Sd) UCL	0.692	95% Chebyshev(Mean, Sd) UCL	0.732
97.5% Chebyshev(Mean, Sd) UCL	0.788	99% Chebyshev(Mean, Sd) UCL	0.899

Suggested UCL to Use

95% Student's-t UCL 0.652

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Cadmium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	28
Number of Detects	34	Number of Non-Detects	3
Number of Distinct Detects	27	Number of Distinct Non-Detects	3
Minimum Detect	0.041	Minimum Non-Detect	0.08
Maximum Detect	0.33	Maximum Non-Detect	0.086
Variance Detects	0.00405	Percent Non-Detects	8.108%
Mean Detects	0.0909	SD Detects	0.0637
Median Detects	0.0685	CV Detects	0.7
Skewness Detects	2.727	Kurtosis Detects	7.698
Mean of Logged Detects	-2.541	SD of Logged Detects	0.487

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.647	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.908	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.264	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.175	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0885	KM Standard Error of Mean	0.0102
90KM SD	0.0608	95% KM (BCA) UCL	0.107
95% KM (t) UCL	0.106	95% KM (Percentile Bootstrap) UCL	0.106
95% KM (z) UCL	0.105	95% KM Bootstrap t UCL	0.12
90% KM Chebyshev UCL	0.119	95% KM Chebyshev UCL	0.133
97.5% KM Chebyshev UCL	0.152	99% KM Chebyshev UCL	0.19

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.243	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.752	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.206	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.152	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.654	k star (bias corrected MLE)	3.352
Theta hat (MLE)	0.0249	Theta star (bias corrected MLE)	0.0271
nu hat (MLE)	248.5	nu star (bias corrected)	227.9
Mean (detects)	0.0909		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.041	Mean	0.0883
Maximum	0.33	Median	0.065
SD	0.0616	CV	0.698
k hat (MLE)	3.778	k star (bias corrected MLE)	3.49
Theta hat (MLE)	0.0234	Theta star (bias corrected MLE)	0.0253
nu hat (MLE)	279.6	nu star (bias corrected)	258.2
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (258.24, α)	222	Adjusted Chi Square Value (258.24, β)	220.6
95% Gamma Approximate UCL	0.103	95% Gamma Adjusted UCL	0.103

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0885	SD (KM)	0.0608
Variance (KM)	0.00369	SE of Mean (KM)	0.0102
k hat (KM)	2.12	k star (KM)	1.966
nu hat (KM)	156.9	nu star (KM)	145.5
theta hat (KM)	0.0417	theta star (KM)	0.045
80% gamma percentile (KM)	0.133	90% gamma percentile (KM)	0.173
95% gamma percentile (KM)	0.211	99% gamma percentile (KM)	0.296

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (145.51, α)	118.6	Adjusted Chi Square Value (145.51, β)	117.6
95% KM Approximate Gamma UCL	0.109	95% KM Adjusted Gamma UCL	0.11

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.943	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.185	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.137	Detected Data Not Lognormal at 10% Significance Level	

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0887	Mean in Log Scale	-2.559
SD in Original Scale	0.0615	SD in Log Scale	0.47
95% t UCL (assumes normality of ROS data)	0.106	95% Percentile Bootstrap UCL	0.105
95% BCA Bootstrap UCL	0.11	95% Bootstrap t UCL	0.12
95% H-UCL (Log ROS)	0.1		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.563	KM Geo Mean	0.0771
KM SD (logged)	0.469	95% Critical H Value (KM-Log)	1.89
KM Standard Error of Mean (logged)	0.0787	95% H-UCL (KM -Log)	0.0997
KM SD (logged)	0.469	95% Critical H Value (KM-Log)	1.89
KM Standard Error of Mean (logged)	0.0787		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.087	Mean in Log Scale	-2.592
SD in Original Scale	0.0625	SD in Log Scale	0.498
95% t UCL (Assumes normality)	0.104	95% H-Stat UCL	0.0993

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	0.106

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chromium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	7	Mean	18.6
Maximum	48	Median	17
SD	7.448	Std. Error of Mean	1.224
Coefficient of Variation	0.4	Skewness	2.15

Normal GOF Test

Shapiro Wilk Test Statistic	0.81	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.814	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.189	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.168	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	20.66	95% Adjusted-CLT UCL (Chen-1995)	21.07
		95% Modified-t UCL (Johnson-1978)	20.74

Gamma GOF Test

A-D Test Statistic	1.102	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.749	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.136	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.145	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	8.167	k star (bias corrected MLE)	7.523
Theta hat (MLE)	2.277	Theta star (bias corrected MLE)	2.472
nu hat (MLE)	604.3	nu star (bias corrected)	556.7
MLE Mean (bias corrected)	18.6	MLE Sd (bias corrected)	6.781
		Approximate Chi Square Value (0.05)	503
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	500.7

Assuming Gamma Distribution

95% Approximate Gamma UCL	20.58	95% Adjusted Gamma UCL	20.67

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.948	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.946	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.127	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.132	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.946	Mean of logged Data	2.861
Maximum of Logged Data	3.871	SD of logged Data	0.348

Assuming Lognormal Distribution

95% H-UCL	20.62	90% Chebyshev (MVUE) UCL	21.79
95% Chebyshev (MVUE) UCL	23.26	97.5% Chebyshev (MVUE) UCL	25.31
99% Chebyshev (MVUE) UCL	29.33		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	20.61	95% BCA Bootstrap UCL	21.27
95% Standard Bootstrap UCL	20.61	95% Bootstrap-t UCL	21.59
95% Hall's Bootstrap UCL	22.35	95% Percentile Bootstrap UCL	20.65
90% Chebyshev(Mean, Sd) UCL	22.27	95% Chebyshev(Mean, Sd) UCL	23.93
97.5% Chebyshev(Mean, Sd) UCL	26.24	99% Chebyshev(Mean, Sd) UCL	30.78

Suggested UCL to Use

95% Adjusted Gamma UCL	20.67

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Copper

General Statistics

Total Number of Observations	37	Number of Distinct Observations	21
		Number of Missing Observations	0
Minimum	6.2	Mean	15.49
Maximum	27	Median	15
SD	5.551	Std. Error of Mean	0.913
Coefficient of Variation	0.358	Skewness	0.482

Normal GOF Test

Shapiro Wilk Test Statistic	0.953	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.112	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.168	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	17.04	95% Adjusted-CLT UCL (Chen-1995)	17.07
		95% Modified-t UCL (Johnson-1978)	17.05

Gamma GOF Test

A-D Test Statistic	0.216	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.749	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0664	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.145	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.889	k star (bias corrected MLE)	7.268
Theta hat (MLE)	1.964	Theta star (bias corrected MLE)	2.132
nu hat (MLE)	583.8	nu star (bias corrected)	537.8
MLE Mean (bias corrected)	15.49	MLE Sd (bias corrected)	5.748
		Approximate Chi Square Value (0.05)	485
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	482.9

Assuming Gamma Distribution

95% Approximate Gamma UCL	17.18	95% Adjusted Gamma UCL	17.26

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.946	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0823	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.132	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.825	Mean of logged Data	2.676
Maximum of Logged Data	3.296	SD of logged Data	0.372

Assuming Lognormal Distribution

95% H-UCL	17.43	90% Chebyshev (MVUE) UCL	18.45
95% Chebyshev (MVUE) UCL	19.78	97.5% Chebyshev (MVUE) UCL	21.61
99% Chebyshev (MVUE) UCL	25.22		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	17	95% BCA Bootstrap UCL	16.94
95% Standard Bootstrap UCL	16.96	95% Bootstrap-t UCL	17.16
95% Hall's Bootstrap UCL	17.11	95% Percentile Bootstrap UCL	16.87
90% Chebyshev(Mean, Sd) UCL	18.23	95% Chebyshev(Mean, Sd) UCL	19.47
97.5% Chebyshev(Mean, Sd) UCL	21.19	99% Chebyshev(Mean, Sd) UCL	24.57

Suggested UCL to Use

95% Student's-t UCL	17.04

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Zinc

General Statistics

Total Number of Observations	37	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	20	Mean	53.95
Maximum	160	Median	49
SD	25.2	Std. Error of Mean	4.143
Coefficient of Variation	0.467	Skewness	2.403

Normal GOF Test

Shapiro Wilk Test Statistic	0.795	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.814	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.194	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.168	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	60.94	95% Adjusted-CLT UCL (Chen-1995)	62.51
		95% Modified-t UCL (Johnson-1978)	61.21

Gamma GOF Test

A-D Test Statistic	0.761	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.75	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.139	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.145	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.266	k star (bias corrected MLE)	5.776
Theta hat (MLE)	8.61	Theta star (bias corrected MLE)	9.34
nu hat (MLE)	463.7	nu star (bias corrected)	427.4
MLE Mean (bias corrected)	53.95	MLE Sd (bias corrected)	22.45
		Approximate Chi Square Value (0.05)	380.5
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	378.6

Assuming Gamma Distribution

95% Approximate Gamma UCL	60.6	95% Adjusted Gamma UCL	60.91

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.946	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.124	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.132	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.996	Mean of logged Data	3.906
Maximum of Logged Data	5.075	SD of logged Data	0.398

Assuming Lognormal Distribution

95% H-UCL	60.77	90% Chebyshev (MVUE) UCL	64.51
95% Chebyshev (MVUE) UCL	69.42	97.5% Chebyshev (MVUE) UCL	76.23
99% Chebyshev (MVUE) UCL	89.62		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	60.76	95% BCA Bootstrap UCL	61.73
95% Standard Bootstrap UCL	60.6	95% Bootstrap-t UCL	64.12
95% Hall's Bootstrap UCL	71.8	95% Percentile Bootstrap UCL	60.92
90% Chebyshev(Mean, Sd) UCL	66.38	95% Chebyshev(Mean, Sd) UCL	72.01
97.5% Chebyshev(Mean, Sd) UCL	79.82	99% Chebyshev(Mean, Sd) UCL	95.17

Suggested UCL to Use

95% Adjusted Gamma UCL	60.91

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Methylene Chloride

General Statistics

Total Number of Observations	37	Number of Distinct Observations	23
Number of Detects	1	Number of Non-Detects	36
Number of Distinct Detects	1	Number of Distinct Non-Detects	22

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Methylene Chloride was not processed!

DALAPON

General Statistics

Total Number of Observations	37	Number of Distinct Observations	10
Number of Detects	1	Number of Non-Detects	36
Number of Distinct Detects	1	Number of Distinct Non-Detects	9

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DALAPON was not processed!

Heptachlor

General Statistics

Total Number of Observations	37	Number of Distinct Observations	27
Number of Detects	7	Number of Non-Detects	30
Number of Distinct Detects	7	Number of Distinct Non-Detects	20
Minimum Detect	1.1	Minimum Non-Detect	0.64
Maximum Detect	72	Maximum Non-Detect	13
Variance Detects	678.1	Percent Non-Detects	81.08%
Mean Detects	16.61	SD Detects	26.04
Median Detects	5.6	CV Detects	1.567
Skewness Detects	2.095	Kurtosis Detects	4.342
Mean of Logged Detects	1.774	SD of Logged Detects	1.565

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.681	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.36	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3.721	KM Standard Error of Mean	2.168
90KM SD	12.2	95% KM (BCA) UCL	7.367
95% KM (t) UCL	7.381	95% KM (Percentile Bootstrap) UCL	7.431
95% KM (z) UCL	7.287	95% KM Bootstrap t UCL	26.01
90% KM Chebyshev UCL	10.23	95% KM Chebyshev UCL	13.17
97.5% KM Chebyshev UCL	17.26	99% KM Chebyshev UCL	25.29

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.476	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.746	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.269	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.325	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	0.597	k star (bias corrected MLE)	0.436
Theta hat (MLE)	27.83	Theta star (bias corrected MLE)	38.08
nu hat (MLE)	8.357	nu star (bias corrected)	6.109
Mean (detects)	16.61		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	3.151
Maximum	72	Median	0.01
SD	12.51	CV	3.97
k hat (MLE)	0.166	k star (bias corrected MLE)	0.171
Theta hat (MLE)	18.93	Theta star (bias corrected MLE)	18.43
nu hat (MLE)	12.32	nu star (bias corrected)	12.65
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (12.65, α)	5.661	Adjusted Chi Square Value (12.65, β)	5.458
95% Gamma Approximate UCL	7.044	95% Gamma Adjusted UCL	7.306

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3.721	SD (KM)	12.2
Variance (KM)	148.9	SE of Mean (KM)	2.168
k hat (KM)	0.093	k star (KM)	0.103
nu hat (KM)	6.881	nu star (KM)	7.657
theta hat (KM)	40.02	theta star (KM)	35.96
80% gamma percentile (KM)	2.71	90% gamma percentile (KM)	10.04
95% gamma percentile (KM)	21.55	99% gamma percentile (KM)	58.11

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.66, α)	2.538	Adjusted Chi Square Value (7.66, β)	2.411
95% KM Approximate Gamma UCL	11.23	95% KM Adjusted Gamma UCL	11.81

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.928	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.174	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	3.18	Mean in Log Scale	-2.592
SD in Original Scale	12.5	SD in Log Scale	2.437
95% t UCL (assumes normality of ROS data)	6.65	95% Percentile Bootstrap UCL	6.837
95% BCA Bootstrap UCL	8.805	95% Bootstrap t UCL	30.09
95% H-UCL (Log ROS)	8.677		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.0175	KM Geo Mean	1.018
KM SD (logged)	1.08	95% Critical H Value (KM-Log)	2.482
KM Standard Error of Mean (logged)	0.197	95% H-UCL (KM -Log)	2.852
KM SD (logged)	1.08	95% Critical H Value (KM-Log)	2.482
KM Standard Error of Mean (logged)	0.197		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	4.02	Mean in Log Scale	0.0279
SD in Original Scale	12.35	SD in Log Scale	1.34
95% t UCL (Assumes normality)	7.447	95% H-Stat UCL	4.722

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 11.81

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Selenium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	19
Number of Detects	24	Number of Non-Detects	13
Number of Distinct Detects	16	Number of Distinct Non-Detects	7
Minimum Detect	0.099	Minimum Non-Detect	0.15
Maximum Detect	1.1	Maximum Non-Detect	0.22
Variance Detects	0.038	Percent Non-Detects	35.14%
Mean Detects	0.236	SD Detects	0.195
Median Detects	0.2	CV Detects	0.825
Skewness Detects	4.045	Kurtosis Detects	18.42
Mean of Logged Detects	-1.603	SD of Logged Detects	0.512

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.512	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.884	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.35	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.205	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.199	KM Standard Error of Mean	0.0277
90KM SD	0.163	95% KM (BCA) UCL	0.252
95% KM (t) UCL	0.245	95% KM (Percentile Bootstrap) UCL	0.25
95% KM (z) UCL	0.244	95% KM Bootstrap t UCL	0.295
90% KM Chebyshev UCL	0.282	95% KM Chebyshev UCL	0.319
97.5% KM Chebyshev UCL	0.372	99% KM Chebyshev UCL	0.474

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.427	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.75	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.244	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.179	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.283	k star (bias corrected MLE)	2.9
Theta hat (MLE)	0.0719	Theta star (bias corrected MLE)	0.0814
nu hat (MLE)	157.6	nu star (bias corrected)	139.2
Mean (detects)	0.236		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0454	Mean	0.187
Maximum	1.1	Median	0.164
SD	0.172	CV	0.917
k hat (MLE)	2.471	k star (bias corrected MLE)	2.289
Theta hat (MLE)	0.0757	Theta star (bias corrected MLE)	0.0817
nu hat (MLE)	182.9	nu star (bias corrected)	169.4
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (169.38, α)	140.3	Adjusted Chi Square Value (169.38, β)	139.1
95% Gamma Approximate UCL	0.226	95% Gamma Adjusted UCL	0.228

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.199	SD (KM)	0.163
Variance (KM)	0.0266	SE of Mean (KM)	0.0277
k hat (KM)	1.484	k star (KM)	1.381
nu hat (KM)	109.8	nu star (KM)	102.2
theta hat (KM)	0.134	theta star (KM)	0.144
80% gamma percentile (KM)	0.31	90% gamma percentile (KM)	0.422
95% gamma percentile (KM)	0.532	99% gamma percentile (KM)	0.781

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (102.23, α)	79.9	Adjusted Chi Square Value (102.23, β)	79.04
95% KM Approximate Gamma UCL	0.254	95% KM Adjusted Gamma UCL	0.257

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.856	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.93	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.196	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.162	Detected Data Not Lognormal at 10% Significance Level

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.199	Mean in Log Scale	-1.765
SD in Original Scale	0.165	SD in Log Scale	0.478
95% t UCL (assumes normality of ROS data)	0.244	95% Percentile Bootstrap UCL	0.247
95% BCA Bootstrap UCL	0.273	95% Bootstrap t UCL	0.301
95% H-UCL (Log ROS)	0.223		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.769	KM Geo Mean	0.171
KM SD (logged)	0.484	95% Critical H Value (KM-Log)	1.901
KM Standard Error of Mean (logged)	0.0865	95% H-UCL (KM -Log)	0.223
KM SD (logged)	0.484	95% Critical H Value (KM-Log)	1.901
KM Standard Error of Mean (logged)	0.0865		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.187	Mean in Log Scale	-1.863
SD in Original Scale	0.17	SD in Log Scale	0.548
95% t UCL (Assumes normality)	0.234	95% H-Stat UCL	0.215

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	0.245

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Trichloroethylene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	16
Number of Detects	0	Number of Non-Detects	37
Number of Distinct Detects	0	Number of Distinct Non-Detects	16

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Trichloroethylene was not processed!

Methyl Acetate

General Statistics

Total Number of Observations	37	Number of Distinct Observations	31
Number of Detects	17	Number of Non-Detects	20
Number of Distinct Detects	17	Number of Distinct Non-Detects	15
Minimum Detect	11	Minimum Non-Detect	3.4
Maximum Detect	4900	Maximum Non-Detect	280
Variance Detects	2149856	Percent Non-Detects	54.05%
Mean Detects	1213	SD Detects	1466
Median Detects	540	CV Detects	1.208
Skewness Detects	1.525	Kurtosis Detects	1.661
Mean of Logged Detects	6.145	SD of Logged Detects	1.698

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.792	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.851	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.233	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.241	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	565.3	KM Standard Error of Mean	192.3
90KM SD	1135	95% KM (BCA) UCL	874.1
95% KM (t) UCL	890	95% KM (Percentile Bootstrap) UCL	895
95% KM (z) UCL	881.6	95% KM Bootstrap t UCL	1081
90% KM Chebyshev UCL	1142	95% KM Chebyshev UCL	1404
97.5% KM Chebyshev UCL	1766	99% KM Chebyshev UCL	2479

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.23	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.786	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.0945	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.219	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.64	k star (bias corrected MLE)	0.567
Theta hat (MLE)	1895	Theta star (bias corrected MLE)	2141
nu hat (MLE)	21.77	nu star (bias corrected)	19.26
Mean (detects)	1213		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	557.5
Maximum	4900	Median	0.01
SD	1154	CV	2.07
k hat (MLE)	0.131	k star (bias corrected MLE)	0.138
Theta hat (MLE)	4261	Theta star (bias corrected MLE)	4032
nu hat (MLE)	9.683	nu star (bias corrected)	10.23
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (10.23, α)	4.087	Adjusted Chi Square Value (10.23, β)	3.919
95% Gamma Approximate UCL	1396	95% Gamma Adjusted UCL	1456

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	565.3	SD (KM)	1135
Variance (KM)	1287345	SE of Mean (KM)	192.3
k hat (KM)	0.248	k star (KM)	0.246
nu hat (KM)	18.37	nu star (KM)	18.21
theta hat (KM)	2277	theta star (KM)	2297
80% gamma percentile (KM)	816.4	90% gamma percentile (KM)	1699
95% gamma percentile (KM)	2749	99% gamma percentile (KM)	5551

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (18.21, α)	9.545	Adjusted Chi Square Value (18.21, β)	9.272
95% KM Approximate Gamma UCL	1079	95% KM Adjusted Gamma UCL	1110

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.953	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.91	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.123	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.19	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	563.4	Mean in Log Scale	3.965
SD in Original Scale	1151	SD in Log Scale	2.396
95% t UCL (assumes normality of ROS data)	882.8	95% Percentile Bootstrap UCL	874.7
95% BCA Bootstrap UCL	943.6	95% Bootstrap t UCL	1104
95% H-UCL (Log ROS)	5225		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	3.69	KM Geo Mean	40.06
KM SD (logged)	2.638	95% Critical H Value (KM-Log)	4.693
KM Standard Error of Mean (logged)	0.468	95% H-UCL (KM -Log)	10226
KM SD (logged)	2.638	95% Critical H Value (KM-Log)	4.693
KM Standard Error of Mean (logged)	0.468		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	584	Mean in Log Scale	4.117
SD in Original Scale	1142	SD in Log Scale	2.644
95% t UCL (Assumes normality)	900.9	95% H-Stat UCL	16098

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 890

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,

it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Acenaphthene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	33
Number of Detects	32	Number of Non-Detects	5
Number of Distinct Detects	31	Number of Distinct Non-Detects	3
Minimum Detect	1.3	Minimum Non-Detect	1.4
Maximum Detect	800	Maximum Non-Detect	1.6
Variance Detects	32898	Percent Non-Detects	13.51%
Mean Detects	105.7	SD Detects	181.4
Median Detects	35.5	CV Detects	1.717
Skewness Detects	2.566	Kurtosis Detects	6.784
Mean of Logged Detects	3.279	SD of Logged Detects	1.859

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.621	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.904	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.303	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.18	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	91.55	KM Standard Error of Mean	28.36
90KM SD	169.8	95% KM (BCA) UCL	136
95% KM (t) UCL	139.4	95% KM (Percentile Bootstrap) UCL	139.6
95% KM (z) UCL	138.2	95% KM Bootstrap t UCL	176.2
90% KM Chebyshev UCL	176.6	95% KM Chebyshev UCL	215.2
97.5% KM Chebyshev UCL	268.7	99% KM Chebyshev UCL	373.8

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.853	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.818	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.132	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.165	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.465	k star (bias corrected MLE)	0.442
Theta hat (MLE)	227.1	Theta star (bias corrected MLE)	238.8
nu hat (MLE)	29.78	nu star (bias corrected)	28.32
Mean (detects)	105.7		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	91.38
Maximum	800	Median	17
SD	172.2	CV	1.885
k hat (MLE)	0.3	k star (bias corrected MLE)	0.293
Theta hat (MLE)	304.9	Theta star (bias corrected MLE)	311.4
nu hat (MLE)	22.18	nu star (bias corrected)	21.71
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (21.71, α)	12.12	Adjusted Chi Square Value (21.71, β)	11.81
95% Gamma Approximate UCL	163.7	95% Gamma Adjusted UCL	168

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	91.55	SD (KM)	169.8
Variance (KM)	28836	SE of Mean (KM)	28.36
k hat (KM)	0.291	k star (KM)	0.285
nu hat (KM)	21.51	nu star (KM)	21.1
theta hat (KM)	315	theta star (KM)	321.1
80% gamma percentile (KM)	138.6	90% gamma percentile (KM)	271.6
95% gamma percentile (KM)	425.6	99% gamma percentile (KM)	828.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.10, α)	11.67	Adjusted Chi Square Value (21.10, β)	11.36
95% KM Approximate Gamma UCL	165.6	95% KM Adjusted Gamma UCL	170

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.952	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.941	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.108	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.142	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	91.46	Mean in Log Scale	2.766
SD in Original Scale	172.2	SD in Log Scale	2.176
95% t UCL (assumes normality of ROS data)	139.3	95% Percentile Bootstrap UCL	139.8
95% BCA Bootstrap UCL	149.2	95% Bootstrap t UCL	170.5
95% H-UCL (Log ROS)	722		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.872	KM Geo Mean	17.68
KM SD (logged)	1.989	95% Critical H Value (KM-Log)	3.714
KM Standard Error of Mean (logged)	0.332	95% H-UCL (KM -Log)	437.6
KM SD (logged)	1.989	95% Critical H Value (KM-Log)	3.714
KM Standard Error of Mean (logged)	0.332		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	91.48	Mean in Log Scale	2.797
SD in Original Scale	172.2	SD in Log Scale	2.123
95% t UCL (Assumes normality)	139.3	95% H-Stat UCL	622.2

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	170

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Phenanthrene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	33
Number of Detects	36	Number of Non-Detects	1
Number of Distinct Detects	33	Number of Distinct Non-Detects	1
Minimum Detect	1.9	Minimum Non-Detect	2.3
Maximum Detect	3600	Maximum Non-Detect	2.3
Variance Detects	802215	Percent Non-Detects	2.703%
Mean Detects	592.2	SD Detects	895.7
Median Detects	220	CV Detects	1.512
Skewness Detects	2.02	Kurtosis Detects	3.553
Mean of Logged Detects	4.911	SD of Logged Detects	2.124

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.693	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.912	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.255	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.17	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	576.3	KM Standard Error of Mean	146.1
90KM SD	876.4	95% KM (BCA) UCL	824.2
95% KM (t) UCL	823	95% KM (Percentile Bootstrap) UCL	830.1
95% KM (z) UCL	816.6	95% KM Bootstrap t UCL	922.7
90% KM Chebyshev UCL	1015	95% KM Chebyshev UCL	1213
97.5% KM Chebyshev UCL	1489	99% KM Chebyshev UCL	2030

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.486	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.826	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.127	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.156	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.44	k star (bias corrected MLE)	0.422
Theta hat (MLE)	1346	Theta star (bias corrected MLE)	1404
nu hat (MLE)	31.69	nu star (bias corrected)	30.38
Mean (detects)	592.2		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	576.2
Maximum	3600	Median	160
SD	888.5	CV	1.542
k hat (MLE)	0.388	k star (bias corrected MLE)	0.375
Theta hat (MLE)	1484	Theta star (bias corrected MLE)	1537
nu hat (MLE)	28.74	nu star (bias corrected)	27.74
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (27.74, α)	16.73	Adjusted Chi Square Value (27.74, β)	16.36
95% Gamma Approximate UCL	955.6	95% Gamma Adjusted UCL	977.4

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	576.3	SD (KM)	876.4
Variance (KM)	768017	SE of Mean (KM)	146.1
k hat (KM)	0.432	k star (KM)	0.415
nu hat (KM)	32	nu star (KM)	30.74
theta hat (KM)	1333	theta star (KM)	1387
80% gamma percentile (KM)	933.9	90% gamma percentile (KM)	1617
95% gamma percentile (KM)	2363	99% gamma percentile (KM)	4233

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (30.74, α)	19.07	Adjusted Chi Square Value (30.74, β)	18.67
95% KM Approximate Gamma UCL	928.7	95% KM Adjusted Gamma UCL	948.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.948	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.945	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.133	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.134	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	576.3	Mean in Log Scale	4.787
SD in Original Scale	888.5	SD in Log Scale	2.226
95% t UCL (assumes normality of ROS data)	822.9	95% Percentile Bootstrap UCL	820.5
95% BCA Bootstrap UCL	847.5	95% Bootstrap t UCL	917.1
95% H-UCL (Log ROS)	6451		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	4.796	KM Geo Mean	121
KM SD (logged)	2.179	95% Critical H Value (KM-Log)	3.994
KM Standard Error of Mean (logged)	0.363	95% H-UCL (KM -Log)	5539
KM SD (logged)	2.179	95% Critical H Value (KM-Log)	3.994
KM Standard Error of Mean (logged)	0.363		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	576.3	Mean in Log Scale	4.782
SD in Original Scale	888.5	SD in Log Scale	2.236
95% t UCL (Assumes normality)	822.9	95% H-Stat UCL	6659

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 948.6

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Fluorene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	34
Number of Detects	34	Number of Non-Detects	3
Number of Distinct Detects	32	Number of Distinct Non-Detects	2
Minimum Detect	0.8	Minimum Non-Detect	1.4
Maximum Detect	430	Maximum Non-Detect	1.5
Variance Detects	15877	Percent Non-Detects	8.108%
Mean Detects	80.36	SD Detects	126
Median Detects	25	CV Detects	1.568
Skewness Detects	1.926	Kurtosis Detects	2.595
Mean of Logged Detects	3.022	SD of Logged Detects	1.867

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.656	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.908	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.175	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	73.93	KM Standard Error of Mean	20.18
90KM SD	121	95% KM (BCA) UCL	106.3
95% KM (t) UCL	108	95% KM (Percentile Bootstrap) UCL	108.5
95% KM (z) UCL	107.1	95% KM Bootstrap t UCL	122.9
90% KM Chebyshev UCL	134.5	95% KM Chebyshev UCL	161.9
97.5% KM Chebyshev UCL	200	99% KM Chebyshev UCL	274.8

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.92	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.818	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.136	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.16	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.47	k star (bias corrected MLE)	0.448
Theta hat (MLE)	171	Theta star (bias corrected MLE)	179.4
nu hat (MLE)	31.95	nu star (bias corrected)	30.47
Mean (detects)	80.36		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	73.85
Maximum	430	Median	15
SD	122.7	CV	1.661
k hat (MLE)	0.354	k star (bias corrected MLE)	0.343
Theta hat (MLE)	208.9	Theta star (bias corrected MLE)	215.3
nu hat (MLE)	26.16	nu star (bias corrected)	25.38
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (25.38, α)	14.9	Adjusted Chi Square Value (25.38, β)	14.55
95% Gamma Approximate UCL	125.8	95% Gamma Adjusted UCL	128.8

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	73.93	SD (KM)	121
Variance (KM)	14629	SE of Mean (KM)	20.18
k hat (KM)	0.374	k star (KM)	0.361
nu hat (KM)	27.65	nu star (KM)	26.74
theta hat (KM)	197.9	theta star (KM)	204.6
80% gamma percentile (KM)	117.7	90% gamma percentile (KM)	212.4
95% gamma percentile (KM)	318	99% gamma percentile (KM)	586.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (26.74, α)	15.95	Adjusted Chi Square Value (26.74, β)	15.59
95% KM Approximate Gamma UCL	123.9	95% KM Adjusted Gamma UCL	126.8

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.943	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0863	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.137	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	73.91	Mean in Log Scale	2.756
SD in Original Scale	122.6	SD in Log Scale	2.006
95% t UCL (assumes normality of ROS data)	107.9	95% Percentile Bootstrap UCL	107.3
95% BCA Bootstrap UCL	111	95% Bootstrap t UCL	120.6
95% H-UCL (Log ROS)	411.3		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.78	KM Geo Mean	16.12
KM SD (logged)	1.942	95% Critical H Value (KM-Log)	3.645
KM Standard Error of Mean (logged)	0.324	95% H-UCL (KM -Log)	346.1
KM SD (logged)	1.942	95% Critical H Value (KM-Log)	3.645
KM Standard Error of Mean (logged)	0.324		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	73.91	Mean in Log Scale	2.752
SD in Original Scale	122.6	SD in Log Scale	2.011
95% t UCL (Assumes normality)	107.9	95% H-Stat UCL	415.9

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	126.8

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Pentachlorophenol

General Statistics

Total Number of Observations	37	Number of Distinct Observations	28
Number of Detects	27	Number of Non-Detects	10
Number of Distinct Detects	23	Number of Distinct Non-Detects	6
Minimum Detect	0.12	Minimum Non-Detect	0.23
Maximum Detect	13	Maximum Non-Detect	0.3
Variance Detects	20.48	Percent Non-Detects	27.03%
Mean Detects	3.111	SD Detects	4.526
Median Detects	0.75	CV Detects	1.455
Skewness Detects	1.41	Kurtosis Detects	0.246
Mean of Logged Detects	0.00247	SD of Logged Detects	1.564

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.657	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.894	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.309	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.194	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.319	KM Standard Error of Mean	0.672
90KM SD	4.011	95% KM (BCA) UCL	3.428
95% KM (t) UCL	3.453	95% KM (Percentile Bootstrap) UCL	3.452
95% KM (z) UCL	3.424	95% KM Bootstrap t UCL	3.793
90% KM Chebyshev UCL	4.335	95% KM Chebyshev UCL	5.248
97.5% KM Chebyshev UCL	6.515	99% KM Chebyshev UCL	9.005

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.797	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.802	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.235	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.177	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.552	k star (bias corrected MLE)	0.516
Theta hat (MLE)	5.632	Theta star (bias corrected MLE)	6.033
nu hat (MLE)	29.83	nu star (bias corrected)	27.85
Mean (detects)	3.111		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.273
Maximum	13	Median	0.37
SD	4.092	CV	1.8
k hat (MLE)	0.329	k star (bias corrected MLE)	0.32
Theta hat (MLE)	6.907	Theta star (bias corrected MLE)	7.094
nu hat (MLE)	24.35	nu star (bias corrected)	23.71
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (23.71, α)	13.63	Adjusted Chi Square Value (23.71, β)	13.3
95% Gamma Approximate UCL	3.954	95% Gamma Adjusted UCL	4.053

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.319	SD (KM)	4.011
Variance (KM)	16.09	SE of Mean (KM)	0.672
k hat (KM)	0.334	k star (KM)	0.325
nu hat (KM)	24.73	nu star (KM)	24.06
theta hat (KM)	6.938	theta star (KM)	7.132
80% gamma percentile (KM)	3.621	90% gamma percentile (KM)	6.768
95% gamma percentile (KM)	10.33	99% gamma percentile (KM)	19.51

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (24.06, α)	13.89	Adjusted Chi Square Value (24.06, β)	13.56
95% KM Approximate Gamma UCL	4.015	95% KM Adjusted Gamma UCL	4.115

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.896	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.935	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.16	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.153	Detected Data Not Lognormal at 10% Significance Level

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.316	Mean in Log Scale	-0.501
SD in Original Scale	4.068	SD in Log Scale	1.587
95% t UCL (assumes normality of ROS data)	3.445	95% Percentile Bootstrap UCL	3.409
95% BCA Bootstrap UCL	3.52	95% Bootstrap t UCL	3.854
95% H-UCL (Log ROS)	4.897		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.468	KM Geo Mean	0.626
KM SD (logged)	1.526	95% Critical H Value (KM-Log)	3.053
KM Standard Error of Mean (logged)	0.257	95% H-UCL (KM -Log)	4.359
KM SD (logged)	1.526	95% Critical H Value (KM-Log)	3.053
KM Standard Error of Mean (logged)	0.257		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.306	Mean in Log Scale	-0.544
SD in Original Scale	4.073	SD in Log Scale	1.612
95% t UCL (Assumes normality)	3.437	95% H-Stat UCL	4.986

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 3.453

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1-Methylnaphthalene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	26
Number of Detects	28	Number of Non-Detects	9
Number of Distinct Detects	25	Number of Distinct Non-Detects	3
Minimum Detect	1.1	Minimum Non-Detect	1.4
Maximum Detect	160	Maximum Non-Detect	15
Variance Detects	1409	Percent Non-Detects	24.32%
Mean Detects	23.63	SD Detects	37.54
Median Detects	7.45	CV Detects	1.589
Skewness Detects	2.597	Kurtosis Detects	6.885
Mean of Logged Detects	2.214	SD of Logged Detects	1.41

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.625	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.896	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.317	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.191	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	18.22	KM Standard Error of Mean	5.603
90KM SD	33.46	95% KM (BCA) UCL	28.22
95% KM (t) UCL	27.68	95% KM (Percentile Bootstrap) UCL	27.99
95% KM (z) UCL	27.43	95% KM Bootstrap t UCL	35.7
90% KM Chebyshev UCL	35.03	95% KM Chebyshev UCL	42.64
97.5% KM Chebyshev UCL	53.21	99% KM Chebyshev UCL	73.97

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.992	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.795	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.158	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.173	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.645	k star (bias corrected MLE)	0.599
Theta hat (MLE)	36.65	Theta star (bias corrected MLE)	39.42
nu hat (MLE)	36.11	nu star (bias corrected)	33.57
Mean (detects)	23.63		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	17.88
Maximum	160	Median	4.3
SD	34.1	CV	1.907
k hat (MLE)	0.297	k star (bias corrected MLE)	0.291
Theta hat (MLE)	60.28	Theta star (bias corrected MLE)	61.53
nu hat (MLE)	21.95	nu star (bias corrected)	21.51
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (21.51, α)	11.97	Adjusted Chi Square Value (21.51, β)	11.66
95% Gamma Approximate UCL	32.13	95% Gamma Adjusted UCL	32.99

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	18.22	SD (KM)	33.46
Variance (KM)	1120	SE of Mean (KM)	5.603
k hat (KM)	0.296	k star (KM)	0.29
nu hat (KM)	21.94	nu star (KM)	21.49
theta hat (KM)	61.46	theta star (KM)	62.74
80% gamma percentile (KM)	27.71	90% gamma percentile (KM)	53.94
95% gamma percentile (KM)	84.21	99% gamma percentile (KM)	163.2

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.49, α)	11.96	Adjusted Chi Square Value (21.49, β)	11.65
95% KM Approximate Gamma UCL	32.74	95% KM Adjusted Gamma UCL	33.61

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.958	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.936	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0894	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.151	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	18.11	Mean in Log Scale	1.608
SD in Original Scale	33.98	SD in Log Scale	1.666
95% t UCL (assumes normality of ROS data)	27.54	95% Percentile Bootstrap UCL	27.61
95% BCA Bootstrap UCL	29.71	95% Bootstrap t UCL	36.46
95% H-UCL (Log ROS)	49.33		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.731	KM Geo Mean	5.643
KM SD (logged)	1.486	95% Critical H Value (KM-Log)	2.999
KM Standard Error of Mean (logged)	0.25	95% H-UCL (KM -Log)	35.76
KM SD (logged)	1.486	95% Critical H Value (KM-Log)	2.999
KM Standard Error of Mean (logged)	0.25		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	18.24	Mean in Log Scale	1.658
SD in Original Scale	33.93	SD in Log Scale	1.617
95% t UCL (Assumes normality)	27.66	95% H-Stat UCL	45.74

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 33.61

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Naphthalene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
Number of Detects	28	Number of Non-Detects	9
Number of Distinct Detects	25	Number of Distinct Non-Detects	5
Minimum Detect	1.7	Minimum Non-Detect	2.7
Maximum Detect	640	Maximum Non-Detect	3.1
Variance Detects	22595	Percent Non-Detects	24.32%
Mean Detects	73.18	SD Detects	150.3
Median Detects	18	CV Detects	2.054
Skewness Detects	3.076	Kurtosis Detects	9.135
Mean of Logged Detects	3.021	SD of Logged Detects	1.595

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.501	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.896	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.371	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.191	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	55.83	KM Standard Error of Mean	22.1
90KM SD	132	95% KM (BCA) UCL	95.61
95% KM (t) UCL	93.14	95% KM (Percentile Bootstrap) UCL	94.81
95% KM (z) UCL	92.18	95% KM Bootstrap t UCL	165.7
90% KM Chebyshev UCL	122.1	95% KM Chebyshev UCL	152.2
97.5% KM Chebyshev UCL	193.8	99% KM Chebyshev UCL	275.7

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.423	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.81	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.192	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.175	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.5	k star (bias corrected MLE)	0.47
Theta hat (MLE)	146.5	Theta star (bias corrected MLE)	155.7
nu hat (MLE)	27.97	nu star (bias corrected)	26.31
Mean (detects)	73.18		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	55.38
Maximum	640	Median	9.5
SD	134	CV	2.42
k hat (MLE)	0.249	k star (bias corrected MLE)	0.247
Theta hat (MLE)	222	Theta star (bias corrected MLE)	224
nu hat (MLE)	18.46	nu star (bias corrected)	18.3
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (18.30, α)	9.606	Adjusted Chi Square Value (18.30, β)	9.332
95% Gamma Approximate UCL	105.5	95% Gamma Adjusted UCL	108.6

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	55.83	SD (KM)	132
Variance (KM)	17424	SE of Mean (KM)	22.1
k hat (KM)	0.179	k star (KM)	0.182
nu hat (KM)	13.24	nu star (KM)	13.5
theta hat (KM)	312.1	theta star (KM)	306.1
80% gamma percentile (KM)	69.84	90% gamma percentile (KM)	168.5
95% gamma percentile (KM)	294.4	99% gamma percentile (KM)	646.5

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (13.50, α)	6.23	Adjusted Chi Square Value (13.50, β)	6.016
95% KM Approximate Gamma UCL	121	95% KM Adjusted Gamma UCL	125.3

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.963	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.936	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.0833	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.151	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	55.75	Mean in Log Scale	2.366
SD in Original Scale	133.9	SD in Log Scale	1.828
95% t UCL (assumes normality of ROS data)	92.9	95% Percentile Bootstrap UCL	93.22
95% BCA Bootstrap UCL	105.4	95% Bootstrap t UCL	155.9
95% H-UCL (Log ROS)	163.5		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.438	KM Geo Mean	11.45
KM SD (logged)	1.709	95% Critical H Value (KM-Log)	3.308
KM Standard Error of Mean (logged)	0.287	95% H-UCL (KM -Log)	126.4
KM SD (logged)	1.709	95% Critical H Value (KM-Log)	3.308
KM Standard Error of Mean (logged)	0.287		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	55.73	Mean in Log Scale	2.375
SD in Original Scale	133.9	SD in Log Scale	1.801
95% t UCL (Assumes normality)	92.88	95% H-Stat UCL	152.9

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 10% Significance Level

Suggested UCL to Use

KM H-UCL 126.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
Number of Detects	28	Number of Non-Detects	9
Number of Distinct Detects	25	Number of Distinct Non-Detects	5
Minimum Detect	1.5	Minimum Non-Detect	2.8
Maximum Detect	250	Maximum Non-Detect	29
Variance Detects	3794	Percent Non-Detects	24.32%
Mean Detects	39.03	SD Detects	61.59
Median Detects	11.2	CV Detects	1.578
Skewness Detects	2.314	Kurtosis Detects	5.083
Mean of Logged Detects	2.651	SD of Logged Detects	1.464

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.641	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.896	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.315	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.191	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	30.2	KM Standard Error of Mean	9.192
90KM SD	54.89	95% KM (BCA) UCL	46.13
95% KM (t) UCL	45.72	95% KM (Percentile Bootstrap) UCL	46.31
95% KM (z) UCL	45.32	95% KM Bootstrap t UCL	54.85
90% KM Chebyshev UCL	57.78	95% KM Chebyshev UCL	70.27
97.5% KM Chebyshev UCL	87.61	99% KM Chebyshev UCL	121.7

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.162	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.799	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.171	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.174	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.609	k star (bias corrected MLE)	0.567
Theta hat (MLE)	64.14	Theta star (bias corrected MLE)	68.82
nu hat (MLE)	34.08	nu star (bias corrected)	31.76
Mean (detects)	39.03		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	29.54
Maximum	250	Median	6.1
SD	55.98	CV	1.895
k hat (MLE)	0.279	k star (bias corrected MLE)	0.275
Theta hat (MLE)	105.8	Theta star (bias corrected MLE)	107.6
nu hat (MLE)	20.66	nu star (bias corrected)	20.31
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (20.31, α)	11.08	Adjusted Chi Square Value (20.31, β)	10.79
95% Gamma Approximate UCL	54.14	95% Gamma Adjusted UCL	55.63

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	30.2	SD (KM)	54.89
Variance (KM)	3013	SE of Mean (KM)	9.192
k hat (KM)	0.303	k star (KM)	0.296
nu hat (KM)	22.41	nu star (KM)	21.92
theta hat (KM)	99.75	theta star (KM)	102
80% gamma percentile (KM)	46.17	90% gamma percentile (KM)	89.21
95% gamma percentile (KM)	138.7	99% gamma percentile (KM)	267.6

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.92, α)	12.28	Adjusted Chi Square Value (21.92, β)	11.97
95% KM Approximate Gamma UCL	53.92	95% KM Adjusted Gamma UCL	55.33

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.936	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.11	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.151	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	30.09	Mean in Log Scale	2.171
SD in Original Scale	55.69	SD in Log Scale	1.555
95% t UCL (assumes normality of ROS data)	45.55	95% Percentile Bootstrap UCL	45.31
95% BCA Bootstrap UCL	47.98	95% Bootstrap t UCL	56.24
95% H-UCL (Log ROS)	65.44		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.212	KM Geo Mean	9.136
KM SD (logged)	1.486	95% Critical H Value (KM-Log)	2.999
KM Standard Error of Mean (logged)	0.252	95% H-UCL (KM -Log)	57.94
KM SD (logged)	1.486	95% Critical H Value (KM-Log)	2.999
KM Standard Error of Mean (logged)	0.252		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	30.24	Mean in Log Scale	2.159
SD in Original Scale	55.65	SD in Log Scale	1.586
95% t UCL (Assumes normality)	45.69	95% H-Stat UCL	69.7

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 55.33

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MCPP (MECOPROP)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	16
Number of Detects	8	Number of Non-Detects	29
Number of Distinct Detects	8	Number of Distinct Non-Detects	9
Minimum Detect	0.11	Minimum Non-Detect	0.22
Maximum Detect	5	Maximum Non-Detect	0.3
Variance Detects	3.133	Percent Non-Detects	78.38%
Mean Detects	1.525	SD Detects	1.77
Median Detects	0.79	CV Detects	1.161
Skewness Detects	1.296	Kurtosis Detects	0.884
Mean of Logged Detects	-0.353	SD of Logged Detects	1.445

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.826	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.749	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.241	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.333	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.433	KM Standard Error of Mean	0.169
90KM SD	0.96	95% KM (BCA) UCL	0.75
95% KM (t) UCL	0.719	95% KM (Percentile Bootstrap) UCL	0.718
95% KM (z) UCL	0.711	95% KM Bootstrap t UCL	1.066
90% KM Chebyshev UCL	0.941	95% KM Chebyshev UCL	1.171
97.5% KM Chebyshev UCL	1.49	99% KM Chebyshev UCL	2.117

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.331	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.744	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.22	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.304	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	0.77	k star (bias corrected MLE)	0.565
Theta hat (MLE)	1.981	Theta star (bias corrected MLE)	2.701
nu hat (MLE)	12.32	nu star (bias corrected)	9.033
Mean (detects)	1.525		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.362
Maximum	5	Median	0.01
SD	1	CV	2.763
k hat (MLE)	0.294	k star (bias corrected MLE)	0.288
Theta hat (MLE)	1.23	Theta star (bias corrected MLE)	1.254
nu hat (MLE)	21.78	nu star (bias corrected)	21.34
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (21.34, α)	11.85	Adjusted Chi Square Value (21.34, β)	11.54
95% Gamma Approximate UCL	0.652	95% Gamma Adjusted UCL	0.669

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.433	SD (KM)	0.96
Variance (KM)	0.922	SE of Mean (KM)	0.169
k hat (KM)	0.203	k star (KM)	0.205
nu hat (KM)	15.04	nu star (KM)	15.16
theta hat (KM)	2.13	theta star (KM)	2.114
80% gamma percentile (KM)	0.578	90% gamma percentile (KM)	1.31
95% gamma percentile (KM)	2.217	99% gamma percentile (KM)	4.706

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.16, α)	7.372	Adjusted Chi Square Value (15.16, β)	7.136
95% KM Approximate Gamma UCL	0.89	95% KM Adjusted Gamma UCL	0.92

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.931	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.851	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.165	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.265	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.436	Mean in Log Scale	-1.862
SD in Original Scale	0.976	SD in Log Scale	1.245
95% t UCL (assumes normality of ROS data)	0.707	95% Percentile Bootstrap UCL	0.71
95% BCA Bootstrap UCL	0.819	95% Bootstrap t UCL	1.195
95% H-UCL (Log ROS)	0.589		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.677	KM Geo Mean	0.187
KM SD (logged)	0.95	95% Critical H Value (KM-Log)	2.333
KM Standard Error of Mean (logged)	0.192	95% H-UCL (KM -Log)	0.425
KM SD (logged)	0.95	95% Critical H Value (KM-Log)	2.333
KM Standard Error of Mean (logged)	0.192		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.432	Mean in Log Scale	-1.677
SD in Original Scale	0.974	SD in Log Scale	0.953
95% t UCL (Assumes normality)	0.702	95% H-Stat UCL	0.426

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.719

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Silvex (2,4,5-TP)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	18
Number of Detects	4	Number of Non-Detects	33
Number of Distinct Detects	4	Number of Distinct Non-Detects	15
Minimum Detect	0.28	Minimum Non-Detect	0.44
Maximum Detect	6.7	Maximum Non-Detect	0.6
Variance Detects	9.537	Percent Non-Detects	89.19%
Mean Detects	2.08	SD Detects	3.088
Median Detects	0.67	CV Detects	1.485
Skewness Detects	1.968	Kurtosis Detects	3.892
Mean of Logged Detects	-0.0576	SD of Logged Detects	1.38

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.697	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.407	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.483	KM Standard Error of Mean	0.198
90KM SD	1.041	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.817	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.809	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.077	95% KM Chebyshev UCL	1.346
97.5% KM Chebyshev UCL	1.72	99% KM Chebyshev UCL	2.453

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.526	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.67	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.363	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.405	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	0.757	k star (bias corrected MLE)	0.356
Theta hat (MLE)	2.748	Theta star (bias corrected MLE)	5.845
nu hat (MLE)	6.055	nu star (bias corrected)	2.847
Mean (detects)	2.08		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.268
Maximum	6.7	Median	0.01
SD	1.103	CV	4.121
k hat (MLE)	0.288	k star (bias corrected MLE)	0.283
Theta hat (MLE)	0.929	Theta star (bias corrected MLE)	0.946
nu hat (MLE)	21.32	nu star (bias corrected)	20.92
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (20.92, α)	11.53	Adjusted Chi Square Value (20.92, β)	11.23
95% Gamma Approximate UCL	0.485	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.483	SD (KM)	1.041
Variance (KM)	1.084	SE of Mean (KM)	0.198
k hat (KM)	0.215	k star (KM)	0.216
nu hat (KM)	15.91	nu star (KM)	15.96
theta hat (KM)	2.245	theta star (KM)	2.239
80% gamma percentile (KM)	0.66	90% gamma percentile (KM)	1.46
95% gamma percentile (KM)	2.439	99% gamma percentile (KM)	5.102

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.96, α)	7.931	Adjusted Chi Square Value (15.96, β)	7.685
95% KM Approximate Gamma UCL	0.971	95% KM Adjusted Gamma UCL	1.003

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.897	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.287	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.44	Mean in Log Scale	-1.396
SD in Original Scale	1.07	SD in Log Scale	0.802
95% t UCL (assumes normality of ROS data)	0.737	95% Percentile Bootstrap UCL	0.778
95% BCA Bootstrap UCL	0.974	95% Bootstrap t UCL	2.111
95% H-UCL (Log ROS)	0.457		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.12	KM Geo Mean	0.326
KM SD (logged)	0.551	95% Critical H Value (KM-Log)	1.952
KM Standard Error of Mean (logged)	0.109	95% H-UCL (KM -Log)	0.454
KM SD (logged)	0.551	95% Critical H Value (KM-Log)	1.952
KM Standard Error of Mean (logged)	0.109		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.46	Mean in Log Scale	-1.199
SD in Original Scale	1.059	SD in Log Scale	0.571
95% t UCL (Assumes normality)	0.754	95% H-Stat UCL	0.428

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.817

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2,4,5-T

General Statistics

Total Number of Observations	37	Number of Distinct Observations	18
Number of Detects	7	Number of Non-Detects	30
Number of Distinct Detects	6	Number of Distinct Non-Detects	13
Minimum Detect	0.11	Minimum Non-Detect	0.44
Maximum Detect	6	Maximum Non-Detect	0.6
Variance Detects	4.77	Percent Non-Detects	81.08%
Mean Detects	1.057	SD Detects	2.184
Median Detects	0.17	CV Detects	2.066
Skewness Detects	2.624	Kurtosis Detects	6.909
Mean of Logged Detects	-1.118	SD of Logged Detects	1.384

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.505	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.73	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.456	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.35	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.353	KM Standard Error of Mean	0.171
90KM SD	0.946	95% KM (BCA) UCL	0.676
95% KM (t) UCL	0.642	95% KM (Percentile Bootstrap) UCL	0.656
95% KM (z) UCL	0.634	95% KM Bootstrap t UCL	1.894
90% KM Chebyshev UCL	0.866	95% KM Chebyshev UCL	1.098
97.5% KM Chebyshev UCL	1.421	99% KM Chebyshev UCL	2.054

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.234	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.749	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.357	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.327	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.536	k star (bias corrected MLE)	0.401
Theta hat (MLE)	1.974	Theta star (bias corrected MLE)	2.635
nu hat (MLE)	7.498	nu star (bias corrected)	5.618
Mean (detects)	1.057		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.338
Maximum	6	Median	0.01
SD	0.996	CV	2.945
k hat (MLE)	0.348	k star (bias corrected MLE)	0.338
Theta hat (MLE)	0.972	Theta star (bias corrected MLE)	1.001
nu hat (MLE)	25.73	nu star (bias corrected)	24.98
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (24.98, α)	14.59	Adjusted Chi Square Value (24.98, β)	14.25
95% Gamma Approximate UCL	0.578	95% Gamma Adjusted UCL	0.592

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.353	SD (KM)	0.946
Variance (KM)	0.896	SE of Mean (KM)	0.171
k hat (KM)	0.139	k star (KM)	0.146
nu hat (KM)	10.31	nu star (KM)	10.81
theta hat (KM)	2.535	theta star (KM)	2.419
80% gamma percentile (KM)	0.376	90% gamma percentile (KM)	1.044
95% gamma percentile (KM)	1.954	99% gamma percentile (KM)	4.612

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (10.81, α)	4.454	Adjusted Chi Square Value (10.81, β)	4.277
95% KM Approximate Gamma UCL	0.857	95% KM Adjusted Gamma UCL	0.893

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.765	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.838	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.375	Mean in Log Scale	-1.577
SD in Original Scale	0.958	SD in Log Scale	0.793
95% t UCL (assumes normality of ROS data)	0.641	95% Percentile Bootstrap UCL	0.683
95% BCA Bootstrap UCL	0.855	95% Bootstrap t UCL	1.962
95% H-UCL (Log ROS)	0.377		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.632	KM Geo Mean	0.196
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.083
KM Standard Error of Mean (logged)	0.193	95% H-UCL (KM -Log)	0.32
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.083
KM Standard Error of Mean (logged)	0.193		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.413	Mean in Log Scale	-1.297
SD in Original Scale	0.946	SD in Log Scale	0.576
95% t UCL (Assumes normality)	0.676	95% H-Stat UCL	0.39

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 10% Significance Level

Suggested UCL to Use

KM H-UCL 0.32

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MCPA

General Statistics

Total Number of Observations	37	Number of Distinct Observations	12
Number of Detects	3	Number of Non-Detects	34
Number of Distinct Detects	3	Number of Distinct Non-Detects	9
Minimum Detect	0.67	Minimum Non-Detect	0.22
Maximum Detect	5.1	Maximum Non-Detect	0.3
Variance Detects	5.374	Percent Non-Detects	91.89%
Mean Detects	2.49	SD Detects	2.318
Median Detects	1.7	CV Detects	0.931
Skewness Detects	1.355	Kurtosis Detects	N/A
Mean of Logged Detects	0.586	SD of Logged Detects	1.016

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.913	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.3	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.404	KM Standard Error of Mean	0.165
90KM SD	0.821	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.683	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.676	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	0.9	95% KM Chebyshev UCL	1.125
97.5% KM Chebyshev UCL	1.437	99% KM Chebyshev UCL	2.049

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.271	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.638	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.245	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.437	Detected data appear Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.682	k star (bias corrected MLE)	N/A
Theta hat (MLE)	1.48	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	10.09	nu star (bias corrected)	N/A
Mean (detects)	2.49		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.211
Maximum	5.1	Median	0.01
SD	0.877	CV	4.156
k hat (MLE)	0.267	k star (bias corrected MLE)	0.264
Theta hat (MLE)	0.79	Theta star (bias corrected MLE)	0.801
nu hat (MLE)	19.78	nu star (bias corrected)	19.51
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (19.51, α)	10.49	Adjusted Chi Square Value (19.51, β)	10.2
95% Gamma Approximate UCL	0.393	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.404	SD (KM)	0.821
Variance (KM)	0.674	SE of Mean (KM)	0.165
k hat (KM)	0.242	k star (KM)	0.24
nu hat (KM)	17.91	nu star (KM)	17.79
theta hat (KM)	1.669	theta star (KM)	1.68
80% gamma percentile (KM)	0.578	90% gamma percentile (KM)	1.216
95% gamma percentile (KM)	1.978	99% gamma percentile (KM)	4.019

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.79, α)	9.242	Adjusted Chi Square Value (17.79, β)	8.974
95% KM Approximate Gamma UCL	0.778	95% KM Adjusted Gamma UCL	0.801

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.998	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.189	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.208	Mean in Log Scale	-6.445
SD in Original Scale	0.878	SD in Log Scale	3.132
95% t UCL (assumes normality of ROS data)	0.452	95% Percentile Bootstrap UCL	0.465
95% BCA Bootstrap UCL	0.622	95% Bootstrap t UCL	1.689
95% H-UCL (Log ROS)	3.718		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.344	KM Geo Mean	0.261
KM SD (logged)	0.62	95% Critical H Value (KM-Log)	2.008
KM Standard Error of Mean (logged)	0.125	95% H-UCL (KM -Log)	0.389
KM SD (logged)	0.62	95% Critical H Value (KM-Log)	2.008
KM Standard Error of Mean (logged)	0.125		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.322	Mean in Log Scale	-1.821
SD in Original Scale	0.851	SD in Log Scale	0.767
95% t UCL (Assumes normality)	0.559	95% H-Stat UCL	0.286

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.683

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2,4-Dichlorophenoxyacetic acid

General Statistics

Total Number of Observations	37	Number of Distinct Observations	24
Number of Detects	13	Number of Non-Detects	24
Number of Distinct Detects	11	Number of Distinct Non-Detects	14
Minimum Detect	0.1	Minimum Non-Detect	0.44
Maximum Detect	6	Maximum Non-Detect	0.6
Variance Detects	5.205	Percent Non-Detects	64.86%
Mean Detects	1.623	SD Detects	2.281
Median Detects	0.33	CV Detects	1.406
Skewness Detects	1.247	Kurtosis Detects	-0.115
Mean of Logged Detects	-0.641	SD of Logged Detects	1.579

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.688	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.814	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.379	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.271	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.705	KM Standard Error of Mean	0.252
90KM SD	1.467	95% KM (BCA) UCL	1.11
95% KM (t) UCL	1.131	95% KM (Percentile Bootstrap) UCL	1.116
95% KM (z) UCL	1.12	95% KM Bootstrap t UCL	1.412
90% KM Chebyshev UCL	1.462	95% KM Chebyshev UCL	1.805
97.5% KM Chebyshev UCL	2.281	99% KM Chebyshev UCL	3.217

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.303	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.786	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.291	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.249	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.555	k star (bias corrected MLE)	0.479
Theta hat (MLE)	2.922	Theta star (bias corrected MLE)	3.392
nu hat (MLE)	14.44	nu star (bias corrected)	12.44
Mean (detects)	1.623		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.678
Maximum	6	Median	0.112
SD	1.512	CV	2.232
k hat (MLE)	0.338	k star (bias corrected MLE)	0.328
Theta hat (MLE)	2.005	Theta star (bias corrected MLE)	2.063
nu hat (MLE)	25	nu star (bias corrected)	24.31
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (24.31, α)	14.08	Adjusted Chi Square Value (24.31, β)	13.74
95% Gamma Approximate UCL	1.17	95% Gamma Adjusted UCL	1.198

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.705	SD (KM)	1.467
Variance (KM)	2.152	SE of Mean (KM)	0.252
k hat (KM)	0.231	k star (KM)	0.23
nu hat (KM)	17.07	nu star (KM)	17.02
theta hat (KM)	3.054	theta star (KM)	3.063
80% gamma percentile (KM)	0.991	90% gamma percentile (KM)	2.125
95% gamma percentile (KM)	3.495	99% gamma percentile (KM)	7.184

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.02, α)	8.688	Adjusted Chi Square Value (17.02, β)	8.429
95% KM Approximate Gamma UCL	1.381	95% KM Adjusted Gamma UCL	1.423

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.83	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.889	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.204	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.215	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.735	Mean in Log Scale	-1.206
SD in Original Scale	1.479	SD in Log Scale	1.1
95% t UCL (assumes normality of ROS data)	1.145	95% Percentile Bootstrap UCL	1.154
95% BCA Bootstrap UCL	1.242	95% Bootstrap t UCL	1.523
95% H-UCL (Log ROS)	0.867		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.322	KM Geo Mean	0.267
KM SD (logged)	1.097	95% Critical H Value (KM-Log)	2.502
KM Standard Error of Mean (logged)	0.225	95% H-UCL (KM -Log)	0.769
KM SD (logged)	1.097	95% Critical H Value (KM-Log)	2.502
KM Standard Error of Mean (logged)	0.225		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.741	Mean in Log Scale	-1.095
SD in Original Scale	1.473	SD in Log Scale	0.975
95% t UCL (Assumes normality)	1.149	95% H-Stat UCL	0.789

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 10% Significance Level

Suggested UCL to Use

KM H-UCL 0.769

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2,4-DB

General Statistics

Total Number of Observations	37	Number of Distinct Observations	13
Number of Detects	4	Number of Non-Detects	33
Number of Distinct Detects	4	Number of Distinct Non-Detects	9
Minimum Detect	0.43	Minimum Non-Detect	2.2
Maximum Detect	5.5	Maximum Non-Detect	3
Variance Detects	5.901	Percent Non-Detects	89.19%
Mean Detects	1.868	SD Detects	2.429
Median Detects	0.77	CV Detects	1.301
Skewness Detects	1.963	Kurtosis Detects	3.874
Mean of Logged Detects	0.0773	SD of Logged Detects	1.126

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.703	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.405	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.788	KM Standard Error of Mean	0.194
90KM SD	0.808	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.116	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1.107	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.371	95% KM Chebyshev UCL	1.635
97.5% KM Chebyshev UCL	2.001	99% KM Chebyshev UCL	2.721

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.575	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.666	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.377	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.402	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	1.049	k star (bias corrected MLE)	0.429
Theta hat (MLE)	1.781	Theta star (bias corrected MLE)	4.354
nu hat (MLE)	8.391	nu star (bias corrected)	3.431
Mean (detects)	1.868		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.874
Maximum	5.5	Median	0.593
SD	1.011	CV	1.156
k hat (MLE)	0.781	k star (bias corrected MLE)	0.735
Theta hat (MLE)	1.119	Theta star (bias corrected MLE)	1.188
nu hat (MLE)	57.78	nu star (bias corrected)	54.43
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (54.43, α)	38.47	Adjusted Chi Square Value (54.43, β)	37.89
95% Gamma Approximate UCL	1.236	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.788	SD (KM)	0.808
Variance (KM)	0.653	SE of Mean (KM)	0.194
k hat (KM)	0.95	k star (KM)	0.891
nu hat (KM)	70.31	nu star (KM)	65.94
theta hat (KM)	0.829	theta star (KM)	0.884
80% gamma percentile (KM)	1.279	90% gamma percentile (KM)	1.866
95% gamma percentile (KM)	2.458	99% gamma percentile (KM)	3.846

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (65.94, α)	48.26	Adjusted Chi Square Value (65.94, β)	47.6
95% KM Approximate Gamma UCL	1.076	95% KM Adjusted Gamma UCL	1.091

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.86	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.314	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.878	Mean in Log Scale	-0.372
SD in Original Scale	0.88	SD in Log Scale	0.644
95% t UCL (assumes normality of ROS data)	1.123	95% Percentile Bootstrap UCL	1.132
95% BCA Bootstrap UCL	1.291	95% Bootstrap t UCL	1.337
95% H-UCL (Log ROS)	1.054		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.407	KM Geo Mean	0.666
KM SD (logged)	0.461	95% Critical H Value (KM-Log)	1.884
KM Standard Error of Mean (logged)	0.207	95% H-UCL (KM -Log)	0.856
KM SD (logged)	0.461	95% Critical H Value (KM-Log)	1.884
KM Standard Error of Mean (logged)	0.207		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1.369	Mean in Log Scale	0.246
SD in Original Scale	0.729	SD in Log Scale	0.338
95% t UCL (Assumes normality)	1.572	95% H-Stat UCL	1.499

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1.116

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Endosulfan I

General Statistics

Total Number of Observations	37	Number of Distinct Observations	21
Number of Detects	2	Number of Non-Detects	35
Number of Distinct Detects	2	Number of Distinct Non-Detects	20
Minimum Detect	13	Minimum Non-Detect	0.62
Maximum Detect	37	Maximum Non-Detect	13
Variance Detects	288	Percent Non-Detects	94.59%
Mean Detects	25	SD Detects	16.97
Median Detects	25	CV Detects	0.679
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	3.088	SD of Logged Detects	0.74

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.938	KM Standard Error of Mean	1.437
90KM SD	6.179	95% KM (BCA) UCL	N/A
95% KM (t) UCL	4.363	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	4.301	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	6.247	95% KM Chebyshev UCL	8.199
97.5% KM Chebyshev UCL	10.91	99% KM Chebyshev UCL	16.23

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	3.977	k star (bias corrected MLE)	N/A
Theta hat (MLE)	6.285	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	15.91	nu star (bias corrected)	N/A
Mean (detects)	25		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.938	SD (KM)	6.179
Variance (KM)	38.18	SE of Mean (KM)	1.437
k hat (KM)	0.0984	k star (KM)	0.108
nu hat (KM)	7.279	nu star (KM)	8.022
theta hat (KM)	19.7	theta star (KM)	17.88
80% gamma percentile (KM)	1.502	90% gamma percentile (KM)	5.319
95% gamma percentile (KM)	11.18	99% gamma percentile (KM)	29.55

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0431
Approximate Chi Square Value (8.02, α)	2.748	Adjusted Chi Square Value (8.02, β)	2.615
95% KM Approximate Gamma UCL	5.657	95% KM Adjusted Gamma UCL	5.944

95% KM Adjusted Gamma UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.394	Mean in Log Scale	-3.628
SD in Original Scale	6.382	SD in Log Scale	2.16
95% t UCL (assumes normality of ROS data)	3.165	95% Percentile Bootstrap UCL	3.379
95% BCA Bootstrap UCL	4.392	95% Bootstrap t UCL	142.2
95% H-UCL (Log ROS)	1.143		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.285	KM Geo Mean	0.752
KM SD (logged)	0.815	95% Critical H Value (KM-Log)	2.191
KM Standard Error of Mean (logged)	0.19	95% H-UCL (KM -Log)	1.412
KM SD (logged)	0.815	95% Critical H Value (KM-Log)	2.191
KM Standard Error of Mean (logged)	0.19		

Note: KM UCLs may be biased low with this dataset. Other substitution method recommended

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.398	Mean in Log Scale	-0.164
SD in Original Scale	6.286	SD in Log Scale	1.193
95% t UCL (Assumes normality)	4.142	95% H-Stat UCL	2.911

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 4.363

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Diesel Range Organics (C10 - C28)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	26
Number of Detects	27	Number of Non-Detects	10
Number of Distinct Detects	25	Number of Distinct Non-Detects	2
Minimum Detect	5.6	Minimum Non-Detect	11
Maximum Detect	91	Maximum Non-Detect	12
Variance Detects	761.8	Percent Non-Detects	27.03%
Mean Detects	29.79	SD Detects	27.6
Median Detects	18	CV Detects	0.927
Skewness Detects	1.155	Kurtosis Detects	0.185
Mean of Logged Detects	2.966	SD of Logged Detects	0.962

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.811	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.894	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.19	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.194	Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	23.65	KM Standard Error of Mean	4.232
90KM SD	25.25	95% KM (BCA) UCL	30.59
95% KM (t) UCL	30.8	95% KM (Percentile Bootstrap) UCL	30.71
95% KM (z) UCL	30.61	95% KM Bootstrap t UCL	32.73
90% KM Chebyshev UCL	36.35	95% KM Chebyshev UCL	42.1
97.5% KM Chebyshev UCL	50.08	99% KM Chebyshev UCL	65.76

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.91	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.767	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.167	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.172	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.309	k star (bias corrected MLE)	1.188
Theta hat (MLE)	22.75	Theta star (bias corrected MLE)	25.07
nu hat (MLE)	70.69	nu star (bias corrected)	64.17
Mean (detects)	29.79		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	23.19
Maximum	91	Median	11
SD	26.04	CV	1.123
k hat (MLE)	0.607	k star (bias corrected MLE)	0.576
Theta hat (MLE)	38.19	Theta star (bias corrected MLE)	40.26
nu hat (MLE)	44.93	nu star (bias corrected)	42.62
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (42.62, α)	28.65	Adjusted Chi Square Value (42.62, β)	28.16
95% Gamma Approximate UCL	34.5	95% Gamma Adjusted UCL	35.11

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	23.65	SD (KM)	25.25
Variance (KM)	637.4	SE of Mean (KM)	4.232
k hat (KM)	0.878	k star (KM)	0.824
nu hat (KM)	64.94	nu star (KM)	61.01
theta hat (KM)	26.95	theta star (KM)	28.69
80% gamma percentile (KM)	38.58	90% gamma percentile (KM)	57.09
95% gamma percentile (KM)	75.9	99% gamma percentile (KM)	120.2

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (61.01, α)	44.05	Adjusted Chi Square Value (61.01, β)	43.42
95% KM Approximate Gamma UCL	32.76	95% KM Adjusted Gamma UCL	33.23

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.907	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.935	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.158	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.153	Detected Data Not Lognormal at 10% Significance Level	

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	23.97	Mean in Log Scale	2.711
SD in Original Scale	25.44	SD in Log Scale	0.95
95% t UCL (assumes normality of ROS data)	31.03	95% Percentile Bootstrap UCL	31.02
95% BCA Bootstrap UCL	31.79	95% Bootstrap t UCL	32.88
95% H-UCL (Log ROS)	34.19		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.689	KM Geo Mean	14.72
KM SD (logged)	0.93	95% Critical H Value (KM-Log)	2.311
KM Standard Error of Mean (logged)	0.157	95% H-UCL (KM -Log)	32.45
KM SD (logged)	0.93	95% Critical H Value (KM-Log)	2.311
KM Standard Error of Mean (logged)	0.157		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	23.26	Mean in Log Scale	2.632
SD in Original Scale	25.85	SD in Log Scale	0.989
95% t UCL (Assumes normality)	30.44	95% H-Stat UCL	33.54

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 30.8

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Gasoline Range Organics (C6 - C10)

General Statistics

Total Number of Observations	37	Number of Distinct Observations	29
Number of Detects	16	Number of Non-Detects	21
Number of Distinct Detects	15	Number of Distinct Non-Detects	16
Minimum Detect	0.55	Minimum Non-Detect	0.72
Maximum Detect	27	Maximum Non-Detect	10
Variance Detects	53	Percent Non-Detects	56.76%
Mean Detects	4.926	SD Detects	7.28
Median Detects	2.05	CV Detects	1.478
Skewness Detects	2.326	Kurtosis Detects	5.302
Mean of Logged Detects	0.865	SD of Logged Detects	1.165

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.632	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.844	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.352	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.248	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.64	KM Standard Error of Mean	0.865
90KM SD	5.068	95% KM (BCA) UCL	4.368
95% KM (t) UCL	4.1	95% KM (Percentile Bootstrap) UCL	4.226
95% KM (z) UCL	4.063	95% KM Bootstrap t UCL	5.558
90% KM Chebyshev UCL	5.235	95% KM Chebyshev UCL	6.41
97.5% KM Chebyshev UCL	8.041	99% KM Chebyshev UCL	11.25

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.107	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.772	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.223	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.223	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.812	k star (bias corrected MLE)	0.701
Theta hat (MLE)	6.069	Theta star (bias corrected MLE)	7.025
nu hat (MLE)	25.97	nu star (bias corrected)	22.44
Mean (detects)	4.926		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.179
Maximum	27	Median	0.01
SD	5.294	CV	2.429
k hat (MLE)	0.255	k star (bias corrected MLE)	0.252
Theta hat (MLE)	8.56	Theta star (bias corrected MLE)	8.65
nu hat (MLE)	18.84	nu star (bias corrected)	18.65
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (18.65, α)	9.86	Adjusted Chi Square Value (18.65, β)	9.582
95% Gamma Approximate UCL	4.122	95% Gamma Adjusted UCL	4.241

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.64	SD (KM)	5.068
Variance (KM)	25.68	SE of Mean (KM)	0.865
k hat (KM)	0.271	k star (KM)	0.267
nu hat (KM)	20.09	nu star (KM)	19.79
theta hat (KM)	9.726	theta star (KM)	9.872
80% gamma percentile (KM)	3.922	90% gamma percentile (KM)	7.882
95% gamma percentile (KM)	12.52	99% gamma percentile (KM)	24.76

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (19.79, α)	10.7	Adjusted Chi Square Value (19.79, β)	10.41
95% KM Approximate Gamma UCL	4.885	95% KM Adjusted Gamma UCL	5.021

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.917	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.906	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.129	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.196	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.535	Mean in Log Scale	0.129
SD in Original Scale	5.159	SD in Log Scale	1.048
95% t UCL (assumes normality of ROS data)	3.967	95% Percentile Bootstrap UCL	4.005
95% BCA Bootstrap UCL	4.574	95% Bootstrap t UCL	5.518
95% H-UCL (Log ROS)	3.02		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.241	KM Geo Mean	1.272
KM SD (logged)	0.978	95% Critical H Value (KM-Log)	2.364
KM Standard Error of Mean (logged)	0.179	95% H-UCL (KM -Log)	3.017
KM SD (logged)	0.978	95% Critical H Value (KM-Log)	2.364
KM Standard Error of Mean (logged)	0.179		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.856	Mean in Log Scale	0.341
SD in Original Scale	5.111	SD in Log Scale	1.059
95% t UCL (Assumes normality)	4.275	95% H-Stat UCL	3.8

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 5.021

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,

it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.2 5/22/2026 2:10:02 PM
From File	SSP_ProUCLInput.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Ethylbenzene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	8

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Ethylbenzene was not processed!

Styrene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	8

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Styrene was not processed!

Heptachlor Epoxide

General Statistics

Total Number of Observations	15	Number of Distinct Observations	6
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	6

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor Epoxide was not processed!

Endosulfan Sulfate

General Statistics

Total Number of Observations	15	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan Sulfate was not processed!

Methylcyclohexane

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	8

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Methylcyclohexane was not processed!

Toluene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	10
Number of Detects	2	Number of Non-Detects	13
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	1.1	Minimum Non-Detect	2
Maximum Detect	1.3	Maximum Non-Detect	140
Variance Detects	0.02	Percent Non-Detects	86.67%
Mean Detects	1.2	SD Detects	0.141
Median Detects	1.2	CV Detects	0.118
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	0.179	SD of Logged Detects	0.118

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only
Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.2	KM Standard Error of Mean	0.1
90KM SD	0.1	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.376	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1.364	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.5	95% KM Chebyshev UCL	1.636
97.5% KM Chebyshev UCL	1.824	99% KM Chebyshev UCL	2.195

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	143.7	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00835	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	574.7	nu star (bias corrected)	N/A
Mean (detects)	1.2		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.2	SD (KM)	0.1
Variance (KM)	0.01	SE of Mean (KM)	0.1
k hat (KM)	144	k star (KM)	115.2
nu hat (KM)	4320	nu star (KM)	3457
theta hat (KM)	0.00833	theta star (KM)	0.0104
80% gamma percentile (KM)	1.293	90% gamma percentile (KM)	1.345
95% gamma percentile (KM)	1.39	99% gamma percentile (KM)	1.475

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0324
Approximate Chi Square Value (N/A, α)	3322	Adjusted Chi Square Value (N/A, β)	3305
95% KM Approximate Gamma UCL	1.249	95% KM Adjusted Gamma UCL	1.255

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.201	Mean in Log Scale	0.179
SD in Original Scale	0.114	SD in Log Scale	0.0949
95% t UCL (assumes normality of ROS data)	1.253	95% Percentile Bootstrap UCL	1.25
95% BCA Bootstrap UCL	1.255	95% Bootstrap t UCL	1.258
95% H-UCL (Log ROS)	N/A		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.179	KM Geo Mean	1.196
KM SD (logged)	0.0835	95% Critical H Value (KM-Log)	N/A
KM Standard Error of Mean (logged)	0.0835	95% H-UCL (KM -Log)	N/A
KM SD (logged)	0.0835	95% Critical H Value (KM-Log)	N/A
KM Standard Error of Mean (logged)	0.0835		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	9.657	Mean in Log Scale	0.666
SD in Original Scale	22.55	SD in Log Scale	1.427
95% t UCL (Assumes normality)	19.91	95% H-Stat UCL	20.32

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL	1.376

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Aroclor 1254

General Statistics

Total Number of Observations	15	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Aroclor 1254 was not processed!

Anthracene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	4.5	Mean	72.8
Maximum	350	Median	28
SD	111.5	Std. Error of Mean	28.78
Coefficient of Variation	1.531	Skewness	2.171

Normal GOF Test

Shapiro Wilk Test Statistic	0.612	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.339	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	123.5	95% Adjusted-CLT UCL (Chen-1995)	137.4
		95% Modified-t UCL (Johnson-1978)	126.2

Gamma GOF Test

A-D Test Statistic	0.769	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.78	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.189	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.682	k star (bias corrected MLE)	0.59
Theta hat (MLE)	106.7	Theta star (bias corrected MLE)	123.3
nu hat (MLE)	20.47	nu star (bias corrected)	17.71
MLE Mean (bias corrected)	72.8	MLE Sd (bias corrected)	94.75
		Approximate Chi Square Value (0.05)	9.182
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	8.434

Assuming Gamma Distribution

95% Approximate Gamma UCL	140.4	95% Adjusted Gamma UCL	152.9

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.938	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.134	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.504	Mean of logged Data	3.399
Maximum of Logged Data	5.858	SD of logged Data	1.374

Assuming Lognormal Distribution

95% H-UCL	266	90% Chebyshev (MVUE) UCL	152.4
95% Chebyshev (MVUE) UCL	190.2	97.5% Chebyshev (MVUE) UCL	242.5
99% Chebyshev (MVUE) UCL	345.4		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	120.1	95% BCA Bootstrap UCL	137.3
95% Standard Bootstrap UCL	119.3	95% Bootstrap-t UCL	254.3
95% Hall's Bootstrap UCL	394.3	95% Percentile Bootstrap UCL	123.6
90% Chebyshev(Mean, Sd) UCL	159.1	95% Chebyshev(Mean, Sd) UCL	198.2
97.5% Chebyshev(Mean, Sd) UCL	252.5	99% Chebyshev(Mean, Sd) UCL	359.1

Suggested UCL to Use

95% Adjusted Gamma UCL 152.9

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2,4-DP (DICHLOROPROP)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 2,4-DP (DICHLOROPROP) was not processed!

Tetrachloroethene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	9

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Tetrachloroethene was not processed!

Pyrene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	22	Mean	304.4
Maximum	1900	Median	100
SD	543.4	Std. Error of Mean	140.3
Coefficient of Variation	1.785	Skewness	2.519

Normal GOF Test

Shapiro Wilk Test Statistic	0.552	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	551.5	95% Adjusted-CLT UCL (Chen-1995)	632.7
		95% Modified-t UCL (Johnson-1978)	566.7

Gamma GOF Test

A-D Test Statistic	1.211	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.784	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.238	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.232	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.631	k star (bias corrected MLE)	0.549
Theta hat (MLE)	482.5	Theta star (bias corrected MLE)	554.3
nu hat (MLE)	18.93	nu star (bias corrected)	16.47
MLE Mean (bias corrected)	304.4	MLE Sd (bias corrected)	410.8
		Approximate Chi Square Value (0.05)	8.297
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	7.592

Assuming Gamma Distribution

95% Approximate Gamma UCL	604.4	95% Adjusted Gamma UCL	660.5

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.919	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.125	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.091	Mean of logged Data	4.746
Maximum of Logged Data	7.55	SD of logged Data	1.326

Assuming Lognormal Distribution

95% H-UCL	891.3	90% Chebyshev (MVUE) UCL	543.5
95% Chebyshev (MVUE) UCL	675.6	97.5% Chebyshev (MVUE) UCL	859
99% Chebyshev (MVUE) UCL	1219		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	535.2	95% BCA Bootstrap UCL	631.3
95% Standard Bootstrap UCL	529.9	95% Bootstrap-t UCL	1725
95% Hall's Bootstrap UCL	1818	95% Percentile Bootstrap UCL	548
90% Chebyshev(Mean, Sd) UCL	725.3	95% Chebyshev(Mean, Sd) UCL	915.9
97.5% Chebyshev(Mean, Sd) UCL	1181	99% Chebyshev(Mean, Sd) UCL	1700

Suggested UCL to Use

95% H-UCL 891.3

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Xylenes, Total

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	8

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Xylenes, Total was not processed!

Benzo(g,h,i)perylene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	9.1	Mean	87.69
Maximum	560	Median	31
SD	150.4	Std. Error of Mean	38.84
Coefficient of Variation	1.715	Skewness	2.744

Normal GOF Test

Shapiro Wilk Test Statistic	0.556	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.376	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	156.1	95% Adjusted-CLT UCL (Chen-1995)	181
		95% Modified-t UCL (Johnson-1978)	160.7

Gamma GOF Test

A-D Test Statistic	1.183	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.776	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.241	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.23	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.731	k star (bias corrected MLE)	0.629
Theta hat (MLE)	120	Theta star (bias corrected MLE)	139.4
nu hat (MLE)	21.92	nu star (bias corrected)	18.87
MLE Mean (bias corrected)	87.69	MLE Sd (bias corrected)	110.6
		Approximate Chi Square Value (0.05)	10.02
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.237

Assuming Gamma Distribution

95% Approximate Gamma UCL	165.1	95% Adjusted Gamma UCL	179.1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.917	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.141	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.208	Mean of logged Data	3.652
Maximum of Logged Data	6.328	SD of logged Data	1.197

Assuming Lognormal Distribution

95% H-UCL	210.6	90% Chebyshev (MVUE) UCL	149.1
95% Chebyshev (MVUE) UCL	183.4	97.5% Chebyshev (MVUE) UCL	231.1
99% Chebyshev (MVUE) UCL	324.7		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	151.6	95% BCA Bootstrap UCL	183.3
95% Standard Bootstrap UCL	150	95% Bootstrap-t UCL	440
95% Hall's Bootstrap UCL	470.3	95% Percentile Bootstrap UCL	157.7
90% Chebyshev(Mean, Sd) UCL	204.2	95% Chebyshev(Mean, Sd) UCL	257
97.5% Chebyshev(Mean, Sd) UCL	330.3	99% Chebyshev(Mean, Sd) UCL	474.2

Suggested UCL to Use

95% H-UCL 210.6

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

DICAMBA

General Statistics

Total Number of Observations	15	Number of Distinct Observations	10
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DICAMBA was not processed!

Indeno(1,2,3-Cd)Pyrene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	9.9	Mean	92.13
Maximum	580	Median	34
SD	153	Std. Error of Mean	39.52
Coefficient of Variation	1.661	Skewness	2.801

Normal GOF Test

Shapiro Wilk Test Statistic	0.567	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.354	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	161.7	95% Adjusted-CLT UCL (Chen-1995)	187.7
		95% Modified-t UCL (Johnson-1978)	166.5

Gamma GOF Test

A-D Test Statistic	1.038	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.774	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.221	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.77	k star (bias corrected MLE)	0.66
Theta hat (MLE)	119.6	Theta star (bias corrected MLE)	139.5
nu hat (MLE)	23.1	nu star (bias corrected)	19.81
MLE Mean (bias corrected)	92.13	MLE Sd (bias corrected)	113.4
		Approximate Chi Square Value (0.05)	10.71
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.898

Assuming Gamma Distribution

95% Approximate Gamma UCL	170.4	95% Adjusted Gamma UCL	184.4

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.93	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.123	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.293	Mean of logged Data	3.748
Maximum of Logged Data	6.363	SD of logged Data	1.174

Assuming Lognormal Distribution

95% H-UCL	218.8	90% Chebyshev (MVUE) UCL	158.7
95% Chebyshev (MVUE) UCL	194.8	97.5% Chebyshev (MVUE) UCL	245
99% Chebyshev (MVUE) UCL	343.6		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	157.1	95% BCA Bootstrap UCL	190.6
95% Standard Bootstrap UCL	155.5	95% Bootstrap-t UCL	403.7
95% Hall's Bootstrap UCL	467.2	95% Percentile Bootstrap UCL	162.7
90% Chebyshev(Mean, Sd) UCL	210.7	95% Chebyshev(Mean, Sd) UCL	264.4
97.5% Chebyshev(Mean, Sd) UCL	338.9	99% Chebyshev(Mean, Sd) UCL	485.3

Suggested UCL to Use

95% Adjusted Gamma UCL 184.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	16	Mean	174.1
Maximum	1100	Median	61
SD	296.6	Std. Error of Mean	76.57
Coefficient of Variation	1.704	Skewness	2.713

Normal GOF Test

Shapiro Wilk Test Statistic	0.563	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.372	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	308.9	95% Adjusted-CLT UCL (Chen-1995)	357.3
		95% Modified-t UCL (Johnson-1978)	317.9

Gamma GOF Test

A-D Test Statistic	1.073	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.777	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.219	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.718	k star (bias corrected MLE)	0.619
Theta hat (MLE)	242.3	Theta star (bias corrected MLE)	281.2
nu hat (MLE)	21.55	nu star (bias corrected)	18.57
MLE Mean (bias corrected)	174.1	MLE Sd (bias corrected)	221.2
		Approximate Chi Square Value (0.05)	9.805
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.029

Assuming Gamma Distribution

95% Approximate Gamma UCL	329.7	95% Adjusted Gamma UCL	358

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.93	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.12	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.773	Mean of logged Data	4.321
Maximum of Logged Data	7.003	SD of logged Data	1.227

Assuming Lognormal Distribution

95% H-UCL	444.9	90% Chebyshev (MVUE) UCL	304.9
95% Chebyshev (MVUE) UCL	376	97.5% Chebyshev (MVUE) UCL	474.8
99% Chebyshev (MVUE) UCL	668.8		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	300	95% BCA Bootstrap UCL	359.8
95% Standard Bootstrap UCL	297	95% Bootstrap-t UCL	839.1
95% Hall's Bootstrap UCL	946.7	95% Percentile Bootstrap UCL	311.9
90% Chebyshev(Mean, Sd) UCL	403.8	95% Chebyshev(Mean, Sd) UCL	507.8
97.5% Chebyshev(Mean, Sd) UCL	652.3	99% Chebyshev(Mean, Sd) UCL	936

Suggested UCL to Use

95% Adjusted Gamma UCL 358

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Fluoranthene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	24	Mean	322.5
Maximum	1900	Median	130
SD	539.1	Std. Error of Mean	139.2
Coefficient of Variation	1.672	Skewness	2.471

Normal GOF Test

Shapiro Wilk Test Statistic	0.582	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.354	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	567.6	95% Adjusted-CLT UCL (Chen-1995)	646.3
		95% Modified-t UCL (Johnson-1978)	582.4

Gamma GOF Test

A-D Test Statistic	0.965	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.781	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.214	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.672	k star (bias corrected MLE)	0.582
Theta hat (MLE)	479.9	Theta star (bias corrected MLE)	554
nu hat (MLE)	20.16	nu star (bias corrected)	17.46
MLE Mean (bias corrected)	322.5	MLE Sd (bias corrected)	422.7
		Approximate Chi Square Value (0.05)	9.003
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	8.263

Assuming Gamma Distribution

95% Approximate Gamma UCL	625.4	95% Adjusted Gamma UCL	681.4

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.934	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.135	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.178	Mean of logged Data	4.871
Maximum of Logged Data	7.55	SD of logged Data	1.318

Assuming Lognormal Distribution

95% H-UCL	988.3	90% Chebyshev (MVUE) UCL	608.6
95% Chebyshev (MVUE) UCL	756.1	97.5% Chebyshev (MVUE) UCL	960.8
99% Chebyshev (MVUE) UCL	1363		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	551.4	95% BCA Bootstrap UCL	646.9
95% Standard Bootstrap UCL	546.2	95% Bootstrap-t UCL	1452
95% Hall's Bootstrap UCL	1808	95% Percentile Bootstrap UCL	566.9
90% Chebyshev(Mean, Sd) UCL	740.1	95% Chebyshev(Mean, Sd) UCL	929.2
97.5% Chebyshev(Mean, Sd) UCL	1192	99% Chebyshev(Mean, Sd) UCL	1707

Suggested UCL to Use

95% Adjusted Gamma UCL 681.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	5.9	Mean	57.89
Maximum	310	Median	23
SD	86.46	Std. Error of Mean	22.32
Coefficient of Variation	1.494	Skewness	2.391

Normal GOF Test

Shapiro Wilk Test Statistic	0.624	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.302	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	97.21	95% Adjusted-CLT UCL (Chen-1995)	109.3
		95% Modified-t UCL (Johnson-1978)	99.5

Gamma GOF Test

A-D Test Statistic	0.815	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.772	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.182	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.807	k star (bias corrected MLE)	0.69
Theta hat (MLE)	71.71	Theta star (bias corrected MLE)	83.87
nu hat (MLE)	24.22	nu star (bias corrected)	20.71
MLE Mean (bias corrected)	57.89	MLE Sd (bias corrected)	69.68
		Approximate Chi Square Value (0.05)	11.37
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	10.53

Assuming Gamma Distribution

95% Approximate Gamma UCL	105.4	95% Adjusted Gamma UCL	113.8

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.943	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.115	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.775	Mean of logged Data	3.324
Maximum of Logged Data	5.737	SD of logged Data	1.189

Assuming Lognormal Distribution

95% H-UCL	148.8	90% Chebyshev (MVUE) UCL	106.2
95% Chebyshev (MVUE) UCL	130.6	97.5% Chebyshev (MVUE) UCL	164.4
99% Chebyshev (MVUE) UCL	230.8		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	94.61	95% BCA Bootstrap UCL	109.6
95% Standard Bootstrap UCL	93.81	95% Bootstrap-t UCL	195.8
95% Hall's Bootstrap UCL	279.4	95% Percentile Bootstrap UCL	97.2
90% Chebyshev(Mean, Sd) UCL	124.9	95% Chebyshev(Mean, Sd) UCL	155.2
97.5% Chebyshev(Mean, Sd) UCL	197.3	99% Chebyshev(Mean, Sd) UCL	280

Suggested UCL to Use

95% Adjusted Gamma UCL 113.8

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Acenaphthylene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	0.44	Mean	7.263
Maximum	69	Median	1.4
SD	17.9	Std. Error of Mean	4.621
Coefficient of Variation	2.464	Skewness	3.389

Normal GOF Test

Shapiro Wilk Test Statistic	0.418	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.456	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	15.4	95% Adjusted-CLT UCL (Chen-1995)	19.18
		95% Modified-t UCL (Johnson-1978)	16.08

Gamma GOF Test

A-D Test Statistic	2.747	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.796	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.375	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.234	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.485	k star (bias corrected MLE)	0.432
Theta hat (MLE)	14.98	Theta star (bias corrected MLE)	16.8
nu hat (MLE)	14.55	nu star (bias corrected)	12.97
MLE Mean (bias corrected)	7.263	MLE Sd (bias corrected)	11.04
		Approximate Chi Square Value (0.05)	5.874
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	5.296

Assuming Gamma Distribution

95% Approximate Gamma UCL	16.04	95% Adjusted Gamma UCL	17.79

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.758	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.312	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.821	Mean of logged Data	0.667
Maximum of Logged Data	4.234	SD of logged Data	1.321

Assuming Lognormal Distribution

95% H-UCL	14.88	90% Chebyshev (MVUE) UCL	9.127
95% Chebyshev (MVUE) UCL	11.34	97.5% Chebyshev (MVUE) UCL	14.42
99% Chebyshev (MVUE) UCL	20.45		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	14.86	95% BCA Bootstrap UCL	20.73
95% Standard Bootstrap UCL	14.65	95% Bootstrap-t UCL	171
95% Hall's Bootstrap UCL	87.65	95% Percentile Bootstrap UCL	16.06
90% Chebyshev(Mean, Sd) UCL	21.13	95% Chebyshev(Mean, Sd) UCL	27.41
97.5% Chebyshev(Mean, Sd) UCL	36.12	99% Chebyshev(Mean, Sd) UCL	53.24

Suggested UCL to Use

95% Student's-t UCL 15.4

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chrysene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	14	Mean	156.9
Maximum	990	Median	53
SD	268.7	Std. Error of Mean	69.38
Coefficient of Variation	1.713	Skewness	2.68

Normal GOF Test

Shapiro Wilk Test Statistic	0.567	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.362	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	279.1	95% Adjusted-CLT UCL (Chen-1995)	322.3
		95% Modified-t UCL (Johnson-1978)	287.1

Gamma GOF Test

A-D Test Statistic	1.051	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.779	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.219	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.697	k star (bias corrected MLE)	0.602
Theta hat (MLE)	225	Theta star (bias corrected MLE)	260.5
nu hat (MLE)	20.91	nu star (bias corrected)	18.06
MLE Mean (bias corrected)	156.9	MLE Sd (bias corrected)	202.2
		Approximate Chi Square Value (0.05)	9.437
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	8.677

Assuming Gamma Distribution

95% Approximate Gamma UCL	300.3	95% Adjusted Gamma UCL	326.5

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.929	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.116	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.639	Mean of logged Data	4.188
Maximum of Logged Data	6.898	SD of logged Data	1.256

Assuming Lognormal Distribution

95% H-UCL	420.7	90% Chebyshev (MVUE) UCL	279
95% Chebyshev (MVUE) UCL	344.9	97.5% Chebyshev (MVUE) UCL	436.5
99% Chebyshev (MVUE) UCL	616.2		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	271	95% BCA Bootstrap UCL	323.6
95% Standard Bootstrap UCL	268.3	95% Bootstrap-t UCL	743.7
95% Hall's Bootstrap UCL	847	95% Percentile Bootstrap UCL	280.7
90% Chebyshev(Mean, Sd) UCL	365	95% Chebyshev(Mean, Sd) UCL	459.3
97.5% Chebyshev(Mean, Sd) UCL	590.1	99% Chebyshev(Mean, Sd) UCL	847.1

Suggested UCL to Use

95% Adjusted Gamma UCL	326.5

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,

it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

beta-BHC

General Statistics

Total Number of Observations	15	Number of Distinct Observations	7
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	7

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable beta-BHC was not processed!

Delta-Bhc

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	1	Number of Non-Detects	14
Number of Distinct Detects	1	Number of Distinct Non-Detects	7

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Delta-Bhc was not processed!

Endosulfan II

General Statistics

Total Number of Observations	15	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan II was not processed!

4,4'-DDT

General Statistics

Total Number of Observations	15	Number of Distinct Observations	2
Number of Detects	1	Number of Non-Detects	14
Number of Distinct Detects	1	Number of Distinct Non-Detects	1

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 4,4'-DDT was not processed!

Benzo(a)pyrene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	12	Mean	142.2
Maximum	890	Median	46
SD	243.5	Std. Error of Mean	62.86
Coefficient of Variation	1.712	Skewness	2.644

Normal GOF Test

Shapiro Wilk Test Statistic	0.566	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.37	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	252.9	95% Adjusted-CLT UCL (Chen-1995)	291.5
		95% Modified-t UCL (Johnson-1978)	260.1

Gamma GOF Test

A-D Test Statistic	1.081	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.779	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.222	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.697	k star (bias corrected MLE)	0.602
Theta hat (MLE)	204.2	Theta star (bias corrected MLE)	236.3
nu hat (MLE)	20.9	nu star (bias corrected)	18.05
MLE Mean (bias corrected)	142.2	MLE Sd (bias corrected)	183.3
		Approximate Chi Square Value (0.05)	9.427
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	8.668

Assuming Gamma Distribution

95% Approximate Gamma UCL	272.3	95% Adjusted Gamma UCL	296.1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.931	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.119	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.485	Mean of logged Data	4.089
Maximum of Logged Data	6.791	SD of logged Data	1.254

Assuming Lognormal Distribution

95% H-UCL	378.6	90% Chebyshev (MVUE) UCL	251.8
95% Chebyshev (MVUE) UCL	311.2	97.5% Chebyshev (MVUE) UCL	393.7
99% Chebyshev (MVUE) UCL	555.8		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	245.6	95% BCA Bootstrap UCL	293.4
95% Standard Bootstrap UCL	243.1	95% Bootstrap-t UCL	685
95% Hall's Bootstrap UCL	777.2	95% Percentile Bootstrap UCL	253.9
90% Chebyshev(Mean, Sd) UCL	330.8	95% Chebyshev(Mean, Sd) UCL	416.2
97.5% Chebyshev(Mean, Sd) UCL	534.8	99% Chebyshev(Mean, Sd) UCL	767.7

Suggested UCL to Use

95% Adjusted Gamma UCL 296.1

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Alpha-Chlordane

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
Number of Detects	4	Number of Non-Detects	11
Number of Distinct Detects	4	Number of Distinct Non-Detects	5
Minimum Detect	0.76	Minimum Non-Detect	0.96
Maximum Detect	3.4	Maximum Non-Detect	1
Variance Detects	1.391	Percent Non-Detects	73.33%
Mean Detects	1.69	SD Detects	1.179
Median Detects	1.3	CV Detects	0.698
Skewness Detects	1.619	Kurtosis Detects	2.728
Mean of Logged Detects	0.363	SD of Logged Detects	0.638

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.848	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.687	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.314	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.413	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.008	KM Standard Error of Mean	0.199
90KM SD	0.669	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1.359	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1.336	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.606	95% KM Chebyshev UCL	1.877
97.5% KM Chebyshev UCL	2.253	99% KM Chebyshev UCL	2.992

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.326	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.659	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.259	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.396	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	3.24	k star (bias corrected MLE)	0.977
Theta hat (MLE)	0.522	Theta star (bias corrected MLE)	1.73
nu hat (MLE)	25.92	nu star (bias corrected)	7.813
Mean (detects)	1.69		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.756
Maximum	3.4	Median	0.552
SD	0.843	CV	1.115
k hat (MLE)	0.818	k star (bias corrected MLE)	0.698
Theta hat (MLE)	0.925	Theta star (bias corrected MLE)	1.082
nu hat (MLE)	24.53	nu star (bias corrected)	20.95
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (20.95, α)	11.56	Adjusted Chi Square Value (20.95, β)	10.71
95% Gamma Approximate UCL	1.37	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.008	SD (KM)	0.669
Variance (KM)	0.447	SE of Mean (KM)	0.199
k hat (KM)	2.271	k star (KM)	1.861
nu hat (KM)	68.14	nu star (KM)	55.84
theta hat (KM)	0.444	theta star (KM)	0.542
80% gamma percentile (KM)	1.522	90% gamma percentile (KM)	1.994
95% gamma percentile (KM)	2.446	99% gamma percentile (KM)	3.454

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (55.84, α)	39.67	Adjusted Chi Square Value (55.84, β)	38
95% KM Approximate Gamma UCL	1.419	95% KM Adjusted Gamma UCL	1.482

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.958	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.792	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.223	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.346	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.943	Mean in Log Scale	-0.224
SD in Original Scale	0.736	SD in Log Scale	0.533
95% t UCL (assumes normality of ROS data)	1.278	95% Percentile Bootstrap UCL	1.271
95% BCA Bootstrap UCL	1.49	95% Bootstrap t UCL	1.819
95% H-UCL (Log ROS)	1.244		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.105	KM Geo Mean	0.901
KM SD (logged)	0.401	95% Critical H Value (KM-Log)	1.969
KM Standard Error of Mean (logged)	0.12	95% H-UCL (KM -Log)	1.205
KM SD (logged)	0.401	95% Critical H Value (KM-Log)	1.969
KM Standard Error of Mean (logged)	0.12		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.811	Mean in Log Scale	-0.424
SD in Original Scale	0.774	SD in Log Scale	0.573
95% t UCL (Assumes normality)	1.163	95% H-Stat UCL	1.072

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1.359

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Dibenzo(a,h)anthracene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	2.5	Mean	23.32
Maximum	130	Median	9.4
SD	35.03	Std. Error of Mean	9.045
Coefficient of Variation	1.502	Skewness	2.546

Normal GOF Test

Shapiro Wilk Test Statistic	0.615	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.314	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	39.25	95% Adjusted-CLT UCL (Chen-1995)	44.55
		95% Modified-t UCL (Johnson-1978)	40.24

Gamma GOF Test

A-D Test Statistic	0.816	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.771	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.192	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.229	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.833	k star (bias corrected MLE)	0.711
Theta hat (MLE)	28	Theta star (bias corrected MLE)	32.81
nu hat (MLE)	24.99	nu star (bias corrected)	21.32
MLE Mean (bias corrected)	23.32	MLE Sd (bias corrected)	27.66
		Approximate Chi Square Value (0.05)	11.83
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	10.97

Assuming Gamma Distribution

95% Approximate Gamma UCL	42.03	95% Adjusted Gamma UCL	45.33

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.943	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.107	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.916	Mean of logged Data	2.44
Maximum of Logged Data	4.868	SD of logged Data	1.161

Assuming Lognormal Distribution

95% H-UCL	57.23	90% Chebyshev (MVUE) UCL	42.07
95% Chebyshev (MVUE) UCL	51.59	97.5% Chebyshev (MVUE) UCL	64.81
99% Chebyshev (MVUE) UCL	90.78		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	38.2	95% BCA Bootstrap UCL	45
95% Standard Bootstrap UCL	37.86	95% Bootstrap-t UCL	80.53
95% Hall's Bootstrap UCL	111.7	95% Percentile Bootstrap UCL	39.38
90% Chebyshev(Mean, Sd) UCL	50.46	95% Chebyshev(Mean, Sd) UCL	62.75
97.5% Chebyshev(Mean, Sd) UCL	79.81	99% Chebyshev(Mean, Sd) UCL	113.3

Suggested UCL to Use

95% Adjusted Gamma UCL 45.33

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

gamma-Chlordane

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
Number of Detects	8	Number of Non-Detects	7
Number of Distinct Detects	8	Number of Distinct Non-Detects	4
Minimum Detect	0.3	Minimum Non-Detect	0.63
Maximum Detect	3.8	Maximum Non-Detect	0.66
Variance Detects	1.401	Percent Non-Detects	46.67%
Mean Detects	1.175	SD Detects	1.184
Median Detects	0.73	CV Detects	1.007
Skewness Detects	1.88	Kurtosis Detects	3.694
Mean of Logged Detects	-0.212	SD of Logged Detects	0.896

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.774	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.749	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.23	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.333	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.815	KM Standard Error of Mean	0.25
90KM SD	0.899	95% KM (BCA) UCL	1.243
95% KM (t) UCL	1.255	95% KM (Percentile Bootstrap) UCL	1.239
95% KM (z) UCL	1.226	95% KM Bootstrap t UCL	1.817
90% KM Chebyshev UCL	1.565	95% KM Chebyshev UCL	1.905
97.5% KM Chebyshev UCL	2.376	99% KM Chebyshev UCL	3.303

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.379	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.729	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.191	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.299	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	1.486	k star (bias corrected MLE)	1.012
Theta hat (MLE)	0.791	Theta star (bias corrected MLE)	1.161
nu hat (MLE)	23.77	nu star (bias corrected)	16.19
Mean (detects)	1.175		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0247	Mean	0.751
Maximum	3.8	Median	0.513
SD	0.973	CV	1.295
k hat (MLE)	0.755	k star (bias corrected MLE)	0.649
Theta hat (MLE)	0.994	Theta star (bias corrected MLE)	1.158
nu hat (MLE)	22.66	nu star (bias corrected)	19.46
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (19.46, α)	10.46	Adjusted Chi Square Value (19.46, β)	9.651
95% Gamma Approximate UCL	1.398	95% Gamma Adjusted UCL	1.515

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.815	SD (KM)	0.899
Variance (KM)	0.807	SE of Mean (KM)	0.25
k hat (KM)	0.822	k star (KM)	0.702
nu hat (KM)	24.65	nu star (KM)	21.06
theta hat (KM)	0.991	theta star (KM)	1.161
80% gamma percentile (KM)	1.339	90% gamma percentile (KM)	2.043
95% gamma percentile (KM)	2.77	99% gamma percentile (KM)	4.503

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.06, α)	11.63	Adjusted Chi Square Value (21.06, β)	10.78
95% KM Approximate Gamma UCL	1.474	95% KM Adjusted Gamma UCL	1.591

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.936	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.851	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.159	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.265	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.823	Mean in Log Scale	-0.535
SD in Original Scale	0.927	SD in Log Scale	0.755
95% t UCL (assumes normality of ROS data)	1.245	95% Percentile Bootstrap UCL	1.23
95% BCA Bootstrap UCL	1.508	95% Bootstrap t UCL	1.931
95% H-UCL (Log ROS)	1.259		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.552	KM Geo Mean	0.576
KM SD (logged)	0.731	95% Critical H Value (KM-Log)	2.347
KM Standard Error of Mean (logged)	0.215	95% H-UCL (KM -Log)	1.19
KM SD (logged)	0.731	95% Critical H Value (KM-Log)	2.347
KM Standard Error of Mean (logged)	0.215		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.777	Mean in Log Scale	-0.641
SD in Original Scale	0.946	SD in Log Scale	0.792
95% t UCL (Assumes normality)	1.207	95% H-Stat UCL	1.206

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1.255

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	14	Mean	154.5
Maximum	940	Median	59
SD	253.7	Std. Error of Mean	65.51
Coefficient of Variation	1.643	Skewness	2.651

Normal GOF Test

Shapiro Wilk Test Statistic	0.585	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.342	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	269.9	95% Adjusted-CLT UCL (Chen-1995)	310.1
		95% Modified-t UCL (Johnson-1978)	277.3

Gamma GOF Test

A-D Test Statistic	0.923	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.777	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.199	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.729	k star (bias corrected MLE)	0.627
Theta hat (MLE)	211.9	Theta star (bias corrected MLE)	246.2
nu hat (MLE)	21.86	nu star (bias corrected)	18.82
MLE Mean (bias corrected)	154.5	MLE Sd (bias corrected)	195
		Approximate Chi Square Value (0.05)	9.989
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.205

Assuming Gamma Distribution

95% Approximate Gamma UCL	291.1	95% Adjusted Gamma UCL	315.9

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.135	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.639	Mean of logged Data	4.215
Maximum of Logged Data	6.846	SD of logged Data	1.244

Assuming Lognormal Distribution

95% H-UCL	418.4	90% Chebyshev (MVUE) UCL	281.4
95% Chebyshev (MVUE) UCL	347.5	97.5% Chebyshev (MVUE) UCL	439.4
99% Chebyshev (MVUE) UCL	619.7		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	262.2	95% BCA Bootstrap UCL	312.5
95% Standard Bootstrap UCL	259.7	95% Bootstrap-t UCL	645.8
95% Hall's Bootstrap UCL	802.9	95% Percentile Bootstrap UCL	271.9
90% Chebyshev(Mean, Sd) UCL	351	95% Chebyshev(Mean, Sd) UCL	440
97.5% Chebyshev(Mean, Sd) UCL	563.6	99% Chebyshev(Mean, Sd) UCL	806.3

Suggested UCL to Use

95% Adjusted Gamma UCL 315.9

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

gamma-BHC (Lindane)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	7
Number of Detects	3	Number of Non-Detects	12
Number of Distinct Detects	3	Number of Distinct Non-Detects	5
Minimum Detect	0.64	Minimum Non-Detect	0.63
Maximum Detect	2	Maximum Non-Detect	1.4
Variance Detects	0.479	Percent Non-Detects	80%
Mean Detects	1.247	SD Detects	0.692
Median Detects	1.1	CV Detects	0.555
Skewness Detects	0.911	Kurtosis Detects	N/A
Mean of Logged Detects	0.114	SD of Logged Detects	0.57

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.966	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.251	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level
Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.756	KM Standard Error of Mean	0.112
90KM SD	0.354	95% KM (BCA) UCL	N/A
95% KM (t) UCL	0.954	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	0.941	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1.093	95% KM Chebyshev UCL	1.246
97.5% KM Chebyshev UCL	1.458	99% KM Chebyshev UCL	1.874

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.255	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.637	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.232	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.434	Detected data appear Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.859	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.257	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	29.15	nu star (bias corrected)	N/A
Mean (detects)	1.247		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.259
Maximum	2	Median	0.01
SD	0.574	CV	2.217
k hat (MLE)	0.308	k star (bias corrected MLE)	0.291
Theta hat (MLE)	0.84	Theta star (bias corrected MLE)	0.89
nu hat (MLE)	9.249	nu star (bias corrected)	8.732
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (8.73, α)	3.166	Adjusted Chi Square Value (8.73, β)	2.767
95% Gamma Approximate UCL	0.714	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.756	SD (KM)	0.354
Variance (KM)	0.125	SE of Mean (KM)	0.112
k hat (KM)	4.571	k star (KM)	3.701
nu hat (KM)	137.1	nu star (KM)	111
theta hat (KM)	0.165	theta star (KM)	0.204
80% gamma percentile (KM)	1.052	90% gamma percentile (KM)	1.283
95% gamma percentile (KM)	1.497	99% gamma percentile (KM)	1.954

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (111.04, α)	87.72	Adjusted Chi Square Value (111.04, β)	85.17
95% KM Approximate Gamma UCL	0.957	95% KM Adjusted Gamma UCL	0.986

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.999	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.18	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.405	Mean in Log Scale	-1.385
SD in Original Scale	0.515	SD in Log Scale	0.933
95% t UCL (assumes normality of ROS data)	0.639	95% Percentile Bootstrap UCL	0.634
95% BCA Bootstrap UCL	0.747	95% Bootstrap t UCL	1.078
95% H-UCL (Log ROS)	0.746		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.343	KM Geo Mean	0.709
KM SD (logged)	0.312	95% Critical H Value (KM-Log)	1.891
KM Standard Error of Mean (logged)	0.0994	95% H-UCL (KM -Log)	0.872
KM SD (logged)	0.312	95% Critical H Value (KM-Log)	1.891
KM Standard Error of Mean (logged)	0.0994		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.531	Mean in Log Scale	-0.836
SD in Original Scale	0.464	SD in Log Scale	0.573
95% t UCL (Assumes normality)	0.742	95% H-Stat UCL	0.71

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.954

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Dieldrin

General Statistics

Total Number of Observations	15	Number of Distinct Observations	3
Number of Detects	1	Number of Non-Detects	14
Number of Distinct Detects	1	Number of Distinct Non-Detects	2

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Dieldrin was not processed!

4,4'-DDE

General Statistics

Total Number of Observations	15	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	13
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	0.74	Minimum Non-Detect	1.5
Maximum Detect	11	Maximum Non-Detect	1.5
Variance Detects	52.63	Percent Non-Detects	86.67%
Mean Detects	5.87	SD Detects	7.255
Median Detects	5.87	CV Detects	1.236
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	1.048	SD of Logged Detects	1.908

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.424	KM Standard Error of Mean	0.935
90KM SD	2.559	95% KM (BCA) UCL	N/A
95% KM (t) UCL	3.07	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	2.961	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	4.228	95% KM Chebyshev UCL	5.497
97.5% KM Chebyshev UCL	7.26	99% KM Chebyshev UCL	10.72

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	0.82	k star (bias corrected MLE)	N/A
Theta hat (MLE)	7.159	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3.28	nu star (bias corrected)	N/A
Mean (detects)	5.87		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.424	SD (KM)	2.559
Variance (KM)	6.55	SE of Mean (KM)	0.935
k hat (KM)	0.31	k star (KM)	0.292
nu hat (KM)	9.288	nu star (KM)	8.763
theta hat (KM)	4.6	theta star (KM)	4.875
80% gamma percentile (KM)	2.169	90% gamma percentile (KM)	4.213
95% gamma percentile (KM)	6.57	99% gamma percentile (KM)	12.72

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0324
Approximate Chi Square Value (8.76, α)	3.185	Adjusted Chi Square Value (8.76, β)	2.784
95% KM Approximate Gamma UCL	3.918	95% KM Adjusted Gamma UCL	4.482

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.783	Mean in Log Scale	-0.16
SD in Original Scale	2.765	SD in Log Scale	1.236
95% t UCL (assumes normality of ROS data)	3.04	95% Percentile Bootstrap UCL	2.99
95% BCA Bootstrap UCL	4.022	95% Bootstrap t UCL	5.248
95% H-UCL (Log ROS)	5.156		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.121	KM Geo Mean	0.886
KM SD (logged)	0.673	95% Critical H Value (KM-Log)	2.271
KM Standard Error of Mean (logged)	0.246	95% H-UCL (KM -Log)	1.672
KM SD (logged)	0.673	95% Critical H Value (KM-Log)	2.271
KM Standard Error of Mean (logged)	0.246		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1.433	Mean in Log Scale	-0.11
SD in Original Scale	2.647	SD in Log Scale	0.694
95% t UCL (Assumes normality)	2.636	95% H-Stat UCL	1.745

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 3.07

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Lead

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	5.7	Mean	46.52
Maximum	230	Median	14
SD	68.44	Std. Error of Mean	17.67
Coefficient of Variation	1.471	Skewness	2.245

Normal GOF Test

Shapiro Wilk Test Statistic	0.604	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.352	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	77.64	95% Adjusted-CLT UCL (Chen-1995)	86.53
		95% Modified-t UCL (Johnson-1978)	79.35

Gamma GOF Test

A-D Test Statistic	1.233	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.77	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.238	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.229	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.854	k star (bias corrected MLE)	0.728
Theta hat (MLE)	54.47	Theta star (bias corrected MLE)	63.93
nu hat (MLE)	25.62	nu star (bias corrected)	21.83
MLE Mean (bias corrected)	46.52	MLE Sd (bias corrected)	54.53
		Approximate Chi Square Value (0.05)	12.21
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	11.33

Assuming Gamma Distribution

95% Approximate Gamma UCL	83.17	95% Adjusted Gamma UCL	89.61

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.893	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.21	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.74	Mean of logged Data	3.151
Maximum of Logged Data	5.438	SD of logged Data	1.115

Assuming Lognormal Distribution

95% H-UCL	104	90% Chebyshev (MVUE) UCL	79.97
95% Chebyshev (MVUE) UCL	97.67	97.5% Chebyshev (MVUE) UCL	122.2
99% Chebyshev (MVUE) UCL	170.5		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	75.59	95% BCA Bootstrap UCL	87.6
95% Standard Bootstrap UCL	74.89	95% Bootstrap-t UCL	163.1
95% Hall's Bootstrap UCL	232.8	95% Percentile Bootstrap UCL	77.43
90% Chebyshev(Mean, Sd) UCL	99.53	95% Chebyshev(Mean, Sd) UCL	123.5
97.5% Chebyshev(Mean, Sd) UCL	156.9	99% Chebyshev(Mean, Sd) UCL	222.3

Suggested UCL to Use

95% Student's-t UCL 77.64

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Mercury

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	13	Number of Distinct Non-Detects	1
Minimum Detect	0.059	Minimum Non-Detect	0.044
Maximum Detect	2.3	Maximum Non-Detect	0.044
Variance Detects	0.526	Percent Non-Detects	6.667%
Mean Detects	0.613	SD Detects	0.726
Median Detects	0.385	CV Detects	1.184
Skewness Detects	1.73	Kurtosis Detects	2.085
Mean of Logged Detects	-1.125	SD of Logged Detects	1.213

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.733	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.825	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.263	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.575	KM Standard Error of Mean	0.185
90KM SD	0.69	95% KM (BCA) UCL	0.897
95% KM (t) UCL	0.901	95% KM (Percentile Bootstrap) UCL	0.89
95% KM (z) UCL	0.879	95% KM Bootstrap t UCL	1.292
90% KM Chebyshev UCL	1.13	95% KM Chebyshev UCL	1.381
97.5% KM Chebyshev UCL	1.73	99% KM Chebyshev UCL	2.415

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.534	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.763	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.161	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.236	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.918	k star (bias corrected MLE)	0.769
Theta hat (MLE)	0.667	Theta star (bias corrected MLE)	0.797
nu hat (MLE)	25.71	nu star (bias corrected)	21.53
Mean (detects)	0.613		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.573
Maximum	2.3	Median	0.38
SD	0.716	CV	1.251
k hat (MLE)	0.749	k star (bias corrected MLE)	0.644
Theta hat (MLE)	0.764	Theta star (bias corrected MLE)	0.889
nu hat (MLE)	22.47	nu star (bias corrected)	19.31
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (19.31, α)	10.34	Adjusted Chi Square Value (19.31, β)	9.545
95% Gamma Approximate UCL	1.069	95% Gamma Adjusted UCL	1.158

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.575	SD (KM)	0.69
Variance (KM)	0.476	SE of Mean (KM)	0.185
k hat (KM)	0.694	k star (KM)	0.599
nu hat (KM)	20.81	nu star (KM)	17.98
theta hat (KM)	0.829	theta star (KM)	0.959
80% gamma percentile (KM)	0.947	90% gamma percentile (KM)	1.495
95% gamma percentile (KM)	2.069	99% gamma percentile (KM)	3.457

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.98, α)	9.375	Adjusted Chi Square Value (17.98, β)	8.618
95% KM Approximate Gamma UCL	1.102	95% KM Adjusted Gamma UCL	1.199

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.928	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.895	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.177	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.208	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.573	Mean in Log Scale	-1.322
SD in Original Scale	0.716	SD in Log Scale	1.396
95% t UCL (assumes normality of ROS data)	0.899	95% Percentile Bootstrap UCL	0.88
95% BCA Bootstrap UCL	0.977	95% Bootstrap t UCL	1.252
95% H-UCL (Log ROS)	2.535		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.258	KM Geo Mean	0.284
KM SD (logged)	1.235	95% Critical H Value (KM-Log)	3.136
KM Standard Error of Mean (logged)	0.331	95% H-UCL (KM -Log)	1.714
KM SD (logged)	1.235	95% Critical H Value (KM-Log)	3.136
KM Standard Error of Mean (logged)	0.331		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.573	Mean in Log Scale	-1.304
SD in Original Scale	0.716	SD in Log Scale	1.36
95% t UCL (Assumes normality)	0.899	95% H-Stat UCL	2.319

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 1.199

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Nickel

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	7.2	Mean	13.48
Maximum	20	Median	13
SD	3.038	Std. Error of Mean	0.784
Coefficient of Variation	0.225	Skewness	0.165

Normal GOF Test

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.154	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	14.86	95% Adjusted-CLT UCL (Chen-1995)	14.81
		95% Modified-t UCL (Johnson-1978)	14.87

Gamma GOF Test

A-D Test Statistic	0.376	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.144	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.221	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	19.96	k star (bias corrected MLE)	16.01
Theta hat (MLE)	0.675	Theta star (bias corrected MLE)	0.842
nu hat (MLE)	598.8	nu star (bias corrected)	480.3
MLE Mean (bias corrected)	13.48	MLE Sd (bias corrected)	3.369
		Approximate Chi Square Value (0.05)	430.5
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	424.7

Assuming Gamma Distribution

95% Approximate Gamma UCL	15.04	95% Adjusted Gamma UCL	15.25

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.161	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.974	Mean of logged Data	2.576
Maximum of Logged Data	2.996	SD of logged Data	0.238

Assuming Lognormal Distribution

95% H-UCL	15.2	90% Chebyshev (MVUE) UCL	16.01
95% Chebyshev (MVUE) UCL	17.15	97.5% Chebyshev (MVUE) UCL	18.73
99% Chebyshev (MVUE) UCL	21.83		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	14.77	95% BCA Bootstrap UCL	14.73
95% Standard Bootstrap UCL	14.71	95% Bootstrap-t UCL	14.86
95% Hall's Bootstrap UCL	14.92	95% Percentile Bootstrap UCL	14.75
90% Chebyshev(Mean, Sd) UCL	15.83	95% Chebyshev(Mean, Sd) UCL	16.9
97.5% Chebyshev(Mean, Sd) UCL	18.38	99% Chebyshev(Mean, Sd) UCL	21.28

Suggested UCL to Use

95% Student's-t UCL	14.86

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Silver

General Statistics

Total Number of Observations	15	Number of Distinct Observations	11
Number of Detects	5	Number of Non-Detects	10
Number of Distinct Detects	5	Number of Distinct Non-Detects	6
Minimum Detect	0.048	Minimum Non-Detect	0.077
Maximum Detect	0.3	Maximum Non-Detect	0.086
Variance Detects	0.012	Percent Non-Detects	66.67%
Mean Detects	0.147	SD Detects	0.109
Median Detects	0.11	CV Detects	0.743
Skewness Detects	0.706	Kurtosis Detects	-1.572
Mean of Logged Detects	-2.162	SD of Logged Detects	0.802

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.892	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.686	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.233	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.396	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0844	KM Standard Error of Mean	0.021
90KM SD	0.072	95% KM (BCA) UCL	0.13
95% KM (t) UCL	0.121	95% KM (Percentile Bootstrap) UCL	0.123
95% KM (z) UCL	0.119	95% KM Bootstrap t UCL	0.162
90% KM Chebyshev UCL	0.147	95% KM Chebyshev UCL	0.176
97.5% KM Chebyshev UCL	0.215	99% KM Chebyshev UCL	0.293

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.324	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.684	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.229	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.36	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	2.186	k star (bias corrected MLE)	1.008
Theta hat (MLE)	0.0674	Theta star (bias corrected MLE)	0.146
nu hat (MLE)	21.86	nu star (bias corrected)	10.08
Mean (detects)	0.147		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.0785
Maximum	0.3	Median	0.048
SD	0.0797	CV	1.016
k hat (MLE)	1.451	k star (bias corrected MLE)	1.205
Theta hat (MLE)	0.0541	Theta star (bias corrected MLE)	0.0651
nu hat (MLE)	43.52	nu star (bias corrected)	36.15
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (36.15, α)	23.39	Adjusted Chi Square Value (36.15, β)	22.13
95% Gamma Approximate UCL	0.121	95% Gamma Adjusted UCL	0.128

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0844	SD (KM)	0.072
Variance (KM)	0.00518	SE of Mean (KM)	0.021
k hat (KM)	1.376	k star (KM)	1.145
nu hat (KM)	41.28	nu star (KM)	34.36
theta hat (KM)	0.0613	theta star (KM)	0.0737
80% gamma percentile (KM)	0.134	90% gamma percentile (KM)	0.188
95% gamma percentile (KM)	0.241	99% gamma percentile (KM)	0.363

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (34.36, α)	21.95	Adjusted Chi Square Value (34.36, β)	20.73
95% KM Approximate Gamma UCL	0.132	95% KM Adjusted Gamma UCL	0.14

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.921	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.806	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.204	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.319	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0855	Mean in Log Scale	-2.682
SD in Original Scale	0.0749	SD in Log Scale	0.618
95% t UCL (assumes normality of ROS data)	0.12	95% Percentile Bootstrap UCL	0.118
95% BCA Bootstrap UCL	0.133	95% Bootstrap t UCL	0.196
95% H-UCL (Log ROS)	0.119		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.682	KM Geo Mean	0.0684
KM SD (logged)	0.559	95% Critical H Value (KM-Log)	2.133
KM Standard Error of Mean (logged)	0.17	95% H-UCL (KM -Log)	0.11
KM SD (logged)	0.559	95% Critical H Value (KM-Log)	2.133
KM Standard Error of Mean (logged)	0.17		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0765	Mean in Log Scale	-2.849
SD in Original Scale	0.0781	SD in Log Scale	0.662
95% t UCL (Assumes normality)	0.112	95% H-Stat UCL	0.107

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.121

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Thallium

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	13	Number of Distinct Non-Detects	1
Minimum Detect	0.069	Minimum Non-Detect	0.077
Maximum Detect	0.13	Maximum Non-Detect	0.077
Variance Detects	3.4862E-4	Percent Non-Detects	6.667%
Mean Detects	0.091	SD Detects	0.0187
Median Detects	0.0865	CV Detects	0.205
Skewness Detects	0.853	Kurtosis Detects	-0.0802
Mean of Logged Detects	-2.415	SD of Logged Detects	0.196

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.922	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.825	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.164	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.263	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0897	KM Standard Error of Mean	0.00485
90KM SD	0.0181	95% KM (BCA) UCL	0.0984
95% KM (t) UCL	0.0982	95% KM (Percentile Bootstrap) UCL	0.0979
95% KM (z) UCL	0.0976	95% KM Bootstrap t UCL	0.0996
90% KM Chebyshev UCL	0.104	95% KM Chebyshev UCL	0.111
97.5% KM Chebyshev UCL	0.12	99% KM Chebyshev UCL	0.138

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.329	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.14	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	27.34	k star (bias corrected MLE)	21.53
Theta hat (MLE)	0.00333	Theta star (bias corrected MLE)	0.00423
nu hat (MLE)	765.5	nu star (bias corrected)	602.8
Mean (detects)	0.091		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0671	Mean	0.0894
Maximum	0.13	Median	0.084
SD	0.019	CV	0.213
k hat (MLE)	25.41	k star (bias corrected MLE)	20.37
Theta hat (MLE)	0.00352	Theta star (bias corrected MLE)	0.00439
nu hat (MLE)	762.2	nu star (bias corrected)	611.1
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (611.07, α)	554.7	Adjusted Chi Square Value (611.07, β)	548.1
95% Gamma Approximate UCL	0.0985	95% Gamma Adjusted UCL	0.0997

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0897	SD (KM)	0.0181
Variance (KM)	3.2733E-4	SE of Mean (KM)	0.00485
k hat (KM)	24.56	k star (KM)	19.69
nu hat (KM)	736.9	nu star (KM)	590.8
theta hat (KM)	0.00365	theta star (KM)	0.00455
80% gamma percentile (KM)	0.106	90% gamma percentile (KM)	0.116
95% gamma percentile (KM)	0.125	99% gamma percentile (KM)	0.143

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (590.83, α)	535.4	Adjusted Chi Square Value (590.83, β)	529
95% KM Approximate Gamma UCL	0.0989	95% KM Adjusted Gamma UCL	0.1

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.895	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.128	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.208	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0895	Mean in Log Scale	-2.433
SD in Original Scale	0.0189	SD in Log Scale	0.201
95% t UCL (assumes normality of ROS data)	0.0981	95% Percentile Bootstrap UCL	0.0975
95% BCA Bootstrap UCL	0.0984	95% Bootstrap t UCL	0.1
95% H-UCL (Log ROS)	0.0987		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.431	KM Geo Mean	0.088
KM SD (logged)	0.192	95% Critical H Value (KM-Log)	1.804
KM Standard Error of Mean (logged)	0.0514	95% H-UCL (KM -Log)	0.0983
KM SD (logged)	0.192	95% Critical H Value (KM-Log)	1.804
KM Standard Error of Mean (logged)	0.0514		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.0875	Mean in Log Scale	-2.471
SD in Original Scale	0.0225	SD in Log Scale	0.288
95% t UCL (Assumes normality)	0.0977	95% H-Stat UCL	0.102

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.0982

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Antimony

General Statistics

Total Number of Observations	15	Number of Distinct Observations	11
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	10	Number of Distinct Non-Detects	1
Minimum Detect	0.086	Minimum Non-Detect	0.15
Maximum Detect	0.36	Maximum Non-Detect	0.15
Variance Detects	0.00687	Percent Non-Detects	6.667%
Mean Detects	0.158	SD Detects	0.0829
Median Detects	0.13	CV Detects	0.524
Skewness Detects	1.943	Kurtosis Detects	2.871
Mean of Logged Detects	-1.937	SD of Logged Detects	0.414

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.704	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.825	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.301	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.263	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.156	KM Standard Error of Mean	0.0209
90KM SD	0.0779	95% KM (BCA) UCL	0.194
95% KM (t) UCL	0.192	95% KM (Percentile Bootstrap) UCL	0.192
95% KM (z) UCL	0.19	95% KM Bootstrap t UCL	0.255
90% KM Chebyshev UCL	0.218	95% KM Chebyshev UCL	0.247
97.5% KM Chebyshev UCL	0.286	99% KM Chebyshev UCL	0.364

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.239	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.738	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.27	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.229	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	5.553	k star (bias corrected MLE)	4.411
Theta hat (MLE)	0.0285	Theta star (bias corrected MLE)	0.0359
nu hat (MLE)	155.5	nu star (bias corrected)	123.5
Mean (detects)	0.158		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.086	Mean	0.156
Maximum	0.36	Median	0.13
SD	0.0804	CV	0.516
k hat (MLE)	5.806	k star (bias corrected MLE)	4.689
Theta hat (MLE)	0.0268	Theta star (bias corrected MLE)	0.0332
nu hat (MLE)	174.2	nu star (bias corrected)	140.7
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (140.67, α)	114.3	Adjusted Chi Square Value (140.67, β)	111.3
95% Gamma Approximate UCL	0.192	95% Gamma Adjusted UCL	0.197

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.156	SD (KM)	0.0779
Variance (KM)	0.00607	SE of Mean (KM)	0.0209
k hat (KM)	3.989	k star (KM)	3.236
nu hat (KM)	119.7	nu star (KM)	97.07
theta hat (KM)	0.039	theta star (KM)	0.0481
80% gamma percentile (KM)	0.22	90% gamma percentile (KM)	0.272
95% gamma percentile (KM)	0.32	99% gamma percentile (KM)	0.423

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (97.07, α)	75.34	Adjusted Chi Square Value (97.07, β)	72.99
95% KM Approximate Gamma UCL	0.2	95% KM Adjusted Gamma UCL	0.207

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.843	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.895	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.243	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.208	Detected Data Not Lognormal at 10% Significance Level	

Detected Data Not Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.156	Mean in Log Scale	-1.947
SD in Original Scale	0.0804	SD in Log Scale	0.401
95% t UCL (assumes normality of ROS data)	0.192	95% Percentile Bootstrap UCL	0.191
95% BCA Bootstrap UCL	0.202	95% Bootstrap t UCL	0.258
95% H-UCL (Log ROS)	0.191		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.95	KM Geo Mean	0.142
KM SD (logged)	0.391	95% Critical H Value (KM-Log)	1.959
KM Standard Error of Mean (logged)	0.105	95% H-UCL (KM -Log)	0.188
KM SD (logged)	0.391	95% Critical H Value (KM-Log)	1.959
KM Standard Error of Mean (logged)	0.105		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.153	Mean in Log Scale	-1.98
SD in Original Scale	0.0827	SD in Log Scale	0.433
95% t UCL (Assumes normality)	0.19	95% H-Stat UCL	0.191

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Suggested UCL to Use

95% KM (t) UCL 0.192

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Arsenic

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	2.8	Mean	5.36
Maximum	9.4	Median	5.2
SD	1.849	Std. Error of Mean	0.477
Coefficient of Variation	0.345	Skewness	0.756

Normal GOF Test

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.182	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	6.201	95% Adjusted-CLT UCL (Chen-1995)	6.245
		95% Modified-t UCL (Johnson-1978)	6.217

Gamma GOF Test

A-D Test Statistic	0.257	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.738	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.137	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.222	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	9.337	k star (bias corrected MLE)	7.514
Theta hat (MLE)	0.574	Theta star (bias corrected MLE)	0.713
nu hat (MLE)	280.1	nu star (bias corrected)	225.4
MLE Mean (bias corrected)	5.36	MLE Sd (bias corrected)	1.955
		Approximate Chi Square Value (0.05)	191.7
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	187.8

Assuming Gamma Distribution

95% Approximate Gamma UCL	6.304	95% Adjusted Gamma UCL	6.432

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.97	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.121	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.03	Mean of logged Data	1.624
Maximum of Logged Data	2.241	SD of logged Data	0.343

Assuming Lognormal Distribution

95% H-UCL	6.418	90% Chebyshev (MVUE) UCL	6.806
95% Chebyshev (MVUE) UCL	7.461	97.5% Chebyshev (MVUE) UCL	8.37
99% Chebyshev (MVUE) UCL	10.15		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	6.145	95% BCA Bootstrap UCL	6.2
95% Standard Bootstrap UCL	6.109	95% Bootstrap-t UCL	6.294
95% Hall's Bootstrap UCL	6.357	95% Percentile Bootstrap UCL	6.16
90% Chebyshev(Mean, Sd) UCL	6.792	95% Chebyshev(Mean, Sd) UCL	7.441
97.5% Chebyshev(Mean, Sd) UCL	8.342	99% Chebyshev(Mean, Sd) UCL	10.11

Suggested UCL to Use

95% Student's-t UCL 6.201

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Beryllium

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	0.27	Mean	0.527
Maximum	0.79	Median	0.5
SD	0.121	Std. Error of Mean	0.0311
Coefficient of Variation	0.229	Skewness	0.0837

Normal GOF Test

Shapiro Wilk Test Statistic	0.966	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.123	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.582	95% Adjusted-CLT UCL (Chen-1995)	0.579
		95% Modified-t UCL (Johnson-1978)	0.582

Gamma GOF Test

A-D Test Statistic	0.34	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.124	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.221	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	18.97	k star (bias corrected MLE)	15.22
Theta hat (MLE)	0.0278	Theta star (bias corrected MLE)	0.0346
nu hat (MLE)	569.1	nu star (bias corrected)	456.6
MLE Mean (bias corrected)	0.527	MLE Sd (bias corrected)	0.135
		Approximate Chi Square Value (0.05)	408.1
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	402.4

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.59	95% Adjusted Gamma UCL	0.598

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.928	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.141	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.309	Mean of logged Data	-0.667
Maximum of Logged Data	-0.236	SD of logged Data	0.246

Assuming Lognormal Distribution

95% H-UCL	0.598	90% Chebyshev (MVUE) UCL	0.63
95% Chebyshev (MVUE) UCL	0.676	97.5% Chebyshev (MVUE) UCL	0.74
99% Chebyshev (MVUE) UCL	0.865		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.579	95% BCA Bootstrap UCL	0.578
95% Standard Bootstrap UCL	0.576	95% Bootstrap-t UCL	0.582
95% Hall's Bootstrap UCL	0.585	95% Percentile Bootstrap UCL	0.579
90% Chebyshev(Mean, Sd) UCL	0.621	95% Chebyshev(Mean, Sd) UCL	0.663
97.5% Chebyshev(Mean, Sd) UCL	0.722	99% Chebyshev(Mean, Sd) UCL	0.837

Suggested UCL to Use

95% Student's-t UCL 0.582

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Cadmium

General Statistics

Total Number of Observations	15	Number of Distinct Observations	13
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	13	Number of Distinct Non-Detects	1
Minimum Detect	0.056	Minimum Non-Detect	0.077
Maximum Detect	0.26	Maximum Non-Detect	0.077
Variance Detects	0.00387	Percent Non-Detects	6.667%
Mean Detects	0.105	SD Detects	0.0622
Median Detects	0.0785	CV Detects	0.595
Skewness Detects	1.821	Kurtosis Detects	2.564
Mean of Logged Detects	-2.38	SD of Logged Detects	0.477

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.74	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.825	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.254	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.263	Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.102	KM Standard Error of Mean	0.0158
90KM SD	0.0588	95% KM (BCA) UCL	0.13
95% KM (t) UCL	0.13	95% KM (Percentile Bootstrap) UCL	0.13
95% KM (z) UCL	0.128	95% KM Bootstrap t UCL	0.166
90% KM Chebyshev UCL	0.149	95% KM Chebyshev UCL	0.171
97.5% KM Chebyshev UCL	0.2	99% KM Chebyshev UCL	0.259

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.991	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.74	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.224	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.261	k star (bias corrected MLE)	3.396
Theta hat (MLE)	0.0245	Theta star (bias corrected MLE)	0.0308
nu hat (MLE)	119.3	nu star (bias corrected)	95.09
Mean (detects)	0.105		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0546	Mean	0.101
Maximum	0.26	Median	0.077
SD	0.0613	CV	0.605
k hat (MLE)	4.169	k star (bias corrected MLE)	3.379
Theta hat (MLE)	0.0243	Theta star (bias corrected MLE)	0.03
nu hat (MLE)	125.1	nu star (bias corrected)	101.4
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (101.38, α)	79.15	Adjusted Chi Square Value (101.38, β)	76.73
95% Gamma Approximate UCL	0.13	95% Gamma Adjusted UCL	0.134

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.102	SD (KM)	0.0588
Variance (KM)	0.00345	SE of Mean (KM)	0.0158
k hat (KM)	3.009	k star (KM)	2.452
nu hat (KM)	90.28	nu star (KM)	73.56
theta hat (KM)	0.0339	theta star (KM)	0.0416
80% gamma percentile (KM)	0.149	90% gamma percentile (KM)	0.189
95% gamma percentile (KM)	0.227	99% gamma percentile (KM)	0.31

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (73.56, α)	54.81	Adjusted Chi Square Value (73.56, β)	52.82
95% KM Approximate Gamma UCL	0.137	95% KM Adjusted Gamma UCL	0.142

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.868	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.895	Detected Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.195	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.208	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.102	Mean in Log Scale	-2.405
SD in Original Scale	0.0609	SD in Log Scale	0.471
95% t UCL (assumes normality of ROS data)	0.129	95% Percentile Bootstrap UCL	0.128
95% BCA Bootstrap UCL	0.138	95% Bootstrap t UCL	0.162
95% H-UCL (Log ROS)	0.13		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.404	KM Geo Mean	0.0904
KM SD (logged)	0.455	95% Critical H Value (KM-Log)	2.021
KM Standard Error of Mean (logged)	0.122	95% H-UCL (KM -Log)	0.128
KM SD (logged)	0.455	95% Critical H Value (KM-Log)	2.021
KM Standard Error of Mean (logged)	0.122		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.1	Mean in Log Scale	-2.438
SD in Original Scale	0.0623	SD in Log Scale	0.513
95% t UCL (Assumes normality)	0.128	95% H-Stat UCL	0.132

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.13

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chromium

General Statistics

Total Number of Observations	15	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	11	Mean	16.07
Maximum	25	Median	15
SD	3.826	Std. Error of Mean	0.988
Coefficient of Variation	0.238	Skewness	0.904

Normal GOF Test

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.143	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	17.81	95% Adjusted-CLT UCL (Chen-1995)	17.94
		95% Modified-t UCL (Johnson-1978)	17.85

Gamma GOF Test

A-D Test Statistic	0.258	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.135	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.221	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	20.29	k star (bias corrected MLE)	16.27
Theta hat (MLE)	0.792	Theta star (bias corrected MLE)	0.987
nu hat (MLE)	608.6	nu star (bias corrected)	488.2
MLE Mean (bias corrected)	16.07	MLE Sd (bias corrected)	3.983
		Approximate Chi Square Value (0.05)	438
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	432.1

Assuming Gamma Distribution

95% Approximate Gamma UCL	17.91	95% Adjusted Gamma UCL	18.15

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.127	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.398	Mean of logged Data	2.752
Maximum of Logged Data	3.219	SD of logged Data	0.228

Assuming Lognormal Distribution

95% H-UCL	17.98	90% Chebyshev (MVUE) UCL	18.91
95% Chebyshev (MVUE) UCL	20.2	97.5% Chebyshev (MVUE) UCL	21.99
99% Chebyshev (MVUE) UCL	25.52		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	17.69	95% BCA Bootstrap UCL	17.87
95% Standard Bootstrap UCL	17.67	95% Bootstrap-t UCL	18.29
95% Hall's Bootstrap UCL	18.27	95% Percentile Bootstrap UCL	17.73
90% Chebyshev(Mean, Sd) UCL	19.03	95% Chebyshev(Mean, Sd) UCL	20.37
97.5% Chebyshev(Mean, Sd) UCL	22.24	99% Chebyshev(Mean, Sd) UCL	25.9

Suggested UCL to Use

95% Student's-t UCL	17.81

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Copper

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	5.1	Mean	13.13
Maximum	23	Median	12
SD	4.579	Std. Error of Mean	1.182
Coefficient of Variation	0.349	Skewness	0.719

Normal GOF Test

Shapiro Wilk Test Statistic	0.943	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.158	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	15.21	95% Adjusted-CLT UCL (Chen-1995)	15.31
		95% Modified-t UCL (Johnson-1978)	15.25

Gamma GOF Test

A-D Test Statistic	0.287	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.738	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.115	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.222	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	8.693	k star (bias corrected MLE)	6.999
Theta hat (MLE)	1.51	Theta star (bias corrected MLE)	1.876
nu hat (MLE)	260.8	nu star (bias corrected)	210
MLE Mean (bias corrected)	13.13	MLE Sd (bias corrected)	4.962
		Approximate Chi Square Value (0.05)	177.4
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	173.7

Assuming Gamma Distribution

95% Approximate Gamma UCL	15.53	95% Adjusted Gamma UCL	15.86

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.951	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.136	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.629	Mean of logged Data	2.516
Maximum of Logged Data	3.135	SD of logged Data	0.364

Assuming Lognormal Distribution

95% H-UCL	15.97	90% Chebyshev (MVUE) UCL	16.94
95% Chebyshev (MVUE) UCL	18.65	97.5% Chebyshev (MVUE) UCL	21.02
99% Chebyshev (MVUE) UCL	25.68		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	15.07	95% BCA Bootstrap UCL	15.19
95% Standard Bootstrap UCL	15	95% Bootstrap-t UCL	15.63
95% Hall's Bootstrap UCL	15.97	95% Percentile Bootstrap UCL	15.12
90% Chebyshev(Mean, Sd) UCL	16.67	95% Chebyshev(Mean, Sd) UCL	18.28
97.5% Chebyshev(Mean, Sd) UCL	20.51	99% Chebyshev(Mean, Sd) UCL	24.89

Suggested UCL to Use

95% Student's-t UCL 15.21

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Zinc

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	19	Mean	46.2
Maximum	100	Median	41
SD	20.74	Std. Error of Mean	5.356
Coefficient of Variation	0.449	Skewness	1.635

Normal GOF Test

Shapiro Wilk Test Statistic	0.818	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.256	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	55.63	95% Adjusted-CLT UCL (Chen-1995)	57.43
		95% Modified-t UCL (Johnson-1978)	56.01

Gamma GOF Test

A-D Test Statistic	0.743	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.738	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.208	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.222	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	6.503	k star (bias corrected MLE)	5.247
Theta hat (MLE)	7.104	Theta star (bias corrected MLE)	8.805
nu hat (MLE)	195.1	nu star (bias corrected)	157.4
MLE Mean (bias corrected)	46.2	MLE Sd (bias corrected)	20.17
		Approximate Chi Square Value (0.05)	129.4
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	126.3

Assuming Gamma Distribution

95% Approximate Gamma UCL	56.2	95% Adjusted Gamma UCL	57.59

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.927	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.181	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.944	Mean of logged Data	3.754
Maximum of Logged Data	4.605	SD of logged Data	0.4

Assuming Lognormal Distribution

95% H-UCL	57.08	90% Chebyshev (MVUE) UCL	60.52
95% Chebyshev (MVUE) UCL	67.11	97.5% Chebyshev (MVUE) UCL	76.24
99% Chebyshev (MVUE) UCL	94.19		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	55.01	95% BCA Bootstrap UCL	57.2
95% Standard Bootstrap UCL	54.72	95% Bootstrap-t UCL	63.76
95% Hall's Bootstrap UCL	107.8	95% Percentile Bootstrap UCL	55.6
90% Chebyshev(Mean, Sd) UCL	62.27	95% Chebyshev(Mean, Sd) UCL	69.55
97.5% Chebyshev(Mean, Sd) UCL	79.65	99% Chebyshev(Mean, Sd) UCL	99.49

Suggested UCL to Use

95% Adjusted Gamma UCL 57.59

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Methylene Chloride

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	9

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Methylene Chloride was not processed!

DALAPON

General Statistics

Total Number of Observations	15	Number of Distinct Observations	7
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	7

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable DALAPON was not processed!

Heptachlor

General Statistics

Total Number of Observations	15	Number of Distinct Observations	5
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	5

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Heptachlor was not processed!

Selenium

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	12	Number of Distinct Non-Detects	1
Minimum Detect	0.1	Minimum Non-Detect	0.19
Maximum Detect	0.46	Maximum Non-Detect	0.19
Variance Detects	0.013	Percent Non-Detects	6.667%
Mean Detects	0.201	SD Detects	0.114
Median Detects	0.155	CV Detects	0.566
Skewness Detects	1.798	Kurtosis Detects	2.337
Mean of Logged Detects	-1.714	SD of Logged Detects	0.458

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.728	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.825	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.258	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.263	Detected Data appear Normal at 1% Significance Level

Detected Data appear Approximate Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.197	KM Standard Error of Mean	0.0288
90KM SD	0.108	95% KM (BCA) UCL	0.249
95% KM (t) UCL	0.248	95% KM (Percentile Bootstrap) UCL	0.247
95% KM (z) UCL	0.244	95% KM Bootstrap t UCL	0.321
90% KM Chebyshev UCL	0.283	95% KM Chebyshev UCL	0.323
97.5% KM Chebyshev UCL	0.377	99% KM Chebyshev UCL	0.484

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.001	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.739	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.197	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.229	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	4.642	k star (bias corrected MLE)	3.695
Theta hat (MLE)	0.0434	Theta star (bias corrected MLE)	0.0545
nu hat (MLE)	130	nu star (bias corrected)	103.5
Mean (detects)	0.201		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.1	Mean	0.197
Maximum	0.46	Median	0.15
SD	0.111	CV	0.566
k hat (MLE)	4.734	k star (bias corrected MLE)	3.832
Theta hat (MLE)	0.0415	Theta star (bias corrected MLE)	0.0513
nu hat (MLE)	142	nu star (bias corrected)	115
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (114.96, α)	91.21	Adjusted Chi Square Value (114.96, β)	88.6
95% Gamma Approximate UCL	0.248	95% Gamma Adjusted UCL	0.255

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.197	SD (KM)	0.108
Variance (KM)	0.0116	SE of Mean (KM)	0.0288
k hat (KM)	3.352	k star (KM)	2.726
nu hat (KM)	100.5	nu star (KM)	81.77
theta hat (KM)	0.0588	theta star (KM)	0.0722
80% gamma percentile (KM)	0.284	90% gamma percentile (KM)	0.357
95% gamma percentile (KM)	0.425	99% gamma percentile (KM)	0.573

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (81.77, α)	61.93	Adjusted Chi Square Value (81.77, β)	59.81
95% KM Approximate Gamma UCL	0.26	95% KM Adjusted Gamma UCL	0.269

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.872	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.895	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.174	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.208	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.197	Mean in Log Scale	-1.732
SD in Original Scale	0.111	SD in Log Scale	0.447
95% t UCL (assumes normality of ROS data)	0.248	95% Percentile Bootstrap UCL	0.245
95% BCA Bootstrap UCL	0.261	95% Bootstrap t UCL	0.315
95% H-UCL (Log ROS)	0.249		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.734	KM Geo Mean	0.177
KM SD (logged)	0.435	95% Critical H Value (KM-Log)	2.001
KM Standard Error of Mean (logged)	0.117	95% H-UCL (KM -Log)	0.245
KM SD (logged)	0.435	95% Critical H Value (KM-Log)	2.001
KM Standard Error of Mean (logged)	0.117		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.194	Mean in Log Scale	-1.757
SD in Original Scale	0.113	SD in Log Scale	0.471
95% t UCL (Assumes normality)	0.246	95% H-Stat UCL	0.249

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.248

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Trichloroethylene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	8

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Trichloroethylene was not processed!

Methyl Acetate

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
Number of Detects	3	Number of Non-Detects	12
Number of Distinct Detects	3	Number of Distinct Non-Detects	6
Minimum Detect	2.4	Minimum Non-Detect	4
Maximum Detect	900	Maximum Non-Detect	5.6
Variance Detects	231662	Percent Non-Detects	80%
Mean Detects	350.8	SD Detects	481.3
Median Detects	150	CV Detects	1.372
Skewness Detects	1.551	Kurtosis Detects	N/A
Mean of Logged Detects	4.229	SD of Logged Detects	3.04

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.869	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.753	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.429	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	72.08	KM Standard Error of Mean	70.93
90KM SD	224.3	95% KM (BCA) UCL	N/A
95% KM (t) UCL	197	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	188.7	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	284.9	95% KM Chebyshev UCL	381.3
97.5% KM Chebyshev UCL	515	99% KM Chebyshev UCL	777.8

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.251	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.66	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.229	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.452	Detected data appear Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.403	k star (bias corrected MLE)	N/A
Theta hat (MLE)	870.4	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	2.418	nu star (bias corrected)	N/A
Mean (detects)	350.8		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	76.46
Maximum	900	Median	0.01
SD	232	CV	3.035
k hat (MLE)	0.121	k star (bias corrected MLE)	0.141
Theta hat (MLE)	633.5	Theta star (bias corrected MLE)	542.3
nu hat (MLE)	3.621	nu star (bias corrected)	4.23
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (4.23, α)	0.815	Adjusted Chi Square Value (4.23, β)	0.652
95% Gamma Approximate UCL	397	95% Gamma Adjusted UCL	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	72.08	SD (KM)	224.3
Variance (KM)	50309	SE of Mean (KM)	70.93
k hat (KM)	0.103	k star (KM)	0.127
nu hat (KM)	3.098	nu star (KM)	3.812
theta hat (KM)	698	theta star (KM)	567.3
80% gamma percentile (KM)	67.27	90% gamma percentile (KM)	207.2
95% gamma percentile (KM)	408.1	99% gamma percentile (KM)	1013

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (3.81, α)	0.649	Adjusted Chi Square Value (3.81, β)	0.511
95% KM Approximate Gamma UCL	423.5	95% KM Adjusted Gamma UCL	537.6

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.95	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.789	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.268	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.389	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	74.03	Mean in Log Scale	1.438
SD in Original Scale	231.6	SD in Log Scale	2.244
95% t UCL (assumes normality of ROS data)	179.4	95% Percentile Bootstrap UCL	184.1
95% BCA Bootstrap UCL	301.6	95% Bootstrap t UCL	2499
95% H-UCL (Log ROS)	1073		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.546	KM Geo Mean	4.694
KM SD (logged)	1.741	95% Critical H Value (KM-Log)	4.064
KM Standard Error of Mean (logged)	0.551	95% H-UCL (KM -Log)	141.7
KM SD (logged)	1.741	95% Critical H Value (KM-Log)	4.064
KM Standard Error of Mean (logged)	0.551		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	72	Mean in Log Scale	1.507
SD in Original Scale	232.2	SD in Log Scale	1.821
95% t UCL (Assumes normality)	177.6	95% H-Stat UCL	184.1

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 197

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Acenaphthene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	1.7	Mean	29.8
Maximum	160	Median	13
SD	43.9	Std. Error of Mean	11.33
Coefficient of Variation	1.473	Skewness	2.367

Normal GOF Test

Shapiro Wilk Test Statistic	0.662	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.289	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	49.76	95% Adjusted-CLT UCL (Chen-1995)	55.84
		95% Modified-t UCL (Johnson-1978)	50.92

Gamma GOF Test

A-D Test Statistic	0.482	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.779	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.133	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.696	k star (bias corrected MLE)	0.602
Theta hat (MLE)	42.79	Theta star (bias corrected MLE)	49.54
nu hat (MLE)	20.89	nu star (bias corrected)	18.05
MLE Mean (bias corrected)	29.8	MLE Sd (bias corrected)	38.42
		Approximate Chi Square Value (0.05)	9.425
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	8.666

Assuming Gamma Distribution

95% Approximate Gamma UCL	57.06	95% Adjusted Gamma UCL	62.06

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk Lognormal GOF Test**	
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.13	**Lilliefors Lognormal GOF Test**	
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.531	Mean of logged Data	2.526
Maximum of Logged Data	5.075	SD of logged Data	1.405

Assuming Lognormal Distribution

95% H-UCL	122.1	90% Chebyshev (MVUE) UCL	67.01
95% Chebyshev (MVUE) UCL	83.78	97.5% Chebyshev (MVUE) UCL	107.1
99% Chebyshev (MVUE) UCL	152.8		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	48.44	95% BCA Bootstrap UCL	56.89
95% Standard Bootstrap UCL	48.2	95% Bootstrap-t UCL	84.46
95% Hall's Bootstrap UCL	142.4	95% Percentile Bootstrap UCL	49.65
90% Chebyshev(Mean, Sd) UCL	63.8	95% Chebyshev(Mean, Sd) UCL	79.2
97.5% Chebyshev(Mean, Sd) UCL	100.6	99% Chebyshev(Mean, Sd) UCL	142.6

Suggested UCL to Use

95% Adjusted Gamma UCL 62.06

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Phenanthrene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	15	Mean	276
Maximum	1500	Median	120
SD	464.4	Std. Error of Mean	119.9
Coefficient of Variation	1.683	Skewness	2.304

Normal GOF Test

Shapiro Wilk Test Statistic	0.571	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.373	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	487.2	95% Adjusted-CLT UCL (Chen-1995)	549.5
		95% Modified-t UCL (Johnson-1978)	499.1

Gamma GOF Test

A-D Test Statistic	0.983	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.784	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.238	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.232	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.627	k star (bias corrected MLE)	0.546
Theta hat (MLE)	440.3	Theta star (bias corrected MLE)	505.6
nu hat (MLE)	18.8	nu star (bias corrected)	16.38
MLE Mean (bias corrected)	276	MLE Sd (bias corrected)	373.6
		Approximate Chi Square Value (0.05)	8.228
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	7.526

Assuming Gamma Distribution

95% Approximate Gamma UCL	549.3	95% Adjusted Gamma UCL	600.6

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.133	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.708	Mean of logged Data	4.641
Maximum of Logged Data	7.313	SD of logged Data	1.402

Assuming Lognormal Distribution

95% H-UCL	1001	90% Chebyshev (MVUE) UCL	552.2
95% Chebyshev (MVUE) UCL	690.3	97.5% Chebyshev (MVUE) UCL	881.9
99% Chebyshev (MVUE) UCL	1258		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	473.2	95% BCA Bootstrap UCL	548.2
95% Standard Bootstrap UCL	469.2	95% Bootstrap-t UCL	1305
95% Hall's Bootstrap UCL	1689	95% Percentile Bootstrap UCL	484.3
90% Chebyshev(Mean, Sd) UCL	635.7	95% Chebyshev(Mean, Sd) UCL	798.7
97.5% Chebyshev(Mean, Sd) UCL	1025	99% Chebyshev(Mean, Sd) UCL	1469

Suggested UCL to Use

95% H-UCL	1001

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Fluorene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	1.8	Mean	29.64
Maximum	140	Median	14
SD	41.02	Std. Error of Mean	10.59
Coefficient of Variation	1.384	Skewness	2.083

Normal GOF Test

Shapiro Wilk Test Statistic	0.685	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	48.3	95% Adjusted-CLT UCL (Chen-1995)	53.15
		95% Modified-t UCL (Johnson-1978)	49.25

Gamma GOF Test

A-D Test Statistic	0.489	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.777	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.149	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.231	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.727	k star (bias corrected MLE)	0.626
Theta hat (MLE)	40.79	Theta star (bias corrected MLE)	47.37
nu hat (MLE)	21.8	nu star (bias corrected)	18.77
MLE Mean (bias corrected)	29.64	MLE Sd (bias corrected)	37.47
		Approximate Chi Square Value (0.05)	9.951
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.168

Assuming Gamma Distribution

95% Approximate Gamma UCL	55.91	95% Adjusted Gamma UCL	60.69

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.947	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.15	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.588	Mean of logged Data	2.562
Maximum of Logged Data	4.942	SD of logged Data	1.386

Assuming Lognormal Distribution

95% H-UCL	119.6	90% Chebyshev (MVUE) UCL	67.37
95% Chebyshev (MVUE) UCL	84.13	97.5% Chebyshev (MVUE) UCL	107.4
99% Chebyshev (MVUE) UCL	153		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	47.06	95% BCA Bootstrap UCL	53.76
95% Standard Bootstrap UCL	46.81	95% Bootstrap-t UCL	77.96
95% Hall's Bootstrap UCL	143	95% Percentile Bootstrap UCL	48.44
90% Chebyshev(Mean, Sd) UCL	61.42	95% Chebyshev(Mean, Sd) UCL	75.81
97.5% Chebyshev(Mean, Sd) UCL	95.79	99% Chebyshev(Mean, Sd) UCL	135

Suggested UCL to Use

95% Adjusted Gamma UCL 60.69

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Pentachlorophenol

General Statistics

Total Number of Observations	15	Number of Distinct Observations	9
Number of Detects	7	Number of Non-Detects	8
Number of Distinct Detects	6	Number of Distinct Non-Detects	3
Minimum Detect	0.095	Minimum Non-Detect	0.11
Maximum Detect	0.26	Maximum Non-Detect	0.13
Variance Detects	0.00477	Percent Non-Detects	53.33%
Mean Detects	0.161	SD Detects	0.0691
Median Detects	0.15	CV Detects	0.428
Skewness Detects	0.367	Kurtosis Detects	-1.878
Mean of Logged Detects	-1.905	SD of Logged Detects	0.438

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.869	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.127	KM Standard Error of Mean	0.0152
90KM SD	0.0544	95% KM (BCA) UCL	0.154
95% KM (t) UCL	0.154	95% KM (Percentile Bootstrap) UCL	0.153
95% KM (z) UCL	0.152	95% KM Bootstrap t UCL	0.161
90% KM Chebyshev UCL	0.172	95% KM Chebyshev UCL	0.193
97.5% KM Chebyshev UCL	0.222	99% KM Chebyshev UCL	0.278

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.509	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.709	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.265	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.313	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	6.326	k star (bias corrected MLE)	3.71
Theta hat (MLE)	0.0255	Theta star (bias corrected MLE)	0.0435
nu hat (MLE)	88.57	nu star (bias corrected)	51.94
Mean (detects)	0.161		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0507	Mean	0.127
Maximum	0.26	Median	0.1
SD	0.0594	CV	0.466
k hat (MLE)	5.626	k star (bias corrected MLE)	4.545
Theta hat (MLE)	0.0226	Theta star (bias corrected MLE)	0.028
nu hat (MLE)	168.8	nu star (bias corrected)	136.4
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (136.36, α)	110.4	Adjusted Chi Square Value (136.36, β)	107.5
95% Gamma Approximate UCL	0.157	95% Gamma Adjusted UCL	0.162

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.127	SD (KM)	0.0544
Variance (KM)	0.00296	SE of Mean (KM)	0.0152
k hat (KM)	5.447	k star (KM)	4.402
nu hat (KM)	163.4	nu star (KM)	132.1
theta hat (KM)	0.0233	theta star (KM)	0.0288
80% gamma percentile (KM)	0.173	90% gamma percentile (KM)	0.208
95% gamma percentile (KM)	0.24	99% gamma percentile (KM)	0.308

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (132.06, α)	106.5	Adjusted Chi Square Value (132.06, β)	103.7
95% KM Approximate Gamma UCL	0.157	95% KM Adjusted Gamma UCL	0.162

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.857	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.247	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.13	Mean in Log Scale	-2.12
SD in Original Scale	0.0569	SD in Log Scale	0.388
95% t UCL (assumes normality of ROS data)	0.155	95% Percentile Bootstrap UCL	0.154
95% BCA Bootstrap UCL	0.159	95% Bootstrap t UCL	0.165
95% H-UCL (Log ROS)	0.159		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.135	KM Geo Mean	0.118
KM SD (logged)	0.351	95% Critical H Value (KM-Log)	1.924
KM Standard Error of Mean (logged)	0.0984	95% H-UCL (KM -Log)	0.151
KM SD (logged)	0.351	95% Critical H Value (KM-Log)	1.924
KM Standard Error of Mean (logged)	0.0984		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.107	Mean in Log Scale	-2.39
SD in Original Scale	0.0692	SD in Log Scale	0.551
95% t UCL (Assumes normality)	0.139	95% H-Stat UCL	0.146

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 0.154

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1-Methylnaphthalene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	0.75	Mean	8.017
Maximum	46	Median	3.4
SD	12.92	Std. Error of Mean	3.337
Coefficient of Variation	1.612	Skewness	2.468

Normal GOF Test

Shapiro Wilk Test Statistic	0.591	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.835	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.339	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.255	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	13.89	95% Adjusted-CLT UCL (Chen-1995)	15.78
		95% Modified-t UCL (Johnson-1978)	14.25

Gamma GOF Test

A-D Test Statistic	1.013	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.776	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.211	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.739	k star (bias corrected MLE)	0.636
Theta hat (MLE)	10.85	Theta star (bias corrected MLE)	12.61
nu hat (MLE)	22.18	nu star (bias corrected)	19.07
MLE Mean (bias corrected)	8.017	MLE Sd (bias corrected)	10.05
		Approximate Chi Square Value (0.05)	10.17
Adjusted Level of Significance	0.0324	Adjusted Chi Square Value	9.379

Assuming Gamma Distribution

95% Approximate Gamma UCL	15.03	95% Adjusted Gamma UCL	16.3

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.93	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.121	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.202	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.288	Mean of logged Data	1.27
Maximum of Logged Data	3.829	SD of logged Data	1.224

Assuming Lognormal Distribution

95% H-UCL	20.86	90% Chebyshev (MVUE) UCL	14.35
95% Chebyshev (MVUE) UCL	17.69	97.5% Chebyshev (MVUE) UCL	22.33
99% Chebyshev (MVUE) UCL	31.45		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	13.51	95% BCA Bootstrap UCL	15.74
95% Standard Bootstrap UCL	13.39	95% Bootstrap-t UCL	32.79
95% Hall's Bootstrap UCL	41.79	95% Percentile Bootstrap UCL	13.92
90% Chebyshev(Mean, Sd) UCL	18.03	95% Chebyshev(Mean, Sd) UCL	22.56
97.5% Chebyshev(Mean, Sd) UCL	28.86	99% Chebyshev(Mean, Sd) UCL	41.22

Suggested UCL to Use

95% Adjusted Gamma UCL 16.3

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.
Please verify the data were collected from random locations.
If the data were collected using judgmental or other non-random methods,
then contact a statistician to correctly calculate UCLs.

When a data set follows an approximate distribution passing only one of the GOF tests,
it is suggested to use a UCL based upon a distribution passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Naphthalene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
Number of Detects	14	Number of Non-Detects	1
Number of Distinct Detects	14	Number of Distinct Non-Detects	1
Minimum Detect	2.1	Minimum Non-Detect	2.8
Maximum Detect	50	Maximum Non-Detect	2.8
Variance Detects	202.5	Percent Non-Detects	6.667%
Mean Detects	12.34	SD Detects	14.23
Median Detects	6.7	CV Detects	1.154
Skewness Detects	1.955	Kurtosis Detects	3.258
Mean of Logged Detects	2.026	SD of Logged Detects	0.989

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.712	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.825	Detected Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.296	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.263	Detected Data Not Normal at 1% Significance Level

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	11.67	KM Standard Error of Mean	3.612
90KM SD	13.48	95% KM (BCA) UCL	18.4
95% KM (t) UCL	18.03	95% KM (Percentile Bootstrap) UCL	18.1
95% KM (z) UCL	17.61	95% KM Bootstrap t UCL	25.67
90% KM Chebyshev UCL	22.51	95% KM Chebyshev UCL	27.41
97.5% KM Chebyshev UCL	34.23	99% KM Chebyshev UCL	47.61

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.72	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.757	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.202	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.234	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.165	k star (bias corrected MLE)	0.963
Theta hat (MLE)	10.58	Theta star (bias corrected MLE)	12.8
nu hat (MLE)	32.63	nu star (bias corrected)	26.97
Mean (detects)	12.34		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	11.51
Maximum	50	Median	6.6
SD	14.08	CV	1.223
k hat (MLE)	0.702	k star (bias corrected MLE)	0.606
Theta hat (MLE)	16.39	Theta star (bias corrected MLE)	18.99
nu hat (MLE)	21.07	nu star (bias corrected)	18.19
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (18.19, α)	9.53	Adjusted Chi Square Value (18.19, β)	8.766
95% Gamma Approximate UCL	21.98	95% Gamma Adjusted UCL	23.89

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	11.67	SD (KM)	13.48
Variance (KM)	181.7	SE of Mean (KM)	3.612
k hat (KM)	0.749	k star (KM)	0.644
nu hat (KM)	22.48	nu star (KM)	19.32
theta hat (KM)	15.57	theta star (KM)	18.12
80% gamma percentile (KM)	19.22	90% gamma percentile (KM)	29.87
95% gamma percentile (KM)	40.93	99% gamma percentile (KM)	67.54

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (19.32, α)	10.35	Adjusted Chi Square Value (19.32, β)	9.549
95% KM Approximate Gamma UCL	21.78	95% KM Adjusted Gamma UCL	23.61

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.929	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.895	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.137	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.208	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	11.65	Mean in Log Scale	1.939
SD in Original Scale	13.97	SD in Log Scale	1.011
95% t UCL (assumes normality of ROS data)	18	95% Percentile Bootstrap UCL	17.74
95% BCA Bootstrap UCL	19.96	95% Bootstrap t UCL	25.54
95% H-UCL (Log ROS)	24.43		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.947	KM Geo Mean	7.006
KM SD (logged)	0.968	95% Critical H Value (KM-Log)	2.693
KM Standard Error of Mean (logged)	0.259	95% H-UCL (KM -Log)	22.46
KM SD (logged)	0.968	95% Critical H Value (KM-Log)	2.693
KM Standard Error of Mean (logged)	0.259		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	11.61	Mean in Log Scale	1.913
SD in Original Scale	14	SD in Log Scale	1.048
95% t UCL (Assumes normality)	17.97	95% H-Stat UCL	25.88

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 23.61

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

2-Methylnaphthalene

General Statistics

Total Number of Observations	15	Number of Distinct Observations	12
Number of Detects	13	Number of Non-Detects	2
Number of Distinct Detects	11	Number of Distinct Non-Detects	1
Minimum Detect	1.7	Minimum Non-Detect	2.8
Maximum Detect	43	Maximum Non-Detect	2.8
Variance Detects	170.8	Percent Non-Detects	13.33%
Mean Detects	10.76	SD Detects	13.07
Median Detects	5.5	CV Detects	1.214
Skewness Detects	1.961	Kurtosis Detects	2.94
Mean of Logged Detects	1.84	SD of Logged Detects	1.043

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.687	**Shapiro Wilk GOF Test**	
1% Shapiro Wilk Critical Value	0.814	Detected Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.308	**Lilliefors GOF Test**	
1% Lilliefors Critical Value	0.271	Detected Data Not Normal at 1% Significance Level	

Detected Data Not Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	9.567	KM Standard Error of Mean	3.246
90KM SD	12.08	95% KM (BCA) UCL	15.83
95% KM (t) UCL	15.28	95% KM (Percentile Bootstrap) UCL	15.27
95% KM (z) UCL	14.91	95% KM Bootstrap t UCL	26.05
90% KM Chebyshev UCL	19.3	95% KM Chebyshev UCL	23.72
97.5% KM Chebyshev UCL	29.84	99% KM Chebyshev UCL	41.86

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.645	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.756	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.177	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.243	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.069	k star (bias corrected MLE)	0.873
Theta hat (MLE)	10.07	Theta star (bias corrected MLE)	12.32
nu hat (MLE)	27.79	nu star (bias corrected)	22.71
Mean (detects)	10.76		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	9.328
Maximum	43	Median	5.5
SD	12.68	CV	1.359
k hat (MLE)	0.506	k star (bias corrected MLE)	0.449
Theta hat (MLE)	18.43	Theta star (bias corrected MLE)	20.76
nu hat (MLE)	15.19	nu star (bias corrected)	13.48
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (13.48, α)	6.219	Adjusted Chi Square Value (13.48, β)	5.621
95% Gamma Approximate UCL	20.22	95% Gamma Adjusted UCL	22.37

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	9.567	SD (KM)	12.08
Variance (KM)	145.9	SE of Mean (KM)	3.246
k hat (KM)	0.627	k star (KM)	0.546
nu hat (KM)	18.82	nu star (KM)	16.39
theta hat (KM)	15.25	theta star (KM)	17.51
80% gamma percentile (KM)	15.76	90% gamma percentile (KM)	25.4
95% gamma percentile (KM)	35.6	99% gamma percentile (KM)	60.49

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (16.39, α)	8.237	Adjusted Chi Square Value (16.39, β)	7.534
95% KM Approximate Gamma UCL	19.03	95% KM Adjusted Gamma UCL	20.81

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk GOF Test**
10% Shapiro Wilk Critical Value	0.889	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.114	**Lilliefors GOF Test**
10% Lilliefors Critical Value	0.215	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	9.549	Mean in Log Scale	1.658
SD in Original Scale	12.52	SD in Log Scale	1.083
95% t UCL (assumes normality of ROS data)	15.24	95% Percentile Bootstrap UCL	14.98
95% BCA Bootstrap UCL	16.97	95% Bootstrap t UCL	26.13
95% H-UCL (Log ROS)	21.71		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.673	KM Geo Mean	5.326
KM SD (logged)	1.026	95% Critical H Value (KM-Log)	2.785
KM Standard Error of Mean (logged)	0.276	95% H-UCL (KM -Log)	19.34
KM SD (logged)	1.026	95% Critical H Value (KM-Log)	2.785
KM Standard Error of Mean (logged)	0.276		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	9.513	Mean in Log Scale	1.64
SD in Original Scale	12.54	SD in Log Scale	1.101
95% t UCL (Assumes normality)	15.22	95% H-Stat UCL	22.21

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 20.81

The calculated UCLs are based on assumptions that the data were collected in a random and unbiased manner.

Please verify the data were collected from random locations.

If the data were collected using judgmental or other non-random methods,

then contact a statistician to correctly calculate UCLs.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

MCPP (MECOPROP)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable MCPP (MECOPROP) was not processed!

Silvex (2,4,5-TP)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Silvex (2,4,5-TP) was not processed!

2,4,5-T

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 2,4,5-T was not processed!

MCPA

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable MCPA was not processed!

2,4-Dichlorophenoxyacetic acid

General Statistics

Total Number of Observations	15	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 2,4-Dichlorophenoxyacetic acid was not processed!

2,4-DB

General Statistics

Total Number of Observations	15	Number of Distinct Observations	10
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable 2,4-DB was not processed!

Endosulfan I

General Statistics

Total Number of Observations	15	Number of Distinct Observations	5
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	5

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Endosulfan I was not processed!

Diesel Range Organics (C10 - C28)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	7
Number of Detects	7	Number of Non-Detects	8
Number of Distinct Detects	7	Number of Distinct Non-Detects	1
Minimum Detect	5.7	Minimum Non-Detect	11
Maximum Detect	26	Maximum Non-Detect	11
Variance Detects	62.67	Percent Non-Detects	53.33%
Mean Detects	15.31	SD Detects	7.917
Median Detects	16	CV Detects	0.517
Skewness Detects	0.0333	Kurtosis Detects	-1.641
Mean of Logged Detects	2.589	SD of Logged Detects	0.602

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.153	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level

Detected Data appear Normal at 1% Significance Level
Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	10.4	KM Standard Error of Mean	1.906
90KM SD	6.803	95% KM (BCA) UCL	15.33
95% KM (t) UCL	13.76	95% KM (Percentile Bootstrap) UCL	14.67
95% KM (z) UCL	13.54	95% KM Bootstrap t UCL	14.31
90% KM Chebyshev UCL	16.12	95% KM Chebyshev UCL	18.71
97.5% KM Chebyshev UCL	22.3	99% KM Chebyshev UCL	29.37

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.318	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.71	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.183	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.313	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level
Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	3.727	k star (bias corrected MLE)	2.225
Theta hat (MLE)	4.109	Theta star (bias corrected MLE)	6.882
nu hat (MLE)	52.18	nu star (bias corrected)	31.15
Mean (detects)	15.31		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	10.14
Maximum	26	Median	7.815
SD	7.679	CV	0.758
k hat (MLE)	0.948	k star (bias corrected MLE)	0.803
Theta hat (MLE)	10.69	Theta star (bias corrected MLE)	12.62
nu hat (MLE)	28.45	nu star (bias corrected)	24.09
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (24.09, α)	13.92	Adjusted Chi Square Value (24.09, β)	12.97
95% Gamma Approximate UCL	17.54	95% Gamma Adjusted UCL	18.82

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	10.4	SD (KM)	6.803
Variance (KM)	46.29	SE of Mean (KM)	1.906
k hat (KM)	2.337	k star (KM)	1.914
nu hat (KM)	70.1	nu star (KM)	57.42
theta hat (KM)	4.451	theta star (KM)	5.434
80% gamma percentile (KM)	15.65	90% gamma percentile (KM)	20.44
95% gamma percentile (KM)	25.02	99% gamma percentile (KM)	35.2

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (57.42, α)	41	Adjusted Chi Square Value (57.42, β)	39.29
95% KM Approximate Gamma UCL	14.56	95% KM Adjusted Gamma UCL	15.2

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.907	**Shapiro Wilk GOF Test**	
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.191	**Lilliefors GOF Test**	
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	10.57	Mean in Log Scale	2.163
SD in Original Scale	7.136	SD in Log Scale	0.64
95% t UCL (assumes normality of ROS data)	13.82	95% Percentile Bootstrap UCL	13.59
95% BCA Bootstrap UCL	14.15	95% Bootstrap t UCL	14.83
95% H-UCL (Log ROS)	15.64		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.171	KM Geo Mean	8.77
KM SD (logged)	0.548	95% Critical H Value (KM-Log)	2.12
KM Standard Error of Mean (logged)	0.156	95% H-UCL (KM -Log)	13.9
KM SD (logged)	0.548	95% Critical H Value (KM-Log)	2.12
KM Standard Error of Mean (logged)	0.156		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	10.08	Mean in Log Scale	2.117
SD in Original Scale	7.249	SD in Log Scale	0.603
95% t UCL (Assumes normality)	13.38	95% H-Stat UCL	14.17

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL 13.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Gasoline Range Organics (C6 - C10)

General Statistics

Total Number of Observations	15	Number of Distinct Observations	10
Number of Detects	0	Number of Non-Detects	15
Number of Distinct Detects	0	Number of Distinct Non-Detects	10

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Gasoline Range Organics (C6 - C10) was not processed!