

Low Temperature Thermal Desorption (LTTD)

Facility or Tank ID: _____

Leak ID: _____

Do not proceed unless a site characterization has been completed that fully delineates the extent of contamination.

I. Applicability of LTTD	Practical	Not Practical
1. Is the contaminated soil <u>free</u> from high concentration of heavy metals? <i>There may be limitations on disposal of soils with heavy metals and an air pollution permit may be necessary due to emissions of toxic heavy metals.</i>	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Is the contaminated soil <u>free</u> of chlorinated compounds? <i>Use of LTTD on chlorinated compounds can lead to the formation of dioxins; therefore, LTTD is not recommended for soils with chlorinated compounds.</i>	<input type="checkbox"/> YES	<input type="checkbox"/> NO

II. Evaluation of LTTD Effectiveness	Pretreatment	No Pretreatment
1. Do the contaminated soils have high plasticity?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Do contaminated soils contain large (>2") rocks or debris?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
3. Is the contaminated soil moisture content > 35% and/or in contact with the groundwater?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
4. Is the volatile concentration of the contaminated soil > 2% by weight (i.e. 2000 Btu/lb)?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
5. Are chemicals being treated highly volatile?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

If the answer to any of the above questions is yes, then the soils require pretreatment or this remedy may not be used.
 If answers to all questions are no, you may proceed to the next section.

II.a Evaluation of LTTD Effectiveness	Test Burn	No Test Burn
1. Do the contaminated soils have a high concentration of humic material?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Are contaminant octanol/water partition coefficients relatively high?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

If the answer to any of the above questions is yes, then a pilot test or "test burn" must be conducted to demonstrate that LTTD is an applicable remedial technology.

If the test shows it is not applicable, the remedy cannot be used.

If the results of the pilot test indicate that LTTD is applicable, you may proceed to determine if LTTD is practical to use.

If the answer to all questions are no, you may proceed to determine if LTTD is practical to use.

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III. Evaluation of the Practicality of Using LTTD	Not Practical	Somewhat Practical
1. Is the depth of contaminated soil at 25 feet or greater below land surface?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Does contaminated soil extend off site?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
3. Does any contamination extend beneath the building, near building foundations, or in areas where excavation cannot be performed?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

If the answer to any of the above questions is yes, then excavation of the soil is not practical; therefore, LTTD is not practical. Consider an in situ remedial technology instead.

If the answer to any question above was no, proceed

III.a Evaluation of the Practicality of Using LTTD	Practical	Not Practical
1. Is sufficient land area available for operation of equipment and temporary storage (staging) of contaminated soil and treated soil?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Will surrounding land use permit operation of an onsite system in the neighborhood?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

If the answer to any of the above questions is no, then excavated soils must be transported to an off-site facility for treatment.

IV.b Evaluation of the Practicality of Using LTTD	Effective	Somewhat effective
1. Has the proposed desorption unit successfully treated similar solid materials with similar contamination levels?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
2. Is the proposed ultimate disposal of the soil (e.g., return to excavation, disposal at landfill) acceptable?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

If the answer to any of the above questions is no, then additional information may be requested by WVDEP to evaluate whether LTTD is likely to be an effective remedial technology.

If the answers to the above questions are yes, the remedy should be effective.

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V. Design

1. What type of thermal desorption device will be utilized?

Direct fired fired

Other (describe): _____

2. What is the volume that the desorption device will handle? _____

3. What is the anticipated operating temperature of the system? (°F) _____

4. Has WVDEP Solid Waste approved the soil to be placed back into the excavation area?

Yes No *(If no, soil must be disposed of at a WVDEP approved facility)*

5. Were permits for the soil treatment and/or disposal required and obtained?

Yes No Not Applicable

If yes, please describe below.

6. Were permits for air emissions required and obtained?

Yes No Not Applicable

If yes, please describe below.

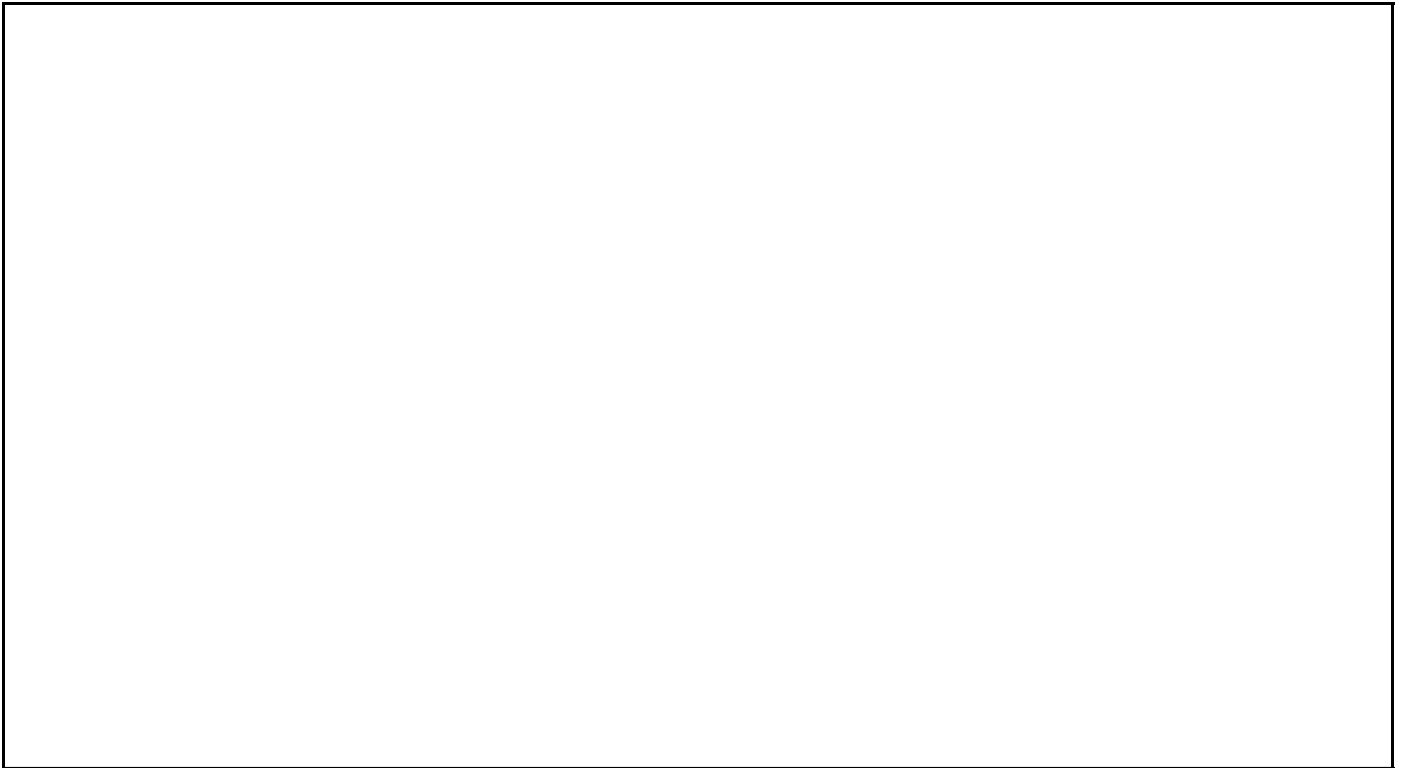
VI. Evaluation

1. Provide a brief summary of the number of confirmation samples and proposed analytical parameters that the samples will be analyzed against to show the site has been remediated.

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VI. Evaluation (continued)

2. Provide information how you will evaluate the effectiveness of the system?



VI. Sitemap

Attach a site map to this document

Site map(s) drawn to scale illustrating the following:

- a. Location of all present and former tanks, piping and dispensers;
- b. Footprint of surface and/or subsurface soil contamination;
- c. Footprint of other structures (buildings, canopies, roads, utilities, etc.);
- d. Layout and dimensions (length, width, and depth) of the final excavation.
(if multiple pits were excavated, reference each separately);
- e. Location of stockpiled overburden soil and stockpiled contaminated soil, if any;
- f. Proposed location of confirmation samples;
- g. North arrow, bar scale, and map legend