



TIER 2 EVALUATION REPORT FORM

(Due within eighteen months from the approval of the Tier 1 Investigation report)

FACILITY / UST OWNER DATA

FACILITY INFORMATION:

NAME: _____
ADDRESS: _____
CITY: _____
COUNTY: _____
ZIP CODE: _____
LAT/LONG: _____
FACILITY ID #: _____

UST OWNER INFORMATION:

COMPANY: _____
ADDRESS: _____
CITY, STATE: _____
ZIP CODE: _____
CONTACT PERSON: _____
PHONE: _____

TIER 1 CONCLUSIONS

During the Tier 2 Evaluation, the following chemicals of concern and pathways will be evaluated:

Chemicals of Concern	Soil Pathways	Chemicals of Concern	GW Pathways

SOURCE INVESTIGATION

SUBSURFACE INVESTIGATION:

SOIL BORINGS INSTALLED DURING THIS INVESTIGATION / DATE: _____

PREVIOUSLY INSTALLED SOIL BORINGS / DATE: _____

MONITORING WELLS INSTALLED DURING THIS INVESTIGATION / DATE: _____

PREVIOUSLY INSTALLED MONITORING WELLS / DATE: _____

46-48'							
48-50'							
GW Depth							

The soil samples that were submitted for analysis should be in **BOLD** or marked with *

SITE MAXIMUM CONCENTRATIONS

	SOIL				GROUND WATER		
	SB	Depth	Conc. mg/kg	Action Level	MW	Conc. mg/L	Action Level
BENZENE							
TOLUENE							
ETHYLBENZENE							
TOTAL XYLENES							
MTBE							
BENZO (a) ANTHRACENE							
BENZO (a) PYRENE							
BENZO (b) FLUORANTHENE							
BENZO (k) FLUORANTHENE							
CHRYSENE							
DIBENZ (a,h) ANTHRACENE							
INDENO (1,2,3-cd) PYRENE							
NAPHTHALENE							
TPH (C6-C12)					N/A	N/A	N/A
TPH (C10-C20)					N/A	N/A	N/A
TPH (C20-C34)					N/A	N/A	N/A
OTHER:							

LAND USE DETERMINATION

LAND USE FOR AN UST SITE SHALL BE RESIDENTIAL UNLESS:

- 1.) The current land use at an UST site is not residential and seventy-five percent of the area within three hundred feet of the property boundaries of an UST site is non-residential land use;
 YES NO

DESCRIBE: _____

- 2.) A land use restriction as approved by the fire marshal for an UST site in accordance with paragraph (L)(4)(a)(ii)(c) of OAC 1301:7-9-13 has been implemented and recorded in the county where the UST site is located or the owners and operators enter into an environmental covenant with the fire marshal in accordance with sections 5301.80 through 5301.92 of the Revised Code:
 YES NO

DESCRIBE: _____

Land Use Determination should be described in detail in Appendix G.

SITE CONCEPTUAL EXPOSURE MODEL

The site conceptual exposure model shall be developed to clearly describe the conditions under which an exposure to chemical(s) of concern may occur by identifying exposure pathways and points of exposure. The Pathway evaluation includes a review of the following:

- (a) Receptor identification
- (b) Media identification.
- (c) Transport mechanisms identification.
- (d) Routes of exposure identification.

Following the pathway completeness evaluation, an exposure pathway is incomplete when any one of the following criteria exists:

1. There is no point(s) of exposure identified pursuant to paragraph (L)(4)(b) of OAC 1301:7-9-13, for a chemical of concern in an identified environmental media; YES NO

DESCRIBE: _____

2. Site-specific data demonstrates that there is no transport mechanism in the identified environmental media to move the chemical(s) of concern from the source area(s) to the point(s) of exposure; YES NO

DESCRIBE: _____

3. Site-specific data demonstrates that there are no route(s) of exposure in the identified environmental media to move the chemical(s) of concern from the source area(s) to the point(s) of exposure; YES NO

DESCRIBE: _____

4. Points of exposure are eliminated by ground water use restrictions enforceable by a local government and/or regulatory agency, a deed restriction, or an environmental covenant with the fire marshal; YES NO

DESCRIBE: _____

5. Points of exposure are eliminated by land use restrictions enforceable by local government, regulatory agencies, or deed restrictions.

YES NO

DESCRIBE: _____

Pathway Evaluation Conclusions:

DESCRIBE: _____

The Site Conceptual Exposure Model should be described in detail in Appendix L.

POINTS OF EXPOSURE

Where ground water has been determined to be a drinking water source in accordance with paragraph (I)(2)(c) or (I)(2)(e) of OAC 1301:7-9-13, the point of exposure shall be one of the following, whichever is closest to the source area(s):

1. Any potable well located on an UST site; YES NO

DESCRIBE: _____

2. The property line when an UST site is located in a Drinking Water Source Protection Area;
YES NO

DESCRIBE: _____

3. The Drinking Water Source Protection Area boundary if a Drinking Water Source Protection Area is within 300 feet of an UST site; YES NO

DESCRIBE: _____

The point of exposure is the property line, unless one of the following can be demonstrated:

1. No potable wells are located within 300 feet of an UST site based on a physical survey and an ordinance requires a mandatory tie-in to a municipal water system for all properties in the surrounding area; YES NO

DESCRIBE: _____

2. No potable wells are located within 300 feet of an UST site based on a physical survey and an ordinance prohibits the installation of potable water wells at all properties within the surrounding area; YES NO

DESCRIBE: _____

3. No potable wells are located within 300 feet of an UST site based on a physical survey and 100 percent of the properties within 300 feet of an UST site are connected to a municipal water source or a municipal source is readily available; YES NO

DESCRIBE: _____

4. A roadway or railroad separates the source from the down gradient property where a well could be installed, in which case the point of exposure shall be the property line of that property.
YES NO

DESCRIBE: _____

5. If a point of exposure has not been identified in paragraph (L)(4)(b)(i)(a)(i) through (L)(4)(b)(i)(a)(iv) of OAC 1301:7-9-13, the point of exposure shall be 300 feet from the source area(s) or an alternate point of exposure approved by the fire marshal. YES NO

DESCRIBE: _____

Points of Exposure should be described in detail in Appendix H.

SITE SPECIFIC TARGET LEVEL DEVELOPMENT

Fate and transport of chemical(s) of concern above action levels that have potentially complete exposure pathways shall be evaluated by using BUSTR's Tier 2 Spreadsheets. Site specific target levels can be developed by replacing default values specified by the fire marshal for the geological, hydrogeological, and physical parameters in the algorithms used to develop action levels with site-specific values. The following table includes site-specific data utilized to generate Tier 2 SSTLs.

Default Parameter	Default Value	Site Specific Value	Applicable Pathway	Reference

The following table depicts the calculated SSTL:

Chemical	SSTL	Applicable Pathway

BUSTR-Screen is utilized to predict the fate and transport of chemicals of concern in ground water. The following table indicates site-specific data utilized in the model:

Default Parameter	Default Value	Site-Specific Value	Reference

The following table indicates the predictions of the fate and transport model:

Chemical of Concern	POD	Date & Predicted POD Concentration	Date & Actual POD Concentration	Predicted POE Concentration

Site Specific Target Level Development should be described in detail in Appendix M. BUSTR-Screen should be described in detail in Appendix I.

IMMEDIATE CORRECTIVE ACTIONS

CURRENT FREE PRODUCT PRESENT: YES NO HISTORICAL: YES NO

LOCATION OF FREE PRODUCT: _____

AMOUNT OF FREE PRODUCT RECOVERED TO DATE: _____

OTHER IMMEDIATE CORRECTIVE ACTIONS: _____

TIER 2 DECISIONS

Select one of the following:

- The concentrations of all chemical(s) of concern are at or below Tier 2 site-specific target levels for all pathways and no monitoring is required pursuant to paragraph (O) of OAC 1301:7-9-13, then no further action is required.
- The concentrations of all chemical(s) of concern are at or below Tier 2 site-specific target levels for all pathways and a monitoring plan is required to validate BUSTR-Screen. The monitoring plan that is prepared in accordance with paragraph (L)(7) of OAC 1301:7-9-13 is included in Appendix P of this report.
- The concentration of a specific chemical of concern is at or below the Tier 2 site-specific target levels, then no further evaluation is necessary for that chemical of concern and for the corresponding complete exposure pathway:

- The concentrations of chemical(s) of concern are above the Tier 2 site-specific target levels for one or more exposure pathways, and the following chemicals of concern and pathways require further evaluation:

If applicable, please list the COCs and the pathways that failed:

Chemicals of Concern	Soil Pathways	Chemicals of Concern	GW Pathways

The owners and operators are planning on conducting one or a combination of the following:

- A.) An Interim Response Action:
- B.) A Remedial Action Plan:
- C.) A Tier 3 Evaluation:
- D.) A plan for approval by the fire marshal to calibrate or disprove the fate and transport model using additional site-specific data:

MISCELLANEOUS DATA

THE FOLLOWING ITEMS MUST BE ATTACHED:

ADDITIONAL INFORMATION WHICH IS REQUIRED BY OAC 1301:7-9-13 OR ADDITIONAL INFORMATION WHICH CLARIFIES THE INVESTIGATION ACTIVITIES SHALL BE SUBMITTED AS APPENDICES TO THIS REPORT.

TABLES:

- TABLE 1 - SOIL CONCENTRATIONS COMPARED TO ACTION & DELINEATION LEVELS
- TABLE 2 - GROUND WATER CONCENTRATIONS COMPARED TO ACTION & DELINEATION LEVELS
- TABLE 3 - MONITORING WELL GAUGING DATA
- TABLE 4 - SITE SPECIFIC GEOTECHNICAL DATA



FIGURES:

- FIGURE 1 - TOPOGRAPHIC MAP
- FIGURE 2 - SITE MAP
- FIGURE 3 - SITE MAP WITH SOIL BORING LOCATIONS, SOIL CONCENTRATIONS AND SAMPLE DEPTH
- FIGURE 4 - SITE MAP WITH MONITORING WELLS AND GROUND WATER CONCENTRATIONS
- FIGURE 5 - GROUND WATER CONTOUR MAP
- FIGURE 6 - CROSS SECTIONS

APPENDIX:

- APPENDIX A - SOIL BORING LOGS
- APPENDIX B - MONITORING WELL CONSTRUCTION DIAGRAMS
- APPENDIX C - SOIL CLASSIFICATION FORM
- APPENDIX D - LABORATORY ANALYTICAL REPORT
- APPENDIX E - CHAIN OF CUSTODY
- APPENDIX F - DRINKING WATER EVALUATION SUPPORTING DOCUMENTATION
- APPENDIX G - LAND USE DETERMINATION (including a map depicting the land use within 300' of the site)
- APPENDIX H - POINTS OF EXPOSURE DOCUMENTATION
- APPENDIX I - BUSTR-SCREEN DOCUMENTATION
- APPENDIX J - GEOTECHNICAL LABORATORY REPORT
- APPENDIX K - LAND & GROUND WATER USE RESTRICTIONS / COVENANTS
- APPENDIX L - SITE CONCEPTUAL EXPOSURE MODEL
- APPENDIX M - SITE SPECIFIC TARGET LEVEL DEVELOPMENT
- APPENDIX N - MONITORING PLAN
- APPENDIX O - SLUG TEST / PUMP TEST RESULTS

The Tier 2 Evaluation Report Form **must** be signed by the UST owner/operator. The owner/operator is responsible for ensuring all data is accurate, and the form is legible and complete.

OWNER / OPERATOR SIGNATURE: _____

PRINT NAME: _____ **DATE:** _____

FORM PREPARED BY:

NAME: _____
COMPANY: _____
ADDRESS: _____
PHONE #: _____
EMAIL: _____