

C. TANK(S) OWNER INFORMATION

Owner Name:

Street Address:

City:

State:

ZIP Code:

Contact Person:

Telephone Number:

E-mail Address:

D. REPORT PREPARER INFORMATION

Company Name:

Street Address:

City:

State:

ZIP Code:

Contact Person:

Telephone Number:

E-mail Address:

E. CERTIFICATION OF REPORT COMPLETION

I the undersigned environmental professional, hereby attest to the best of my knowledge and belief that the statements in this document and all attachments are true, accurate, and completed per 329 IAC 9-5-5.1 and 329 IAC 9-5-6. I certify that the attached report was submitted to the IDEM Leaking Underground Storage Tank Section on the date listed below.

Name	Position	Company	Date
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Environmental Professional Credentials _____

Signature _____

Please note, per 329 IAC 9, this document must be signed by a Registered Professional Engineer, a Licensed Professional Geologist, a Certified Hazardous Materials Manager, or a Professional Soil Scientist. All must be specifically certified in the State of Indiana.

Additional Signatures (as appropriate or desired)

_____ (signature and date)

_____ (printed name and date)

_____ (signature and date)

_____ (printed name and date)

REQUIRED ISC REPORT FORMAT

Please attach the Initial Site Characterization (ISC) cover sheet and ISC Checklist State Form 55440 to your ISC Report submittal. The ISC should follow the general outline and section headings one (1) through ten (10) provided below.

EXECUTIVE SUMMARY

Provide a brief discussion and summary of the project.

1. BACKGROUND INFORMATION

Regional Location

Describe the regional location. Include the following:

1. Provide township, range, and section on a 7.5-minute series United States Geological Survey (USGS) topographic map as **Figure 1**.
2. An appropriately scaled regional map of the site should be provided as **Figure 2**.
3. A brief discussion regarding regional topography (elevation, slope, etc.) should also be included. Include references for all topographic maps used to make these interpretations.

Site Location

Describe the site location. Include the following:

1. Provide a physical description of the site and a discussion of present and potential future land use of the subject property (i.e. industrial, commercial, or residential).
2. Identify all adjacent properties in the four principal compass directions and include historical (if known) uses.
3. A scaled plan of the subject site and adjacent properties should be provided as **Figure 3**. The figure should also include site buildings or former buildings, locations of current and former UST(s), ground water monitoring wells, underground utilities, storm drains, spill areas, etc.

Land Use History

Describe the Land Use History. Include the following:

1. Provide a description of the historical uses of the subject site including chemicals used on the site from past or present operations that may have contributed to the suspected contamination, etc.
2. List all previous property owners, for a minimum of the past 50 years, dates of ownership and the use of the property as **Table 1** in the format provided below.
3. Any property descriptions, deed restrictions, land-use restrictions, chain-of-title documentation, or environmental notice limitations should also be provided in **Appendix A**.

Past & Present Property Owner Names:	Dates of Ownership:	Property Use:

Site UST History

List all UST information (past and present) in the format provided below as **Table 2**. Include copies of the following in **Appendix B**:

1. A copy of the most recent UST Notification form submitted to the UST Section
2. Tank Tightness/inventory records for the prior calendar year

Tank #	Installation Dates	Capacity (in gallons)	Product	Construction Material	Tank Status	Method of Leak Detection	Date Removed
1.							
2.							
3.							

Overview of Previous Site Environmental Investigations & Spill History

Briefly list in chronological order, all previous investigation efforts (i.e. UST Closure Reports, Phase II Investigations, Limited Subsurface Investigations) at the site or sampling area and provide the following:

Report name and date

1. Name of the party/parties that conducted the sampling and prepared the report
2. Rationale for the sampling
3. The types of media sampled (i.e. soil, sediment, ground water, air)
4. Laboratory methods that were used; and a discussion of what is known about data quality and usability
5. Include summary tables and figures of results in **Appendix C**

2. RELEASE INCIDENT DESCRIPTION

Release

Indicate the reason this investigation is being performed (i.e., failed tank tightness testing, loss of product through inventory control checks, erratic behavior of product dispensing equipment, water present in UST, free product present, vapors present in basements and/or nearby utility lines, etc.). Additional details and supporting documentation outlined below should be included in **Appendix D**.

1. Date reported to the department
2. Release incident number assigned by LUST
3. Assigned priority
4. List of material(s) released
5. Volume of product lost (please provide an estimate if the exact volume is not known)
6. Areas affected (i.e. backfill soils, native soils, groundwater, surface water, subsurface conduits) Include depth intervals as appropriate
7. Health and environmental risks associated with the release incident (i.e., did release occur within a sensitive area?)

3. INITIAL RESPONSE TO RELEASE

Provide a brief description of the initial response to the release. Additional detailed description of the following actions and supporting documentation should be provided in **Appendix D**:

1. Immediate actions taken to prevent any further release
2. Measures taken to prevent migration
3. Measures taken to mitigate hazards and investigate the potential of a free product release

4. FREE PRODUCT RECOVERY INFORMATION (Fill out only if free product is present during investigation)

Provide the following details regarding free product recovery

1. Estimated quantity, type, and thickness of product observed or discovered
2. Actions taken to identify and mitigate fire and explosion hazards posed by vapors or free product
3. Company/contractor responsible for free product recovery/removal
4. Methods used to recover free product
5. Final disposition of any free product recovered
6. Amount of free product removed to date

The details for Section 4 should be provided in **Appendix D**.

5. REGIONAL INVESTIGATIONS

Regional Geologic & Hydrologic Information

Provide a description of the hydrogeology of the region including the following:

1. Indicate the direction of ground water flow.
2. Information regarding type of bedrock, depth to bedrock, and depth to ground water within the region.
3. Locate all high-capacity wells (greater than 70 gallons per minute) and municipal water supply wells within a 2-mile radius.
4. Wells with a capacity of less than 70 gallons per minute should be identified within a 1-mile radius of the site (this information can be obtained from the Department of Natural Resources (DNR) – Division of Water: 317/232-4160 or toll free at 1-877/928-3755, or by accessing the website www.in.gov/dnr/water.)
5. Copies of the individual well construction records and a map with locations of all identified wells must be included.

*All of the information for Section 5 should be provided in **Appendix E**. Include a list of references for all sources used to obtain this information.

6. SITE SPECIFIC INVESTIGATION

Assessment of Potentially Susceptible Areas

Assess the potential susceptibility of the area including the following:

1. Indicate if the subject site exists within a wellhead protection area, a geologically susceptible area, or an ecologically susceptible area.
2. Indicate if other sensitive areas such as residences or schools are located in the immediate vicinity of the site.

Potential Petroleum Contaminants

List all Potential Petroleum Contaminants (PPCs) for the subject property in the format provided below as **Table 3** based on historical usage and storage of regulated substances in regulated underground storage tanks at the subject site. It may be necessary to reduce or expand the list of Contaminants of Concern (COCs) as additional site information is acquired.

Potential Petroleum Contaminants	Analytical Method Used	
	Soil	Ground Water

Sampling Objectives & Rationale

Describe the sampling locations, the media sampled, and the PPCs evaluated at each location. A rationale should then be provided justifying these choices.

Soil Sampling Event

Provide a general overview of the soil sampling event including the following:

1. Indicate which samples were selected for laboratory analysis and why.
2. Discuss the method by which the borings were installed and samples were collected. (i.e., hand auger, hollow-stem auger, direct-push, split-spoon, etc.), indicate the depths at which the samples were collected, and specify what analysis was performed.
3. Field screening readings should be included on the soil boring logs included in **Appendix F**.
4. All observations made during sampling activities regarding the subsurface soil should be included (along with field screening readings) on a soil boring log. Please include the soil boring logs in **Appendix F**.
5. Soil sample locations should be presented on **Figure 4**.
6. Identify cross sections on a site map as **Figure 5a**. Geologic cross sections (depicting the soil lithology as well as the approximate location of the water table, screened intervals, utilities and vertical extent of contamination) should be included as **Figures 5b and 5c**.

Ground Water Sampling Event

Provide a general overview of the ground water sampling event include the following:

1. Ground water monitoring well construction diagrams should also be included in **Appendix F**. Well screen elevation data should be included in **Table 5**.
2. Method used to measure depth to water in each well (also depth to free product if applicable) and describe the method used for well purging (i.e., dedicated well pump, bailer, pump) and include the volume purged.
3. How the ground water samples were collected from each well and describe the sample containers into which they were transferred.
4. Identify any duplicate samples or any samples submitted for MS/MSD analysis.
5. State whether samples for metals analysis were filtered or unfiltered. If filtered, state the reason why and the size (in microns) of the filter used.
6. Describe all decontamination procedures if non-dedicated sampling equipment is used. Describe how decontamination and purge water is managed.
7. Depth-to-ground water measurements should be included in **Table 5**.
8. Ground water sample locations should be presented on **Figure 8**.

Ground Water Elevation Calculation

Indicate the method used to determine the elevation of the ground water monitoring wells (if present) and describe how ground water elevations were calculated. All monitoring wells should be surveyed to a one-hundredth (0.01) foot accuracy to a common benchmark. Ground water elevations and a depiction of ground water flow should be presented in a ground water contour map and included as **Figure 7**. Ground water surface elevations should be included in **Table 5**. Please also indicate the survey benchmark in **Table 5**. If direct-push methods were used to conduct the initial assessment (i.e., no permanent ground water monitoring wells) this section may be left blank.

7. SAMPLING

Section 7 including all lab analytical information, data sheets, chain-of-custody forms, documentation of MDDRs and full QA/QC should be included in **Appendix G**. NOTE: Per IDEMs "Investigation of Underground Storage Tank Release" Quality Assurance Program Plan (QAPP)(B-001-OLQ-R-XX-09-Q-RO) full QA/QC documentation is required for those samples used to define the final nature and extent of contamination. Failure to submit this documentation may delay your ability to receive site characterization approval. A copy of the QAPP can currently be found at http://www.in.gov/idem/files/Investigation_UST_Releases_QAPP.pdf

8. RESULTS & CONCLUSIONS

Soil Analytical Results

Provide a brief narrative describing the soil analytical results including the results of the quality control samples (i.e., MS/MSD, duplicates, trip blanks, etc.) The soil analytical results should be compared against the appropriate screening levels and presented in **Table 4**.

1. Analytical results should be compared against residential screening levels. Soil analytical results are also required to be presented on a site map as **Figure 4**.
2. Map(s) displaying the lateral extent of individual COCs (ie. Benzene, Napthalenes, Trimethylbenzenes, or any other COCs driving investigation and clean-up) should be included as **Figure 6 a, b, c, etc**.
3. A hard copy of the laboratory certificates of analysis and chain of custody form(s) should be included as **Appendix G**.

Ground Water Analytical Results

Provide a brief overview of the ground water analytical results including the results of the quality control samples (i.e., MS/MSD, duplicates, trip, blanks, etc.) The ground water analytical results should be compared against the appropriate screening levels and presented in **Table 6**.

1. Analytical results should be compared against residential screening levels.
2. Analytical results are also required to be presented on a site map as **Figure 8**.
3. Map(s) displaying the lateral extent of individual COCs (ie. Benzene, Napthalenes, Trimethylbenzenes, or any other COCs driving investigation and clean-up) should be included as **Figures 9 a, b, c etc**.
4. A hard copy of the laboratory certificates of analysis and chain of custody form(s) should be included as **Appendix G**.

Miscellaneous Sampling Data & Results

Provide a general overview of any additional sampling activities that occurred at the site and were not addressed in the previous sections. Examples include surface water sampling, soil vapor studies, etc. Discuss the method by which the samples were collected and all observations made during sampling activities. Analytical data and data summary tables should be included in **Appendix H**.

Potential Exposure Pathways

Identify and evaluate all potential exposure pathways associated with the subject release(s) including the following:

1. direct contact
2. ground water ingestion
3. vapor intrusion

Conclusions

Provide a professional conclusion regarding the activities conducted for the subject release(s) to date. Indicate if the full nature and extent of contamination has been defined or if additional investigation is required. Identify any information/data gaps that exist with regard to the subject release(s).

9. RECOMMENDATIONS

Further Site Investigation Work Plan

If the full nature and extent of contamination has not yet been determined, provide recommendations for any additional site activities required in a FSI work plan. Provide the FSI Work Plan in **Appendix I**. The FSI work plan should be a brief but stand alone document and should include:

1. A description of how samples will be collected
2. The number of and rationale for samples that will be collected
3. The COCs to be analyzed
4. Methods for analysis
5. The number and location of soil borings or monitoring wells proposed (depicted on a map)
6. An estimated timeline to complete the work along with the identification of any potential obstacles which may delay or prevent complete site characterization
7. Other activities to address the information/data gaps identified in Section 8.

* If contaminant delineation is complete, potential remedial options should be proposed in Section 10.

10. EVALUATION OF POTENTIAL REMEDIES

Summary of Remedies Given Preliminary Consideration

Provide a summary of remedies given preliminary consideration at this site. The summary should include the following:

- 1. A discussion of the applicability of the proposed remedy*
- 2. The treatability of the contaminants at the site given the contaminant and site conditions*
- 3. The potential effectiveness of each remedy.*

Proposed Pilot Tests

Include a brief description of any pilot tests anticipated to complete a Corrective Action Plan for the site.

APPENDIX D

2. RELEASE INCIDENT DESCRIPTION

<i>Date Reported to the Department:</i>	
<i>Release Incident Number Assigned by LUST:</i>	
<i>Assigned Priority (i.e., Low, Medium, High):</i>	
<i>List of Material(s) Released:</i>	
<i>Volume Lost:</i>	
<i>Areas Affected (i.e., backfill soils, native soils, groundwater, surface water, subsurface conduits). Include depth intervals, as appropriate:</i>	
<i>Indicate if vapors were present in on-site / off-site structures or accessible utility conduits (i.e., storm sewers):</i>	
<i>Health and Environmental Risks associated with release incident (i.e., did release occur within a sensitive area?):</i>	

3. INITIAL RESPONSE TO RELEASE

<i>Describe the immediate actions taken to prevent further release:</i>
<i>Measures taken to prevent further migration of the release (i.e., soil removal):</i>
<i>Actions taken to investigate the potential of free product release:</i>

4. FREE PRODUCT RECOVERY INFORMATION

In Accordance with 329 IAC 9-5-4.2, the following items are to be addressed only if free product is discovered:

<i>Estimated quantity, type, and thickness of product observed or discovered:</i>	
<i>Actions taken to identify and mitigate fire and explosion hazards posed by vapors or free product:</i>	
<i>Company/contractor responsible for free product removal:</i>	
<i>Methods used to recover free product:</i>	
<i>Final disposition of any free product recovered:</i>	
<i>Amount of free product removed to date:</i>	