Site Investigation Report

Submission Date: _____
Facility or Tank ID: _____
Leak ID: _____

I. Associated Leaks

1. What is the current leak ID for this report? _____

2. List all previous leak IDs associated with the site and indicate if they are open ("O") or closed ("C")

_____

3. Is this the initial site investigation report or a supplemental site investigation report or the site?

☐ Initial ☐ Supplemental

If supplemental, what is the date of initial investigation report? _____

II. Release Information

1. Substance(s) confirmed to be released (check all that apply).

☐ Gasoline ☐ Oil (new) ☐ Brine ☐ Methanol
☐ Diesel ☐ Aviation fuel ☐ Crude ☐ Distillates
☐ Kerosene ☐ Ethanol flex fuel ☐ Condensates ☐ Sodium hydroxide
☐ Used oil ☐ Biodiesel ☐ Other produced fluids ☐ Unknown
☐ Other (specify): _____

2. Source of release (check all that apply).

☐ Tank Select ☐ Submersible Turbine Pump (STP) Select
☐ Piping Select ☐ Delivery Problem Select
☐ Dispenser Select ☐ Unknown
☐ Other (describe): _____

3. Volume of material released (estimate in gallons): _____

4. Elapsed time over which the release occurred (if known): _____

5. Media Impacted (check all that apply)

☐ Soil ☐ Surface water
☐ Groundwater ☐ Vapor
☐ Not applicable ☐ Other (describe): _____

6. Provide a brief description of the release event.

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III. Initial Response

1. What initial response and corrective actions have been taken to date? (check all that apply)

- ☐ Emptied substance from tank
- ☐ Repaired leaking component(s)
- ☐ Replaced leak component(s)
- ☐ Initiated early cleanup
- ☐ Conducted initial site characterization
- ☐ Permanently closed tank system
- ☐ Investigated for presence of and initiated removal of free product

2. Was free product discovered? ☐ Yes ☐ No

3. As briefly as possible, provide additional details about the initial response and corrective actions taken to date. Add attachment if necessary.

IV. Site Description and History

1. Describe the tank system (tanks, piping, dispenser, etc.). (mark all that apply, brief explanation may be provided)

- ☐ Permanently closed
- ☐ Removed from site
- ☐ Closed in place
- ☐ Currently in use
- ☐ Temporarily out of service
- ☐ Other (describe below):

1. What is the site currently used for?

- ☐ Gasoline station
- ☐ Hospital
- ☐ Railroad
- ☐ Petroleum distributor
- ☐ Public/private school
- ☐ Utility
- ☐ Auto dealership
- ☐ State/federal government
- ☐ Oil & Gas site
- ☐ Truck/transporter
- ☐ Airport
- ☐ Chemical facility
- ☐ Vacant or abandoned
- ☐ Other (identify): _____

IV. Site Description and History (continued)

2. Is there a tank system closure associated with this release?

☐ Yes ☐ No

If yes, briefly describe the closure including what tank(s) system (tank, piping, etc.) that were closed, removal of contaminated soil, and general description of findings of confirmation sampling (i.e. sampling showed exceedance of soil actions levels). Provide data in a table as an attachment.

3. What initial response and corrective actions have been taken to date? (check all that apply)

☐ Emptied product from tank
☐ Initiated early cleanup
☐ Replaced leak component(s)
☐ Investigated for presence of and initiated removal of free product
☐ Visually inspected aboveground and/or exposed underground releases and took action to prevent further migration of materials
☐ Other (identify): _____

4. As briefly as possible, provide additional details about the initial response and corrective actions taken to date. Add attachment, if necessary.

5. Is there any free product (e.g. LNAPL) at the site?

☐ Yes ☐ No

If yes, indicate location(s) and indicate if product is on the water table.

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IV. Site Description and History (continued)

6. Has any excavation or remediation activities been completed at the site?

☐ Yes ☐ No

If yes, please describe.

V. Assessment Methodology

As applicable, describe sampling performed at the site. As attachments, provide map(s) showing all sampling locations, groundwater flow, etc. and analytical data in tables.

1. Was surface sampling performed? (If yes, complete the "Surface" sheet.)

☐ Yes ☐ No

2. Were subsurface samples collected? (If yes, complete the "Subsurface" sheet.)

☐ Yes ☐ No

3. Were groundwater grab samples collected using direct push technology? (If yes, complete the "Direct Push" sheet.)

☐ Yes ☐ No

If yes, provide location on site map and attach boring logs.

4. Were temporary wells installed using direct push technology? (If yes, complete the ""Temporary Well" sheet.)

☐ Yes ☐ No

5. Were permanent wells installed? (If yes, complete the "Permanent Wells" sheet.)

☐ Yes ☐ No

If yes, how many? _____ (provide locations on site map and attach boring logs)

6. Was surface water sampling performed? (If yes, complete the "Surface Water" sheet.)

☐ Yes ☐ No

7. Was sediment sampling performed? (If yes, complete the "Sediment" sheet.)

☐ Yes ☐ No

If yes, how many sediment samples were collected? _____ (provide location on site map)

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VI. Property Information

1. What is the estimated acreage of the site? _____

2. Is the site currently used for residential or non-residential purposes?

☐ Residential ☐ Non-residential

3. Current occupancy and use of the properties immediately adjacent to the facility. *If necessary, create and attach a table that contains the below information to accommodate more properties*

Direction from Facility (example: S, NW)	Adjacent Property Name	Adjacent Property Use (residential or non-residential)

4. Are there utility lines on the property? If so, please describe what kind of utility lines are present and the approximate depth of each utility line (if known).

Utility Line	Depth (ft-bgs)	Comments
Water Line		
Gas Line		
Sanitary Sewer Line		
Storm Sewer Line		
Electric Line		
Communications Line		

5. How is the site currently zoned?

☐ Residential ☐ Mixed ☐ Commercial

☐ Non-residential ☐ Industrial ☐ Unknown

☐ Other (identify): _____

6. What is the future use of the property?

☐ Residential ☐ Non-residential ☐ Unknown

7. Does the property currently have an existing deed restriction preventing the property being used as residential?

☐ Yes ☐ No ☐ Unknown

8. Are there any on or off-property building foundations that are within 30 lateral feet and/or 5 vertical feet from the on-property contaminated soil? *(if yes, show location on site map)*

☐ Yes ☐ No

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VI. Property Information (continued)

9. Are there any significant building foundation openings (e.g. dirt floor, sump, etc.) within 30 lateral feet and/or 5 vertical feet of contaminated soil?

☐ Yes ☐ No

If yes, please describe

10. Are there any preferential pathways (e.g. crawlspace under buildings, underground culverts or utility lines)?

☐ Yes ☐ No

If yes, please describe

11. What was the previous use of the site?

☐ Residential ☐ Non-residential

VII. Site Geology

1. General topography/terrain of the site. Mark all that apply. Provide topo map (identify the site) as an attachment.

☐ Flat terrain ☐ Hilly terrain ☐ Karst

☐ Other (identify): _____

2. Site elevation above mean sea level (in feet): _____

3. Depth to bedrock (ft)? _____

☐ Estimated ☐ Known

4. What is the predominate soil type at the site? Select _____ (attach soil boring logs)

5. The above soil lithology information is based on:

☐ Literature search ☐ Known ☐ Other (identify): _____

6. Is the soil lithology in the area of contamination at least a silt loam or a soil type similar to silt loam or one with less saturated hydraulic conductivity?

☐ Yes ☐ No

If yes, soil lithology is not likely to be a limiting factor in use of the soil action levels.
If no, soil lithology may be limiting factor if volatiles contaminants are a concern (refer to flowchart and instructions in Appendix

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VII. Site Geology (continued)

7. Briefly provide any additional geology information you believe that is important for the Agency to understand for the site.

VIII. Site Hydrology

1. What is the depth range for water? _____

2. What is the groundwater flow direction at the site? Select _____

3. Groundwater flow direction is?

☐ Known ☐ Estimated (based upon topography or surface water)

4. Adjacent to waterway?

☐ Yes ☐ No

If yes, please identify the type of waterway.

☐ Stream ☐ River ☐ Wetland

☐ Pond ☐ Lake

☐ Other (identify): _____

If yes, provide name (if known) of the waterway. _____

5. Are there other potential sources of contamination that this release may be attributed to and/or affected by?

☐ Yes ☐ No

If yes, briefly explain

6. Briefly provide any additional hydrology information you believe that is important for the Agency to understand for the site.

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IX. Data Presentation and Documentation

1. Has the release been fully delineated? (both horizontally and vertically)

☐ Yes ☐ No

2. Is the contamination limited to the site?

☐ Yes ☐ No

If no, Briefly describe what is known about the extent of the off-site contamination.

3. Generally, describe the contaminants found in the soil above action levels.

☐ No contamination above action levels

☐ BTEX ☐ Chlorides ☐ SVOCs ☐ MTBE

☐ PAHs ☐ VOCs ☐ RCRA 8 metals ☐ TBA

☐ Other (identify): _____

4. Briefly provide any additional information on the soil sampling that you believe is important. Do not explain the data results in detail (that information can be obtained from the data tables and site maps); however, feel free to provide a general summary of the data such as "all samples were above action levels", "only SB-1 was above action levels",

5. Generally describe the contaminants found in the water above groundwater drinking water standards.

☐ Not Applicable ☐ No Contamination Found Above Standards

☐ MTBE ☐ TBA ☐ PAHs ☐ Chlorides ☐ VOCs

☐ SVOCs ☐ Other (identify): _____

6. Generally describe the contaminants found in the groundwater above action levels.

☐ Not Applicable ☐ No Contamination Found Above Standards

☐ MTBE ☐ TBA ☐ PAHs ☐ Chlorides ☐ VOCs

☐ SVOCs ☐ Other (identify): _____

IX. Data Presentation and Documentation (continued)

7. Briefly provide any additional information on the groundwater sampling that you believe is important. Do not explain the data results in detail (that information can be obtained from the data tables and site maps); however, feel free to provide a general summary of the data such as "all samples were above groundwater standard for benzene", "only MW-1 was above GW for benzene", No samples were above GW standards but an exceedance of an action level was note in MW-1", etc.

8. Generally describe the contaminants found in surface water and/or sediments.

☐ Not Applicable ☐ MTBE ☐ TBA ☐ PAHs

☐ Chlorides ☐ VOCs ☐ SVOCs

☐ Other (identify): _____

9. Briefly provide any additional information on the surface water or sediment sampling that you believe is important. Do not explain the data results in detail (that information can be obtained from the data tables and site maps); however, feel free to provide a general summary of the data.

XI. Summary of Findings (provide concise bulleted list)

NOTE: The Tanks CAU recognizes that very few conclusions or recommendations may be derived from a situation where contamination has gone off-site and further investigative work is needed. However, some conclusions may be reached concerning the extent of on-site contamination and a recommendation made for further work. It is understood that recommendations regarding Corrective Actions may not be provided at this point. However, interim measures are strongly recommended in this situation and should be documented in the Site Investigation Report.

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XII. Conclusions

1. Site fully delineated? ☐ Yes ☐ No
2. Soil contamination above action levels? ☐ Yes ☐ No
3. Groundwater (GW)
   - Above GW and/or DW standards? ☐ Yes ☐ No
   - Above GW action levels? ☐ Yes ☐ No
4. Was surface water impacted? ☐ Yes ☐ No
5. Was sediment Impacted? ☐ Yes ☐ No
6. Briefly provide any additional information related to the conclusion for this report that you believe is important.

XIII. Recommendations

1. Is additional investigation necessary?

   ☐ Yes ☐ No

   If yes, check all areas requiring additional investigation.

   ☐ Surface Soil ☐ Subsurface soil ☐ Surface water

   ☐ Sediment ☐ Groundwater

   ☐ Other (describe below):

XIII. Recommendations (continued)

2. Briefly describe any interim measures that should be taken.

3. Briefly provide any additional information related to the recommendations for this site that you believe is important.

XIII. Attachments

Note which attachments have been appended to this report

- ☐ Tables of analytical data
- ☐ Required map(s) in XIV
- ☐ Lab analytical
- ☐ Boring logs
- ☐ Other (identify below):

XIV. Site Maps

All site, adsorbed phase, and/or groundwater maps must be drawn to scale, show North arrow, and map legend.

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

a. Location of all present and former tanks, piping and dispensers in the area of the release;
b. Footprint of surface and/or subsurface soil contamination;
c. Footprint of other structures (buildings, canopies, roads, utilities, etc..);
d. Location of the release(s);
e. Known locations of sewer and utility line, basements, and other subsurface structures;
f. Location and type of receptors;
g. Location of monitoring wells and all other wells that may be impacted by the release;
h. Groundwater concentration and potentiometric maps, as applicable;
i. Adsorbed phase concentration maps, as applicable;
j. Surface water and sediment sample locations, as applicable

Surface

1. Was soil sampling performed? If yes, provide information on samples in appropriate analytical table(s).

☐ Yes ☐ No

2. Was surface sampling performed?

☐ Yes ☐ No

3. How many samples were collected? _____

4. Briefly describe any information you think the Agency should know regarding collected samples.

5. Collection methodology. (mark all that apply)

☐ Shovel ☐ Backhoe bucket ☐ Method 5035 for vocs

☐ Trowel ☐ Hand auger ☐ Other (identify): _____

6. Briefly describe any information you think the Agency should know regarding sampling methodology.

7. Samples were collected for? (mark all that apply)

☐ BTEX ☐ MTBE ☐ TBA ☐ VOCs (8260)

☐ SVOCs (8270) ☐ RCRA 8 metals ☐ Chlorides ☐ PAHs

☐ Other (identify): _____

8. Briefly describe any information on sampling parameters that you believe the Agency should know.

Surface

9. Briefly describe how sampling equipment was decontaminated.

10. Was field screening performed?

☐ Yes ☐ No

If yes, how was field screening performed?

☐ FID ☐ pH meter ☐ Metal conductance

☐ PID ☐ Visual and/or odor

☐ Other (specify): _____

9. Briefly describe the general field screening results for the site, if applicable.

11. Briefly provide any additional information on the surface soil sampling that you believe is important.

Return to the site investigation report. Continue answering questions in section V .

Subsurface

1. Were subsurface samples collected? If yes, provide information on samples in appropriate analytical table(s).

☐ Yes ☐ No

2. Number of samples collected? _____

attach logs for each boring, refer to CAGD section 9.10 for requirements for boring logs

3. Collection Methodology. (mark all that apply)

☐ Shovel ☐ Backhoe bucket ☐ Hand auger

☐ Split spoon ☐ Shelby tube ☐ Direct push technology

4. Provide any additional information on sample collection methodology, including equipment decontamination, you believe the Agency should know.

5. Samples were collected for? (mark all that apply)

☐ BTEX ☐ MTBE ☐ TBA ☐ VOCs (8260)

☐ SVOCs (8270) ☐ RCRA 8 metals ☐ Chlorides ☐ PAHs

☐ Other (identify): _____

6. Provide any additional information on analytical parameters that you believe the Agency should know.

7. Was field screening performed?

☐ Yes ☐ No

If yes, how was field screening performed?

☐ Visual and/or odor ☐ FID ☐ PID

☐ Metal conductance ☐ pH meter

☐ Other (specify): _____

Subsurface

8. Provide any additional information on field screening that you think the Agency needs know.

9. Briefly provide any additional information on the surface soil sampling that you believe is important.

Return to the site investigation report. Continue answering questions in section V .

Direct Push

1. How many groundwater grab samples were collected using direct push technology? _____
   (provide locations on site map and attach boring logs)
2. At what depth was groundwater was first encoutered? _____
3. Briefly describe how was depth to groundwater determined?

4. Samples were collected for? (mark all that apply)

   ☐ BTEX ☐ MTBE ☐ TBA ☐ VOCs (8260)
   ☐ SVOCs (8270) ☐ RCRA 8 metals ☐ Chlorides ☐ PAHs
   ☐ Other (identify): _____

5. Were temporary wells installed using direct push technology?

   ☐ Yes ☐ No

6. Briefly describe the well construction (i.e. diameter of well, screening. Pre-packed, packed on site, etc.).

7. Briefly describe well development method.

8. Briefly describe well purging method.

Return to the site investigation report. Continue answering questions in section V .

Temporary Well

1. How many temporary wells were installed using direct push technology? _____
   (provide locations on site map and attach boring logs)
2. What was depth range(s) for encountering water? _____
3. Where was water sample collected at within the well?
   - ☐ Top of water column
   - ☐ Middle of water column
   - ☐ Bottom of water column
   - ☐ Other (identify): _____
4. Briefly describe how depth to groundwater was determined.

5. Briefly Describe well construction (i.e. diameter of well, screening, pre-packed, packed on site, etc.).

6. Briefly describe well development method.

7. Briefly describe well purging method.

Return to the site investigation report. Continue answering questions in section V .

Permanent Wells

1. How many permanent wells were installed? _____
   (provide locations on site map and attach boring logs)
2. What was the depth range(s) for encountering water? _____
3. Briefly describe how depth to groundwater was determined.

4. Well installation methodology.

   ☐ Air rotary ☐ Hollow stem ☐ Solid stem ☐ Sonic

   ☐ Bucket auger ☐ Screw auger

   ☐ Other (identify): _____

5. Describe the well construction (i.e. diameter of well, screening, pre-packed, packed on site, etc.).

6. Describe well development method.

Permanent Wells

7. Describe well purging method.

8. Groundwater Samples Collected via:

- ☐ Bailer
- ☐ Bladder pump
- ☐ Submersible pump
- ☐ Syringe sampler
- ☐ Peristaltic pump
- ☐ Passive diffusion bag
- ☐ Hydrosleeve, SNAP or kennerer sampler
- ☐ Other (identify): _____

9. Briefly provide any additional information on the groundwater sampling that you believe is important.

Return to the site investigation report. Continue answering questions in section V .

Surface Water

1. How many surface water samples were collected? _____
(provide locations on site map)

2. What was depth range(s) that surface water samples were collected at?

- ☐ Top of water column
- ☐ Middle of water column
- ☐ Bottom of water column
- ☐ Other (identify): _____

3. Method for collection of samples? (mark all that apply)

- ☐ Pond sampler
- ☐ Weighted bottle sampler
- ☐ Wheaton dip sampler
- ☐ Kemmerer depth sampler
- ☐ Van dorn sampler
- ☐ Beacon bomb sampler
- ☐ Pump
- ☐ Other (identify): _____

4. Samples were collected for? (mark all that apply)

- ☐ BTEX
- ☐ MTBE
- ☐ TBA
- ☐ VOCs (8260)
- ☐ SVOCs (8270)
- ☐ RCRA 8 metals
- ☐ Chlorides
- ☐ PAHs
- ☐ Other (identify): _____

5. Briefly describe how sampling equipment was decontaminated.

6. Briefly provide any additional information on the surface was sampling that you believe is important.

Return to the site investigation report. Continue answering questions in section V .

Sediment

1. How many sediment samples were collected? _____
   (provide location on site map)

2. What was depth range(s) that sediment samples were collected at?

3. Method for collection of samples. (mark all that apply)

   ☐ Box corer ☐ Van veen core ☐ Hand core ☐ Split core sampler
   ☐ Gravity corer ☐ Swing jar sampler ☐ Sludge judge
   ☐ Other (identify): _____

4. Samples were collected for? (mark all that apply)

   ☐ BTEX ☐ MTBE ☐ TBA ☐ VOCs (8260)
   ☐ SVOCs (8270) ☐ RCRA 8 metals ☐ Chlorides ☐ PAHs
   ☐ Other (identify): _____

5. Briefly describe how sampling equipment was decontaminated.

6. Briefly provide any additional information on the sediment sampling that you believe is important.

Return to the site investigation report. Continue answering questions in section V .