Florida Department of Environmental Protection

Petroleum Restoration Program

# SITE ASSESSMENT

## 2017 PRP Workshop



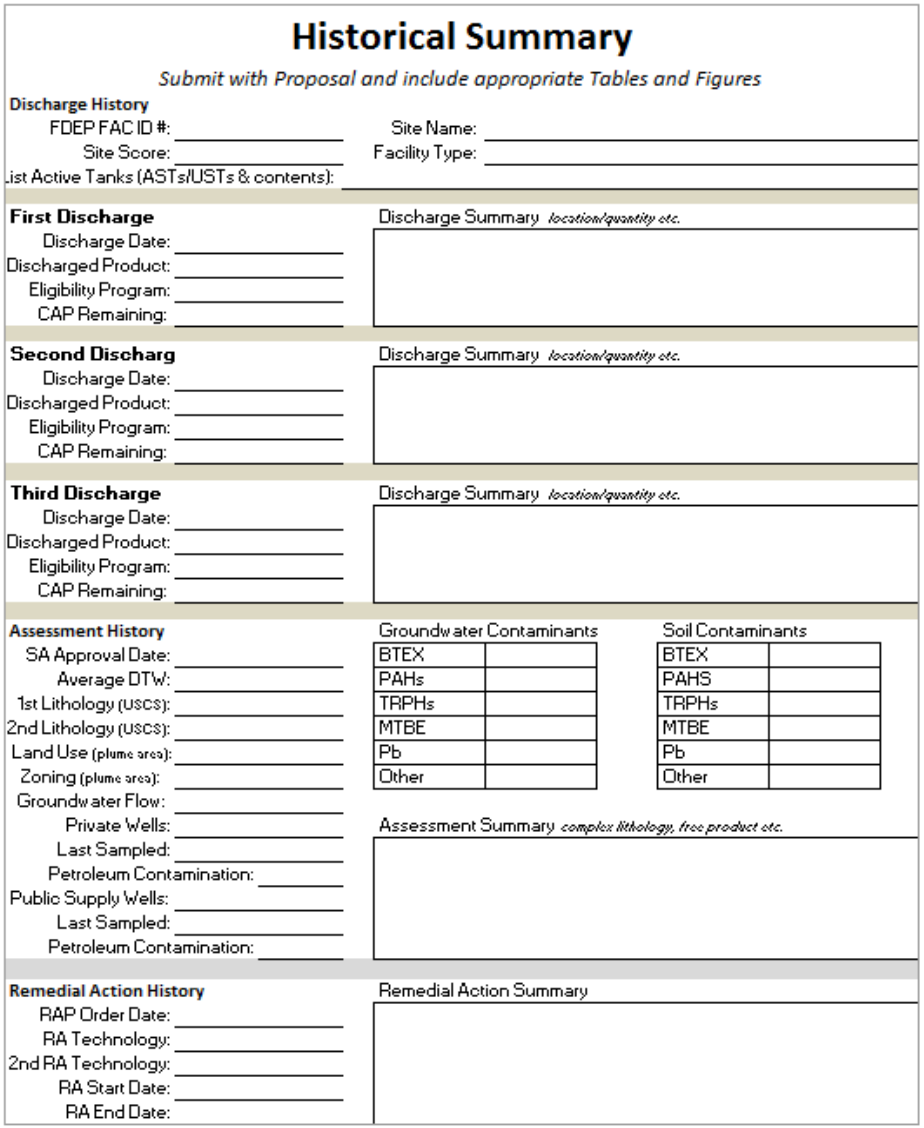


# Pre-Assessment

Following should be included in Task 1 on new site assessment (no previous assessment, or new ATC on site)

- 1-1. File Review.
- 1-2. Site Health & Safety Plan.
  - 1-2.a. No cost HASP for updates on continued work.
- 2-1. Site Reconnaissance/Field Measurement Visit.
- 20-2. & 20-4. Project Manager & Geologist, 1 hour for Assessment Planning Meeting.
- 19-20. Letter Report to summarize Assessment Planning Meeting.

# Screening Workbook



## Historical Summary

*Submit with Proposal and include appropriate Tables and Figures*

**Discharge History**

FDEP FAC ID #: _____ Site Name: _____

Site Score: _____ Facility Type: _____

List Active Tanks (ASTs/USTs & contents): _____

**First Discharge**

Discharge Date: _____

Discharged Product: _____

Eligibility Program: _____

CAP Remaining: _____

Discharge Summary *location/quantity etc.*

**Second Discharg**

Discharge Date: _____

Discharged Product: _____

Eligibility Program: _____

CAP Remaining: _____

Discharge Summary *location/quantity etc.*

**Third Discharge**

Discharge Date: _____

Discharged Product: _____

Eligibility Program: _____

CAP Remaining: _____

Discharge Summary *location/quantity etc.*

**Assessment History**

SA Approval Date: _____

Average DTW: _____

1st Lithology (USCS): _____

2nd Lithology (USCS): _____

Land Use (plume area): _____

Zoning (plume area): _____

Groundwater Flow: _____

Private Wells: _____

Last Sampled: _____

Petroleum Contamination: _____

Public Supply Wells: _____

Last Sampled: _____

Petroleum Contamination: _____

| Groundwater Contaminants | |
|---|---|
| BTEX | |
| PAHs | |
| TRPHs | |
| MTBE | |
| Pb | |
| Other | |

| Soil Contaminants | |
|---|---|
| BTEX | |
| PAHS | |
| TRPHs | |
| MTBE | |
| Pb | |
| Other | |

Assessment Summary *complex lithology, free product etc.*

**Remedial Action History**

RAP Order Date: _____

RA Technology: _____

2nd RA Technology: _____

RA Start Date: _____

RA End Date: _____

Remedial Action Summary

- When conducting any assessment, complete the Historical Summary worksheet.
- Based on STCM, OCULUS, CLM, and Site Recon.
- Serves as the deliverable for the File Review Pay Item.
- Included with the final assessment report.

# Site Reconnaissance

Site recon should include checking the following:

- Verify site layout compared to site maps if previous assessment has been performed (location of fuel system, building, etc).
- Verify historic monitoring wells are present and confirm that wells are viable. Consider scoping monitor well gauging pay items.
- Make note of site access for drill rigs. Overhead utilities, swales/drainage ditches, traffic, etc.
- Take numerous photos to document site conditions.

# Assessment Planning Meeting

After the site file review and site recon, ATC should set up a telecon/dialog with the site owner/operator, DEP/LP, and drillers to discuss:

- General assessment plan going forward: locations of concern, approximate number of borings/wells, etc.
- Access issues: owner/operator requests, discussion of DTW/lithology/access with drillers to determine appropriate rig to mobilize. Drillers should be able to make suggestions based on their experience.
- Closure Options: conditional closure, LSSI closure if site score is below 30, etc.

# Assessment Planning Meeting

Based on the initial discussion of access, planned work, and drill rig use, the ATC should make any changes to the scope of work by Change Order (changing drilling technology, adding contingent work, right-of-way permitting/costs, etc).

- For LSA work, the ATC will submit a cost proposal based on the file review, site recon, and planning meeting.

Involving all parties in initial planning should limit unexpected change orders during assessment.

# Site Assessment Scoping

- When planning and scheduling contingent work, try to limit the additional work to fill out the rest of a partial day of work or only add ½ to 1 day of work, rather than adding several additional days which may not be used and disrupt the driller's scheduling.
- Try to work with the ATC site manager to set some guidelines on when to step out (OVA readings, PRP permission) and at what interval. If this language is included in the scope of work or documented, it can cut down on wait times.

# Site Assessment Scoping

- Soil Sampling - General
  - For soil sampling, work with the site manager prior to mobilization to develop a framework for where you want to collect samples.
    - Sampling from each potential source area (tanks, dispensers, etc.), so you can focus on each area to decide what samples to collect from a smaller group.
    - High, Medium, and Low samples in order to determine a correlation between OVA and analytical data.
  - Consider using hand auger pay items for soil sampling in shallow water table situations. We are having delays in work due to drillers being over-booked.

# Site Assessment Scoping

- Drilling - General
  - Drilling and soil sampling pay items include the top 4 feet of hand-clearance. The drilling/boring pay items should include the entire footage of the borehole, including the top 4 feet. Sampling pay items should include all footage where soil samples will be collected.
  - We do not pay for additional soil borings/soil sampling pay items to go back and collect lab samples after OVA analysis.
  - Well abandonment (pay items 7-1 through 7-4) includes removal and disposal of the standard well pad and manhole. Pay item 7-7 is for removing the well pad and manhole only.

# Site Assessment Scoping

- Drilling – Direct Push/Combo Rigs
  - If you are using a Combo Rig to advance a borehole with hollow stem augers (HSA), make sure it is noted in the SOW tables or description.
  - If you are combining direct push and auger well installations in a single task, pay items should be the following:
    - If any portion of a day of work involves DPT, use the DPT daily rate. HSA work during that day is included in the daily rate.
    - If the work involves HSA only, you can use the DPT daily rate or HSA pay items, whichever is cheaper.
    - If using HSA, the ATC gets the Drill Rig Mobilization pay item.

# Site Assessment Scoping

- Drilling – Deep (Double-Cased) Wells
  - Hollow Stem Auger:
    - Pay Item 5-6 through 5-8 (≤ 6 inch diameter mud rotary boring) includes the total depth from the surface to the bottom of the 2-inch well borehole.
    - Pay Item 5-12 through 5-14 (>6 to 10 inch diameter HSA boring) includes the total depth of the 6-inch surface casing.
    - Drilling pay items are based on the total depth of the respective borehole (<50 feet, 50 to 100 feet, >100 feet).
    - Pay Item 6-2.a (2 inch diameter well, vertical) includes the total depth from the surface to the bottom of the 2-inch well.
    - Pay item 6-5 (6 inch diameter surface casing) includes the total depth of the 6-inch surface casing.

# Site Assessment Scoping

- Drilling – Deep (Double-Cased) Wells
  - Sonic Drilling:
    - Pay Item 5-15 through 5-17 (≤6 inch diameter sonic boring) includes the total depth from the surface to the bottom of the 2-inch well borehole.
    - Pay Item 5-18 through 5-20 (>10 to 14 inch diameter sonic boring) includes the total depth of the temporary surface casing.
    - Drilling pay items are based on the total depth of the respective borehole (<50 feet, 50 to 100 feet, >100 feet).
    - Pay Item 6-2.a (2 inch diameter well, vertical) includes the total depth from the surface to the bottom of the 2-inch well.

# Screening Workbook

## Site Characterization Screening Information

FDEP FAC ID #: 0

Site Name:

Does Site Qualify for LTNAM:

Dominant Lithology Vadose Zone

First Lithology (USCS):

Second Lithology (USCS):

Dominant Lithology Saturated Zone

First Lithology (USCS):

Second Lithology (USCS):

Average Depth to Water:

Groundwater Flow Direction:

Recommended Technology for SRCO:

Combined Technology:

Consultant SRCO Cost Estimate:

Consultant NFAC Cost Estimate:

Are on-site buildings housing Sensitive Receptors

If yes, current use of the building

| GW Contaminants one per constituent | ≤ GCTLs | ≤ NADC | > NADC | Not Analyzed |
|---|---|---|---|---|
| Benzene | | | | |
| Ethylbenzene | | | | |
| Toluene | | | | |
| Total Xylenes | | | | |
| MTBE | | | | |
| Naphthalene | | | | |
| 1-Methylnaphthalene | | | | |
| 2-Methylnaphthalene | | | | |
| TRPHs | | | | |
| EDB | | | | |
| As | | | | |
| Pb | | | | |
| Other | | | | |

| Soil Contaminants (select one unless Leachability & Direct Exposure CTLs exceeded) | No Soil Exceedences* | Exceeds Leachability | Exceeds Direct Exposure | Not Analyzed |
|---|---|---|---|---|
| Benzene | | | | |
| Ethylbenzene | | | | |
| Toluene | | | | |
| Total Xylenes | | | | |
| MTBE | | | | |
| Naphthalene | | | | |
| 1-Methylnaphthalene | | | | |
| 2-Methylnaphthalene | | | | |
| Other PAHs | | | | |
| TRPHs | | | | |
| As | | | | |
| Pb | | | | |
| Other | | | | |

* Below direct exposure and leachability (or alternative SCTLS established through SPLP or fractionation)

| Plume Characteristics | Groundwater | Soil |
|---|---|---|
| Shrinking or Stable | | |
| On-site only | | |
| Plume <1/4 acre | | |
| Exclusion Zone Only | | |
| In FDOT ROW only | | |
| On State-Owned Land Only | | |
| Organoleptic Exceedence only (< HB CTLs) | | |
| DE Soil Exceedences above 2' | | |
| DE Soil Exceedences from 2' to 10' | | |
| DE Soil Exceedences below 10' | | |
| Free Product | | |
| Site Qualifies for LSSI NFA | | |

DE = Direct Exposure CTLS ; HB = Health Based

- Complete SCS Worksheet for all LSA/LSSI assessments
  - Exception- site receives closure
- Used to characterize, ID risk, gives an estimate of closure costs