PSTD UNIT COSTS

The Unit Cost Committee was established in 1998 by the Storage Tank Advisory Council to study and recommend fair, reasonable, and customary industry standard unit cost rates for conducting various corrective actions at petroleum release case sites that qualify for reimbursement from the Indemnity Fund. The Unit Cost Committee consists of OCC PSTD-licensed Environmental Consultants and industry professionals, with Petroleum Storage Tank Division staff assisting in an advisory capacity. The Unit Cost Committee created unit cost worksheets that defined reasonable units (e.g., professional hours, personnel) needed to complete specific tasks.
The primary goal of the Unit Cost Committee is to simplify the reimbursement process for tank owners, consultants, and OCC PSTD staff. For each case, the investigation, risk assessment, and closure activities are broken down into major tasks that are identified below. Each major task is broken down into various unit costs.

I. Indemnity Fund (IF) Application
II. Initial Site Characterization Report (ISCR)
III. ORBCA Tier 1A, Tier 2, and Modified Tier 2
IV. Soil Boring Installation
V. Push-Pull (Direct-Push) Probe
VI. Vapor Well Installation Event
VII. Monitoring Well Installation Event
VIII. Monitoring Well Sampling Event
IX. Public Notification
X. Site Closure Activities
XI. Disposal
XII. Hand-Augered Boring Installation
XIII. High Vacuum-Multi Phase Extraction
XIV. Well Gauging
XV. Remediation Action Plan
Appendix A Job/Task Descriptions

The unit cost rates were prepared with a specific scope of work in mind. If your scope of work falls outside of these tasks, a work plan/purchase order (PO) request must be prepared and submitted to the OCC PSTD. Work plan/PO requests should be prepared according to time and materials utilizing costs found on the Corrective Action Portal. Work performed without pre-approval may be subject to disallowances by the Indemnity Fund.

All scopes of work, purchase orders, or work plans must be completed in accordance with regulatory guidelines and accepted standards. In the event that a report is submitted to the OCC PSTD and reimbursed through a purchase order but later found to have inadequacies, e.g., not complete, incorrect information, or not adhering to guidance or standards, an amended report must be submitted. No other purchase order will be approved until the amended report has been reviewed and found to be sufficient. The regulatory contact will still be required to meet all regulatory requirements.

When mobilizing for two or more tasks with the same personnel, one mobilization at the highest rate is all that is allowed. All necessary personal protective equipment costs for level D work are included in the unit costs. Roundtrip mileage is based on the distance from the consultant's closest office to the site, and only mileage within Oklahoma will be reimbursed.

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I. Indemnity Fund (IF) Application

All costs associated with, but not limited to, the following:

- Researching ownership.
- Gathering documentation of Substantial Compliance.
- Clerical work preparing all application forms.
- Meetings, phone calls, and correspondence with client, OCC, and/or other parties associated with the application process.

II. Initial Site Characterization Report (ISCR)

All costs associated with the preparation of the ISCR include, but not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time preparing the OCC's Initial Site Characterization Report, coordinating with the client in preparing the required report, coordinating of work plan/purchase order requests, supervising and coordinating field staff in all field activities and cost review.
- Staff Hydrologist time performing the initial site survey and assessment as outlined in the PSTD standards, preparing of the initial site sketch, and traveling to and from the site (only one trip to the site).
- Drafting time preparing the initial site sketch (to approximate scale). Critical distances between important items should be noted on this map, including tank pits, dispensers, utilities, overhead electric lines, occupied buildings, basements, water supply wells, and other critical receptor points (even if off-site) and to the edge of roadways, etc.
- Clerical time for word processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- The additional mileage charge includes staff hydrologist traveling time and mileage incurred for miles in excess of 100 miles round-trip.
- Per Diem is allowed for the staff hydrologist if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.

III. ORBCA TIER 1A, Tier 2, and Modified Tier 2 Reports

The costs associated with preparing the ORBCA Tier 1A/2 Reports include the following:

- Developing the work plan / purchase order requests and preparing claims.
- Principal time reviewing and providing quality control.
- Project Manager time for conducting a receptor survey including but not limited to basements, storm shelters, cisterns, a water well foot search (660-foot radius), etc.; conducting a Tier 1A site assessment in accordance with ORBCA guidelines enacted October 1, 1996 (revised July 2008); preparing and submitting a Tier 1A report.
- Project Manager time gathering appropriate information including but not limited to: subsurface investigating, analytical results, survey and evaluating receptors, performing risk analysis, computer modeling, exposure modification, establishing the risk-based screening levels (RBSLs) or site-specific target levels (SSTLs), preparing appropriate chemicals of concern maps, preparing cross-sections (Tier 2), and preparing and submitting an ORBCA Tier 1A / 2 report. It also includes the time needed for meetings and phone calls with the client, receptors, and the OCC.
- Drafting time preparing all of the required soil boring logs and up to 16 maps.
- Clerical time for word processing, mailing, preparing claims, copying, and filing.
- A modified Tier II report can be submitted at various times during the investigation of a site, most commonly after the completion of the Tier 1A. This report does not require further field investigation but the application of more realistic exposure values in the ORBCA model. It can

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also be utilized if the original receptors and pathways have changed at any point during the open investigation or remediation of a case and is reimbursable.

IV. Soil Boring Installation

The unit costs are based on installing a 20' soil boring within 100 miles round-trip of the consultant's nearest office. Mobilizing/demobilizing and decontaminating are included for the 20' borings within 100 miles round-trip. The allowable costs for soil borings include, but are not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling and coordinating with a drilling company, oversight of subsurface investigation and sampling, supervising drilling, completing the Well or Boring Installation Report, and site access permission if needed.
- Staff hydrologist time traveling to and from the site, subsurface investigation and sampling, completing soil boring logs, and updating site maps as needed.
- Field Technician time traveling to and from the site and supervising waste disposal.
- Drilling unit costs are based on, but not limited to, decon, mobilization, mileage, etc.
- Drafting time preparing soil boring logs and revising maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- Field supplies include drums, bailers, and any other miscellaneous items.
- Rental Equipment includes an organic vapor monitor, oil/water interface probe, and decontamination.
- Analytical samples include BTEX (EPA Method 8021B), and TPH-GRO (OK DEQ GRO) or TPH-DRO (OK DEQ DRO). Naphthalene, MtBE, and PAHs may be required at the OCC's discretion.
- Additional borings are less since it is assumed that you can drill more than one per day; therefore, you should not incur additional travel time, mobilizing/demobilizing, and decontaminating.
- Cost for additional footage (more than 20' per boring) is inclusive of all drilling costs, waste coordination, additional site time, and materials.
- Per Diem is also allowed for total footage over 120' per day.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- As always, decontamination is required between holes and costs are included in the unit cost sheets.

V. Push-Pull (Direct-Push) Probe

This assumes probing 120' per day within 100 miles round-trip from the consultant's nearest office. The allowable costs for push-pull probe activities include the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling and coordinating with the probe company, oversight of subsurface investigation and sampling, completing a Well or Boring Installation Report, and site access permission.
- Staff hydrologist time supervising subsurface investigation, preparing soil logs, and updating site maps.
- Drafting time preparing required soil boring logs and revising maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- Field supplies include drums, bailers, and any other miscellaneous items that might be needed.
- Rental Equipment includes an organic vapor monitor and decontamination equipment.

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- Analytical samples will be an additional cost calculated from Stand-Alone Time & Materials on the Corrective Action Portal.
- Per Diem is also allowed for total footage over 120' per day. Additional per diems are allowed for footage in 120' per day increments thereafter.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- As always, decontamination is required between holes, and the costs are included in the unit cost rates.

VI. Vapor Well Installation

The unit costs are based on installing a 2" diameter well and within 100 miles round-trip of the consultant's nearest office. However, most vapor wells should only be installed 3-4' deep unless there is a unique situation such as a basement. In addition, with the knowledge and approval of the OCC PSTD, smaller diameter wells may be installed. The allowable costs for vapor well installation include, but is not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling and coordinating with the drilling company, oversight of subsurface investigation and sampling, completing a Well or Boring Installation Report, and site access permission, if needed.
- Staff hydrologist time traveling to and from the site, conducting subsurface investigation and sampling, preparing soil boring and well completion records, and updating site maps, as needed.
- Field Technician time traveling to and from the site, surveying, purging and sampling of wells, and waste disposal.
- Drafting time preparing required boring logs and appropriate maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- Field supplies include drums, Pete's plugs, Teflon tape, and any other miscellaneous items that might be needed.
- Rental Equipment includes an organic vapor monitor, survey equipment, and decontamination equipment.
- Analytical costs for one soil and one vapor sample per well, analyzed for BTEX (EPA Method 8021B), and TPH-GRO (OK DEQ GRO) or TPH-DRO (OK DEQ DRO), are included. Naphthalene, MtBE, and PAHs may be required at the OCC's discretion.
- Cost for additional footage (more than 20' per boring) is inclusive of all drilling costs, waste coordination, additional site time, and materials.
- Per Diem is allowed for total footage over 80' per day. Additional per diems are allowed for footage in 80' per day increments thereafter.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- As always, decontamination is required between holes, and the costs are included in the unit cost rates.

VII. Monitoring Well Installation

The unit costs are based on installing a 2" diameter monitoring well and is within 100 miles round-trip of the consultant's nearest office. The allowable costs for monitoring well installation include, but are not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling and coordinating with the drilling company, oversight of subsurface investigation and sampling, completing a Well or Boring Installation Report, and site access permission, if needed.

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- Staff hydrologist time traveling to and from the site, conducting subsurface investigation and sampling, preparing soil boring and well completion records, and updating site map as needed.
- Field Technician time traveling to and from the site, developing, gauging, surveying, purging and sampling of wells, and waste disposal.
- Drilling: Costs include, but are not limited to, mob, demob, completing well, decon, etc.
- Drafting time preparing required boring logs and appropriate maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- Field supplies include drums, bailers, developing equipment such as a surge block, and any other miscellaneous items that might be needed.
- Rental Equipment includes an organic vapor monitor, oil/water interface probe, survey equipment, and decontamination equipment.
- Analytical sample costs for two soils and one groundwater per well, analyzed for BTEX (EPA Method 8021B), and TPH-GRO (OK DEQ GRO) or TPH-DRO (OK DEQ DRO), are included. (8020/8015 OR 8100). Naphthalene, MtBE, and PAHs may be required at the OCC's discretion.
- Cost for additional footage (more than 20' per boring) is inclusive of all drilling costs, waste coordination, additional site time, and materials.
- Per Diem is allowed for total footage over 80' per day. Additional per diems are allowed for footage in 80' per day increments thereafter.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- As always, decontamination is required between holes, and the costs are included in the unit cost rates.

VIII. Monitoring Well Sampling Event

The unit costs are based on sampling monitoring wells within 100 miles round-trip from the consultant's nearest office and include all costs associated with generating a groundwater monitoring report (interpretation narrative, system analysis, maps, tables, and graphs). The allowable costs for monitoring well sampling include, but are not limited to, the following:

- Principal oversight for reviewing and providing quality control.
- Project Manager time for scheduling, sampling, waste disposal, and delegating tasks.
- Technician costs to the site for sampling and removing wastewater.
- Equipment and Subcontractor costs for gauging, purging, and sampling include supplies (pumps, probes, meters, drums, bailers, and other miscellaneous supplies), decontamination, laboratory analysis for BTEX and TPH (GRO or DRO), and a markup.
- Additional monitoring wells to sample are less since it is assumed that you could sample more than one per day. Therefore, you should not incur additional travel time, mobilizing/demobilizing, and decontaminating. In the PO request, make sure the wells are specified by name or number. The unit cost includes a standard BTEX and appropriate TPH analysis. Micro-purging is mandatory for these wells when sampling for electron acceptors.
- Monitoring Report includes all time and materials related to preparing and submitting a Quarterly Groundwater Monitoring Report and includes all clerical and drafting costs.
- Per Diem is allowed for the technician if the roundtrip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- Per Diem is allowed for total footage over 200' per day. Additional per diems are allowed for footage in 200' per day increments thereafter.

IX. Public Notification

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The cost estimate is based on evaluating, researching, and notifying one receptor (which cannot include the regulatory contact) and includes the following:

- Receptors are limited to property owners and utilities.
- Only actually impacted parties are to be notified. Parties that might be impacted are not to be notified.
- Property owners should be informed that it is their responsibility to inform tenants or lessees.
- If a city utility is impacted, the city is only notified once; you do not notify every department in that city**.** Check the box for a sign, if needed. Usually, a sign is only needed if it has been impossible to reach all of the impacted parties or active remediation is being pursued.

- Principal reviewing the necessity for public notification and the form it should take.
- Project Manager time evaluating how receptors are impacted, researching to identify receptors, preparing and sending the public notification letters via certified mail, and preparing and submitting the public notification report.
- Clerical time invoicing, word processing, mailing, copying, and filing.

X. Site Closure Activities

The unit costs are based on decommissioning a 20' well within 100 miles round-trip of the consultant's nearest office. Unless otherwise approved beforehand by the OCC/PSTD, it is always required to over-drill the wells for proper decommissioning. Over-drilling refers to the casing in the well. As a practical matter, the OCC recommends over-drilling the well with the same size bit (or larger) that was used to install the well. Using a smaller bit and assuming it will "wallow" around and clean out the hole is not allowed. Costs for well decommissioning and closure reporting include, but are not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time scheduling, coordinating with a drilling company, restoring surface, coordinating waste disposal activities, coordinating with OWRB, ODEQ, and client, and preparing and submitting closure report.
- Field Technician time marking well location(s), supervising field closure activities, coordinating on-site waste disposal activities, traveling three times to the site, and characterizing waste.
- Subcontracted Services and Equipment include decommissioning and abandonment, mobilizing/demobilizing, decontaminating, mileage, laboratory analysis (BTEX, TPH), barricades, and markup.
- Closure Report includes all time and materials relating to preparing and submitting a Final Closure Report including all clerical and drafting costs.
- Additional monitoring wells to decommission are less since it is assumed that you could decommission more than one per day; therefore, you should not incur additional travel time, mobilizing/demobilizing, and decontaminating.
- Per Diem is allowed for total footage over 160' per day. Additional per diems are allowed for footage in 160' per day increments thereafter.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.

XI. Disposal

The OCC PSTD requires the sampling of <u>any</u> soil or water before disposal.

The unit cost covers the time of the transporter and disposal company personnel. Waste manifest sheets need to be submitted to the OCC PSTD before the Purchase Order will be paid. Time and mileage for the consulting firm are usually covered in other tasks and only rarely, such as when taking over an old case and finding waste on site, should the consultant's costs be included here.

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To be reimbursed for this task, submit a completed OCC/PSTD Non-RCRA Disposal/Recycler Manifest.

If water is in drums at the site and the drums are not physically removed and taken to the disposal facility, it is bulk disposal and will be reimbursed at the bulk rate. Soil from monitoring wells, soil borings, or direct-push activity will be drummed when it is produced. Later, if it is to be spread on site, the soil must be sampled, and the OCC PSTD must give approval before it is spread on site.

XII. Hand-Augered Boring Installation

The unit costs are based on a 10' hand-augered soil boring within 100 miles round-trip of the consultant's nearest office. Travel to and from and decontamination are included for the 10' hand-augered boring within 100 miles round-trip. The allowable costs for hand-augered soil borings include, but are not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling, oversight of subsurface investigating and sampling, completing a Well or Boring Installation Report, and site access permission if needed.
- Staff hydrologist time traveling to and from the site, hand augering and subsurface investigating, decontaminating equipment and sampling, completing a soil boring log, and updating site maps as needed.
- Field Technician time traveling to and from the site, sampling, and waste disposal.
- Drafting time preparing required boring logs and appropriate maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.
- Field supplies include drums, hand auger, sampling tools, hole plug, Portland cement, water, and any other miscellaneous items that might be needed.
- Rental Equipment includes an organic vapor monitor and decontamination equipment.
- Per Diem for field staff is also allowed for total footage over 40' per day.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles.
- As always, decontamination is required between holes, and the costs are included in the unit cost rate.

XIII. High Vacuum – Multiphase Extraction

The unit costs for vacuum-multiphase extraction include, but is not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time coordinating waste disposal activities, scheduling and coordinating with the vacuum extraction company, oversight of field technician, and site access permission if needed.
- Field technician time for subcontractor oversight, traveling to and from the site, and coordinating waste disposal. Oversight includes shutting down the extraction process when the flow stream no longer contains high concentrations of hydrocarbons (i.e., the free product/groundwater cut). Based on OCC pre-approval, an exemption may be made if the extraction procedure is part of a pilot test.
- Reporting all time and materials relating to preparing and submitting a report of the results, including all clerical costs.
- Vacuum Truck includes all subcontractor costs for time and equipment. The low vac. hourly rate includes mileage and travel time.
- Per Diem is allowed for the field staff if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.

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XIV. Well Gauging

The unit costs are based on gauging one 20' monitoring well within 100 miles round-trip from the consultant's nearest office, including all costs associated with generating a groundwater monitoring (for gauging only) report (interpretation narrative, system analysis, maps, tables, and graphs). The allowable costs for gauging wells include, but is not limited to, the following:

- Project Manager time scheduling and delegating tasks.
- Technician trips necessary to the site for gauging.
- Equipment and Subcontractor costs for gauging include supplies (oil/water interface probe, meters, drums, and other miscellaneous supplies) and decontamination.
- Additional monitoring wells to gauge are less since it is assumed that you can gauge more than one per day; therefore, you should not incur additional traveling time, mobilizing/demobilizing, and decontaminating. In the PO request, make sure the wells are specified by name unless the OCC wants all wells gauged.
- Gauging Report includes all time and materials relating to preparing and submitting of a Quarterly Groundwater Monitoring Report for gauging only, including all clerical and drafting costs.
- Per Diem is allowed for the technician if the round-trip mileage exceeds 200 miles. Additional per diems are allowed for every 200 miles round-trip increment thereafter.
- Per Diem is allowed for total footage over 200' per day. Additional per diems are allowed for footage in 200' per day increments thereafter.

XV. Remediation Action Plan

The unit costs for the Remediation Plan Proposal include, but are not limited to, the following:

- Principal time reviewing and providing quality control.
- Project Manager time selecting equipment specifications, designing the remediation system layout, developing system schematics, forming a system implementation plan, forming an operations and maintenance plan, developing a detailed monitoring plan and report, and preparing appendices and maps.
- Drafting time for preparing system schematics, appendices, and maps.
- Clerical time for word-processing, mailing, preparing claims, copying, and filing to complete the above tasks.

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Appendix A - Job/Task Descriptions

Clerical	Performs general office and administrative tasks such as mailing, copying, filing, word-processing, preparing claims, data entry, and other administrative support activities.
General Labor	A general laborer with tasks such as general site assistance, material handling, and other non-technical duties.
Draftsman	Produces technical drawings, maps, logs, and figures using CAD or other drafting software. Supports the project team by preparing accurate and detailed visual documents.
Field Technician	A field professional who can work independently, with typical tasks including sampling, gauging, surveying, remediation system operation and maintenance, waste handling, and other assigned field duties.
Senior Technician	An experienced field professional who performs advanced field tasks, makes routine decisions on site, and supervises Field Technicians and subcontractors. Ensures field activities follow established protocols and safety requirements.
Staff Hydrologist	An experienced geologist or scientist who conducts and oversees field investigations. Some of the typical tasks include: supervising drilling operations, field personnel, or subcontractors; assisting with work plan preparation, data analysis, modeling, and report writing; and ensuring field activities follow established protocols and safety requirements.
Project Manager	A licensed Environmental Consultant who is responsible for managing all aspects of a release case. Some of the typical tasks include: submitting work plan requests, purchase order requests, reports, and claim requests; overseeing project progress; and responsible that all work complies with OCC-PSTD protocols.
Senior Hydrologist	A highly experienced geologist or scientist whose emphasis is in hydrogeologic characterization, modeling, scientific analysis, and remediation system design.
Engineer	A licensed or experienced engineer who designs remediation systems and processes. Some of the typical tasks include preparing planning and design documents, performing design calculations, evaluating remedial alternatives, developing cost estimates, performing economic analyses, and creating project schedules.
Principal	Serves as the administrative or professional leader of the organization. Oversees and directs professional staff and provides high-level project oversight, typically charging limited hours per site for activities such as reviewing project documents.

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