S.C. Department of Health and Environmental Control

JANUARY 1, 2020

SUPERB ACCOUNT MAXIMUM ALLOWABLE COSTS

Underground Storage Tank (UST) owners or operators, who are responsible for releases that are qualified to receive monies from the State Underground Petroleum Environmental Response Bank (SUPERB) Account, will be notified when monies are available to perform necessary site rehabilitation actions. Those releases posing the greatest identified risk to human health and the environment will receive funding priority. The classification system that determines the risk and funding priority is outlined in the SUPERB Site Rehabilitation and Fund Access Regulations, R.61-98. All work is to be performed in accordance with the Quality Assurance Program Plan (QAPP) for the Underground Storage Tank Management Division or a DHEC-approved, comparable QA plan provided by the owner or operator's contractor.

The SUPERB Act requires that all costs for site rehabilitation receive prior approval from the Department of Health and Environmental Control (the DHEC). If the UST owner or operator wishes to proceed with site rehabilitation activities for a release that is not currently funded, the DHEC has a deferred compensation contract that allows the UST owner or operator to receive approval for reasonable costs at this time with possible future compensation from the SUPERB Account.

Any contractor who performs UST site rehabilitation work in South Carolina must be certified by the DHEC. UST owners or operators may select their own site rehabilitation contractor to perform necessary actions in accordance with the criteria and allowable costs established by the DHEC. The DHEC may use the fund to clean up a release at a site where the UST owner or operator does not qualify for compensation or a site which does qualify but the owner or operator is unwilling or unable to undertake site rehabilitation or, upon request by the UST owner/operator, the DHEC can directly procure the services of a certified site rehabilitation contractor on their behalf.

Maximum allowable costs for site assessment, abandonment, product recovery and monitoring components are outlined below. All planned active corrective actions are noticed in South Carolina Business Opportunities to obtain technically acceptable proposals and reasonable cleanup costs.

Established Scopes of Work[1, 3]

See UST Programmatic QAPP for required components

Scope of Work	Southeast Region[2]	All Other Counties
Initial Ground-Water Assessment	$3,803.00	$4,123.00
Tier I Assessment	$11,026.00	$12,093.00

Notes:

(1) For Waste Oil releases, add $288.00 to the IGWA or $1,158.00 to the Tier I.

(2) The Southeast region includes the following counties: Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, Marion, and Williamsburg.

(3) If the total well footage exceeds 25 feet for an Initial Ground-Water Assessment (IGWA) or 75 feet for a Tier I, the additional footage can be charged to the account at the component rate listed below. Costs associated with sampling of receptors (groundwater wells) within a 500-foot radius of the source, sampling for metals associated with a waste oil UST, or other pre-approved costs outside the standard scope shall be submitted on an assessment component invoice with the IGWA or Tier I invoice. As the price for the standard scope includes all project coordination and report preparation costs, a markup or handling fee is not allowed for the additional components added to the IGWA or Tier I invoice.

SUPERB Maximum Allowable Costs Per Component

COMPONENT				UNIT	UNIT COST
A.			**Plan Preparation**		
	1.		Site Specific Work Plan	each	$ 160.05
	2.		Tax Map	each	$ 74.69
	3.		Tier II or Comp. Plan/QAPP App. B	each	$ 250.00
B.			**Receptor Survey**	each	$ 587.92*
C.			**Survey** (500 ft X 500 ft)		
	1.		Comprehensive Survey	each	$ 1,109.68
			Subsurface Geophysical Survey		
	2.		<10 meters below grade	each	$ 1,387.10
	3.		>10 meters below grade	each	$ 2,464.77
	4.		Geophysical UST or Drum Survey	each	$ 970.97
D.			**Mob/Demob**		
	1.		Equipment	each	$ 1,088.34
	2.		Personnel	each	$ 451.34
	3.		Adverse Terrain Vehicle	each	$ 533.50
E.			**Soil Borings** (hand auger)	per foot	$ 5.34*
F.			**Soil Borings** (requiring equipment, push technology, etc.) or Field Screening (including sampling and analysis)		
	1.		Standard	per foot	$ 16.01*
	2.		Fractured Rock	per foot	$ 21.55*

G.			**Soil Leachability Model**	each	$ 64.02
H.			**Well Abandonment**(does NOT include Field Screening)		
	1.		2" or less	per foot	$ 3.31*
	2.		2" to 6" Diameter	per foot	$ 4.80*
	3.		Dug/bored well (up to 6 ft. diameter)	per foot	$ 16.00*
I.			**Well Installation (in accordance with R.61-71)**		
	1.		Water table (hand auger)	per foot	$ 11.31*
	2.		2" Diameter Water Table (Drill rig using method appropriate to the geologic conditions)	per foot	$ 40.55*
	3.		Telescoping	per foot	$ 53.35*
	4.		Rock Drilling (some or all of well in bedrock)	per foot	$ 61.89*
	5.		2" Rock Coring	per foot	$ 32.97*
	6.		Multi-sampling ports/screens	per foot	$ 35.64*
	7.		4" Diameter Recovery Well	per foot	$ 48.02*
	8.		Direct Pushed with Pre-packed Screen (1.25" diameter)	per foot	$ 16.01*
	9.		Rotosonic (2" diameter)	per foot	$ 46.95*
	10.		Re-develop Existing Well	per foot	$ 11.74*
J.			**Sample Collection/Gauge Depth to Water/Product**		
	1.		Groundwater Purge	per well	$ 64.02*
	2.		Air or Vapor	per sample	$ 12.80*
	3.		Water Supply Sample or Duplicate	per sample	$ 23.47*
	4.		Groundwater No-purge or Duplicate or Grab Sample	per sample	$ 29.88*
	5.		Gauge Well Only	per sample	$ 7.47*
	6.		Sample Below Product	per sample	$ 12.80*
	7.		Passive Diffusion Bag	per sample	$ 27.74*
	8.		Field Blank	per sample	$ 26.25*
	9.		Groundwater Low-flow Purge	per sample	$ 97.10*
	10.		Equipment Blank	per sample	$ 26.25*
K.			**Laboratory Analyses-Groundwater**		
	1.		BTEXNM + Oxyg's+1,2-DCA+Eth (8260B)	per sample	$ 130.17
	2.		Filtered Lead	per sample	$ 14.72
	3.		8260B **RUSH**	per sample	$ 163.89
	4.		Trimethyl, Butyl, and Isopropyl Benzenes	per sample	$ 29.88
	5.		PAH's	per sample	$ 64.66
	6.		Total Lead	per	$ 17.07

				sample	
	7.		EDB by 8011	per sample	$ 48.23
	8.		EDB by 8011 **RUSH**	per sample	$ 72.77
	9.		8 RCRA Metals	per sample	$ 67.65
	10.		TPH (9070)	per sample	$ 43.75
	11.		pH (Lab)	per sample	$ 5.55
	12.		BOD	per sample	$ 21.34
	13.		Ethanol	per sample	$ 15.79
	14.		524.2 -Water Supply Wells (WSW)	per sample	$ 132.36
	15.		8260B Oxygenates+Ethanol (WSW)	per sample	$ 97.90
	16.		504.1 EDB (WSW)	per sample	$ 84.83
	17.		8 RCRA Metals (WSW)	per sample	$ 106.70
K.			**Laboratory Analyses-Soil**		
	18.		BTEX + Naphthalene	per sample	$ 68.29
	19.		PAHs	per sample	$ 68.33
	20.		8 RCRA Metals	per sample	$ 60.18
	21.		TPH-DRO (3550C/8015C)	per sample	$ 42.68
	22.		TPH-GRO (5035B/8015C)	per sample	$ 38.37
	23.		Grain Size/Hydrometer	per sample	$ 110.97
	24.		Total Organic Carbon	per sample	$ 32.65
K.			**Laboratory Analysis-Air**		
	25.		BTEX + Naphthalene	per sample	$ 230.47
K.			**Laboratory Analysis-Free Phase Product**		
	26.		Hydrocarbon Fuel Identification	per sample	$ 380.92
L.			**Aquifer Characterization**		
	1.		Pumping Test	per hour	$ 24.54*
	2.		Slug Test	per test	$ 203.80*
	3.		Fractured Rock	per test	$ 106.70*
M.			**Free Product Recovery Rate Test**	each	$ 40.55*
N.			**Fate/Transport Modeling**		

	1.		Mathematical Model	each	$ 106.70
	2.		Computer Model	each	$ 106.70
O.			**Risk Evaluation**		
	1.		Tier 1 Risk Evaluation	each	$ 320.10
	2.		Tier 2 Risk Evaluation	each	$ 106.70
P.			**Subsequent Survey**	each	$ 260.00*
Q.			**Disposal**		
	1.		Wastewater	gallon	$ 0.60*
	2.		Free Product	gallon	$ 0.53*
	3.		Soil Treatment/Disposal	ton	$ 64.02*
	4.		Drilling Fluids	gallon	$ 0.45*
R.			**Miscellaneous** (attach receipts)	each	Actual Cost
S.			**Report Preparation/Project Coordination** (non-standard scopes)	Percent	12% of total
T.			**Tier I Assessment**	Standard	
	1.		Southeast Region		
	2.		All other counties		
U.			**Initial Groundwater Assessment**	Standard	
	1.		Southeast Region		
	2.		All other counties		
V.			**Active Corrective Action**	PFP	Bid Cost
W.			**AFVR**		
	1.		8-hour event	per event	$ 1,467.13*
	2.		24-hour event	per event	$ 4,081.28*
	3.		48-hour event	per event	$ 6,706.10*
	4.		96-hour event	per event	$13,409.52*
	5.		Off-gas Treatment 8-hour	per event	$ 130.71
	6.		Off-gas Treatment 24-hour	per event	$ 257.68
	7.		Off-gas Treatment 48-hour	per event	$ 348.91
	8.		Off-gas Treatment 96-hour	per event	$ 832.26
	9.		Off-gas Treatment 8-hour (w/chlorinated compounds)	per event	$ 430.00
	10.		Off-gas Treatment 24-hour(w/chlorinated compounds)	per event	$ 500.00
	11.		Off-gas Treatment 48-hour(w/chlorinated compounds)	per event	$ 1,000.00
	12.		Off-gas Treatment 96-hour(w/chlorinated compounds)	per event	$ 2,000.00
	13.		AFVR Effluent Disposal (w/chlorinated compounds)	gallon	$ 0.50
	14.		AFVR Site Reconnaissance	each	$ 216.87
	15.		Additional Hook-ups	each	$ 27.48
	16.		AFVR Effluent Disposal	gallon	$ 0.47
	17.		AFVR Mobilization/Demobilization	each	$ 417.73
X.			**Granular Activated Carbon (GAC) filter system**		
	1.		New GAC system installation	each	$ 2,027.30*
	2.		Refurbished GAC system installation	each	$ 960.30*
	3.		Filter removal/replacement	each	$ 373.45*
	4.		GAC system removal, cleaning, and refurbishment	each	$ 293.43*
	5.		GAC system housing	each	$ 266.75*
	6.		In-line particulate filter	each	$ 160.05
	7.		Additional piping with fittings	foot	$ 1.60
Y.			**Well Repair**		
	1.		Additional copies of Report	each	$ 53.35

	2.		Repair 2x2 monitoring well pad	each	$ 53.35*
	3.		Repair 4x4 monitoring well pad	each	$ 93.90*
	4.		Replace well vault	each	$ 125.91*
	5.		Replace well cover bolts	each	$ 2.77
	6.		Replace locking well cap & lock	each	$ 16.00
	7.		Replace/Repair stick-up	each	$ 142.98*
	8.		Convert flush-mount to stick-up	each	$ 160.05*
	9.		Convert Stick-up to Flush-mount	each	$ 138.71*
	10.		Replace missing/illegible well ID plate	each	$ 12.80

*The appropriate mobilization cost can be added to complete these components, as necessary.

Description of SUPERB Allowable Cost Components

A. **PLAN PREPARATION** includes all personnel, equipment, and material costs associated with the preparation and submittal of a Site-specific Work Plan or QAPP Contractor Addendum (Appendix B) along with Tier II Assessment, well abandonment, monitoring, or other plan requested by the DHEC. One personnel mobilization may be allowed if deemed appropriate to conduct a survey of site conditions prior to plan preparation. If obtaining and reporting of tax map information is warranted to prepare the plan, addition of the tax map rate (1.B2) may be allowed. The QAPP Contractor Addendum (Appendix B) rate (1.C1) may be used until the contractor's ACQAP has been approved; after which the Site-specific Work Plan rate (1.A2) will apply.

B. **RECEPTOR SURVEY** includes all personnel, equipment, and material costs associated with the location, documentation (on an approximately scaled site map), and screening of all potentially impacted receptors within 1,000 feet of the facility being investigated. A receptor includes any person, structure, surface water body, basement, utility, sensitive habitat, and/or water supply well (public or privately owned, potable or non-potable) that are or may be affected by a release. Screening means semi-quantitative measurement for hydrocarbons using properly calibrated field instruments such as organic vapor analysis, immunoassay, and/or explosive limit indicator. One personnel mobilization may be added to this component if it is conducted independently of other components.

C. **COMPREHENSIVE SURVEY** includes all personnel, equipment, and material costs associated with the spatial location (both horizontal and elevations) of all existing and former underground storage tanks, lines, dispensers, above and below ground structures, and potential receptors (identified during the receptor survey). A Professional Land Surveyor, holding a current SC license, shall perform this survey. The report will include a plat or map signed or certified by the Professional Land Surveyor. The cost for travel to and from the site by the Professional Land Surveyor and completion of the map are included in the rate. Additional mobilization may not be added to this component. One comprehensive survey will be allowed for each 500 ft. by 500 ft. area (250,000 square feet). Additional surveys may be allowed for each additional 500 ft. by 500 ft. area.

D. **MOBILIZATION / DEMOBILIZATION**

1) **Equipment, Drilling or Field Screening** includes all personnel, equipment, mileage, and material costs to transport drilling rig, materials, and personnel to and from the site to include all hotel, motel, meals, and other per diem costs. One mobilization may be allowed to conduct the field screening using direct push equipment and a second equipment mobilization may be allowed for the drilling rig to install permanent monitoring wells. Additional equipment mobilizations will not be allowed for mobilization of drilling support trucks or equipment. More than two equipment mobilizations at any site shall require written justification and

pre-approval by the DHEC for payment. If the professional that will oversee field screening or well installation is not associated with the well driller's firm or company, or is associated with the well driller's firm or company but mobilizes from a different town, a personnel mobilization shall be allowed in addition to the equipment mobilization. If more than two equipment mobilizations are anticipated for a site, proposal and justification shall be included in the Plan. If the vertical and horizontal extent of chemicals of concern is not fully defined by the tier report, the DHEC may not approve additional future mobilizations for additional screening or well installation.

2) **Personnel** includes all personnel travel time, per diem, hotel, motel, food, mileage, equipment, and material costs associated with completion of site activities that do not include drilling or field screening equipment mobilization described above. As many components as possible should be conducted simultaneously so that unnecessary personnel mobilizations are not conducted (e.g., aquifer testing can be completed during the same mobilization event as ground-water sample collection, subsequent survey, or a receptor survey). Additional mobilizations shall not be allowed for several persons or multiple vehicles all going to the site at the same time. The component number for each personnel mobilization event shall be shown on the assessment component cost proposal form.

3) **Adverse Terrain Vehicle** (deemed justifiable due to adverse field conditions, e.g., wooded or hilly terrain) includes all personnel, equipment, mileage, and material costs associated with transporting equipment, materials, and personnel to and from the site deemed necessary to conduct field screening, drilling, sampling, or other activities. The rate may be in addition to the equipment mobilization described above.

E. **SOIL BORINGS/FIELD SCREENING** (hand auger) includes all personnel, equipment, and material costs associated with the advancement of temporary borings/wells, collection of soil, gas, or water samples, and analysis of the samples using a suitable analytical method of the contractor's choosing (e.g., off-site laboratory, field laboratory, field test kit, etc.), and completion of geologist logs and DHEC Form 1903 (well record). If the professional that will oversee field screening or well installation is not associated with the well driller's firm or company, or is associated with the well driller's firm or company but mobilizes from a different town, a personnel mobilization shall be allowed in addition to the equipment mobilization. Boring or screening logs shall indicate the name and registration number of the Certified Well Driller holding a current SC License, and whether installation was by hand auger or machinery (e.g., drill rig, push technology). Any screening point converted to a permanent monitoring well will be compensated only for the installation of the permanent well at the higher well rate.

F. **SOIL BORINGS/FIELD SCREENING** (requiring equipment - e.g., drilling rig, push technology) includes all personnel, equipment, and material costs associated with the advancement of temporary borings/wells, collection of soil, gas, or water samples, and analysis of the samples using a suitable analytical method of the contractor's choosing (e.g., off-site laboratory, field laboratory, field test kit, etc.), completion of geologist logs and DHEC Form 1903 (well record). If the professional that will oversee field screening or well installation is not associated with the well driller's firm or company, or is associated with the well driller's firm or company but mobilizes from a different town, a personnel mobilization shall be allowed in addition to the equipment mobilization. Boring or screening logs shall indicate the name and registration number of the Certified Well Driller holding a current SC License and whether installation was by hand auger or machinery (e.g., drill rig, push technology). Any screening point converted to a permanent monitoring well will be compensated only for the installation of the permanent well at the higher well rate. The method(s) used and the results will be submitted to the appropriate project manager to determine well locations and included in the report.

Fractured Rock screening will use methods to identify individual fractures or zones containing a series of fractures. Fractures may be identified by use of calipers, gamma logs, temperature sensors, flow sensors, video cameras or other in-bore methods and techniques. The rate includes all costs for locating and reporting all fractures 0.01 foot or larger, the orientation of the fractures in an individual boring, and collating fractures over the entire site if multiple wells or borings are logged at the site. The method(s) used and the results will be submitted to the appropriate project manager to determine screen locations in the core hole or if the core hole should be abandoned. This information will be included in the Tier II report.

G. **SOIL LEACHABILITY MODEL** includes all personnel, equipment, and material costs associated with the prediction of the fate and transport of petroleum through the soil to the groundwater using either the DHEC's leachability model or another equivalent method and completion of the DHEC's form.

H. **ABANDONMENT** includes all personnel and material costs associated with the proper abandonment of temporary or permanent monitoring wells or borings with a borehole diameter exceeding one inch in accordance with the current QAPP and the SC Well Standards and Regulations, R.61-71 under the direct supervision of a Certified Well Driller holding a current SC License. One equipment mobilization may be added to this component.

I. **WELL INSTALLATION** includes all personnel, equipment, and material costs associated with the installation of permanent water table wells, rock wells, and telescoping wells in accordance with the current SC Well Standards and Regulations R.61-71 under the direct supervision of a Certified Well Driller holding a current SC License, describe the soil lithology, screen for volatile organic chemicals, properly develop the well, determine the depth to groundwater and free product, containerize

all generated drill cuttings and development/purge waters, and complete geologist's log and well completion logs. **It is the responsibility of the contractor and driller to propose and utilize a drilling method that is appropriate for the geologic conditions encountered at any given site (e.g., air rotary, continuous flight auger, direct push, mud rotary, rotosonic, etc.).** If the professional that will oversee field screening or well installation is not associated with the well driller's firm or company, or is associated with the well driller's firm or company but mobilizes from a different town, a personnel mobilization shall be allowed in addition to the equipment mobilization. A separate mobilization is not allowed for well drilling or other support trucks. A single per-foot rate will be charged for each drilled well (e.g., a well drilled 20 feet in saprolite and 20 feet in bedrock will be considered 40 feet of rock drilling with only one equipment mobilization). A completed DHEC Form 1903, or similar form, shall indicate the method of well installation (e.g., hand auger, air rotary, hollow stem auger. etc.) and other pertinent information and be submitted as part of the final report.

If bedrock is encountered during screening or installation of monitoring wells, the contractor will propose to the appropriate project manager installation of a casing from the surface to the top of the bedrock and drilling into the bedrock and extracting an oriented core. The core will be used to determine the location and orientation of fractures in the rock. To reduce the possibility of cross contamination, tests to determine the size of fractures and flow velocities should be conducted as soon as practical. The coring cost will include logging of the core, reporting the percent of core recovered, location and orientation of fractures, and correlation of these fractures to adjacent wells if installed. A separate cost will be allowed to install screening at various intervals to allow for sampling from discrete fracture zones. A packer or other seal must be installed below each screened interval to ensure each fracture zone is hydraulically segregated. For example, if the core hole will be completed for sampling in three separate zones with screens from 245 to 250 feet, 195 to 200 feet, and 145 to 150 feet the contractor would be compensated for installing a total of 600 feet of multi-sampling ports.

J. **SAMPLE COLLECTION/ GAUGING DEPTH TO PRODUCT OR GROUNDWATER** includes all personnel, equipment, and material costs associated with collection of groundwater samples using purging methods, groundwater samples using no-purge methods or surface water, water supply samples, air or vapor samples, and well-gauging only, sample preparation, and shipment to an SC-certified laboratory. The collection cost includes all instruments required to document well purging has been accomplished (e.g., pH meter, conductance meter, thermometer, water-level probe) and dissolved oxygen levels. Additionally, sample collection may include collection of free phase product in a well provided the collection of free product is not part of a free product recovery test (component #13). **This component does not include collection of samples for field screening.** One collection event is allowed for each media collected at a well or receptor. (For example, one groundwater and one vapor sample, both from the basement of a building adjacent to a UST site, shall be

considered two separate sample collection events; sampling groundwater in a monitoring well for dissolved oxygen and obtaining a groundwater sample for BTEX, MtBE, and RCRA Metals shall all be one sample collection event.) Air or vapor samples must be collected in a metal cylinder. The soil sample collection fee is included in the boring, screening, or well rate. If a sample is obtained from a stream or other surface-water body, or if the monitoring well is not purged, the "no purge" sampling rate will apply. In addition, the "no purge" rate will apply for collection of required duplicate samples, except for duplicate samples from water supply wells, in which case the "water supply" rate will apply. The gauge only rate includes all personnel, equipment, and materials necessary to determine the depth to groundwater and/or free product when no sample is collected. If a Passive Diffusion Bag (PDB) is used, the bag must remain in the well for a minimum of 15 days or longer if recommended by the manufacturer. Additionally the manufacturer must certify that the PDB is capable of collecting a representative sample of all CoC requested by the project manager. If free phase product is encountered in any well, the DHEC may request collection of a groundwater sample from below the free product. The following procedure will be used: Measure the thickness of free product. Using a bailer or pump remove the free product being as careful as possible not to mix product and groundwater. As soon as all product is removed, collect a groundwater sample with a clean bailer minimizing emulsification or incorporation of free product into the sample container. Preparation of blank samples (field, equipment, etc.) must be in accordance with an approved quality assurance plan (ACQAP, QAPP, etc.).One personnel mobilization may be added to this component if it is conducted independently of other components.

K. **ANALYSES** include all personnel, equipment, and material costs associated with analytical analysis by a SC Certified Laboratory and reporting of the results using appropriate chain of custody, field notes, and certificates of analysis in accordance with the South Carolina UST Programmatic Quality Assurance Program Planor the contractor's ACQAPand SW-846. Chain of custody and field notes must be included with the final report. The oxygenates are: ethanol, ethyl tert-butyl alcohol (ETBA), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), diisopropyl ether (DIPE), methyl tert-butyl ether (MTBE), tert-butyl formate (TBF), tert-butyl alcohol (TBA), and tert-amyl alcohol (TAA). The eight (8) RCRA metals are: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Rush analysis will be 24-hour turnaround by the laboratory, with written results provided to the UST project manager within 48 hours of sample collection. Mobilization may not be added to this component.

Drinking water analytical methods are for use on water supplies and (at the discretion of the DHEC project manager) other potential sources of drinking water (e.g., irrigation wells). These methods are not to be used for analysis of surface waters or environmental groundwater samples.

Hydrocarbon Fuel Identification: includes all personnel, equipment, and material

costs associated with hydrocarbon fuel identification to identify the type of product or mixture of products and determine relative age of product or mixture of products using a scientifically accepted procedure for hydrocarbon fuel identification (e.g., GC/FID, GC/ECD, GC/MS, PIANO, etc.). This may require the laboratory to perform a series of analyses to make an informed and justifiable determination including, but not necessarily limited to, lead analysis as a means of age-dating a petroleum release. The rate includes sample containers, shipping containers, labels, and documentation as required by the shipping company, the International Air Transportation Association (IATA), and any federal, state, or local regulations. Mobilization may not be added to this component.

L. **AQUIFER CHARACTERIZATION** includes all personnel, equipment, and material costs associated with completion of a pumping test or slug test, record and report all data, reduce the data, and summarize it on the DHEC's pumping test or slug test report forms. One personnel mobilization may be added to this component when not combined with other components.

M. **FREE PRODUCT RECOVERY RATE TEST** includes all personnel, equipment, and material costs associated with performance of a free product recovery, bail down, or bail out test, calculate the free product recharge rate and true thickness, summarize the data in a tabular format, and discuss the results in a succinct narrative. One personnel mobilization may be added to this component when not combined with other components.

N. **FATE/TRANSPORT MODELING** includes all personnel, equipment or materials, and computer software costs associated with completion of fate and transport modeling of petroleum in soil, groundwater, and /or vapors using mathematical or computer models, as appropriate. All chemicals of concern shall be modeled for any one medium using one model. SUPERB will reimburse for only one model per medium.

1) A mathematical model involves calculations completed using either a hand calculator or a computer spreadsheet and the final output solely results in a set of calculated numbers (e.g., Domenico, MODFLOW, or AT 123D output in tabular data or a computer spread sheet). Calculation of several chemicals of concern using the same model (e.g., Domenico) shall be considered one model. Calculation for several exposure pathways in the same medium (e.g., groundwater) shall be considered one model since only a distance to each exposure point would change.

2) A computer model includes any computer software and the calibration of the model to the current site conditions which uses an iterative or complex approach to solve mathematical expressions, and produces computer generated input and output data summaries, figures, or charts to interpret fate and transport of chemicals of concern through a medium (e.g., DSS, BIOPLUME II, BIOSCREEN). Natural attenuation measurements and calibration to existing analytical data

must be included as part of the modeling effort. A separate model will be allowed for each medium if a separate model was used. (For example, using AT 123D, SESOIL and Box models for groundwater, soil, and vapors, respectively, would be three models; using the RBCA tool kit that calculates soil, ground water, and vapors with a single entry of field or laboratory data would be one computer model.) Calculation of several chemicals of concern and/or calculation for several exposure pathways in the same medium (e.g., groundwater) is considered one computer model.

O. **RISK EVALUATION**: Either a Tier 1 or a Tier 2 evaluation (not both for the same report) shall be requested.

1) **Tier 1 Risk Evaluation** includes all personnel, equipment, and material costs associated with evaluation of the site data and potential receptors in order to determine the most appropriate action in accordance with the UST Quality Assurance Program Plan. Mobilization may not be added to this component.

2) **Tier 2 Risk Evaluation** includes all personnel, equipment, and material costs associated with evaluation of the site data and potential receptors in order to determine the most appropriate action for the site in accordance with the UST Quality Assurance Program Plan. Tier 2 evaluation includes all Tier 1 evaluation components. Mobilization may not be added to this component.

P. **SUBSEQUENT SURVEY** includes all personnel, equipment, and material costs associated with determining the location and elevation of screening points and permanent wells to be included in an existing comprehensive survey. A subsequent survey may be performed by a Professional Land Surveyor holding a current SC license, or a person trained and proficient in surveying procedures. One personnel mobilization may be added to this component, where appropriate.

Q. **DISPOSAL** includes all personnel, equipment, and material costs including containers associated with obtaining signatures on manifests, load, transport, treat and/or dispose of Investigation Derived Waste (wastewater, free product, soil or drilling fluids). One personnel mobilization may be added to this component.

R. **MISCELLANEOUS** includes all personnel, equipment and material costs not included in any of the defined components, which may be needed on a site-specific basis. Actual expenditures documented by vendor receipts or employee rate without fringes must be submitted with the invoice (e.g., laboratory invoice for special analytical method, installation of water line, etc.). Any and all costs for the environmental contractor or any subcontractor must be pre-approved. Components will receive no markup or handling fee other than component #19. If a professional or technician will oversee a component and is not associated with the firm or company conducting the component, a separate personnel mobilization for the professional or technician may be allowed.

S. **ASSESSMENT REPORT/PROJECT COORDINATION** includes all personnel, equipment, and material cost to complete a report documenting the data, results, and conclusions of all components completed during that phase of work. All personnel oversight and miscellaneous costs associated with procuring subcontractors, coordination of the project to include disposal of generated waste and off site access, verification of work, quality assurance, communication with any parties, including sending a copy of the report to the responsible party, invoicing, and coordination with the DHEC are also included. The sum of all components may be multiplied by this percentage and then added to the total for a Tier II Assessment Report, Monitoring Report, or Well Abandonment Report. Any report that interprets the geology or groundwater flow must be signed and sealed by a professional geologist or engineer licensed to practice in the State of South Carolina. All reports must be submitted by a DHEC certified site rehabilitation contractor. All wells, temporary and permanent, must have a geologist log and a DHEC Form 1903 (well record) signed by the well driller licensed in South Carolina. Mobilization may not be added to this component. If the UST owner or operator and the site rehabilitation contractor have a familial or financial relationship, this component shall not be allowed.

T. **TIER I ASSESSMENT** includes all personnel, equipment, and material cost to complete a Tier I Assessment in accordance with the UST Quality Assurance Program Plan.

U. **INITIAL GROUNDWATER ASSESSMENT (IGWA)** includes all personnel, equipment, and material cost to complete an IGWA in accordance with the UST Quality Assurance Program Plan.

V. **ACTIVE CORRECTIVE ACTION** includes all personnel, equipment, and material cost to complete corrective action in accordance with site-specific contract or bid specifications.

W. 1-4) **AGGRESSIVE FLUID VAPOR RECOVERY (AFVR)** includes all personnel, equipment, and material costs to conduct one AFVR event with a duration of 8, 24, 48 or 96 hours. The event includes: recording product and water levels in wells designated by the DHEC; applying vacuum to up to three wells within fifty feet of each other; monitoring and reporting product recovery rates, volatile air emission concentrations, and radius of vacuum influence (at 30-minute intervals); and, preparation and submittal of a report documenting the event. AFVR Site Reconnaissance (D1) and AFVR mobilization/demobilization (G) will be added to this component, as appropriate. A separate mobilization shall not be allowed for support vehicles except as defined in (G) below. A single per-gallon rate may be charged for transport and disposal of effluent.

5-8) **OFF-GAS TREATMENT** (per-event rate) applies if off-gas treatment is required because total volatile air emission concentrations would pose a risk to human health

during the AFVR event. Off-gas treatment must achieve an 80 percent reduction in volatile emissions over the entire AFVR event.

9-12) **OFF-GAS TREATMENT w/Chlorinated Compounds** (per-event rate) applies if off-gas treatment is required because total volatile air emission concentrations would pose a risk to human health during the AFVR event and laboratory analysis shows that the groundwater contains chlorinated solvents at concentrations that do not exceed 500 times the respective chemical's MCL. Off-gas treatment must achieve an 80 percent reduction in volatile emissions over the entire AFVR event.

13) **AFVR EFFLUENT DISPOSAL w/Chlorinated Compounds** includes all personnel, equipment, and material costs (including containers) associated with obtaining manifest signatures, loading, transport, and treatment/disposal of effluent generated by the AFVR event where laboratory analysis shows that the wastewater contains chlorinated solvents at concentrations that do not exceed 500 times the respective chemical's MCL. Effluent disposal shall not interfere with the continuity of the AFVR event.

14) **AFVR SITE RECONNAISSANCE** includes all personnel travel time, lodging, meals, per diem, equipment, and material costs associated with a visit to the site where the AFVR event is to be conducted. Objectives of the site visit are to verify the location of the facility, locate and identify monitoring/recovery wells targeted for AFVR, and to verify the presence of measurable (0.01') free-phase product (FPP) in the target well(s). Results of the site visit shall be provided to the UST Project Manager via e-mail. The results should include gauging data for the AFVR target well(s), a proposed starting date for the AFVR event, and any pertinent site information. The UST Project Manager will decide if the AFVR event should proceed and will notify the contractor of the decision. AFVR events shall not be performed on target wells that have no measurable (0.01') FPP unless directed otherwise by the Agency. If the Agency determines that the AFVR event is no longer necessary, the contractor will submit an invoice for site reconnaissance only.

15) **ADDITIONAL HOOK-UPS** include concurrent well connections utilized for extraction in excess of three for each AFVR event.

16) **AFVR EFFLUENT DISPOSAL** includes all personnel, equipment, and material costs (including containers) associated with obtaining manifest signatures, loading, transport, and treatment/disposal of effluent generated by the AFVR event. Effluent disposal shall not interfere with the continuityof the AFVR event.

17) **AFVR MOBILIZATION/DEMOBILIZATION** includes all personnel, equipment, mileage, and material costs to transport the AFVR unit, support vehicles, materials, and personnel to and from the site to include all lodging, meals, and other per diem costs. One mobilization/ demobilization is allowed per AFVR event. An additional mobilization may be approved if the quantity of effluent generated during the event

is anticipated to exceed the approved quantity for that event. The approved quantities are 2500 gallons for an 8-hour event, 5000 gallons for a 24-hour event, 10,000 gallons for a 48-hour event, and 20,000 gallons for a 96-hour event. If an overage is anticipated, the contractor must notify the Agency immediately. The Agency will then make a determination as to whether the AFVR event should be continued or terminated. The additional mobilization will be approved only for an AFVR event where the quantity of effluent exceeds the approved amount and the Agency has determined that the event be continued.

X. **GRANULAR ACTIVATED CARBON (GAC) FILTER SYSTEM INSTALLATION AND SERVICE** includes all personnel, equipment, and material costs associated with the installation of a GAC filter system. All plumbing work must be performed by a professional plumber certified in the State of South Carolina. The GAC system must filter volatile organic compounds (to include benzene, ethylbenzene, xylenes, methyl tert-butyl ether, etc.), polynuclear aromatic hydrocarbons and dissolved metals. The unit must have a minimum carbon capacity of two cubic feet or 50 pounds. New units must have a minimum five-year warranty on the control head and a lifetime warranty on the tank. The unit must have an automatic volume counter to keep account of water usage or a counter must be installed in conjunction with the unit. The unit must have a 48-hour capacitor that will reset the equipment for backwashing purposes in the event of electrical failure. The equipment specifications must be validated by the Water Quality Association. The contractor will provide a six-month warranty on all pipe, fittings, etc. used in the installation of all systems. The system will be installed inside the existing well house (space permitting) or inside a locked housing. Duplicates of all keys to locks must be provided to the owner of the well and to the DHEC. The contractor will install faucets on the inlet and outlet lines of the system to allow for sampling. The faucets must be located inside the locked housing of the system. The installation will include up to ten (10) feet of pipe (Sch. 40 PVC) and all necessary materials and fittings.

1) Includes all personnel, equipment, material costs, and electrical hookups needed for the installation, repair, or maintenance of all major brands of GAC filter systems. Mobilization may be added to this component, where appropriate.

2) Includes all personnel, equipment, material costs, and electrical hookups needed for the installation, repair, or maintenance of refurbished GAC filter system provided by the UST Program. Mobilization may be added to this component, where appropriate.

3) Includes all personnel, equipment and material costs to remove and replace carbon/gravel filter in operating systems. Cost includes proper disposal of removed materials. Mobilization may be added to this component, where appropriate.

4) Includes all personnel, equipment and material costs to remove, clean, refurbish,

and deliver GAC system to a storage location (a location in central South Carolina, to be determined by the DHEC at the time of removal). Mobilization may be added to this component, where appropriate

5) Includes all personnel, equipment and material costs to outfit the GAC system housing. Housing must be lockable (cost to include lock if needed), vented, insulated to prevent freezing, and of sufficient size to allow access to service the GAC unit. Multiple locks will be keyed alike. Installation will include providing a supply of electrical power for the system.

6) Includes all personnel, equipment and material costs to install an in-line particulate filter to remove suspended solids from water prior to entering the system, if needed.

7) Includes all personnel, equipment and material costs to install additional piping (Sch. 40 PVC) and fittings in excess of the allotted amount necessary to complete installation.

Y. **MONITORING WELL REPAIR** includes all personnel, equipment, and material costs associated with the repair of monitoring wells that have been damaged since installation. The contractor will repair damaged or missing items to previously installed monitoring wells as previously approved by the UST Management Division. This activity will include replacement of a cracked or broken well pad, replacement of the well vault, replacement of a missing well tag, replacement of the well cover, bolts, well caps, and locks. A description of all repairs will be included in the report. If the professional that will oversee the repair work is not associated with the repair firm or company, or is associated with the repair firm or company but mobilizes from a different town, a personnel mobilization may be allowed in addition to the well repair cost.

1) **Additional Copies of Reports** Includes mailing cost and paper copies of the report being sent to adjacent property owners and site property owners if they differ from the responsible party. To document the additional copies that were sent to property owners, their name and address can be courtesy copied on the cover page of the report or cover sheets addressed to the property owners can be included in Appendix J of the report. This cost does not include providing copies of the report to SCDHEC or the tank owner/operator, nor does it include providing electronic copies via email or other electronic data transfer.