

ECOVAC SERVICES

The World Leader in Mobile Dual-Phase/Multi-Phase Extraction

October 15, 2007

Roger Nye
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008
Rnye461@ecy.wa.gov

**Subject: Proposal to Provide Surfactant Injection/Capture (SURFAC[®])
Former Circle K (Jay's Cleaners)
2350 24th Avenue E
Seattle, Washington**

Dear Roger:

EcoVac Services is pleased to provide innovative and cost effective environmental solutions to the Washington Department of Ecology. Pursuant to your request, EcoVac Services will implement our proprietary SURFAC[®] technology (U.S. Patent No. 6,158,924) at the subject site. SURFAC[®] involves the combination technology of surfactant injection and capture coupled with EFR[®] (mobile multi-phase/dual-phase extraction). **The process described herein in patent-protected and represents the intellectual property of EcoVac Services.**

EcoVac Services has been successful in achieving complete SPH removal in nearly every one of our SURFAC[®] applications. EcoVac Services is also the world leader in mobile multi-phase/dual-phase extraction, having conducted over 7,500 EFR[®] events at over 1,500 sites throughout the United States (38 states) and Puerto Rico. EFR[®] has successfully removed over 1,000,000 gallons of petroleum fuels.

EcoVac Services proposes a phased approach in implementing SURFAC[®] at this site, involving a projected ten days of field work at this site to fulfill the objective of pilot testing and subsequently injecting and capturing the surfactant. An extended treatment timeframe is required since we will have to treat several wells.

Please note that this proposed scope of work and costs will be revised following our review of the complete site information and the SURFAC[®] pilot test.

Our proposed SURFAC[®] scope of work is detailed below:

105 Weatherstone Drive, Suite 610 – Woodstock, Georgia 30188
(770) 592-1001 - Fax (770) 592-1801
www.ecovacservices.com

| <u>Work Description</u> | <u>Lump Sum Cost</u> |
|--|-----------------------------|
| <u>Phase 1: SURFAC[®] Pilot Test Event (Days 1 to 3):</u> Three 8-hour SURFAC [®] pilot test events will be performed at a maximum of seven wells to: (1) determine the surfactant injection volume, (2) achieve contaminant removal by the multi-phase/dual-phase extraction process, (3) reduce the aerial and vertical extent of the plumes, (4) assess the potential need for additional injection wells, (5) determine if additional EFR [®] events are necessary prior to surfactant injection, and (6) determine the duration of the surfactant injection (assumed to be three 8-hour events) and capture events (which is assumed to be four 8-hour events). | \$16,535.00 |
| <u>Phase 2: Surfactant Injection (Days 4 to 6):</u> - Three 8-hour EFR [®] extraction/surfactant injection events will be conducted at a maximum of seven wells. An assumed maximum of 1,200 gallons of diluted surfactant mixture will be injected. | \$24,806.00 |
| <u>Phase 3: Surfactant “Capture” (Days 7 to 10):</u> Four 8-hour surfactant capture events will take place following surfactant injection to remove any remnants of SPH, surfactant, and/or microemulsions that may exist. | \$18,330.00 |
| Total Lump Sum Cost | <u>\$59,671.00</u> |

Our lump sum costs are subject to those assumptions contained in Attachment A.

Thank you once again for the opportunity to serve the environmental needs of the citizens of Washington.

Sincerely,



Nick Athens

ATTACHMENT A
ASSUMPTIONS UTILIZED IN DEVELOPING
ECOVAC SERVICES' LUMP SUM COSTS (10/15/07)
Washington Department of Ecology
Former Circle K (Jay's Cleaners)
Seattle, Washington

- The cost estimate contains no contingencies for costs or delays that may result from severe weather conditions, client or regulatory delays, access delays, health or safety training/delays, or any other conditions beyond the control of EcoVac Services. Work at this site will commence as early as 5 am (and/or during weekends) to avoid traffic congestion.
- Payment terms are net 30 days. This quotation is valid for a period of 30 days. Level D personal protective equipment (PPE) will be utilized in the field. EcoVac Services will not be responsible for securing any and all regulatory permits (including the UIC permit) and making all regulatory notifications. Offgas treatment is not allocated in our proposal.
- The cost of disposal of the recovered fluids is not included in our lump sum costs. Recovered fluid is assumed to be characterized and disposed as a non-hazardous, non-regulated waste at a rate of \$0.39/gallon. Washington Department of Ecology will profile the fluids for disposal. Any potential present or future liability relating to any and all wastes generated during this investigation is the sole responsibility of Washington Department of Ecology. As with any disposal facility we utilize, EcoVac Services does not audit nor advocate the respective facility and by contracting our services, Washington Department of Ecology indemnifies EcoVac Services from any claims that may result from disposal of EFR[®] fluids at the subject facility. A maximum of one trip/day to the disposal facility is assumed.
- Field work will be conducted for 8 hours/day or until the vacuum truck fills to capacity (i.e. approximately 2,100 gallons). One and one-half additional hour per day is allocated for set-up, break-down and gauging, as well as offloading recovered fluids. Additional field time will be charged at a rate of \$450/hour.

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SURFAC[®] Request Form

Client Information:

| | |
|-------------------|-----------------|
| Name of Firm: | Office Phone #: |
| Contact Name(s): | Fax #: |
| Address: | Email: |
| City: State: Zip: | Cell #: |

Facility Information:

| | |
|---|---|
| Site Name: | Current Site Owner: |
| Type of Facility: Active Site? | Responsible Party: |
| Address: | Site Phone #: |
| City: State: Zip: | Is Water Available Onsite? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| State Facility ID#: | State Regulator: Phone #: |
| Release Location/Date/Volume: | |
| Corrective Action Requirement(s): | |
| Contaminant Type (check one): <input type="checkbox"/> Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Mix <input type="checkbox"/> Other (specify): | |

SURFAC[®] Information:

| | | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| Describe Restrictions on Performing SURFAC [®] (time of day, traffic concerns, special access, locked gate, etc.): | | | | | | | | |
| Previous and present remedial efforts (describe and attach info): | | | | | | | | |
| Preferred disposal facility for recovered liquids: | | | | | | | | |
| Injection Well: | | | | | | | | |
| Diameter (in.): | | | | | | | | |
| Depth to Liquid (ft): | | | | | | | | |
| SPH Thickness (ft): | | | | | | | | |
| Total Depth (ft): | | | | | | | | |
| Screened Interval: | | | | | | | | |

Comments/Other: _____

Please also attach the following site information and email or fax/mail to EcoVac Services:

- Updated site map
- Directions to the site (or site vicinity map)
- Map to hospital and emergency numbers
- Dissolved phase plume map(s)
- Free product plume map
- Historical ground water analytical summary
- Adsorbed-phase (soil) plume map
- Geologic cross-section(s) and boring logs
- Well construction details
- Water table elevation map
- Identification of multiple aquifers
- Historical ground water level data

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SURFAC® RESULTS

| <u>Site</u> | <u>Subsurface</u> | <u>Prior Remedial Efforts</u> | <u>Aggregate SPH Thickness</u> | <u>Project Dates</u> | <u>Status</u> |
|---|---|--|---|--|--|
| Nashville, TN Inactive Service Station (gasoline) | Limestone at <2 feet below grade | Bailing | 0.25 ft. | Sept. 2005 | CLOSURE |
| Clarksville, TN Active Service Station (gasoline/diesel) | Alluvial/Fluvial/Fill | 6 EFR® Events | 0.53 ft. (EFR® reduced from 4.73 ft.) | Aug./Dec. 2005 | Additional UST System Leak Detected |
| Martinsville, VA Inactive Service Station (gasoline) | Silty Clay | 2 AFVR Events (by others) | 0.02 ft. | Nov. 2005 | No SPH |
| Chase City, VA Inactive Service Station (gasoline) | Silty Clay | | 0.22 ft. | March-April 2006 | ~0.02 ft. (90% reduction) |
| Danville, VA Former Bulk Plant (gasoline/diesel) | Sandy Clay | Bailing (6 gal); 11 AFVR events (by others - 51 gal) | 0.44 ft. | March-April 2006 | ~0.25 ft. returned in 1 well (48% reduction) |
| Andrews AFB, MD (JP-4/av gas) | Sand and gravel overlain by silt | Bailing & Wicks (3 gal) | 2.12 ft. | (2 SURFAC® events) April-May 2006 April 2007 | |
| Baltimore, MD Former Pipeline Site (gasoline) | Medium grain sand | Skimmer Pumps; Bailing | 1.56 ft. | May 2006 | CLOSURE |
| Glenmont, NY Active Bulk Plant (No. 2 fuel oil) | Silty sand/sand with some gravel on top of bedrock | Pump & Treat | 0.17 ft. | June 2006 | ≤71% reduction |
| District Heights, MD Former fuel oil USTs (No. 6 fuel oil/Bunker fuel) | Silty sand/sandy silt | Belt Skimmers | 0.78 ft. | August 2006 | CLOSURE* |
| Pell City, AL Refractory (gasoline/diesel) | Clay/chert | 7 EFR® events | 0.22 ft. (EFR® reduced from 3.27 ft.) | (2 SURFAC® events) Aug.-Sep. 2006; January 2007 | |
| Watervliet, MI Former Service Station (gasoline) | Glacial till | Product pumping/ 4 EFR® events | 0.04 ft. (EFR® reduced from 9.33 ft.) | November/ December 2006 | No SPH |
| Huntsville, AL Service Station (gasoline/diesel) | Clay | 3 EFR® events | Sheen (EFR® reduced from 7.05 ft.) | December 2006 | No SPH |
| Montgomery, AL Former Service Station (gasoline) | Clay w/ some silt and sand | 5 EFR® events | 0.01 ft. (EFR® reduced from 1.47 ft.) | February-March 2007 | No SPH |
| Carrollton, AL Maintenance Facility (gasoline) | Very clayey/ fine sand | MEME event(s) (by others) | 0.12 ft. | March/April 2007 | No SPH |
| Tucker, GA Former Hospital (diesel) | Silt/Saprolite | Total fluid pumps/ skimmer pumps/ 7 EFR® events | 4.23 ft. (EFR®/pumping/skim reduced from 16.32 ft.) | (2 SURFAC® events) March/April 2007 June/July 2007 | No SPH |
| Columbus, GA Airport Hangar (Jet A) | Silt and clay w/ some medium sand | 4 EFR® events | 0.35 ft. | March/April 2007 | No SPH |
| Baltimore, MD Former Pipeline Site (gasoline) | Medium grain sand | Skimmer Pumps; Bailing | 0.57 ft. | July 2007 | No SPH |
| Sulligent, AL Service Station (gasoline) | Silty sand grading downward to some gravel | Pump & Treat; Bailing; 11 MEME events (by others) | 0.00 ft. (Previous yr. - 0.01 to 0.05 ft.) (elevated benzene) | June/July 2007 | No SPH |
| Ramer, AL Service Station (gasoline/kerosene) | Clayey and silty fine grain sand | MEME events (by others) | 0.00 ft. (elevated benzene) | August 2007 | No SPH |
| Russellville, AL Maintenance Facility (gasoline) | Silt/clay with some sand lenses | 3 MEME events (by others) | 0.00 ft. (elevated benzene) | September 2007 | No SPH |
| Butler, AL Service Station (gasoline) | Sandy clay grading downward to clayey fine grain sand | | 0.00 ft. (elevated benzene) | September 2007 | No SPH |

*Site closed with SPH in place (~50% reduction)