MODIFIED CORRECTIVE ACTION PLAN
(COST PROPOSAL NO. 21)

CIRCLE K STORES, INC.
CIRCLE K STORE NO. 2721556
FORMER SPANISH FORT SHELL NO. 119
6490 US HIGHWAY 90
SPANISH FORT, ALABAMA

FACILITY I.D. NO. 12345-003-006438
UST INCIDENT NO. UST07-03-02

PPM PROJECT NO. 262715-MCAP

NOVEMBER 19, 2015

Environmental Science
and Engineering

PPM
CONSULTANTS

MODIFIED CORRECTIVE ACTION PLAN
(COST PROPOSAL NO. 21)

FOR

CIRCLE K STORE NO. 2721556
6490 US HIGHWAY 90
SPANISH FORT, ALABAMA

FACILITY I.D. NO. 12345-003-006438
UST INCIDENT NO. UST07-03-02

PREPARED FOR:

CIRCLE K STORES, INC.
305 GREGSON DRIVE
CARY, NORTH CAROLINA 27511

PPM PROJECT NO. 262715-MCAP

NOVEMBER 19, 2015

PREPARED BY:

STEVE T. GRAMMAS, P.G.
PROJECT MANAGER

REVIEWED BY:

RODNEY M. KILGORE, P.G.
SENIOR GEOLOGIST

PPM CONSULTANTS, INC.
30704 SERGEANT E.I. "BOOTS" THOMAS DRIVE
SPANISH FORT, ALABAMA 36527
(251) 990-9000

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FIGURES (APPENDIX A)

Figure 1 Proposed Locations of Ozone Sparge Points
Figure 2 Typical Ozone Sparge Point Construction

APPENDICES

Appendix A Figures
Appendix B Ozone Sparge Monitoring Form
Appendix C Cost Proposal

1.0 INTRODUCTION

As requested by the Alabama Department of Environmental Management (ADEM), PPM Consultants, Inc. (PPM) has prepared this Modified Corrective Action Plan (MCAP) to install ozone sparge points and conduct mobile ozone sparging as part of remedial actions to reduce the concentrations of chemicals of concern (COC) in the groundwater at the Circle K Store No. 2721556 located at 6490 U.S. Highway 90 in Spanish Fort, Alabama.

2.0 REMEDIAL ACTION

2.1 OZONE SPARGING

Ozone (O_3) is an allotrope of oxygen, consisting of three oxygen atoms that are less stable than diatomic oxygen (O_2). Ozone is more soluble than oxygen in water and is commonly used in municipal water treatment applications for disinfectant purposes. However, the use of ozone for soil and groundwater remediation projects has increased over the last several years as alternative remedial methods have been pursued and the technology has subsequently evolved.

In general, ozone based processes for site remediation are similar to other chemical oxidation techniques in which the oxidant of choice is injected into the desired treatment area. However, the use of ozone is different from most oxidation processes as the ozone can be injected as a gas or liquid (as ozonated water). This approach provides the opportunity to deliver more continuous oxidation as opposed to batch applications typically associated with other techniques.

An ozone generator uses electrical current to convert O_2 (readily available in atmospheric air) to O_3. A compressor is then used to sparge the ozone into the subsurface using one or more sparge points. Although ozone gas is typically sparged into the water table for groundwater remediation, it can be sparged into the vadose zone for soil treatment. Once delivered to the subsurface, the ozone facilitates deconstruction of COC molecules and other oxidizable substances. As an added benefit, the reaction results in the release of oxygen that is beneficial in producing conditions that are conducive to aerobic degradation of select contaminants.

2.2 INSTALLATION OF OZONE SPARGE POINTS

PPM recommends that ozone be applied to the subsurface by means of a total of three sparge points installed near monitoring well MW-1 which has historically exhibited benzene concentrations above its Site Specific Corrective Action Level (SSCAL). Mobile ozone sparging should achieve an overall decrease of benzene concentrations within the vicinity of each sparge point. The placement of the proposed sparge points is provided in **Figure 1, Locations of Proposed Ozone Sparge Points, Appendix A**.

It should be noted that PPM will have to obtain an Underground Injection Control (UIC) permit from ADEM prior to installation of the sparge points.

It is estimated that each sparge point will be installed to a depth of approximately 30 feet below ground surface (BGS). Actual depths may vary slightly depending on site conditions encountered.

Ozone sparge points will be constructed of 1-inch inside diameter (I.D.) Schedule (SCH) 80 polyvinyl chloride (PVC) risers extending from just below the land surface to approximately 18 inches above the bottom of the boring. A 1.5-inch outside diameter (O.D.) stainless steel oxidation point approximately 18 inches long will be connected to the bottom of the solid riser. The risers and oxidation points will be joined using threaded, flush joint connections complete with ozone-resistant fittings.

Well-graded sand will be placed in the boring annulus for each proposed sparge point from the bottom of the boring to at least 2 feet above the top of the oxidation point. A bentonite seal approximately 1 to 2 feet thick will be constructed at the top of the sand pack. A cement/bentonite grout will be placed above the bentonite seal to within approximately 1 foot BGS. The bentonite seal and grout are intended to reduce the potential for ozone escaping up the boring and to the land surface.

The proposed sparge points will be set within an 8-inch diameter steel manhole cover and surrounded by a concrete pad. The manhole covers will extend slightly above the existing land surface in an effort to reduce the potential for inflow from the land surface. Each sparge point will be completed with a well head connection that will facilitate ozone delivery. Construction details are shown in **Figure 2, Typical Ozone Sparge Point Construction, Appendix A**.

2.3 MOBILE OZONE SPARGE EVENTS

PPM recommends that an H2O Model No. OSU20-104 mobile ozone unit be mobilized to the site once a week for three months to inject ozone in the sparge points for approximately 8-hours during each site visit. The unit is capable of producing up to 5.5 pounds per day (ppd) of ozone for remedial efforts. The ozone delivery pump can sparge ozone at a rate of 0.4 cubic feet per minute (cfm) at 20 pounds per square inch (psi) for up to 20 ozone sparge points. Maximum delivery capacity is rated at approximately 3.8 cfm at 20 psi.

Groundwater levels will be measured periodically in select monitoring wells to observe the overall effect of the pressure gradient. Surface areas will be periodically monitored to check for the presence of ozone/oxygen leaks.

The mobile ozone unit will be powered by a 120-volt generator mounted on the trailer.

An individual sparge time accumulator will monitor the duration of ozone sparge. A pressure gauge will be located at the unit such that the discharge pressure can be monitored visually and by a data logger. An estimated 8-12 foot radius of influence has been estimated at each sparge point based on information provided by the equipment manufacturer relative to their past experience with similar projects.

PPM personnel will operate the ozone sparge unit during the duration of each sparge period. Connections and wellheads will be checked for the presence of ozone leaks and modifications/repairs will be promptly made upon discovery. During each sparge event, the following activities will be conducted: visual inspection of system and components and their condition, monitoring pressure levels at the unit and the sparge point, monitoring the sparge time, and inspection of ambient ozone monitors to ensure proper working condition. An example of an ozone sparge monitoring form to be used is included in **Appendix B, Ozone Sparge Monitoring Form**.

3.0 REPORTING REQUIREMENTS

Results of the ozone field activities will be included in an Implementation of MCAP Report. Currently, Cost Proposal Nos. 22, 23 and 24 have been approved for tri-annual groundwater monitoring. Analytical results of the groundwater monitoring can determine the effectiveness of the mobile ozone sparging.

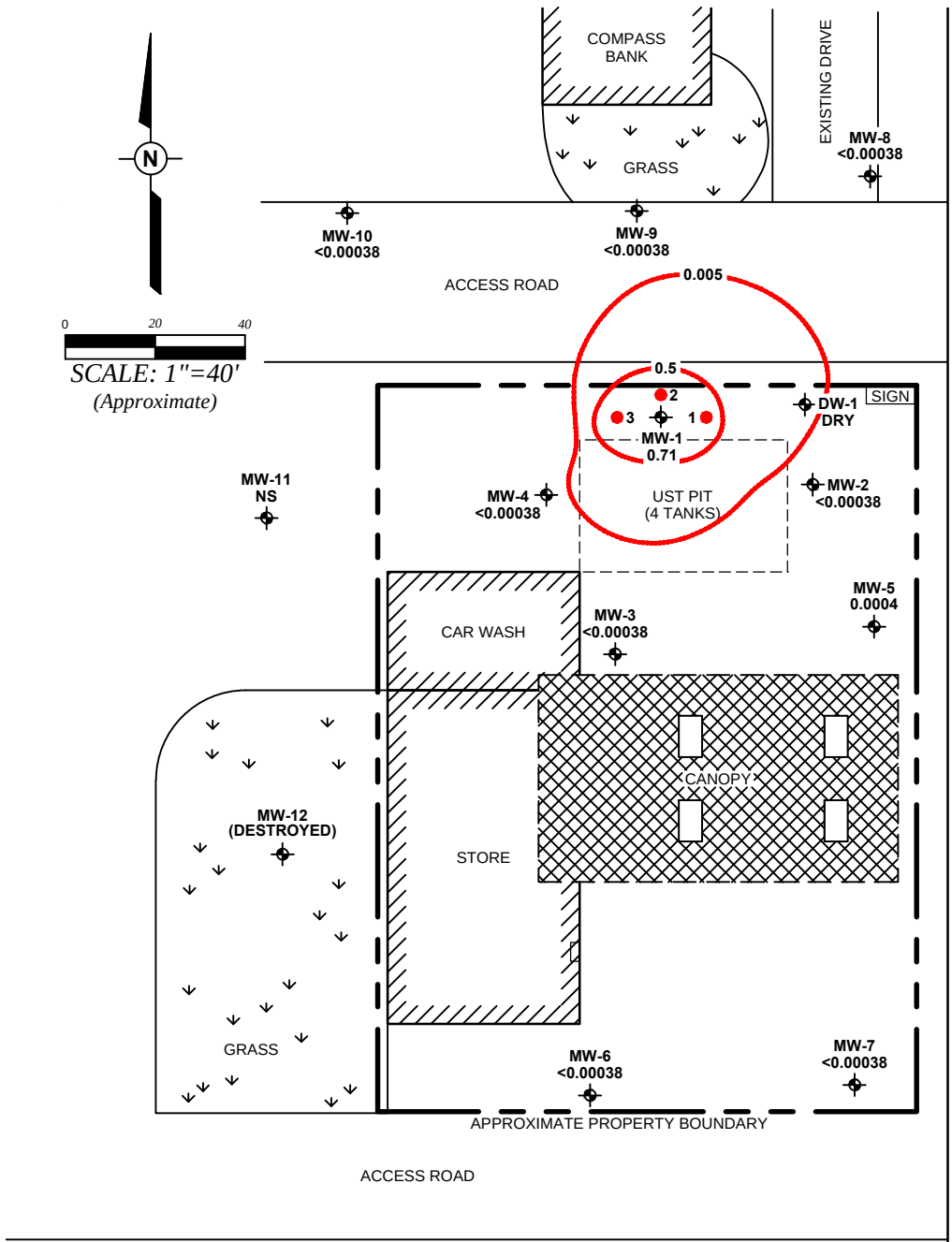
4.0 COST ESTIMATE

Cost Proposal No. 25 for completion of activities associated with implementation of the Modified CAP is included in **Appendix C, Cost Proposal**.

APPENDICES

APPENDIX A

FIGURES



LEGEND:

⌖	MONITORING WELL LOCATION
●	PROPOSED OZONE SPARGE POINT LOCATION
0.71	BENZENE CONCENTRATION (ppm)
— 0.005 —	BENZENE CONCENTRATION CONTOUR (ppm)
<0.00038	BELOW DETECTION LIMIT
NS	NOT SAMPLED (PER ADEM REQUEST)

PPM CONSULTANTS, INC.
www.ppmco.com

DRAWN BY:	DRAWN DATE:
MLR	11/02/15
PROJECT NUMBER:	BILLING GROUP:
262715	MCAP

CIRCLE K STORES, INC.
CIRCLE K STORE NO. 2721556
6490 U.S. HIGHWAY 90
SPANISH FORT, ALABAMA

LOCATIONS OF PROPOSED OZONE SPARGE POINTS

FIGURE NUMBER
1

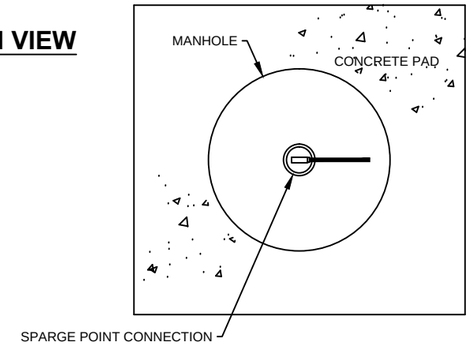
Z:\Pantry, The\262715\MCAP\262715-MCAP dwg, 1 Sparge Point Locations, 11/2/2015 2:08:56 PM, Mike Rawls

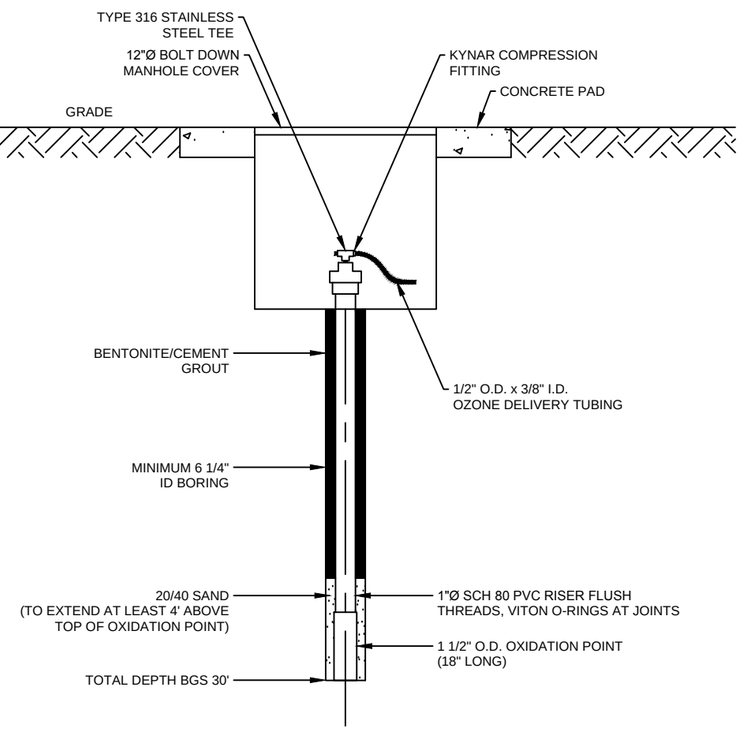
NOTES:

1. WELLHEAD CONNECTIONS, RISER AND OXIDATION POINTS TO BE PROVIDED BY EQUIPMENT MANUFACTURER.
2. OZONE DELIVERY TUBING TO BE PROVIDED BY EQUIPMENT MANUFACTURER.
3. OZONE DELIVERY TUBING TO BE INSTALLED DURING PLACEMENT OF 4"Ø SCHEDULE 40 PVC CONDUIT.

TYPICAL PLAN VIEW

NOT TO SCALE





TYPICAL SPARGE POINT DETAIL

NOT TO SCALE

PPM CONSULTANTS, INC. www.ppmco.com		CIRCLE K STORES, INC. **CIRCLE K STORE NO. 2721556** 6490 U.S. HIGHWAY 90 SPANISH FORT, ALABAMA	TYPICAL OZONE SPARGE POINT CONSTRUCTION
DRAWN BY: MLR	DRAWN DATE: 11/02/15		FIGURE NUMBER 2
PROJECT NUMBER: 262715	BILLING GROUP: MCAP		

Z:\Pantry_The\262715\MCAP\262715-MCAP.dwg, 2 Ozone Sparge Points, 11/2/2015 2:08:57 PM, Mike Rawls

APPENDIX B

OZONE SPARGE MONITORING FORM

OZONE SYSTEM FIELD MONITORING FORM

Site ID: Circle K Store No. 2721556	**Project Number:** 262715 MCAP
Site Location: 6490 U.S. Highway 90, Spanish Fort, AL	**System Configuration:**
Date:	**Time of Arrival / Departure:** /
Personnel:	**Status of System:**

SPARGE POINT DATA

ID		On Line	Pressure @ Manifold (psi)	Airflow @ Manifold (cfm)	Operational Time
SP-1					
SP-2					
SP-3					

OZONE SYSTEM FIELD MONITORING FORM

MISCELLANEOUS

Ambient Temperature (°F)	Ozone Reading in Enclosure (ppm)	Ozone Reading in Service Bay (ppm)

System Run Time (hrs)	Cycle Lag Time (minutes)	System Components Checked for Leaks (Y / N)	SP Connections Checked for Leaks (Y / N)

Well ID	Sparge Point	Time	Depth to Water (ft BTOC)	Induced Pressure Reading (psi)	Dissolved Oxygen	ORP	

OZONE SYSTEM FIELD MONITORING FORM

COMMENTS:

APPENDIX C

COST PROPOSAL

Alabama Tank Trust Fund
Cost Proposal
Part I

I.1 Cost Proposal Information:

Cost Proposal Number:	Date of Cost Proposal (mm/dd/yy):
25 MOS	11/2/15
UST or AST Incident Number:	Facility I.D. Number:
UST07-03-02	12345-003-006438

I.2 Facility Information

Facility Name:	Circle K Store No. 2721556
Facility Address:	6490 US Highway 90 Spanish Fort, AL

I.3 Owner Information:

Owner Name:	Circle K Stores, Inc
Owner Address:	305 Gregson Drive, Cary, NC 27511
Employer Tax Number (IRS):	56-1574463

I.4 Response Action Contractor Information:

Approved Response Action Contractor Name:	
	PPM Consultants, Inc.
Approved Response Action Contractor Address:	
	30704 Sgt. E.I. "Boots" Thomas Dr., Spanish Fort, AL 36527
Project Contact:	Steve T. Grammas
Project Contact phone #	251-990-9000
Employer Tax Number (IRS):	72-1256279

I.5 Activity Information:

Indicate below the activities for which the cost proposal is submitted:	
	Site Stabilization
	Preliminary Investigation
	Secondary / Additional Well Installation
	ARBCA
	Groundwater sampling
	Free Product Removal
	Develop Corrective Action Plan
X	Corrective Action
	Stockpile Sampling / Management / Disposal
	Provision of Alternate Water Supply
	Pilot Test
	Monitoring Well Abandonment
Other Activities Conducted:	
Install three sparge points; conduct 12 mobile ozone sparge events	
Provide proposed completion date for this phase of work activities:	
120 days upon approval	
Provide projected date of cleanup completed:	
Unknown	

I.6 Subcontractor Information:

Indicate Subcontractors to be used during this phase of work:

Name	Service Provided
H20 Engineering	Ozone Sparge Materials
Walker Hill Environmental Services	Drilling
LESCO Environmental Services	Soil Disposal

Signatures must be provided in Sections I.7 and I.8 below for this proposal to be processed.

I.7 Certification of Unintentional release of Motor Fuel & Cost Proposal- Owner Signature:

I certify that an unintentional release has occurred from a motor fuel underground or aboveground tank system at this site and I authorize this Cost Proposal amount for corrective action activities to be conducted at this site.	
1.Owner or Operator Signature:	
Typed or Printed Name and Title:	Brent Puzak, Director of Environmental Compliance
Date:	11/12/15

I.8 Cost Proposal- Contractor Signature:

2.Response Action Contractor Signature:	
Typed or Printed Name and Title:	Lee Rodgers, P.E. / District Manager
Date:	11/12/15

I.9 Trust Fund Obligation Information:

Estimated Total Cost of all Anticipated Response Actions (To be updated overtime):	$350,000.00
Total of previously approved cost proposals:	$188,975.00
Total proposed costs to date (Approved costs plus costs proposed in this cost proposal):	$228,194.09
Estimate Percent Completion of entire project to date:	65%

I.10 Cost Proposal Amount

Proposed Costs under this Cost Proposal:	$39,219.09	Personnel	$13,082.00
		Field Equipment	$1,070.00
Owners Required Contribution for UST Release($5,000): *Applicable for CP#1 Only*		Mileage	$96.60
		Per Diem	$0.00
		Drilling	$3,945.38
Owners Required Contribution for AST Release($10,000): *Applicable for CP#1 Only*		Analytical	$0.00
		Other	$21,024.72
Total of This Cost Proposal:	$39,219.09		

Part II- Alabama Tank Trust Fund Itemization Form "A" Cost Proposal

Complete forms "A" through "G" as applicable to site activities and for supporting attachments to Part I.

Summary of ATTF Report and Plan Preparation Scenarios

Scenarios	Unit $	Units	Quantity	Requested$
Initial Abatement Report (other than just MEME)				
1-2 days in field	$1,897	/job		
Adder amount for every field day over 2 days(not to exceed 14 days)	$322	/day		
Initial Abatement Free Product Recovery Report	$455	/job		
Preliminary Investigation Report	$4,664	/site		
Secondary Plan (on and offsite)(once per site)	$803	/site		
Secondary Report (up to 12 wells)	$5,376	/site		
Adder per Wells installed over 8	$143	/well		
Off-site access-Residential	$173	/site		
Off-site access - Commercial	$248	/property		
Off-site access - ALDOT	$1,411	/property		
Additional Well Installation Plan (investigation 1-4 wells)	$455	/plan		
Additional Well Installation Plan (investigation >4 wells)	$780	/plan		
Additional Well Installation Report (1-4 wells)(as an adder)	$1,110	/report		
Additional Well Installation Report (>4wells)(as an adder)	$1,352	/report		
GW Monitoring Plan	$478	/site		
NAMR/GWM-Report				
1-12 wells, BTEX/MTBE/Naphthalene	$1,127	/report		
1-12 wells, BTEX/MTBE+PAH	$1,353	/report		
NAMR/GWM adder >12 wells, BTEX/MTBE/Naphthalene	$36	/well		
NAMR/GWM adder >12 wells, BTEX/MTBE + PAH	$50	/well		
FPR Plan -All free product recovery	$752	/plan		
FPR Report -all free product reports (except MEME)	$933	/report		
FPR Report-MEME	$1,016	/report		
FPR-Report **adder amount to Groundwater Monitoring**	$720	/report		
ARBCA Report Tier I/RM 1				
1-12 wells, BTEX/MTBE/Naphthalene	$3,793	/evaluation		
1-12 wells, BTEX/MTBE+PAH	$4,019	/evaluation		
ARBCA Report Tier II/RM 2				
1-12 wells, BTEX/MTBE/Naphthalene	$3,793	/evaluation		
1-12 wells, BTEX/MTBE+PAH	$4,019	/evaluation		
Adder for >12 wells per well, BTEX/MTBE/Naphthalene	$36	/well		
Adder for >12 wells per well, BTEX/MTBE+PAH	$43	/well		
Adder for Tier II WITH DECAY	$2,172	/evaluation		
ARBCA Evaluation with Decay (stand alone evaluation)	$3,286	/evaluation		
CAP Development - CA evaluation (once per site)	$3,252	/site		
CAP Development - RNA	$1,507	/cap		
CAP Development - RNA with MEME	$1,606	/cap		
CAP Development - Excavation	$1,571	/cap		
CAP Development - Surfactant Injection	$4,441	/cap		
CAP Development (Class 1)- DPVE, P&T with SVE	$6,644	/cap		
CAP Development (Class 2) - Ozone/SVE, AS/SVE, liquid Chemox/Biox	$5,861	/cap		
CAP Development (Class 3) - Ozone, AS, SVE	$5,401	/cap		
CAP Modification (use Form "F" for input)	$0	/cap		

Part II- Alabama Tank Trust Fund Itemization Form "A" Cost Proposal

Complete forms "A" through "G" as applicable to site activities and for supporting attachments to Part I.

Summary of ATTF Report and Plan Preparation Scenarios

Scenarios	Unit $	Units	Quantity	Requested$
CAP Implementation Report - Excavation	$1,968	/report		
CAP Implementation Report - Injections	$2,509	/report	1	$2,509.00
CA System Installation Report (all Classes same)	$7,210	/report		
SEMR - DPVE, P&T Reports				
1-12 wells, BTEX/MTBE/Naphthalene	$4,704	/report		
1-12 wells, BTEX/MTBE+PAH	$4,930	/report		
SEMR - Ozone, AS, SVE, Chemox, Biosparge - Reports				
1-12 wells, BTEX/MTBE/Naphthalene	$4,174	/report		
1-12 wells, BTEX/MTBE+PAH	$4,400	/report		
SEMR adder >12 wells, BTEX/MTBE/Naph	$36	/well		
SEMR adder >12 wells, BTEX/MTBE+PAH	$43	/well		
IDW/Treatment Disposal Plan (stand alone)	$544	/plan		
IDW/Treatment Disposal Report (stand alone)	$873	/report		
DPVE Pilot Test Plan (not for Slug Test)	$1,017	/plan		
DPVE Pilot Test Report	$1,599	/report		
AS/SVE or Ozone Pilot Test Plan	$1,017	/plan		
AS/SVE or Ozone Pilot Test Report	$1,599	/report		
ISCO or Bio-Remediation Pilot Test Plan	$1,017	/plan		
ISCO or Bio-Remediation Pilot Test Report	$1,765	/report		
Specific Capacity Test Plan	$346	/plan		
Specific Capacity Test Report	$1,325	/report		
System Purchase Letter	$1,251	/ltr		
Monitoring Well Abandonment Plan	$421	/plan		
Monitoring Well Abandonment Report	$933	/report		
System Decommissioning Plan	$835	/plan		
System Decommissioning Report	$1,661	/report		
Alt Water Supply Plan	$653	/plan		
Alt Water Supply Report	$1,016	/report		
Public Water Line Replacement Plan	$950	/plan		
Public Water Line Replacement Report	$1,412	/report		
Adjacent Property Owner Information (additional effort)	$283	/document		
UIC Permit Application preparation	$1,151	/permit	1	$1,151.00
General NPDES application preparation	$736	/permit		
ADEM Solid Waste Profile preparation	$207	/profile		
Municipal Sewer Application Process (ADEM or Others)	$445	/profile		
Environmental Covenant preparation	$528	/covenant		
Other Plan/Report (use Form "F" for input)	$0		0	
Total Report and Plan Costs				**$3,660.00**

Part II- Alabama Tank Trust Fund Itemization Form "B" Cost Proposal

Summary of ATTF Field Scenarios

Scenarios	Unit $	Unit	Quantity	Requested$
Well Installation Oversight time				
Type II Porous Media Drilling				
Porous material 0-10 feet	$196	/well		
Porous material 0-30 feet	$309	/well	3	$927.00
Porous material 0-50 feet	$671	/well		
Porous material 0-70 feet	$867	/well		
Porous material 0-90 feet	$1,063	/well		
Porous material 0-110 feet	$1,259	/well		
Type II Bedrock Drilling				
Bedrock 0-20' Air Rotary Drilling	$309	/well		
Bedrock 0-40' Air Rotary Drilling	$422	/well		
Bedrock 0-60' Air Rotary Drilling	$618	/well		
Bedrock 0-80' Air Rotary Drilling	$814	/well		
Bedrock 0-20' Core Drilling	$392	/well		
Bedrock 0-40' Core Drilling	$671	/well		
Bedrock 0-60' Core Drilling	$784	/well		
Bedrock 0-80' Core Drilling	$980	/well		
Type III Well Porous (Depth of entire well)				
Type III Well 0-20' (entire well in porous material)	$351	/well		
Type III Well 0-40' (entire well in porous material)	$547	/well		
Type III Well 0-60' (entire well in porous material)	$743	/well		
Type III Well 0-80' (entire well in porous material)	$939	/well		
Type III Well 0-100' (entire well in porous material)	$1,135	/well		
Type III Well Bedrock (Depth of entire well)				
Type III Well 0-20' (bedrock encountered)	$392	/well		
Type III Well 0-40' (bedrock encountered)	$588	/well		
Type III Well 0-60' (bedrock encountered)	$784	/well		
Type III Well 0-80' (bedrock encountered)	$980	/well		
Type III Well 0-100' (bedrock encountered)	$1,176	/well		
Soil Boring (no well set)/Direct Push oversight				
Soil Boring porous material 0-10 feet	$125	/well		
Soil Boring porous material 0-30 feet	$208	/well		
Soil Boring porous material 0-50 feet	$291	/well		
Soil Boring porous material 0-70 feet	$457	/well		
Direct Push (Geologist Daily Charge or 8 probe points)	$830	/day		
Other Field Activities				
Well Re-development (initial development included in drilling oversight costs)	$90	/well		
Slug Tests	$286	/well		
Private/Public Water Well Inventory (up to 5 wells)	$332	/5wells		
Site Survey during Investigation (not Licensed)	$240	/site		
Metes and Bounds Survey (Licensed Surveyor)		/site		
Abandonment of RW vault	$83	/vault		
MW/RW Abandonment Oversight for Overdrilling	$249	/well		
MW/RW Abandonment Oversight for Grouting in Casing	$125	/well		
Monitoring Well Pad/Cover Repair/ Replacement	$120	/well		
Groundwater Sampling Set-up (2 hrs tech time)	$120	/job		
Gauging Well (no sampling)	$15	/well		
Groundwater Sampling and Gauging 2" Well	$60	/well		
Groundwater Sampling and Gauging 4" Well	$69	/well		

Part II- Alabama Tank Trust Fund Itemization Form "B" Cost Proposal

Summary of ATTF Field Scenarios

Scenarios	Unit $	Unit	Quantity	Requested$
Groundwater Sampling and Gauging 6" Well	$75	/well		
Sample Public Well	$120	/well		
Sample Private Well	$90	/well		
Sample Stream (up to 3 samples)	$90	/stream		
MEME Event/Pilot Test (hourly rate)	$60	/hr		
DPVE Pilot Test/Aquifer Test (hourly rate)	$143	/hr		
SVE/ AS/ Ozone Pilot Test	$747	/test		
Site Visit by PE/PG (CAP Development,etc)	$920	/site		
System Installation Oversight (up to 7 days in field)	$8,314	/system		
System Installation Oversight Adder (per day over 7 doc req.)	$830	/day		
System Startup	$1,584	/system		
DPVE, Pump and Treat O&M 3 months	$3,672	/quarter		
DPVE, Pump and Treat O&M 4 months	$4,632	/triannual		
Ozone, biosparge, SVE, biovent and Air Sparge O&M 3 months	$1,836	/quarter		
Ozone, biosparge, SVE, biovent and Air Sparge O&M 4 months	$2,316	/triannual		
Other Field Work not listed (use Form "F" for input)	$7,992		1	$7,992.00
Travel				
Mileage				
Mileage (One way office to site) mileage rate	$0.575	mileage	6	
Number of round trips to site			14	$96.60
Other Mileage (enter total mileage not including office to site)				
Personnel Travel Time (entered in Hours)				
Technician(s)-travel time	$60	/hr	7	$420.00
Geologist/Engineer-travel time	$83	/hr	1	$83.00
PG/PE-travel time	$115	/hr		
Project Manager-travel time	$99	/hr		
Per Diem				
Per diem (6-12hrs)	$11.25	/day		
Per diem (greater than 12hrs)	$30	/ext. day		
Per diem (overnight)(invoice required)	$75	/day		
Equipment and Equipment Kits				
55-Gallon Drums	$50	/drum		
Expendables (gloves, ice, string, jars, foil, distilled water, paper towels, etc.)	$50	/sow	1	$50.00
Expendables O&M	$25	/day		
Monitoring Well/Boring Installation	$60	/day	2	$120.00
Encore Samplers	$9	/sample		
Groundwater Monitoring	$100	/day		
Bailers	$7	/bailer		
MEME Event	$70	/sow		
Free Product Bailing	$60	/sow		
DPVE, SVE, AS, P&T O&M	$115	/day		
Ozone Sparge O&M	$75	/day	12	$900.00
DPVE Pilot Test	$70	/sow		
Pumping Test	$165	/sow		
Specific Capacity	$65	/sow		
Slug Test	$110	/sow		
Initial Abatement	$50	/day		
Postage / Shipping and Copying (plans reports, ADEM and owner)	$85	/sow	1	$85.00
Postage / Shipping (Sample Shipping)	$50	/samples		
Postage / Shipping (documentation required)				

Part II- Alabama Tank Trust Fund Itemization Form "B" Cost Proposal

Summary of ATTF Field Scenarios

Scenarios		Unit $	Unit	Quantity	Requested$
Analytical Samples					
	Method			Pass Through	Sample #
BTEX/MTBE/Naph (water)	8260	$65	/sample		
BTEX/MTBE/Naph (soil)	8260	$65	/sample		
PAH (water)	8270	$130	/sample		
PAH (soil)	8270	$130	/sample		
Lead (water)	7421	$25	/sample		
Lead (soil)	7421	$25	/sample		
TPH	418.1	$50	/sample		
PAH Water Supply	525.1	$275	/sample		
VOC Water Supply	8260	$65	/sample		
Dibromoethane1,2, EDB	8011	$65	/sample		
Dichloroethane1,2 EDC	8260	$65	/sample		
tert-Butyl alcohol	8015D	$65	/sample		
Ethanol	8015D	$65	/sample		
Oil & Grease		$50	/sample		
Air Samples (System Influent)		$100	/sample		
Dry Bulk Density		$20	/sample		
Grain Size Analysis		$40	/sample		
FOM		$40	/sample		
Specific Gravity		$20	/sample		
Moisture Content		$15	/sample		
Nitrate		$20	/sample		
Sulfate		$20	/sample		
Iron		$20	/sample		
Chloride			/sample		
Foaming Agents			/sample		
Total Organic Carbon			/sample		
Total Dissolved Solids			/sample		
Other			/sample		
Other			/sample		
Other			/sample		
		Total Field Costs			**$10,674.00**

Part II- Alabama Tank Trust Fund Itemization Form "C" Cost Proposal

Drilling

Scenarios	Unit $	Unit	Quantity	Requested$
Mileage (drilling device driven to the site) (up to 300 total miles) [1]	$2.30	/mile	275	
Number of Mobilizations (includes $200 mob/demob amount)			1	$832.50
Mileage (drilling device "hauled" to the site)(up to 300 total miles) [1] (direct push, skid steer, ATV, etc.)	$1.15	/mile		
Number of Mobilizations (includes $200 mob/demob amount)				
Well Completions				
Well Pad Completions for Monitoring Wells (2" and 4") [2]	$150.00	/well	3	$450.00
Well Pad Completions for Recovery/Extraction Wells (2'x2') [2]	$600.00	/well		
Well Screen Alternatives				
Alternate Screen for Recovery/Extraction Wells per/ft (Quotes Required) [4]				
Unconsolidated Media Drilling				
2" Monitoring Well (HSA) [3]	$43.00	/foot		
4" Monitoring Well (HSA) [3]	$45.00	/foot		
Type III Well (HSA) [5]	$70.00	/foot		
Soil Boring (HSA) per ft (includes tremie grout abandonment) [6]	$22.00	/foot		
Temporary Well (HSA) per ft (includes tremie grout abandonment) [6]	$28.00	/foot		
Bedrock Drilling				
Air Rotary Rock Drilling per ft (2") [3]	$55.00	/foot		
Air Rotary Rock Drilling per ft (4") [3]	$60.00	/foot		
Type III Well [5]	$70.00	/foot		
Rock Coring	$38.00	/foot		
Direct Push Technology				
Direct Push per day (includes all personnel time) [6]	$1,800.00	/day		
Direct Push well install materials per foot	$5.00	/ft		
Other Drilling Related Items				
MW/RW Abandonment by Overdrilling then tremie grouted [6]	$25.00	/foot	90	$2,250.00
MW/RW Tremie Grout Abandonment (remove well pad and casing to at least 3' and fill remainder) [6]	$10.00	/foot		
Recovery Well Vault removal and backfill w/concrete (2'x2')	$165.00	/vault		
Drums	$50.00	/drum		
Shelby Tubes	$50.00	/tube		
Per Diem (overnight) (man days)(hotel receipts required)	$75.00	/day	3	$225.00
Other (receipts required)				
Other (receipts required)				
Other (receipts required)				
Other (receipts required)				
Pass Through (if appropriate) Enter "5" or "10" as appropriate			5%	$187.88

1 Includes any and all support vehicles, trailers, equipment and personnel travel time
1 Mileage for any and all support vehicles, trailers and equipment
2 Includes labor, concrete, forms (if needed), bolt down covers, caps, vaults, and locks
3 Includes personnel, screen, risers, bentonite, sand, silt sleeves, decon, skid steer, air compressor, saw cutting, coring, safety equipment, plastic sheeting, water, etc.
4 If an alternative type screen is warranted instead of typical pvc slotted screen (i.e. continuous screen, stainless steel, etc.)
5 Includes personnel, outer and inner casing of entire well, screen, grout, decon, skid steer, air compressor, saw cutting, coring, safety equipment, plastic sheeting, water, etc.
6 Includes well pad removal and surface completion as per surrounding

Total Drilling Costs	**$3,945.38**

Part II- Alabama Tank Trust Fund Itemization Form "D" Cost Proposal

All Vendor quotes should be detailed, itemized and attached to Form "D"

Use "Quote Details" tab for guidance

Sub Contractors/ Vendors/ Utilities

		Pass Thru	Quoted Amount	Requested$
8hr MEME Event				
12hr MEME Event				
24hr MEME Event				
MEME Water Disposal Amount				
ADEM Solid Waste Profile (ADEM review fee)				
ALDOT Permit Fee				
Carbon Disposal per pound				
Carbon Recycling per pound				
Corrective Action System Decommissioning				
Corrective Action System Install				
Corrective Action System Purchase		5%	$1,793.54	$1,883.22
Corrective Action System Rental				
Oxidizer Rental				
Excavation				
Injection Events				
NPDES Permit Application (permit fee)				
Phone Costs (telemetry)				
Power Costs				
Propane Costs				
Rentals	mobile ozone unit @ $1,000/day		$12,000.00	$12,000.00
Rentals				
Rentals				
Rentals				
Roll off Dumpster (includes hauling/handling)				
Sewer Disposal Costs				
Solid Waste Soil Disposal (to include hauling/handling)		10%	$1,500.00	$1,650.00
UIC Permit Application (permit fee)		10%	$4,915.00	$5,406.50
UIC Permit Greenfield Fee (permit fee)				
Water Supply Liquid Ring Pump				
Water Treatment/Disposal (to include hauling/handling)				
Other Miscellaneous items/rentals (receipts required)				
Other Miscellaneous items/rentals (receipts required)				
Other Miscellaneous items/rentals (receipts required)				
	Total Subs / Vendors / Utilities			**$20,939.72**

Part II- Alabama Tank Trust Fund Itemization Form "E" Cost Proposal

Per diem allowed for Alabama Tank Trust Fund Contractor Personnel Only
Maximum allowable rates are referenced on the "Maximum Rates" Tab in this document.
This page should be submitted whenever per diem is being claimed.

Projected Date mm/dd/yy	Points of Travel From	To	Personnel Classification	Hour of Departure am/pm	Hour of Return am/pm	City of Overnight Stay	Amount Per diem claimed
Use this section to enter claims for daily per diems							
				Total number of daily per diems			0
Use this section to enter claims for extended daily per diems							
				Total number of ext. daily per diems			0
Use this section to enter claims for overnight per diems							
				Total number of overnight per diems			0

Part II- Alabama Tank Trust Fund Itemization Form "F" Cost Proposal

Use this form to list hours where a Unit Rate is not available, **NOT FOR ADDING HOURS TO UNITS**
Detailed description of activities must be entered where hours are claimed

Other Plan /Report NOT Listed

	Description of Activities			
Project Manager:		$99.00		
PE/PG:		$115.00		
Staff Geologist/ Engineer:		$83.00		
Staff Scientist:		$77.00		
Draftsman:		$60.00		
Clerical:		$49.00		
		Other Plan Report		$0.00

Other Field Tasks NOT Listed

	Description of Activities			
Project Manager:	Scheduling oversight of mobile ozone sparge events	$99.00	8	$792.00
PE/PG:		$115.00		
Staff Geologist/ Engineer:		$83.00		
Staff Scientist:		$77.00		
Technician:	Conduct 12 mobile ozone sparge events (includes 2 hours prep for each event)	$60.00	120	$7,200.00
		Other Field Task		$7,992.00

Part II- Alabama Tank Trust Fund Itemization Form "F" Cost Proposal

Use this form to list hours where a Unit Rate is not available, **NOT FOR ADDING HOURS TO UNITS**
Detailed description of activities must be entered where hours are claimed

CAP Modification

	Description of Activities		
Project Manager:		$99.00	
PE/PG:		$115.00	
Staff Geologist/ Engineer:		$83.00	
Staff Scientist:		$77.00	
Draftsman:		$60.00	
Clerical:		$49.00	
		CAP Modification	$0.00

Alabama Tank Trust Fund Form "G" Cost Proposal

Each quoted item should have the appropriate detail amount listed below

Mob/Demob		PVC	
		1"	
Trackhoe		2"	
Daily		4"	
Weekly		T's	
Backhoe		Couplings	
Daily		Elbows	
Weekly		45's	
Backfill (driver and transport)		Ferrel joint	
/ton		Traps	
/yard		Cleaner/glue	
/loaded mile			
Compaction		Roll off/ drums	
Disposal transport (includes driver)			
/ton		Other	
/yard		Other	
/loaded mile		Other	
Equipment Operator		Other	
/Hr		Other	
/week			
Laborer			
/Hr			
/week			
Water Disposal			
/gallon			
Soil/Solid Waste Disposal fee (Name Landfilll)			
/ton			
Sawcutting concrete			
base fee			
/ft			
Horizontal Trenching/Soil (ft)			
Horizontal Trenching/Concrete (ft)			
Crane			
/job			
Skid steer			
/daily			
Electrician			
/hr			
Fencing			
/ft			
/single gate			
/double gate			
Concrete			
/yd			
/bag			
Asphalt			
/yd			
/bag			
Fuel Surcharge			

Cost Proposal

Foxworth, MS 39483

Date	Proposal #
10/21/2015	5613

Name / Address
PPM CONSULTANTS, INC. 5555 BANKHEAD HIGHWAY BIRMINGHAM, AL 35210

Project Description
Environmental Services Pantry # 1556 6490 US Highway 90 SpanishFort, AL

Description	Unit	Estimated Qty	Cost	Total
Scope of Work: Install (3) 1" Sparge Points 30' each (materials supplied by PPM)				0.00
Mobilize/Demobilize	lump sum	1	200.00	200.00T
Mileage	per mile	275	2.30	632.50T
Drill, sample & install (3) 30' - Ozone Sparge Points	per ft.	90	25.00	2,250.00T
Well Completion 8" Flush Mount Covers	per each	3	150.00	450.00T
Per-diem	per day	1	225.00	225.00T

Customer Acceptance of Cost Propostal:

Subtotal	$3,757.50
Sales Tax (0.0%)	$0.00
Total	$3,757.50

Authorized Signature Date

Name/Title

*Payment terms nte (30) days upon project completion.
*1.5% interest will be charged monthly to all overdue invoices.

Walker-Hill Environmental, Inc.
Phone: (601)736-3500 - Fax: (601)736-6006
Email: eric@whenv.com

H2O Engineering Inc.
PURE WATER. CLEAN WORLD.®
189 Granada Drive | San Luis Obispo, CA | 93401

Estimate

Date	Estimate #
10/22/2015	7485-M

Name / Address	Ship To
PPM Consultants 5555 Bankhead Hwy Birmingham, AL 35210	PPM Consultants 5555 Bankhead Hwy Birmingham, AL 35210

P.O. No.	Terms	Rep	FOB	Project
	Net 30	KG	SLO	Pantry 1556

Item	Description	Qty	Rate	U/M	Total
IOP100-12-P	• Stainless Steel Body • 3/8” x 1-1/2” Outlets (16) • 50 mesh internal stainless screen • 1” x 8 T.P.I. F-480 Male Flush Thread w/ Viton® O-ring • 1/2” Female NPT Inlet	3	295.00	ea	885.00
RP100	Product, Riser Pipe, 1" ID x 10' Long, w/ Viton O-Ring, Single Length, ASTM F480-06b, TABLE A2.5 SQUARE FLUSH THREAD, 1" SCH80, 8 TPI, Price Per Stick	9	33.06	ea	297.54
WHC10	Product, Well Head Connection Fitting, 1" Slip	3	137.00	ea	411.00
OC-SHC	Fee, Shipping Charges	1	200.00		200.00

Subtotal	$1,793.54
Sales Tax (0.0%)	$0.00
Total	$1,793.54

MacLand
Disposal Center, Inc.

PO Box 2025, Escatawpa, MS 39552
11300 Hwy 63, Moss Point, MS
Phone: 228-475-9750 Fax: 228-475-9733

Bill Cooksey Technical Contact 251-406-3711
Nancy Morris Scale Operator 228-475-9750
Glenda Ely Account Payable 228-475-9750
Accounts Payable email: diposalm@bellsouth.net

Wendy Powell Sales Mgr 228-297-0483

Mac Land Price Quote for: PPM Spanish Fort
Circle K Store No. 2721556

Date: 10/23/2015

CUSTOMER BILLING INFORMATION:		**Profile #**	
Contact:	Steve Grammas	**PO#**	
Billing Address:	30704 Sgt. E.I. "Boots" Thomas Dr.		
	Spanish Fort, AL 36527		
Phone:	251-990-9000		
Email:			

Waste Name:	Drill Cuttings
Disposal Rate:	$25 per ton bulk
Transportation Rate:	$375 roll off delivery and transportation
Other:	

Customer Profile and updated account information must be submitted and approved prior to contract being prepared.
The Contract must be completed before any waste can be accepted.

To Confirm Receipt and Accept Pricing, please sign and date below.

Customer Signature _____ **Date:** _____

Prepared by: _____ Date: _____
MacLand Employee