TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
PETROLEUM STORAGE TANK PROGRAM
CAP WORKSHEETS

Date Prepared:

AIR SPARGING (AS)

Facility Name:	LPST ID No.:
Facility Address/City:	CAPM:
Facility County: -- Select One --	RCAS:
Facility ID No.:	P.E.:
TCEQ Region: -- Select One --	Prepared By:

Please refer to the appropriate section in the EPA CAP Manual for definitions, equations, and tables to assist you when completing these worksheets. When supplying the information requested below, please make certain that any calculations and methodology used to arrive at the value or conclusion you have entered is included in the CAP. This document must not be altered in any manner.

If non-aqueous phase liquid (NAPL) exists, AS should not be implemented independently.

SOIL CHARACTERISTICS

Hydraulic conductivity K (m/sec) obtained by:

☐	Feasibility Test	☐	Laboratory Analysis	☐	Other:
	Check one:	☐	$K > 10^{-6}$		(effective)
		☐	$10^{-6} \geq K \geq 10^{-7}$		(needs evaluation)
		☐	$K < 10^{-7}$		(not effective)

GROUNDWATER CHARACTERISTICS

Fe^{+2} concentration (mg/L) obtained by:

☐	Field Screening	☐	Laboratory Analysis	
	Check one:	☐	$Fe^{+2} < 10$	(effective)
		☐	$10 \leq Fe^{+2} \leq 20$	(needs evaluation)
		☐	$Fe^{+2} > 20$	(not effective)

CONSTITUENT CHARACTERISTICS

Do any of the target COCs present have a vapor pressure < 0.5 mm Hg?	☐ YES ☐ NO
Do any of the target COCs present have a boiling temperature > 250° – 300°C?	☐ YES ☐ NO
Do any of the target COCs present have a Henry's Law constant < 100 atm?	☐ YES ☐ NO

If the answer to any of the questions above is **yes**, air sparging is not likely to be effective.

FEASILBILITY TEST				
Will SVE or DPE system be used in conjunction with the air sparging system?	☐ YES ☐ NO			
If no, how will potential vapor migration be monitored and controlled?				
SVE or DPE feasibility test duration (hrs):	Air sparging test duration (hrs):			
SVE or DPE combined with air sparging feasibility test duration (hrs):				
If air sparging is an addition to the existing remediation system, sparging test duration (hrs):				
Sparging test well construction				
Diameter:	Total Depth:	Screen Interval:	Depth to Water:	Sparging Depth:
Observation well construction				
Diameter:	Total Depth:	Screen Interval:	Depth to Water:	
Number of monitoring points:	Distance from sparging point (ft):			
Sampling interval:	Sparging radius of influence (ft):			
Soil gas concentrations at SVE, DPE, or soil gas monitoring point* (mg/m^3)				
*Use this format for data entry: XXX mg/m^3 (MW-1), XXX mg/m^3 (MW-2), XXX mg/m^3 (MW-3), etc.				
Prior to test	**After test**			
Benzene:	Benzene:			
Ethylbenzene:	Ethylbenzene:			
Toluene:	Toluene:			
Xylenes:	Xylenes:			
TPH:	TPH:			
MTBE:	MTBE:			
O_2:	O_2:			
CO_2:	CO_2:			
Sparging airflow rate during test (scfm):	Sparging air pressure during test (psig):			
Groundwater concentrations within the test area* (mg/L)				
*Use this format for data entry: XXX mg/L (MW-1), XXX mg/L (MW-2), XXX mg/L (MW-3), etc.				
Prior to test	**After test**			
Benzene:	Benzene:			
Ethylbenzene:	Ethylbenzene:			
Toluene:	Toluene:			
Xylenes:	Xylenes:			
TPH:	TPH:			

FEASILBILITY TEST (cont.)	
MTBE:	MTBE:
D.O.:	D.O.:
CO_2:	CO_2:
Groundwater Recovery Rate from SVE (lbs/hr):	

REMEDIATION SYSTEM DESIGN				
Target concentrations:				
Orientation of the air sparging wells: ☐ Horizontal		☐ Vertical		
Vertical sparging well construction				
Diameter:	Total Depth:	Screen Interval:	Depth to Water:	Sparging Depth:
Horizontal sparging well construction				
Diameter:	Total Depth:	Screen Interval:	Depth to Water:	Sparging/ Screen Length:

Designed sparging pressure (psig):	Designed radius of influence (ft):
Area of the plume above target concentrations (ft^2):	Number of air sparging wells:
Designed sparging airflow rate (scfm):	Total design sparing flow rate (scfm):
Total recovery rate at startup (lbs/hr):	Estimated hydrocarbon mass at startup (lbs):
Estimated cleanup time (years):	Estimated total recovery rate in final year (lbs/hr):
Estimated final mass remaining (lbs):	
Are there site construction limitations, such as buildings, utilities, buried objects, or residences which must be included in the design process?	☐ YES ☐ NO
Which of following system(s) will be operated concurrently with air sparging?	
☐ Dual Phase Extraction System ☐ Groundwater Pump & Treat System ☐ Soil Vapor Extraction System ☐ Enhanced Aerobic Bioremediation System	
Is a telemetry unit included?	☐ YES ☐ NO
Permit requirements:	

OPERATION, MONITORING AND PERFORMANCE (OMP) PLAN				
Does OMP Plan include daily monitoring for the start-up phase (up to 7 days)?			☐ YES	☐ NO
What is the scheduled frequency of long term monitoring?	☐ Weekly	☐ Monthly	☐ Other:	
Which of the following will be included in the OMP Plan?				
☐ BTEX	☐ TPH	☐ D.O.	☐ Redox	☐ Other:

CLOSURE PLAN					
Does the closure plan include the following?					
☐	Confirmation of target concentrations	☐	Submission of site closure request	☐	Removal of equipment
☐	Plugging of wells	☐	Waste disposal	☐	Paving/resurfacing
☐	Deed Recordation	☐	Institutional Controls		