



**RECOMMENDED SOIL AND GROUNDWATER SAMPLING
FOR UNDERGROUND TANK INVESTIGATIONS**

1. The Stanislaus County CUPA field inspector shall direct the location and manner of sampling and analysis.
2. Soil samples shall be taken immediately beneath the removed portions of the tank or sump, a minimum of 2 feet into native soil.
3. No bucket samples will be allowed. Samples shall be obtained via hand-driven sleeve. Samples are to be collected using a clean, stainless steel or brass cylinder. After sample collection is complete, each end of the cylinder shall be covered with Teflon and then capped with a polyethylene lid, taped, and properly labeled.
4. Soil samples shall be required under dispensers and every 20 linear feet, (6.1 meters), and as directed by the inspector overseeing the closure. Where pipeline samples cannot be taken, (e.g. under structures), pipeline pressure testing or angle borings shall be required to ensure a leak has not occurred.
5. Water samples will be required where water is encountered in the excavation or soil boring. Samples shall be collected via a disposable bailer. The groundwater samples shall be transferred to clean volatile organic analysis (VOA) vials for analysis/transportation. The liquid shall be completely filled to the top of the vial in such a manner that no air bubbles are entrapped. NOTE: a groundwater sample may be required in situations where oxygenates are detected above detection limits.
6. All samples shall be immediately transported in a chest with blue ice to a State Certified laboratory for analysis.
7. Sampling to first water may be required for any soil sampling results that indicate a release has occurred.
8. The Stanislaus County CUPA inspector must be made aware of and approve any samples being composited and analyzed together.

Sampling for Routine Petroleum or Solvent Tank Removals/Closure in Place

Water in excavation/boring?	Tank Size	Minimum # of soil samples	Location of soil samples	Minimum # of water samples
No	<10,000 gal.	Two per tank	One at each end of the tank	None
No	>10,000 gal	Three or more per tank	Ends and middle or spaced along tank length	None
Yes	<10,000 gal.	Three per tank	From wall next to tank ends at soil/water interface	One
Yes	>10,000 gal	Four or more per tank	From wall next to tank ends at soil/water interface	One

Sampling for Sump Closures

Water in excavation/boring?	Tank Size	Minimum # of soil samples	Location of soil samples	Minimum # of water samples
No	<500 gal.	One per sump	One at the bottom of the sump	None
No	500-5,000 gal.	Two per sump	Ends or spaced along sump length	None
No	>5,000 gal.	Three or more per sump	Ends or spaced along sump length	None
Yes	<500 gal.	Two per sump	From wall next to sump at soil/water interface	One
Yes	500-5,000 gal.	Three per sump	From wall next to sump at soil/water interface	One
Yes	>5,000 gal.	Three or more per sump	From wall next to sump at soil/water interface	One

STANISLAUS COUNTY
RECOMMENDED MINIMUM VERIFICATION ANALYSIS
FOR UNDERGROUND TANK INVESTIGATIONS

Tank Investigation	Soil Analysis (SW-846 Method)		Water Analysis (Water/Waste Water Method)		
Gasoline (Leaded/Unleaded)	TPH-G	8260B or 8015M	TPH-G	8015M or 524.2/624 (8260B)	
	BTEX	8260B	BTEX	524.2/624 (8260B)	
	1,2 DCA	8260B	1,2 DCA	524.2/624 (8260B)	
	MTBE	8260B	MTBE	524.2/624 (8260B)	
	TAME	8260B	TAME	524.2/624 (8260B)	
	ETBE	8260B	ETBE	524.2/624 (8260B)	
	DIPE	8260B	DIPE	524.2/624 (8260B)	
	TBA	8260B	TBA	524.2/624 (8260B)	
	Organic Lead	AA	Organic Lead	AA	
Unknown Fuel	TPH-G	8260B or 8015M	TPH-G	8015M or 524.2/624 (8260B)	
	BTEX	8260B	BTEX	524.2/624 (8260B)	
	1,2 DCA	8260B	1,2 DCA	524.2/624 (8260B)	
	MTBE	8260B	MTBE	524.2/624 (8260B)	
	TAME	8260B	TAME	524.2/624 (8260B)	
	ETBE	8260B	ETBE	524.2/624 (8260B)	
	DIPE	8260B	DIPE	524.2/624 (8260B)	
	TBA	8260B	TBA	524.2/624 (8260B)	
	Organic Lead	AA	Organic Lead	AA	
Diesel, Jet Fuel Kerosene and, And Fuel/ Heating Oil	TPH-D	8260B or 8015M	TPH-D	8015M or 524.2/624 (8260B)	
	BTEX	8260B	BTEX	524.2/624 (8260B)	
	1,2 DCA	8260B	1,2 DCA	524.2/624 (8260B)	
	MTBE	8260B	MTBE	524.2/624 (8260B)	
	TAME	8260B	TAME	524.2/624 (8260B)	
	ETBE	8260B	ETBE	524.2/624 (8260B)	
	DIPE	8260B	DIPE	524.2/624 (8260B)	
	TBA	8260B	TBA	524.2/624 (8260B)	
Chlorinated Solvents	CL HC	8260B	CL HC	8015B or 524.2/624 (8260B)	
	BTEX	8260B or 8021	BTEX	524.2/624 (8260B) or 502.2/602 (8021)	
Non-chlorinated Solvents	TPH-D	8260B or 8015M	TPH-D	8015 or 524.2/624 (8260B)	
	BTEX	8260B or 8021	BTEX	524.2/624 (8260B) or 502.2/602 (8021)	
Waste, Used, or Unknown	TPH-G	8260B or 8015M	TPH-G	8015M or 524.2/624 (8260B)	
	TPH-D	8260B or 8015M	TPH-D	8015M or 524.2/624 (8260B)	
	BTEX	8260B	BTEX	524.2/624 (8260B)	
	1,2 DCA	8260B	1,2 DCA	524.2/624 (8260B)	
	MTBE	8260B	MTBE	524.2/624 (8260B)	
	TAME	8260B	TAME	524.2/624 (8260B)	
	ETBE	8260B	ETBE	524.2/624 (8260B)	
	DIPE	8260B	DIPE	524.2/624 (8260B)	
	TBA	8260B/8015B	TBA	524.2/624 (8260B)	
	O & G	9070	O & G	418.1	
	CL HC	8260B	CL HC	524.2/624 (8260B)	
	Metals (Cd, Cr, Pb, Ni, Zn,) by ICAP or AA for soil water				
	PCB*, PCP*, PNA, Creosote by EPA 8270 for soil and 524/625 (8270 for water				
* If found, analyze for dibenzofurans (PCBs) or dioxins(PCP)					