

Harris County

HCPHES

Public Health & Environmental Services

OIL MOP, LLC

Sampling Basics, and Sample Kits

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Sample Documentation

- **Label**
- **Custody sheet**
- **Sample map**
- **Photographs**
- **Custody seals**

Sample Container Labels Should Include

- **Name of subject**
- **Address of sample site**
- **Detailed description of exactly where sample taken (may number sample and detail location on sample map, or on custody sheet)**
- **Date sampled**
- **Time sampled**
- **Samplers signature**

HARRIS COUNTY POLLUTION CONTROL DIVISION

UNPERMITTED SAMPLE/CUSTODY LOG RECORD

DATE: _____

TIME: _____ AM/PM

SAMPLE

NAME: _____

SITE/ADDRESS: _____

SAMPLE LOCATION: _____

AMOUNT COLLECTED: _____ FLOW: _____

SAMPLE DESCRIPTION: _____

FIELD TESTS PERFORMED: _____

SAMPLED BY: _____

Briefly summarize the sampling episode including suspected contaminants and attach a copy of the complaint, ROTC, etc.: _____

Inform Lab Director of special samples: _____

ANALYSES REQUESTED

WET LAB

- | | | |
|---|----------------------------------|---|
| <input type="checkbox"/> Fecal Coliform/Fecal Streptococcus | <input type="checkbox"/> TR | <input type="checkbox"/> TOC/TIC |
| <input type="checkbox"/> BOD/CBOD | <input type="checkbox"/> TDS | <input type="checkbox"/> Metals (specify) _____ |
| <input type="checkbox"/> Ammonia Nitrogen | <input type="checkbox"/> TSS | <input type="checkbox"/> Fluoride |
| <input type="checkbox"/> pH | <input type="checkbox"/> Sulfide | <input type="checkbox"/> Detergent |
| <input type="checkbox"/> Chloride | <input type="checkbox"/> COD | <input type="checkbox"/> Conductivity |

INSTRUMENTATION

- | | | |
|---|---|-------------------------------|
| <input type="checkbox"/> FID Screen | <input type="checkbox"/> GC/MS Screen | <input type="checkbox"/> BTEX |
| <input type="checkbox"/> Profile Comparison | <input type="checkbox"/> Oil & Grease (soil Only) | <input type="checkbox"/> TPH |
| <input type="checkbox"/> Other Analysis (explain) | <input type="checkbox"/> Semi-Volatiles | <input type="checkbox"/> VOAW |

FIELD CUSTODY

This sample was placed behind a locked door in the Laboratory after-hours refrigerator: YES NO
BY: _____ DATE: _____ TIME: _____ AM/PM

LABORATORY CUSTODY

ACCEPTED BY: _____

DATE: _____ RUN NO.: _____ TIME: _____ AM/PM

Sly 1/7/02

Chain of Custody

In order to collect and submit information or evidence, you must follow procedures to ensure that the information or evidence is scientifically reliable and legally defensible. Following proper chain of custody procedures is a means to document this information. The chain of custody form details the history of the sample from the time it is collected to the time that the sample is received by the laboratory. This information is needed to prove that the sample is handled and transported in a manner that preserves its integrity. It is the responsibility of the sampler to initiate chain of custody procedures and documenting the sample source. The chain of custody form must have this information:

- The name of the sampler
- The signature of the sampler
- The date and time of collection
- The location of collection
- The sample collection container(s) and field information

A sample without the proper chain of custody documentation may not be acceptable to either the lab or the various agencies.

After samples are collected and sealed, the sampler must maintain custody of the samples until they are delivered to the laboratory or drop-off hub. Samples are considered under custody if:

- They are in actual physical possession, or
- In view, after being in physical possession, or
- In physical possession and locked up so that no one can tamper with it, or
- In a secured area, restricted to authorized personnel

Note: The chain of custody form and custody seal information should be entered legibly in ink. Corrections to errors should be made by one line marked through the error and the individual making the correction initialing and dating the correction. No erasures or white out.

Harris County
HCPHES
 Public Health & Environmental Services
 Pollution Control Division

PARTICULATE SAMPLE/CUSTODY LOG RECORD
SAMPLE

SUBJECT NAME: _____ DATE: _____

SUBJECT ADDRESS: _____

FIELD TESTS PERFORMED: _____

SUMMARY *(Describe the sampling episode including suspected contaminants and attach a copy of the complaint, ROTC, etc.):* _____

#	TIME	SAMPLE LOCATION	TYPE <i>(Bulk, Top, left, etc.)</i>

SAMPLED BY: _____

ANALYSES REQUESTED

VISUAL MICROSCOPIC OBSERVATION

DETAILED MICROSCOPIC COMPOSITION

CUSTODY

RECEIVED BY: _____

DATE/TIME: _____

RELINQUISHED BY: _____

DATE/TIME: _____

RECEIVED BY: _____

DATE/TIME: _____

ANALYTICAL RESULTS

#	ANALYTICAL DATA

ANALYST: _____

EXAMINATION DATE: _____



Chain of Custody Record

015476

Location: (Do not fill in this shaded area if the facility information must be confidential) Permit #:

Region: Organization #: PCA Code: Program: Sampler telephone number:

E-Mail ID: Sampler: (signature) Sampler: (please print clearly)

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
	-01										
	-02										
	-03										
	-04										
	-05										
	-06										
	-07										
	-08										
	-09										
	-10										

Relinquished by:	Date	Time	Received by:	For Laboratory Use			
Relinquished by:	Date	Time	Received by:	Received on ice:	Y	N	deg C
Relinquished by:	Date	Time	Received by:	Preservatives:	Y	N	
Relinquished by:	Date	Time	Received by:	COC Seal:	Y	N	
Shipper name:	Shipper Number:			Seals Intact:	Y	N	

P. 02
 Jul 11 2005 11:35
 Fax: 7137673651
 TCEO



Chain of Custody Record

015476

P. 02
 Jul 11 2005 11:35
 Fax: 7137673651
 TCEQ

Location: <small>(Do not fill in this shaded area if the facility information must be confidential)</small>										Permit #:		
Region:		Organization #:		PCA Code:		Program:		Sampler telephone number:				
E-Mail ID:			Sampler: (signature)				Sampler: (please print clearly)					
Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS	
	-01											
	-02											
	-03											
	-04											
	-05											
	-06											
	-07											
	-08											
	-09											
	-10											
Relinquished by:		Date	Time	Received by:				For Laboratory Use:				
Relinquished by:		Date	Time	Received by:				Received on ice: Y N deg C				
Relinquished by:		Date	Time	Received by:				Preservatives: Y N				
Relinquished by:		Date	Time	Received by:				COC Seal: Y N				
Shipper name:		Shipper Number:										
		Seals Intact: Y N										



Rev. 3/2/14/03

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
MONITORING OPERATIONS, LABORATORY AND MOBILE MONITORING
PO Box 13087, MC 165, Austin, TX 78711-3087

Request for Analysis

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Jul 11 2005 11:35

Fax: 7137673691

TCEQ

ACT Number		Project Name, Number, Leader			Sample Types			Enter Required Analysis Code			Analysis Codes		Description	
Potential Source(s)		City			County			TCEQ Region			AM01-014		H2S Methylene Blue	
Sampling Site Information (complaint, address, site #, etc.)		Collected By			Phone Number, Mailing Address, E-mail Address			RS - reference sample QC - quality control sample			AM01-002		Carbon by TO-11	
Field Sample ID or Sample Description		Date Sampled		Time Sampled		Sample Type					AM01-003		VOCs by TO-15	
											AM01-014		Pb by TO-15	
											AM01-004		Pb by TO-15	
											AM01-005		Pb by TO-15	
											AM01-006		Pb by TO-15	
											AM01-007		Pb by TO-15	
											AM01-008		Pb by TO-15	
											AM01-009		Pb by TO-15	
											AM01-010		Pb by TO-15	
											AM01-011		Pb by TO-15	
											AM01-012		Pb by TO-15	
											AM01-013		Pb by TO-15	
											AM01-014		Pb by TO-15	
											AM01-015		Pb by TO-15	
											AM01-016		Pb by TO-15	
											AM01-017		Pb by TO-15	
											AM01-018		Pb by TO-15	
											AM01-019		Pb by TO-15	
											AM01-020		Pb by TO-15	
Relinquished by (signature)		Date/Time			Received by			Date/Time						
Relinquished by (signature)		Date/Time			Received by			Date/Time						
Relinquished by (signature)		Date/Time			Received by			Date/Time						
Relinquished by (signature)		Date/Time			Received by			Date/Time						

Oil Mop, LLC

Environmental and Emergency Response Services
 450 Preston Ave.; Pasadena, TX 77503
 Phone: (713) 534-7300, Fax: (713) 534-7304
 e-mail: tstamper@oilmop.com

CHAIN OF CUSTODY RECORD ENVIRONMENTAL ANALYTICAL SERVICES REQUEST

CLIENT: ATTN:			Address:					Phone: Fax:								
BILLING CONTACT/ADDRESS: (if different from above)			P. O. #:		PROJECT NO:		PROJECT:			SITE/LOCATION:						
SAMPLE(S) COLLECTED BY: _____			Expected Turnaround Time 2-4 hr Rush _____ 1-2 days _____ 5-7 days _____ 24 hr Rush _____ 3-5 days _____ 7-14 days _____					REQUESTED ANALYSES								
SAMPLE #	SAMPLE IDENTIFICATION	COLLECTION		Sample Matrix Codes: Drinking Water DW Groundwater GW Liquid Waste LW Oil(s) O Paint Chips PC Sand Sn Sludge SI Soil/Solid S Solid Waste SW Trip Blank TB Water W Wipes WP Wastewater WW	Composite/ Grab	Preservative	Sample Containers									
		Date	Time				No.	Size (oz.)	Type (Glass/Plastic)							
Special Remarks: Samples must be preserved on ice after sample collection and transported in ice chest.																
Relinquished By:			Date/Time:				Received By:				Date/Time:					
Relinquished By:			Date/Time:				Received By:				Date/Time:					

Organic, Metal, Wet Chemical, Biological and
 PetroChemical Analysis for Multi Media
 Environmental and Industrial Hygiene Samples

Facilities are also available at:
 1600 Inter-Coastal Drive; Port Arthur, TX 77642 (409)962-7226 FAX (409)962-7260 e-mail: jhollis@oilmop.com

**Common Investigations:
Guidelines for Field Tests and Laboratory Analysis**

Investigation	Common Contaminants	Field Tests	Lab Tests
Junk Yard	Lubricants; Fuels: Gas & Diesel; Heavy Metals: lead, cadmium, etc.; Battery acids; Wear Metals	pH; FID/PID Screen	TPH; Metals; Volatiles; Semi-Volatiles; pH;
Lubricant/Diesel Spill	Lubricants: Transmission fluid, Motor oil, Cutting oil	None	TPH; Flashpoint; Metals
Gasoline Spill	Gasoline	FID/PID Screen	Volatiles; Flashpoint; TPH
Paint/Waste Solvent	Paint, Carbon Tetrachloride, Acetone, other solvents	FID/PID Screen	Volatiles; Flashpoint; TPH; Metals
Engine/Metal parts Cleaning: Solvent-based	Carbon Tetrachloride, Varsol, other solvents	Liquid/Solid discharge FID/PID Screen Air Emission: FID/PID Screen	Volatiles; Flashpoint; TPH; Metals
Engine/Metal parts Cleaning; Non- solvent based	Caustic soda, caustic soaps	pH	Metals; detergent; TPH; lab pH
Abrasive Cleaning	Paint flakes; Metals; Dust	Liquid/Solid discharge: None Air Emissions: Tape Lift; Dust Kit	Liquid/Solid discharge: Metals Air: Microscopic analysis
Metal Plating/Pickling	Acids and Acid Mixtures, Acidic Rinsewater; Metals including chromium	pH	Lab pH; Metals; TSS
Auto Repair Facilities	Solvent & Non-solvent Degreasers; Lubricating Fluids; Battery Acids; Engine Coolant; Oils; Fuels; Metals; Detergents	pH, FID/PID Screen	pH; Volatiles; Semivolatiles; Flashpoint; TPH; Metals.

Painting Facility	Solvents; Paint	Liquid/Solid discharge: FID/PID Screen Air Emission: FID/PID Screen, tape lift, standard	Liquid/Solid discharge: Volatiles; Flashpoint; TPH Air: Microscopic analysis
Concrete Plant	Fly-ash, Lime Concrete Dust	Liquid/Solid discharge: pH Air Emission: Tape lift, bulk, standard	Liquid/Solid: pH; TSS; TR; TDS Air: Microscopic Analysis
Thermoset Resin Facility	Lime (marble dust); Solvents; Organic Peroxides(activator); Resins	Liquid/Solid discharge: pH; FID/PID Screen Air Emission: FID/PID Screen, Tape lift, bulk, standard	Liquid/Solid discharge: pH; TSS; Volatiles; Flashpoint; TPH Air: Microscopic analysis
Printing Press/ Film Developing/X-Ray lab	Silver; Caustics; developing reagents	pH; FID/PID Screen	pH; Metals (Silver); Volatiles
Car Wash	Detergents; solids; oils; greases	pH, CL2 residual	pH; Detergent; TSS; BOD/COD; TR; TPH
Septic tank/Manhole/Piping discharge	Sewage or Greywater	pH; Cl2	pH; BOD; TSS; Fecal; Detergent
Gun Range	Lead, copper, other metals	None	Metals
Food Preparation Facility	Grease; Sewage; Greywater	pH; Cl2	pH; BOD; TSS; Fecal; Oil and Grease; Detergent
Concentrated Animal Feeding Lot	Animal feces	pH; Cl2	pH; BOD; TSS; Fecal; Detergent

Hydrostatic Test Discharge	Determine last known contents of tank; Obtain MSDS	Based on contaminant determination	Based on contaminant determination
Truck Tank Cleaning	Determine last known contents of tank; Obtain MSDS	Individual discharge: based on contaminant determination; Facility Discharge: pH, FID/PID Screen	Individual discharge: based on contaminant determination; Facility Discharge: pH, COD, TSS, Volatiles, Semi-volatiles, detergent, metals, ammonia, TPH
Trenchburner	Soot; Ash	Air Emission: Tapelift; Bulk	Air: Microscopic analysis
Abandoned Drum/Container	Determine contents if possible via investigation; Consult with Lab Director.	FID/PID Screen	To be determined
Fish Kill	Determine cause via investigation; Consult w/ Lab Director; Often caused by sewage, drought, or temperature problems, may also be illegal discharge of some sort	DO; pH; Cl ₂ ; Temperature; PID/FID Screen	To be determined

**The above chart is a guideline only. The investigator should conduct a thorough investigation and collect samples based on the information obtained during the course of the investigation. This may mean more analysis is required than what is presented above, it may also mean that less is required. If questions arise, contact the Laboratory Director.

**Analytical Capabilities – Field Investigative Samples
Aqueous Samples**

Test Method	Description	Container *	Comment
TOC	Total Organic Carbon	40 ml glass vial (ice) **	Measure of the total organic content of waters. Common industrial permit parameter.
BOD	Biochemical Oxygen Demand	1 quart plastic (ice)	Standardized test to determine oxygen requirements of wastewaters, effluents, and polluted waters. Biodegradation indicator. Domestic wastewater permit parameter.
COD	Chemical Oxygen Demand	1 quart plastic (ice)	Measure of the oxygen demand by strong chemical oxidizer. Good indicator of organic content. Common industrial permit parameter
TR	Total Residue	1 quart plastic (ice)	Indicates mineral and salt content.
TSS	Total Suspended Solids	1 quart plastic (ice)	Measure of suspended matter. Permit parameter on most wastewater effluents.
TDS	Total Dissolved Solids	1 quart plastic (ice)	Indicates dissolved mineral and salt content. High dissolved solids unsuitable for drinking.
CL2	Residual Chlorine	Field test	
PH	pH – screen only	Field test – pH strip	Must be verified in lab. Collect additional sample for lab confirmation.
Fecal Coliform Fecal Streptococcus	Bacteria	100 ml (sterile plastic)	Indicates possible sewage contamination
NH3	Ammonia Nitrogen	1 quart plastic (ice)	Natural breakdown product of organic nitrogen, urea. Contributes to oxygen demand in water. Permit parameter on most domestic wastewater effluents.
Metals	Various heavy metals – cadmium, chromium, lead, etc.	1 quart plastic (ice)	Metal concentration may be indicative of certain industrial processes. Toxic in high concentrations. Texas has maximum allowable concentration limits for certain hazardous metals discharged into inland and tidal waters. 30 TAC 319.26
Total Phosphate (PO4)	Form of phosphorus-	1 quart plastic (ice)	Nutrient; used in boiler waters, fertilizer

Test Method	Description	Container	Comment
Nitrate/Nitrite	Oxidized forms of nitrogen	1 quart plastic (ice)	Nutrient; used in fertilizer. High levels cause illness in infants.
Oil and Grease	Oil and Grease content	1 Liter glass w/ Teflon lid (ice) **	Indicative of petroleum products, fat/oils from food related operations (i.e. restaurants)
TPH	Total Petroleum Hydrocarbons	2-40 ml glass vials (ice) **	Determination of hydrocarbon source (gasoline, diesel, mineral spirits, varsol, paint thinner, motor oil, Etc.)
Volatile Organics	Organics compounds classified as volatile – primarily solvents such as benzene, toluene, acetone; chlorinated degreasing solvents such as trichloroethylene, carbon tetrachloride, etc.	2-40 ml glass vials (ice) **	GC or GC/MS analysis. GC/MS is capable of identifying over 100,000 compounds. Useful in determining source of contamination. Common industrial wastewater permit parameter.
Semivolatile Organics	Organic compounds with a higher boiling point than volatile organics. Examples include phenolics (wood preserving), pesticides, polynuclear aromatic hydrocarbons (petroleum, combustion), phthalates (plasticizers).	1 Liter glass w/ teflon lid (ice) **	GC or GC/MS analysis. GC/MS is capable of identifying over 100,000 compounds. Useful in determining source of contamination. Common industrial wastewater permit parameter.

* Some parameters can be combined into one container provided there is sufficient sample volume.

** Individual containers(s) must be collected for this parameter. May not be combined with other parameters.

PPE strongly suggested: gloves, safety glasses

Deliver to lab ASAP. Add ice to cooler where noted.

**Analytical Capabilities – Field Investigative Samples
Soil/Solid Waste/Oil/Multiphase Samples**

Test Method	Description	Container	Comment
Flash Point	Hazardous Waste definition of "Ignitability" – easily flammable	8 oz. glass jar (ice)	Applicable to petroleum products and other flammable liquids and associated contaminated soil.
TPH	Total Petroleum Hydrocarbons	4-8 oz. glass jar – soil (ice) 40 ml glass vial – oil/liquid product (ice)	Determination of hydrocarbon source (gasoline, diesel, mineral spirits, varsol, paint thinner, motor oil, etc.)
Metals	Various heavy metals – cadmium, chromium, lead, etc.	4-8 oz glass jar – soil only (ice)	Metal concentration may be indicative of certain industrial processes. High levels may be classified as hazardous.
Volatile Organics	Organic compounds classified as volatile – primarily solvents such as benzene, toluene, acetone; chlorinated degreasing solvents such as trichloroethylene, carbon tetrachloride, etc.	Soil: 4-8 oz glass jar (ice) Oil/liquid: 40 ml glass vial (ice)	GC/MS analysis. GC/MS is capable of identifying over 100,000 compounds. Useful in determining source of contamination.
Semivolatile Organics	Organic compounds with a higher boiling point than volatile organics. Examples include phenolics (wood preserving), pesticides, polynuclear aromatic hydrocarbons (petroleum, combustion), phthalates (plasticizers).	Soil: 4-8 oz glass jar (ice) Oil/liquid: 40 ml glass vial (ice)	GC/MS analysis. GC/MS is capable of identifying over 100,000 compounds. Useful in determining source of contamination.
pH	Indicates corrosivity potential – highly acidic or alkaline	Soil: 4-8 oz glass jar (ice)	Applicable only to soil
Fecal coliform Fecal streptococcus	Qualitative test for bacteria	100 ml sterile bottle (ice)	Indicates possible sewage contamination.

PPE strongly suggested: gloves, Tyvex disposable boot covers, safety glasses
Deliver to lab ASAP. Add ice to cooler.

Environmental Sampling Kit

Safety

safety glasses
gloves (inner)
gloves (outer)
disposable boot covers

Sampling

pH paper
ice chest/ice
metal garden scoop
Dust Kit:
 glass slides
 blade
 metal spatula
 clear tape
 small zip lock baggies

sample bucket/rope

bottles:

2x1-Qt. plastic
2x1-L. glass with Teflon cap
2x 8-oz. wide mouth glass
2x 4-oz. wide mouth glass
4x 40-ml. glass vials
2x 100-ml. sterilized plastic container (fecal coliform)

Decontamination

wash water
paper towels
plastic garbage bags
sanitary gel for hands

Documentation

Sample/custody form
Dust kit custody form
black Sharpie pen
black indelible ink pen
labels

Misc.

binoculars
flashlight
measuring tape
camera/film



- **Interim Director: Bob Allen**
- **Technical Manager: Steve Hupp**
- **Laboratory Director: Chris Barry**
- **Enforcement Coordinator: Jennifer Wheeler**
- **Air permit questions-Paul Newman**
- **Water permit questions-Latrice Babin**
- **Solid waste questions-George Kennard**
- **Storm water questions-James Walls**
- **www.harriscountyhealth.com**
- **713-920-2831**