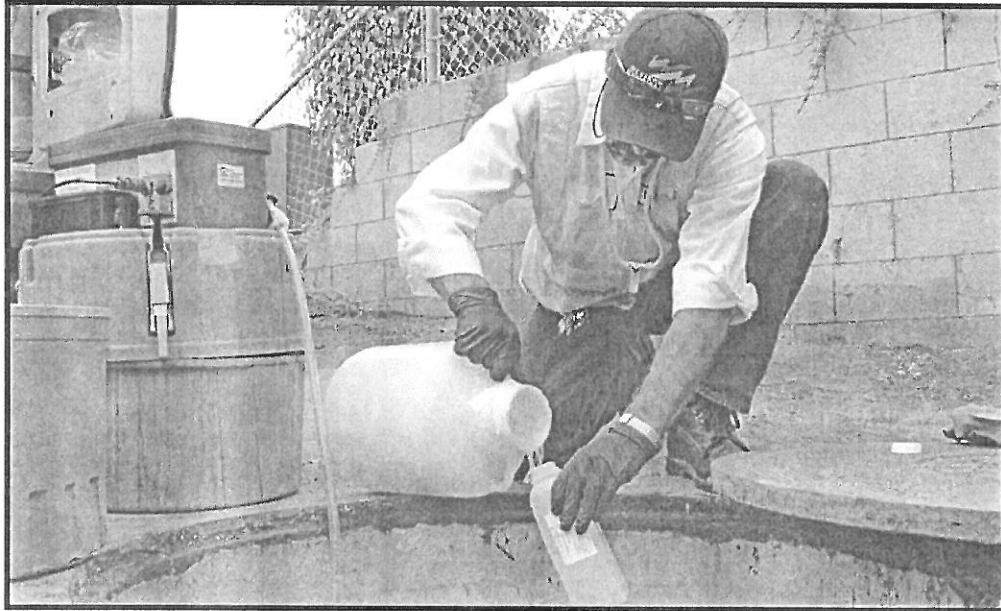




# Western Municipal Water District Standard Operating Procedures



## Sampling Procedures

APPROVED:

\_\_\_\_\_  
Wastewater Operations Manager

\_\_\_\_\_  
Date

Annual Reviewer				
Review Date	8/2010	8/2011	8/2012	8/2013

## TABLE OF CONTENTS

A. Purpose .....	3
B. General Information.....	3
C. Quality Assurance/Quality Control Procedures.....	4
D. Sample Collection Procedure.....	6
E. Chain of Custody Procedure.....	9
F. Sampler Inspection and Cleaning Procedure.....	11
G. Safety.....	12
H. SSO Sampling Procedures .....	13
Auto Sampler Cleaning Check Sheet .....	Appendix A
Chain of Custody Forms .....	Appendix B

## A. Purpose

This program establishes a uniform set of procedures used to verify the integrity of Sample collection, cleaning, chain of custody usage and quality assurance/quality control to insure that the best representative sample has been gathered.

## B. General Information

### *Quality Assurance and Quality Control*

Typical samples only represent a fraction of the total flow that is being sampled. With this in mind, correct procedures must be followed to insure that the sample has been well represented. A good sampling program starts with Quality Assurance and Quality Control (QA/QC) to insure that all mistakes or possible problems have been eliminated. Proper sample collection begins with the cleaning and maintenance of the sample equipment. The QA/QC program requires that Western Municipal Water District (WMWD) collect quarterly QA/QC Lab Blank Samples. These Samples are analyzed to measure the effectiveness of current sampling equipment cleaning procedures. Additional aspects of this procedure are discussed in the following paragraphs of this section.

### *Sample Collection*

The actual method for gathering samples can be broken up into three parts; location, collection and safety. Care must be given that the sample has been taken in the best possible site to insure an accurate representation of the flow as a whole.

### *Chain of Custody*

The Chain of custody is a legal record of each person who has had possession of a sample from collection through its final analysis in the laboratory. The chain of custody record is included with the bottom portion of all sample analysis forms.

### *Sampler Cleaning*

This program establishes a uniform set of procedures for the cleaning of sampler equipment used by Western Municipal Water District (WMWD). The proper maintenance and cleaning of the sampling equipment is an important part of WMWD's monitoring program.

## C. Quality Assurance/Quality Control Procedures (QA/QC)

### *QA/QC Sample Collection*

QA/QC sampling will be done 4 times per year and analyzed for the following constituents that are typically analyzed during routine sampling. The constituents are:

- BOD
  - TDS
  - TSS
  - VSS
  - Total Hardness
  - Metals (at least once per year)
1. A Sampler is selected at random from the supply of clean Samplers available.
  2. The Sampler is programmed to collect a 24-hour Sample of distilled water from a clean acid washed plastic bottle.
  3. The distilled water collected in the Sample bottles is transferred into randomly selected laboratory glassware for Sample analysis. The collected sample is labeled as a QA/QC sample and preserved following Standard Methods protocol.
  4. A Sample analysis form is completed for the QA/QC Sample and submitted with the Sample to the lab performing the analysis. The Sample analysis form must include the following information:
    - The Sample analysis form must state that the Sample is a QA/QC Sample.
    - The date and time the Sample was collected.
    - The number of the Sample equipment used.
    - The name of the person collecting the Sample.
    - The constituents to be analyzed. The constituents analyzed must include all constituents listed on the Sample analysis form.
  5. A second Sample of distilled water is collected and analyzed to compare the test results of the QA/QC Sample. This Sample is collected from a repository containing distilled water. The Sample is collected directly into randomly selected laboratory glassware. The Sample is labeled Lab Blank and analyzed for the same constituents as the QA/QC Sample.

### *Results of QA/QC Samples*

The QA/QC Sample and the Lab Blank Sample analysis are reviewed to determine if the results are the same. The results of the QA/QC Sample and the Lab Blank must both be at a Non Detect (ND) level to be considered an acceptable QA/QC result. If the Sample analysis of the QA/QC Sample and Lab Blank reveal any discrepancies, a review of the possible contamination sources is conducted to determine the cause of the contamination.

### *Sources of Contamination*

Discrepancies between the QA/QC Sample and the Lab Blank Sample results can be attributed to one or more of the following:

1. Improperly cleaned Sample bottles.
2. Improperly cleaned laboratory glassware.
3. Contaminated Sampler or Sampler tubing.
4. Contaminated distilled water holding container.
5. Laboratory analysis error.
6. Improperly stored equipment. (Clean surface left exposed.)
7. Established cleaning procedures not followed by WMWD personnel.

*Correction of Contamination*

1. If the Sample analysis reveals any result other than ND in the QA/QC Sample or the Lab Blank, Lab Blank will be collected and a second QA/QC Sample and/ or analyzed. The Sampler and laboratory glassware will be selected at random from the available supply of clean equipment. These same procedures will be followed if the Sample results of the second or possibly third QA/QC Sample reveal any result other than ND. These tests and /or Lab Blank may reveal that this was just an isolated incident.

<b>CONTAMINATION</b>	<b>CORRECTION</b>
First QA/QC sample	Review training of personnel responsible for cleaning and maintaining sample equipment.
First Lab Blank	Lab to review cleaning procedures for glassware and plastic containers. Lab to review testing procedures.
Second and or third QA/QC sample	Review training of personnel responsible for QA/QC sample cleaning and maintaining equipment. Review sampling equipment-cleaning SOP for inadequate cleaning procedures.
Second and /or Third Lab Blank	Lab to review cleaning procedures for glassware and plastic containers. Lab to review testing procedures. Lab to review SOP for inadequate cleaning procedures. Lab Supervisor to review training of personnel responsible for cleaning glassware and plastic containers and lab testing procedures and report findings to the supervisor.

2. A complete review of WMWD cleaning procedures for each piece of equipment must be completed to determine the source of the contamination. All cleaning procedures are to be reviewed by the

Supervisor.

### Record keeping

It is imperative that information pertaining to the cleaning Sample equipment be documented in the QA/QC Forms portion under Data Entry Forms in the Pretreatment Database. All information generated from the QA/QC Program is stored in the WMWD QA/QC File and Pretreatment Database for future reference. This includes the documentation of all cleaning and maintenance repairs of the sampling equipment, as well as copies of all quarterly QA/QC Sample and Lab Blank Sample analysis forms and results.

1. The following information is required to be entered:

- The time and date the equipment was cleaned.
- The name of the person who cleaned the equipment.

### D. Sample Collection Procedure

#### Sample Location

The following points must be considered when determining a sample location. It is also a good practice to select sampling days as random as possible to obtain a good representative sample.

- Be located downstream of all process wastewater and pretreatment equipment; and prior to any mixing of wastewater not associated with the processes intended to be sampled; in order to prevent any contamination or dilution of the sample. Care must be exercised when there are multiple waste streams converging at one sample location. A sand bag or other type of flow diverter can be used to pool the wastewater from the desired waste stream.
- Have adequate flow volume and sufficient depth to guarantee the diffuser/strainer will remain properly submerged to ensure a representative sample is collected.
- Be easily accessible and free of any safety hazards, which may interfere with the proper collection of the sample.
- Have been determined prior to the sampling event. This can include a review of the permit issued to the facility or an inspection of the sampling location before the sampling is to occur. The sample location does not need to be reviewed if the inspector is already familiar with the appropriate sample location.

Inspector should review permitted sample location annually.

#### Sampler Programming

For Permitted Discharges the Sample location is stated in the permit. Sampling can only be taken from the permitted location.

Suggest moving to after description of "sample collection"

WMWD currently uses three types of samplers; 3700, 3710 and 6712 model composite samplers. Step by step instructions for programming are as follows.

- 3700 & 3710 models are programmed the same way. Push on /off button, then push enters to get to "program, configure", push arrow button that points to the right. "Configure" will begin flashing. Now repeatedly pushes enter until "suction line length" displays, input tubing length and push enter. Push exit program button to display "standby", push enter and "program, configure" will display with "program" flashing, push enter. Continue to push enter checking for the following; sample every 15 minutes, 96 composite samples and sample volume 40ml. When "enter start time" appears with "yes" flashing push enter, input a time 4-5 minutes ahead of actual time (this gives you time to place sampler into a manhole) and push enter until "standby" displays. Push start sampling button, display will show "1 of 96 at "the time you entered to start. You can now put cover on sampler and place the sampler into manhole. Watch to verify sampler starts sampling.
- To program 6712, turn power on with white button that has a circle with a vertical line in the circle. Push enter (yellow button with arrow pointing to the left) "program" will display and will be flashing, push enter until the display reads "suction line length" input length of tubing and push enter until "sample volume" appears and input 40ml push enter "no delay to start" will be flashing, push enter, "programming complete run this program now?" will display with yes flashing, push enter. Sampler will start sampling.

Any set-up procedures?

For detailed instructions on all samplers, consult each samplers operation and maintenance manual supplied by the vendor, Teledyne Iso.

location of manuals?

### Sample Collection

— is there a contact procedure, call who, when

1. Prior to any sample collection the direct connection contact must be given the opportunity to witness all sample collection activities. The sample analysis form must document if the direct connection contact was present during the sample collection. If the direct connection contact was not present, indicate reason on sample analysis form. — see chain of custody proc. — list of equipment
2. When feasible, all necessary sampling equipment should be prepared in advance of the actual sample collection activities. This includes but is not limited to sample bottle preparation and labeling as well as all necessary paperwork. The inspection of the vehicle should be performed periodically

to verify all necessary sample collection and field-testing equipment is available.

3. The composite sampler is normally configured to collect a 24-hour representative sample with the following configuration.
- Composite Sample-Single Bottle The sample is collected within a single composite jug, which is placed within the sampler. All discrete samples are collected within the composite jug. The jug is removed from the sampler and slightly shaken. A small amount of the sample is then poured into a clean cup. This sample is then field tested for pH and temperature. The measurements are required to be recorded on the sample analysis sheet.

size of single bottle

is the jug poured into to smaller bottles?

4. The most common composite samples collected by WMWD are for BOD, TDS, TSS, VSS, F, Na, CL, B, TH, SI and metals. The following bottle types must be used to collect the required composite samples.

- BOD, TDS, TSS, VSS, F, Na, and CL: 1 liter plastic container unpreserved
- B, TH and SI: 500ml plastic container with HNO<sub>3</sub>
- All Metals: 500ml plastic container with HNO<sub>3</sub>

procedure, possible source of contamination

5. All grab samples must be collected directly into the required sample bottles. The only devices which may be used for collecting grab samples include a hand held pump or the automatic sampler. An intermediate container or collection device cannot be used to collect any grab samples. Any additional contact of the wastewater by other containers or devices may cause additional contamination and render the sample inadmissible in any court proceedings. The most common grab samples collected by WMWD include pH, Oil/Grease, Cyanide Total & Amenable, Total Sulfide, Dissolved Sulfide, Volatile Organics, Pesticides and PCB's.

6. The following bottle types must be used to collect the required grab samples.

- pH: 1 liter plastic container
- Oil Grease: 500 mL amber glass jar with H<sub>2</sub>SO<sub>4</sub>
- Cyanide Total & Amenable: 500mL plastic container with NaOH
- Total Sulfide: 1 liter plastic container with Zn Ace & NaOH
- Dissolved Sulfide: 1 liter plastic container with no air
- Volatile Organics: 2, 40ml vials with HCL and no air
- Pesticides 625: 1 liter amber bottle
- Pesticides 608/PCB's: 1 liter amber bottle

7. The sample bottles are tightly closed and sealed. Under certain circumstances, such as when a discharger is under a compliance order or during enforcement actions, evidence tape or non-tamper proof bags can



be used. When used, these seals must be signed and dated, in the presence of the direct connection contact and by the WMWD inspector collecting the sample. The evidence tape/tamper proof bag will either deter or reveal any tampering of the sample while in transit from the point of sample collection to the laboratory performing the analysis.

8. The sealed samples must be placed into a cooler, which has been appropriately refrigerated (i.e., ice, frozen cool pack, etc.) for proper preservation of the samples during transit to the laboratory, which is performing the analysis.

## E. Chain of Custody Procedure

### *Documentation of Samples*

All required information on the chain of custody record must be completed in full and written in ink.

The information required on the chain of custody record includes: (reference example)

- Signature of person releasing the sample.
- The volume of sample released received.
- The time the sample is released received.
- The date the sample is released received.
- Signature of person receiving the sample.

### *Collection and Transfer of Samples*

The following chain of custody procedures must be completed for the collection and transfer of samples collected.

- All samples are required to be collected with clean sampling equipment. (See SOP on Sampling Equipment Cleaning)
- The samples are composited into clean sample bottles supplied by WMWD or a contracted laboratory.
- The sample bottles are tightly closed and sealed. If evidence tape is used, evidence tape is placed over the top of each sample bottle cap extending onto the sample bottle. When used, these seals must be signed and dated, in the presence of the direct connection contact and by the WMWD inspector collecting the sample. If a tamper proof bag is used, the sample will be placed into the bag and sealed. The evidence tape/tamper proof bag will help prevent any possible tampering of the sample while in transit from the point of origin to the laboratory performing the analysis.
- The direct connection contact, if applicable, is responsible for witnessing the sample collection and the chain of custody seals being attached to each sample bottle.

- The direct connection contact, if applicable, is required to sign the chain of custody record to release the sample to the WMWD inspector. Any samples, which are released without a chain of custody, must be properly documented, i.e. direct connection contact not on site, direct connection contact refuses to sign chain of custody, etc. A memo to file must accompany any samples that are collected from direct connections and released with a chain of custody report.
- Any samples which are collected without a facility contact present must be properly documented, i.e., direct connection contact elects not to view sample collection events, direct connection contact not on site, direct connection contact refuses to sign the chain of custody, etc. A memo to file must accompany any samples released without a properly completed chain of custody report.
- **During an enforcement action, compliance order or when evidence tape or a non-tamper proof bag is used, the direct connection contact must be present. The direct connection contact is required to sign the chain of custody record to release the sample to the WMWD inspector. The WMWD inspector receiving the sample must sign for the sample on the chain of custody report. Any samples which are collected without a facility contact present must be properly documented, i.e., direct connection contact elects not to view sample collection events, direct connection contact not on site, direct connection contact refuses to sign chain of custody, etc. A memo to file must accompany any samples released without a properly completed**

*procedure  
to contact  
direct connect  
contact*

**Chain of custody report. The sealed samples must be placed in a refrigerated ice chest for proper preservation during transit to the laboratory performing the analysis.**

- The WMWD inspector receiving the sample must sign for the sample on the chain of custody report and indicate the date and time signed.
- The sealed samples are placed in a cooler, which has been appropriately refrigerated (i.e., ice, frozen cool pack, etc.) for proper preservation of the samples during transit to the laboratory, which is performing the analysis.
- The WMWD inspector submitting the sample to the laboratory must sign the release section on the chain of custody report and indicate the date and time signed. The chain of custody report is required to be signed by a representative of the laboratory when the samples are delivered for analysis. If the laboratory is closed at the time of sample submittal, the samples must be stored in the refrigerator located in the WMWD sample equipment room. The inspector who delivered the sample is responsible for following proper chain of custody release procedures for the sample the next working day.
- The original sample analysis form including the chain of custody report must be submitted with the sample to the laboratory. A copy of the

*I ~~use~~ define  
cool pack  
uses ice  
bags*

sample analysis form and chain of custody report must be attached to an Industrial Waste Sample Chain of Custody Form. The form is attached to the original sample analysis form when the lab has completed the analysis.

## F. Sampler Inspection and Cleaning Procedure

A thorough inspection of the sampling equipment must be performed before the equipment is used. The equipment includes:

1. Sampler unit
2. Sampler tubing
3. Sampler base
4. Sampler bottles
5. Diffuser /strainer

1. The inside and outside of the sampler unit must be cleaned with warm water and Liquinox type soap after each use. The sampler desiccant indicator must be kept blue to absorb any moisture that may enter the control panel. If the desiccant becomes pink, replace the desiccant with new or recharged blue desiccant.

2. The sampler tubing must be cleaned after each use. Air breaks used during the suction cycle will increase the turbulence and ensure a thorough cleaning of the tubing. The following cleaning solutions must be pumped through the sampler tubing in this order:

- Warm, soapy water for five minutes. The water can be discharged down the sink.
- Tap water rinse for five minutes. The water can be discharged down the sink.
- Use a lime away solution (2 tablespoons/gallon of water) for five minutes (re-circulate the solution to maintain liquid level).
- Tap water rinse for five minutes. The water can be discharged down the sink.
- Rinse with distilled water for five minutes. The water can be discharged down the sink.

3. The sampler tubing must be replaced as often as necessary, and with an equal length of similar type tubing, to prevent the contamination of the sample collected. The tubing must be replaced when it becomes opaque or discolored from collecting samples. At a minimum, the tubing is to be replaced at the end of each quarter to ensure that each sampler has new tubing at the beginning of each new sampling quarter. The tubing is replaced by removing the screws on the black pump cover and the two clamps that secure the tubing to the pump unit.

*tubing remains connected to the sampler during the process*

*what is standard length? over time tubing can get shorter and shorter*

4. The sampler base must be cleaned with warm, soapy water after each use.
5. The diffuser/strainers must be cleaned with warm, soapy water after each use. The diffuser/strainers are rinsed with tap water and distilled water after being washed. The inside as well as the outside of the diffuser/strainers must be cleaned with a brush. Stained diffuser/strainers, which cannot be cleaned, must be thrown away and replaced with new diffuser/strainers.

## G. Safety

Safety procedures and policies must be followed by all staff assigned sampling collection activities. With this being said, all staff members must be wearing a reflective traffic safety vest when in or around traffic areas including sidewalks. Other personal protective equipment that may or should be worn when performing this job function:

- Steel toed shoes
- Leather/Latex gloves
- Safety goggles
- Hard hat

Additional items that may be required depending on the job function are:

- Gas sniffer
- Tripod for confined space entry
- Traffic cones
- Traffic signs
- Traffic electronic board

It may be necessary while performing maintenance duties and or inspections that traffic control will be required along with a confined space entry.

Safety precautions must be maintained when Liquinox /lime away is used in the cleaning process. Prior to cleaning any sampling equipment using Liquinox /lime away, it is mandatory for all WMWD personnel to put on the proper personal protective equipment. This includes the use of safety goggles, a splash shield, acid resistant rubber gloves, and either an apron or laboratory coat.

Further information and guidelines can be read in the "Safety Program Manual" located in the lunch room or in WMWD-FS MAIN\Public Documents\Risk\Safety Policies.

Any deviation from this procedure may include disciplinary action up to and including termination of employment.

## H. SSO Sampling Procedures

Should an SSO event occur within the collection system or SAWPA Brine Line, the following sampling procedures are to be initiated:

### Liquid Sampling Procedures

#### Sampling Constituent

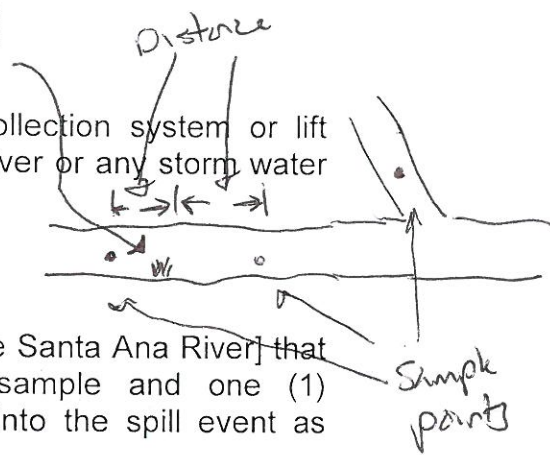
Fecal Coliform shall be the sampling constituent for all SSO sample activities. Any samples for SO's originating from the SARI System shall also include TDS.

#### Sample Locations

For any wastewater spill originating from the sewer collection system or lift station that has a potential for reaching the Santa Ana River or any storm water system, the following sample locations shall be used:

#### Secondary Tributary Locations (storm water channels)

1. Any secondary flowing tributary [that may reach the Santa Ana River] that wastewater flow enters, one (1) up stream sample and one (1) downstream sample shall be collected as early into the spill event as possible. *Diagram may help*
2. Staff will need to estimate the flow of the tributary receiving water [make your best guess or measure if possible]. *Photos (time a floating object & certain distance)*
3. Staff will need to determine if any downstream tributaries will enter the sampled tributary. If this occurs, one (1) sample will need to be collected up stream of each tributary prior to it's entering the tributary contaminated by the spill event. *Diagram may help*
4. A diagram of all collection points shall be created that identifies all sample points during the spill event. ~~sample to~~
5. Samples shall be collected for five (5) consecutive days following the spill event for each sample collection point. *photo documentation*



#### Santa Ana River Locations

1. Any time wastewater flow from a spill event enters the Santa Ana River, one (1) up stream sample and one (1) downstream sample shall be collected as early into the spill event as possible.
2. One (1) sample shall be collected from the spill stream prior to its entering the Santa Ana River.
3. A diagram of all collection points shall be created that identifies all sample points during the spill event
4. Samples shall be collected for five (5) consecutive days following the spill incident for each sample collection point.

*how far up and downstream may need to be several days to "catch" plume*

*how far down*

*object & certain distance*

## Sample Labeling

Every grab sample collected shall contain the following information, sample source, sample location, date of collection, and who collected the sample. It is also important to identify ambient weather conditions if those conditions may impact the sampling process [wind or rain as examples]

Sample identification

## Sample Collection Procedures

Sanitary sewer overflows (SSOs) by their very nature can have severe environmental impacts without proper spill management. One of the management tools for mitigating an SSO is the use of sampling to determine the area(s) affected by the spill. This sampling is for microbiological organisms that are typically found in raw sewage, i.e. E. coli and fecal coliform. Proper microbiological sampling techniques must be used to insure that the sample is representative of the contaminated area(s). These samples will be used to develop and implement mitigation measures to insure an effective cleanup is accomplished. Sampling is only necessary when the wastewater has entered a storm drain, drainage channel, or water way that has flowing water.

Not for brine spill

*Note: As a precursor to any wastewater sampling, be sure your hepatitis vaccines are current.*

Please carefully follow the following steps in taking a microbiological sample from an SSO:

**1. Select the sample site(s).** The sample point(s) are to be one upstream of the spill, if flowing water is present and others are strategically selected downstream to determine how far the spill has traveled. The samples must be taken from the flowing water and not from pooled water. If entry into the stream, storm drain, storm channel, or waterway is necessary to take the sample, then take the sample from the flowing water that is upstream of the entry point and where the individual is standing. The number of downstream samples will be dependent upon the size of the spill, topography of the spill area, accessibility to sample sites, and employee safety. If the spill is from a City sewage pump station, please refer to the sample maps for sample locations.

If you have any questions about the sample site, please contact your supervisor.

**2. Use only the sample bottles provided by the City's laboratory or contract laboratory.** The E. coli and fecal coliform tests require special sample containers that contain a preservation agent. These bottles **must not** be rinsed prior to sampling. Take several bottles for the sampling event; enough for all upstream and downstream sampling.

3. **Use disposable protective gloves.** Since the sampling is due to an SSO, disposable latex or nitril gloves must be worn as an appropriate PPE. The gloves must be changed between every sample. The same pair of gloves cannot be worn for all the samples taken as this increases the risk of contamination and sample invalidation.

4. **Facial protection.** If there is a risk of the SSO material splashing onto the face during the sample event, then appropriate facial protection must be worn, e.g. full face shield, dust/mist mask, and full coverage safety goggles.

5. **Do not open the sample bottle until ready to take the sample.** Premature opening of the sterile sample bottle could introduce contamination and invalidate the sample.

6. **Select a point at the sample site that is representative and well mixed.** The main point of the sampling is to determine the extent and impact of the spill and the effects of the cleanup.

7. **Uncap the bottle.** As you perform this task, hold the container near the base and be sure not to put your finger(s) inside of the sample container or on the underside of the lid. Do not set the sample container down once opened. Any of these actions can contaminate the sample.

8. **Obtain the sample.** Carefully dip the sample container in the water flow and fill the container, leaving about  $\frac{1}{2}$  inch of space at the top of the container. Remember do not pre-rinse the container and be careful not to overfill or splash out the contents of the sample container.

9. **Replace the cap immediately.** Be certain the cap is sealed properly and tightly and check for leaks. If you drop the sample container before the cap is sealed, discard the sample and take another sample with a new sample container using Steps 1-6.

10. **Label the sample container.** Use a sample label and write:

- a. Date
- b. Time
- c. Location, be as specific as possible
- d. Name of person taking the sample

11. **Complete the laboratory submittal form.** The form may be completed upon return to the laboratory or completed in the field and submitted to the laboratory with the sample.

12. **Place the sample in an ice chest with ice for transportation to the laboratory.** The temperature in the ice chest must be maintained below 10°C,

but not to freezing (12. **Place the sample in an ice chest with ice for transportation to the laboratory.** The temperature in the ice chest must be maintained below 10°C, but not to freezing (

### Soil Sampling Procedures

The purpose of Soil Sampling is to determine if there is contamination of soil in affected area after a SARI system SSO. Flows being conveyed within the SARI System typically are high in TDS and require remediation in the event of a spill in soil material.

Also in the event of determining the source of the spill, Typical EC Values of Brine should be included.

### Soil Sampling Materials

The materials needed to conduct a soil sampling include.

- EC tester
- Deionized water
- (2) Glass soil sample jars

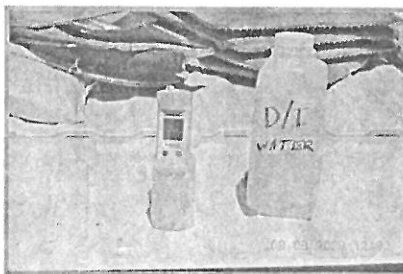
### Spill Sample Collection Method

2 methods the EC tester method which is used to determine if there is a SARI SSO and if remediation (removal of soil) is complete. The

The method of collecting a soil sample to be tested after a SARI spill is the grab method. After a sample of the soil affected by a spill is collected the material should be tested using an EC tester.

### Sample Testing Procedure

- Confirm EC tester accuracy by running a sample test of deionized water. ( Tester should read 0-10 )

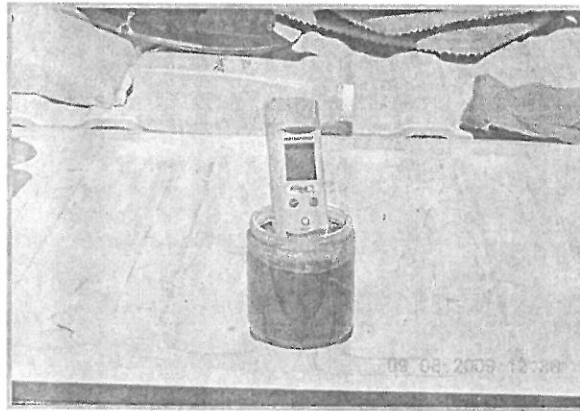


Test Sample

second method is sending soil sample to the lab for analysis.

- Collect a spill sample and run an EC test on collected sample.
- Using glass sample jar collect soil sample and fill jar half full with soil in question, the remaining space in sample jar should be filled with deionized water.
- Stir the Soil and deionized water mix until water turns the color of soil.





Soil sample

- After testing contaminated soil collect a background sample (using a clean sample jar) from spill area not affected by the spill, and retest the background sample and compare the sample to the spill site sample.
- Give results of conducted samples to SAWPA and WMWD staff for record keeping and determination if spill site remediation is necessary.

#### Sample Labeling

Every grab sample collected shall contain the following information; sample source, sample location, date of collection, and who collected the sample. It is also important to identify ambient weather conditions if those conditions may impact the sampling process [wind or rain as examples]. Additionally, **complete the laboratory submittal form**. The form may be completed upon return to the laboratory or completed in the field and submitted to the laboratory with the sample.

#### Multiple Sample Collection Process

In the event a spill is of such magnitude that multiple samples need to be collected, the following procedures are to be follows:

1. A map of the sample locations is to be made and each samples collected clearly labeled on the map.
2. Each sample bottle shall be labeled so that it conforms to each identified sample on the map.
3. Each sample collected shall have a separate chain-of-custody form completed.
4. A background sample shall be collected and its location marked on the sample map.
5. Photographs of the sample site shall be taken indicating the location of each sample collected.

Appendix A

## WESTERN MUNICIPAL WATER DISTRICT

### *AUTO SAMPLER CLEANING CHECK OFF SHEET*

Sampler Number \_\_\_\_\_  
Date Cleaned \_\_\_\_\_  
Cleaned By \_\_\_\_\_

**Note: All samplers must be cleaned after each use with no exceptions.**

**Note: All sampling tubing must be changed when excessively dirty or every three months regardless of condition.**

1. Clean outside of sampler with soap and water (Liquinox Soap)
2. Insure desiccant indicator color is blue (pink color indicates desiccant must be regenerated)
3. Clean outside of sampler tubing with soap and water
4. Rinse outside of sampler tubing with well water
5. Wash inside of sampler tubing (utilizing sampler pump) with soap/water solution for five minutes (soap solution may be discharged to drain)
6. Rinse inside of sampler tubing with well water for five minutes (water may be discharged to drain)
7. Wash inside of sampler tubing with lime away solution (2 tablespoons to 1 gallon of well water) for five minutes (circulate the solution to maintain liquid level)
8. Rinse inside of sampler tubing with well water for five minutes (water may be discharged to drain)
9. Rinse inside of sampler tubing with distilled water (DI) for five minutes (water may be discharged to drain)

Operations Supervisor \_\_\_\_\_  
Date \_\_\_\_\_

## Appendix B

# Industrial Waste Sample Chain of Custody Form

Appendix B



Industry Name \_\_\_\_\_

Permit No. \_\_\_\_\_

Sample Date \_\_\_\_\_

Sample Time \_\_\_\_\_

20075

WMWD Custody Number \_\_\_\_\_

Sample Location \_\_\_\_\_

Preservation Technique \_\_\_\_\_

WMWD Representative \_\_\_\_\_

Sample Type:	Wastewater Meter Reading	Water Meter Reading
<input type="checkbox"/> Grab	Final Reading: _____	Ending: _____
<input type="checkbox"/> 24 hr Composite	Initial Reading: _____	Starting: _____
	Multiplier: <input type="checkbox"/> x1 <input type="checkbox"/> x10 <input type="checkbox"/> x100 <input type="checkbox"/> x1000	Total: _____
Composite pH: _____	Flow: _____ <input type="checkbox"/> gal/day <input type="checkbox"/> Mga/day	Units: <input type="checkbox"/> gal/day <input type="checkbox"/> cu.ft.

Sample color/appearance:

Heavy Metals	Ag	Cd	Cr	Cu	Ni	Pb	Zn				
Total Toxic Organics	601	602	604	606	612	624	625				
Others	CN (T) End of Process	CN (A)	CN (T) End of Pipe	CN (A)	O & G	BOD	TSS	TDS			

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time/Date	Sample Received By	Signature	Affiliation/Title	Comments

White to Laboratory • Yellow to File

Date Submitted: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_

Sample Lab No.: \_\_\_\_\_  
 Laboratory: \_\_\_\_\_

**SAWPA - WMWD  
 INDUSTRIAL WASTE ANALYSIS**

**SAMPLE IDENTIFICATION**

Company Name/Sample Source: Aramark Uniform Services Permit #: DS-059  
 Address: 1135 Hall Ave. City: Riverside Phone #: (951) 274-9622  
 Company Contact: Vaughn Austin Title: \_\_\_\_\_

Reason For Sampling:  Monitoring  Sewer System Problem  IW Investigation  Enforcement  Other Annual

**SAMPLE COLLECTION**

Sample Collected From:  Sample Box  Clarifier  Sample Wye  Other: \_\_\_\_\_  
 Sample Method:  Grab  Composite \_\_\_\_\_ timed intervals \_\_\_\_\_ flow intervals  
 Bottles Collected:  Single Bottle  24 Discrete Bottles  Other: \_\_\_\_\_  
 Sample Collection Times: From: \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_ To: \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_

Sampled By: \_\_\_\_\_ Sample #: \_\_\_\_\_ Battery#: \_\_\_\_\_ Tub#: \_\_\_\_\_ Preservative: \_\_\_\_\_

Total Quantity Collected: \_\_\_\_\_ Split with IU?  Yes  No Save Sample?  Yes  No Until? \_\_\_\_\_

Comments: \_\_\_\_\_

**Field Test Results**

pH: \_\_\_\_\_ Sulfide: \_\_\_\_\_  
 EC: \_\_\_\_\_ %LBL: \_\_\_\_\_  
 Temp: \_\_\_\_\_ Odor: \_\_\_\_\_  
 TDS: \_\_\_\_\_ Other: \_\_\_\_\_

**Flow Information**

Totalizer Readings: Final: \_\_\_\_\_ Initial: \_\_\_\_\_ Difference: \_\_\_\_\_ Multiplier: \_\_\_\_\_ Total Flow: \_\_\_\_\_  
 Flow Rate At Time of Sample: \_\_\_\_\_ gpm  
 Effluent Flow Meter  
 Influent Water Meter  
 Visual Estimate  
 Estimate Not Possible

**REQUIRED POLLUTANTS**

**General Constituents**

Grab  Composite

- BOD
- TDS
- TSS

**General Constituents (Grab Only)**

- pH Field Test
- Oil/Grease - NON-POLAR
- Total Sulfides

**Metal Constituents**

Grab  Composite

- Arsenic
- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Nickel
- Silver
- Zinc

**Toxic Organics (Priority Pollutants Only) (Grab Only)**

- Volatile Organics (EPA Method 624 and 625)
- Pesticides (EPA Method 608 and 625)
- PCBs (EPA Method)

- 624 - Requires two 40 mL vials (Lab will provide)
- 625 - Requires one Liter amber bottle (Lab will provide)
- 608 - Requires one Liter amber bottle (Lab will provide)
- PCBs - Require an additional one Liter amber bottle (Lab will provide)

**CHAIN OF CUSTODY RECORD**

Released By	Date	Time	Received By