

ARCO Petroleum Products Company

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May 22, 1987

FAC90756-7

SAN DIEGO ARMOUR OIL CO #1  
P O BOX 85302  
SAN DIEGO CA

92138

Dear Contract Dealer:

This letter is to advise you that in the last two years the State of California has passed several new laws on the use, handling and storage of hazardous chemicals in local communities. Some of these laws apply to service stations because of the gasoline and other chemicals they use or store. The new State laws are being enforced by local fire department or county health department. Some local agencies are using their own reporting forms and following their own time tables for distributing them. Attached for your information is an example of a local form prepared by the Contra Costa Health Services Department for a fictitious service station.

You may have already received a similar form from a local agency requesting that you either fill out a questionnaire concerning what chemicals you use at your station, or to submit a list of chemicals you currently have on hand, or to prepare an emergency response plan in case you have a spill or fire. Some administering agencies will require you to prepare a plot plan of the station, some will not. You may be charged a fee to cover the costs of the local program.

If and when you receive such a request, it should be dealt with promptly and completely. The law provides for significant penalties for those who fail to meet the law.

Very truly yours,

ARCO Petroleum Products Company  
a division of Atlantic Richfield Company

S. H. Schrader  
Region Manager

Enclosure

# Leak Detection: Underground Storage Facilities

**CONTRACT DEALER**



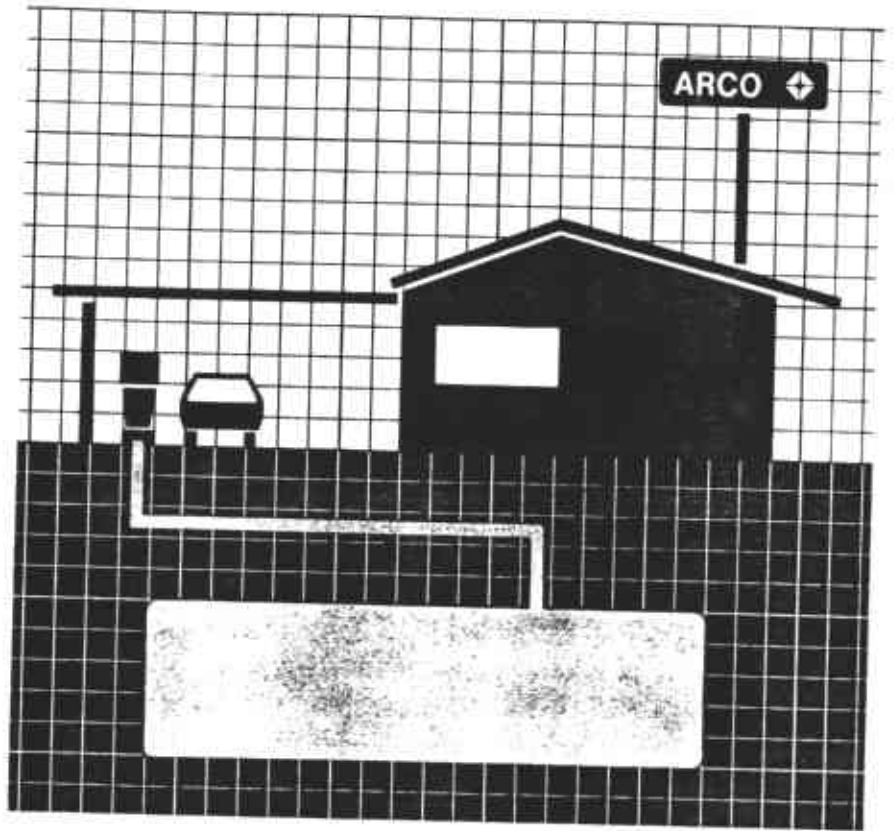
**ARCO Petroleum Products Company**

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# Leak Detection: Underground Storage Facilities

CONTRACT DEALER



ARCO Petroleum Products Company 

## Why Reconcile Inventory?

As an ARCO operator, you have certain assets that enable you to do business — and to make a profit. Some of these assets are intangible: you cannot count them or put your hands on them.

Others of your assets are tangible, the sorts of things you could use as collateral for a loan — because you can count them, evaluate them, assess them. These include your current business (cash on hand and on deposit), your station's physical assets (building, fixtures, etc.) — and your underground asset: your inventory.

At any given time, you may have 20,000 to 25,000 gallons of various grades of gasoline stored in inventory. You may also have fuel oil, diesel, or other products. And because it's neatly underground — out of sight, out of mind — some otherwise smart businesspeople tend to ignore this enormous investment.

Although the price of gasoline varies from month to month and from region to region, in today's marketplace it would be conservative of us to value it at, say \$1.20 per gallon. For the sake of illustration, let's presume that you have 20,000 gallons of gasoline in your tanks after a delivery. That means you have more than \$24,000.00 stored in your underground tanks.

If you were storing that investment in something easier to count, like ten-dollar bills, you'd be certain to keep tabs on it. But just because it's not folding green doesn't mean that it's any less valuable. It's simply good business practice to know exactly where you stand on your inventory.

Every smart businessperson who deals in a product keeps inventory controls. In the case of an ARCO operator, not only is it good business (common sense) it's required by law in many states and municipalities, and by ARCO Petroleum Products Company.

You deal in a hazardous substance: gasoline. If it leaks out of your underground storage tanks, it can cause various kinds of havoc. It can pollute water supplies. It can explode under your facility or under nearby businesses or homes. Because it can be dangerous, there are stiff fines and penalties that may be incurred by the service-station dealer as a result of carelessness or negligence.

## How to Reconcile Your Inventory

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Reconciling product inventory is a remarkable easy procedure. With  
gasoline, diesel, or fuel oil, the whole process can be accomplished in a  
few minutes, with very little effort.

### Stick Readings

Your first step in the daily inventory process is to take stick readings of  
your various products. These readings should be taken to the nearest  
eighth of an inch. Then you consult a conversion table that will tell you  
quickly how many gallons you have in storage.

At the same time you take meter readings on all your pumps.

### Daily Sales Sheets

Then you enter the data you've come up with on a Daily Sales Sheet of  
your choosing. The form we've used in the illustrations in this booklet is  
published by Marcoin, Inc., but any sheet that approximates this one  
will serve the purpose.

Compare the line labeled "Book Inventory" with the line below it that  
reads "Actual Inventory." That simple comparison will give you a  
balance, an overage, or a shortage.

The same procedure will enable you to verify the amounts of product  
you receive in a delivery. Simply take the readings both before and after  
the delivery is made, and then compare your figures with those of the  
delivery person.

After you've made your entries on the Daily Sales Sheet, you're ready to  
work with a Cumulative Variation Form.

### Cumulative Variation Forms

A Cumulative Variation Form can be made up in any of a variety of  
ways. The one we've shown in this booklet is produced by ARCO  
Petroleum Products, but any similar form will do. Its purpose is simple:  
to let you see what patterns — if any — your daily reconciliations are  
showing.

Between these two simple procedures (the Sales Sheet and the  
Cumulative Variation Form), you'll be able to tell if your gallonage is  
what it ought to be, according to the amounts of product you've sold.

If you're losing product, you'll be aware of it immediately — and you'll  
be able to do something about it before the situation gets out of hand.

All inventory forms should be maintained at your facility for 12 months.

This simple process is called *reconciling your inventory*, and it is an  
investment in good business, as well as in community safety.

ARCO Petroleum Products Company

Monthly Gasoline Inventory

24694

BARB & WIRE

10-82

Date	ARCO		ARCO		ARCO	
	Daily	Cumulative	Daily	Cumulative	Daily	Cumulative
	-1	-1	+2	+2	-0	-0
	+2	+1	+1	+3	-1	-1
	-0	+1	0	+3	+2	+1
	+1	+2	+1	+4	-1	-0

	REGULAR		CLEAR		SUPREME	
	INVENTORY	SALES	INVENTORY	SALES	INVENTORY	SALES
Balance	7490		8960		6134	
ADDITIONS						
SALES	7690		8960		6134	
LOSS	1950		4000		1070	
BACK	5540		4960		5064	
LOSS	5533		4962		5061	
ADJUST	-7		+2		-3	

20  
21  
22  
23  
24

Extremely minute variations may be normal, due to changes in temperature. Occasionally there are minute variations in the calibration of different meters as well. In no case, however, should that "normal" variation be more than 0.5% of your daily sales. For example, you should never be short more than five gallons per thousand.

## Physical Inspections

In addition to daily inventory reconciliation, there are some other steps you are to take to make absolutely certain that neither you nor your community is endangered by gasoline leaks from underground storage tanks. They are not difficult; they are not time-consuming.

### Weekly Inspection

First of all, make a weekly tour of inspection around your entire product handling system. The pipe joints are the first places to look: at the island, inside and under the dispenser, at the submerged pumps, at the fill boxes. It is possible for product to leak out at any of these joints, and a physical inspection will tell you if you have a problem.

It's a good idea to do this kind of visual inspection while your equipment is operating. Many types of leaks will either slow down or dry up when your equipment is not in use, because of the lack of pressure inside the lines. But that does not keep them from being dangerous — or from losing money.

Remember that once your money has leaked out of those tanks, there's no way to recover it. It will pollute the ground you walk on, the air you and your customers breathe, and possibly the water you drink. Your only defense (and your neighbors' only defense) is your continued watchfulness.

### Hesitation in Island Pumps

If one of your island pumps begins to hesitate, it could mean that you have a piping leak, a leaking foot valve, or a warm-weather vaporlock. While these symptoms may be difficult to spot visually, your daily inventory reconciliation will tell you if you are losing any product.

### Meter Spins

If you have a remote pumping system, and notice a meter spin on one of your island pumps — with no gasoline being delivered — you may have a line leak. Your daily reconciliation will alert you to any losses.

**Note:** Many remote pumping systems are equipped with line leak detectors. Immediately stop selling this product because any activation shown by reduced product flow can indicate a leak in the product supply line.

24694		BARB & WIRE		10-82	
+2	-0-	-0-			
+3	-1	-1			
+3	+2	+1			
+4	-1	-0-			

SUPREME	
0	6134
0	6134
0	1070
2	5064
2	5061
2	-3

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## When You Find Water in Your Tanks

If water collects in your underground product storage system, it may be a signal that you're about to run headlong into two entirely different problems. First, you may begin to pump a gasoline-water mixture through your dispensing pumps. That would mean that your customers would be getting water in their gas tanks, along with the gasoline you sell them. Such a mixture could cause severe damage to your customers' cars.

Second, and more important, water in your tanks had to come from somewhere. No water is pumped into the tanks — it can only get there through leaks. And there's no rule that says leaks are a one-way affair. If water can leak into your tank, gasoline can leak out.

However, extremely small amounts of water in the bottom of your tank are normal — they result from condensation of water vapor from the air inside the tanks. This condensation should never account for more than one single inch of water.

More than one inch of water in your tank can mean a leak in a number of different locations. Sometimes a leaking fill box is the culprit after a rain. But the distinct possibility is there that the water seeped in through a leak in the body of the underground unit itself — from the underground water table. And, since water is heavier than gasoline, it goes straight to the bottom of the tank.

### Use Water-Finding Paste Daily

Detecting water is quick and easy; it can be done at the same time as your inventory reconciliation. All that you need is a can of water-finding paste.

Coat the end of your stick with water-finding paste before you stick your tanks for a gallonage reading. The paste will react to the presence of water by changing colors. It doesn't react to gasoline at all. So if you stick your tank with water-finding paste and find that more than one inch of the paste has changed color — you have a problem. Follow the procedures outlined on the last page of this book immediately:

1. Notify ARCO Petroleum Products immediately.
2. Follow up that notification in writing.
3. If you can see or smell gasoline, call the Fire Department.
4. Have the necessary repairs made immediately.



## in Your Tanks

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## If You Suspect a Leak

If you suspect that your product handling system is leaking, check first to find out if you can see or *smell* the product that is leaking. If you can see or smell the leaking product, immediately call your local Fire Department.



## Summary

### Ongoing Procedures

1. Reconcile your inventory and your accounts daily. Do this by daily verifying your inventory by taking stick readings to the nearest  $\frac{1}{8}$ ", by meter readings and a reconciliation of opening and closing inventory levels.
2. Keep your reconciliations on file by using a Cumulative Variation Form, to show patterns developing in your variations. Maintain all inventory records, on premises, for not less than 12 months.
3. Tour your product handling system weekly, inspecting all the pipe joints, the fill boxes, etc.
4. Use water-finding paste daily when you stick your tanks, and never let more than one inch of water accumulate in your tanks.
5. Be alert to symptoms such as hesitations in your island pumps, meter spins, or slow flow of product which could indicate a leak.

### When You Suspect a Leak

1. If you can see or smell gasoline, notify your Fire Department.
2. Call ARCO Petroleum Products Company, and tell us what you suspect.
3. Follow up your telephone notification with a notification in writing.
4. Have the necessary repairs made immediately.