

# HAGEMAN-AGUIAR, INC.

*Underground Contamination Investigations  
Groundwater Consultants, Environmental Engineering*

ALCO  
HAZMAT

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April 29, 1992

**Glenn Foreman**  
**Rodding-Cleaning Services, Inc.**  
**2585 Nicholson Street**  
**San Leandro, CA 94577-4276**

**RE: Cost Proposal for Environmental Services at Rodding-Cleaning Services, Inc., 2585 Nicholson Street, San Leandro, California.**

Dear Mr. Foreman:

This cost proposal is in response to our recent discussion with you regarding further work at the above-referenced site. The ultimate goal of the work to develop and implement a plan for site closure.

Based upon discussions with Mike Bakaldin, San Leandro Fire Department (phone: 510-577-3318), a Fire Department inspector was present at the time the two underground storage tanks were removed from the site by Scott-Broadway. At the time of the removal, four soil samples and two groundwater samples were collected from the two tank excavations. According to Mr. Bakaldin, the results of the analysis of soil samples collected from the tank sidewalls indicated the presence of Diesel and Gasoline at concentrations of up to 470 mg/kg (ppm) and 1,400 mg/kg (ppm), respectively. In addition, the results of the groundwater sample analyses indicated the presence of Total Petroleum Hydrocarbons as Gasoline at concentrations of up to 380 mg/L (ppm).

### Soil Sampling Program

The purpose of the soil sampling program is to determine the lateral extent of subsurface soil contamination surrounding the locations of the former underground storage tanks.

Soil sampling will be conducted in the immediate vicinity of the former underground storage tank locations. Each boring will be drilled with a truck-mounted drill rig using 8-inch hollow-stem augers. Each boring will extend to the top of the shallow groundwater table (within 10 feet of the ground surface). During the drilling operation, soil samples for chemical analysis will be collected from the native soil at various depths, as directed by the field engineer. Each soil sample will be collected by driving directly into the native soil below the augers with a slit-barrel sampler fitted with clean brass liners. All samples will be immediately placed on ice, then transported under chain-of-custody to the laboratory by the end of the work day.

At several locations on the site where access is limited, such as inside the building, soil samples will be collected by hand-augering.

All borings will be logged in the field by Gary Aguiar, Registered Civil Engineer #34262. A statement of qualifications is attached.

An important feature of the proposed soil sampling program is the immediate on-site analysis for Total Recoverable Hydrocarbons by infrared spectroscopy (EPA Method 418.1). Field instrumentation and analytical personnel will be provided by Geochem Laboratories, Milpitas, California. Although the analysis for Total Recoverable Hydrocarbons does not discern between Gasoline, Diesel, etc., the test method has proved to be a highly useful field-screening tool. The

results of the analyses can be obtained in as little as 15 minutes, and are highly indicative of the presence of subsurface petroleum contamination. By the use of on-site laboratory capabilities, the soil boring and sample collection can be extended out from the tank area as needed, thus accomplishing a complete definition of the subsurface contamination at the site during a single investigative program.

Up to 5 soil samples will be transported to the laboratory for confirmation purposes, as well as to provide correlations between field analytical results and results of GC analysis for specific chemical components. All laboratory analyses will be conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures. All soil samples delivered to the laboratory will be analyzed Total Petroleum Hydrocarbons as Gasoline and Total Petroleum Hydrocarbons as Diesel (EPA method 8015), and BTXE (EPA method 8020).

Prior to the drilling of each boring, all drilling equipment, including augers, drill stem, and split barrel samplers, will be steam-cleaned on-site.

All drill cuttings will be stored on-site along with the existing stockpiled soil from the previous underground tank excavation.

The attached Project Budget provides our cost estimate for the work, which would include:

- site safety plan;
- permits.
- collection of soil samples at a number of soil boring locations using hollow-stem auger drill rig.
- collection of soil samples at several locations by hand-

augering.

- on-site analysis of soil samples for Total Recoverable Hydrocarbons.
- analysis of 5 soil samples for TPH-Gas, TPH-Diesel, BTEX.
- final report (including closure plan)

As shown in the attached Project Budget, we would be able to conduct the soil sampling program at a not-to-exceed price of \$7,860 (time-and-materials basis).

#### Soil Excavation (as required), Backfill, Resurfacing

Based upon the results of the previous investigation, additional excavation and/or scraping of the excavation sidewalls may be required. Following any necessary over-excavation, soil samples should be collected from the finished excavation in order to provide confirmation of the contamination removal. The finished excavation would then be backfilled to acceptable compaction with clean backfill material. Existing concrete pavement would be saw-cut around the completed excavation, and new concrete pavement would be poured.

Since the amount of over-excavation (if any) cannot be determined until the soil sampling program is completed, a cost estimate for this phase of the site closure cannot be provided at this time.

Based upon the data generated from the soil sampling program, a cost estimate will be prepared that would include:

- site safety plan.
- permits.

- over-excavate tank area, as required.
- analysis of several soil samples for TPH-Gas, TPH-Diesel, and BTEX.
- segregate spoils into "clean" and "dirty" piles.
- field supervision.
- backfill with clean fill.
- replace concrete pavement.
- closure report.

#### Monitoring Well Installation

In the case of the subject site in San Leandro, California, the local regulatory agency with primary oversight in leaking underground fuel tank (LUFT) cases is the San Leandro Fire Department. Guidelines for enforcement are provided to the Department by the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region. Typically, three wells are installed at a contamination site in order to establish the groundwater flow direction in the immediate vicinity of the past and/or present subsurface contamination. Such monitoring well placement facilitates the collection of a shallow groundwater sample at a verified down-gradient location. In addition, soil samples are collected for laboratory analysis during each soil boring prior to the well installation.

In the case of the subject property, it appears that one well will suffice initially, considering the shallow nature of the groundwater beneath the site, as well as the close proximity of San Francisco Bay (groundwater flow direction can be inferred).

The attached Project Budget provides our cost estimate for

the work, which would include:

- site safety plan.
- permits.
- One 2" PVC monitoring well installation to total depth of 20 feet (groundwater encountered within 10 feet of ground surface).
- analysis of 2 soil samples for TPH-Gas, TPH-Diesel, BTEX.
- well development.
- well sampling (1 well).
- analysis of 1 water sample for TPH-Gas, TPH-Diesel, BTEX.
- final report.

As shown in the attached Project Budget, we would be able to conduct the single monitoring well installation at a not-to-exceed price of \$4,630 (time-and-materials basis).

It should be noted that the disposal of drill cuttings and waste water is beyond the scope of this proposal, since these costs cannot be determined prior to the work (costs are dependent upon contaminant concentrations). At the conclusion of the field work, these waste materials will be properly stockpiled, drummed, or otherwise stored on-site in accordance with accepted hazardous waste storage practices. Such on-site storage will allow time for determining the most cost-effective approach for disposal and/or on-site treatment (such as aeration, etc.).

#### Quarterly Groundwater Monitoring

In accordance with California Regional Water Quality Control Board (RWQCB) guidelines, it is necessary to continue groundwater sampling on a quarterly basis for at least one

year. If contamination levels remain stable or decline, as would be expected due to the removal of the contamination source (underground tanks and associated piping), a request could then be made to the appropriate regulatory agencies for permission to either reduce the frequency of monitoring or else discontinue monitoring and properly abandon the existing monitoring wells (final site closure), in the case that concentrations become non-detectable.

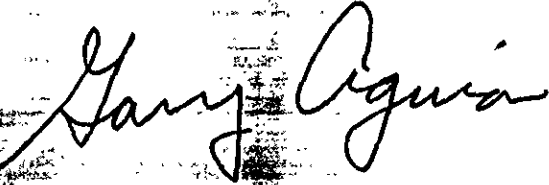
Typically, as long as any dissolved petroleum constituents are found to be present in the shallow groundwater beneath a particular site, some form of periodic sampling and laboratory analysis will be required until concentrations are found to attenuate to "non-detectable" levels. Such attenuation of dissolved petroleum constituents in the shallow groundwater would necessarily be accelerated by excavation and removal of any subsurface contamination that is suspected to be present beneath the site (such as at the former locations of the underground storage tanks).

As shown in the attached Project Budget, we would be able to conduct the quarterly groundwater monitoring of one well at a not-to-exceed price of \$760.

It should be noted that the disposal of waste water is beyond the scope of this proposal, since these costs cannot be determined prior to the work (costs are dependent upon contaminant concentrations).

If you have any questions, or would like to discuss the project further, please call me at (415)284-1661.

Sincerely,

A handwritten signature in cursive script that reads "Gary Aguiar". The signature is written in black ink and is positioned above the typed name.

**Gary Aguiar**  
**Principal Engineer**



**PRELIMINARY PROJECT BUDGET**  
soil sampling program

**PROJECT: Rodding-Cleaning Services, Inc., 2585 Nicholson, San Leandro, CA**

	Item	Quantity	Unit	Unit Cost	Amount
	1. Rig mobilization	2.0	HR	\$115.00	\$230.00
	2. Rig Time	8.0	HR	\$135.00	\$1,080.00
	3.				\$0.00
	4. well permits		EACH		\$0.00
	5. blank casing		LF		\$0.00
	6. slotted casing		LF		\$0.00
	7. bottom end caps		EACH		\$0.00
	8. top end caps		EACH		\$0.00
	9. locking monument		EACH		\$0.00
	10. monterey sand		SACK		\$0.00
	11. bentonite pellets		PAIL		\$0.00
	12. cement	5.0	SACK	\$17.00	\$85.00
	13. steam cleaner	10.0	HR	\$20.00	\$200.00
	14. service truck	1.0	DAY	\$120.00	\$120.00
	15. Driller Overtime	2.0	HR	\$40.00	\$80.00
	16. concrete coring machine	1.0	DAY	\$150.00	\$150.00
	17. safety equipment	1.0	LS	\$60.00	\$60.00
	18.				\$0.00
	19. workplan	3.0	HR	\$90.00	\$270.00
	20. field engineer	8.0	HR	\$90.00	\$720.00
	21. field technician	9.0	HR	\$75.00	\$675.00
E	22. well development		HR		\$0.00
N	23. well sampling		HR		\$0.00
G	24. survey casings		HR		\$0.00
	25. report	24.0	HR	\$90.00	\$2,160.00
	26. printing	1.0	LS	\$50.00	\$50.00
	27.				\$0.00
	28. mobile lab service	1.0	DAY	\$1,200.00	\$1,200.00
L	29.				\$0.00
A	off-site lab:				\$0.00
B	31. soil analysis (Gas, BTEX)	5.0	EA	\$87.50	\$437.50
	32. soil analysis (Diesel)	5.0	EA	\$70.00	\$350.00
	33.		EA		\$0.00
<b>TOTAL</b>					<b>\$7,867.50</b>

**PRELIMINARY PROJECT BUDGET**  
**one monitoring well**

**PROJECT: Rodding-Cleaning Services, Inc., 2585 Nicholson, San Leandro, CA**

	Item	Quantity	Unit	Unit Cost	Amount
	1. Rig mobilization	2.0	HR	\$115.00	\$230.00
	2. Rig Time	4.0	HR	\$150.00	\$600.00
	3.				\$0.00
	4. well permits	1.0	EACH	\$0.00	\$0.00
	5. blank casing	10.0	LF	\$4.00	\$40.00
	6. slotted casing	15.0	LF	\$6.00	\$90.00
	7. bottom end caps	1.0	EACH	\$10.00	\$10.00
	8. top end caps	1.0	EACH	\$35.00	\$35.00
	9. locking monument	1.0	EACH	\$115.00	\$115.00
	10. monterey sand	5.0	SACK	\$11.50	\$57.50
	11. bentonite pellets	1.0	PAIL	\$57.50	\$57.50
	12. cement	3.0	SACK	\$17.00	\$51.00
	13. steam cleaner	6.0	HR	\$20.00	\$120.00
	14. service truck	1.0	DAY	\$120.00	\$120.00
	15. Driller Overtime		HR		\$0.00
	16. drums		EA		\$0.00
	17. grout pump		DAY		\$0.00
	18.				
	19. workplan	2.0	HR	\$90.00	\$180.00
	20. field engineer	5.0	HR	\$90.00	\$450.00
	21. field technician	5.0	HR	\$75.00	\$375.00
E	22. well development	5.0	HR	\$75.00	\$375.00
N	23. well sampling	4.0	HR	\$75.00	\$300.00
G	24. survey casings		HR		\$0.00
	25. report	10.0	HR	\$90.00	\$900.00
	26. printing	1.0	LS	\$50.00	\$50.00
	27.				
	28. soil analysis (Gas, BTEX)	2.0	EA	\$87.50	\$175.00
L	29. soil analysis (Diesel)	2.0	EA	\$70.00	\$140.00
A	30.		EA		\$0.00
B	31. water analysis (Gas, BTEX)	1.0	EA	\$87.50	\$87.50
	32. water analysis (Diesel)	1.0	EA	\$70.00	\$70.00
	33.		EA		\$0.00

**TOTAL**

**\$4,628.50**

**PRELIMINARY PROJECT BUDGET**

quarterly sampling and report for one well (per quarter)

**PROJECT: Rodding-Cleaning Services, Inc., 2585 Nicholson, San Leandro, CA**

	Item	Quantity	Unit	Unit Cost	Amount
	1.				\$0.00
	2.				\$0.00
	3.				\$0.00
	4.				\$0.00
	5.				\$0.00
	6.				\$0.00
	7.				\$0.00
	8.				\$0.00
	9.				\$0.00
	10.				\$0.00
	11.				\$0.00
	12.				\$0.00
	13.				\$0.00
	14.				\$0.00
	15.				\$0.00
	16.				\$0.00
	17.				\$0.00
	18.				\$0.00
	19.				\$0.00
	20.				\$0.00
	21.				\$0.00
E	22.				\$0.00
N	23. well sampling	4.0	HR	\$75.00	\$300.00
G	24.				\$0.00
	25. report	3.0	HR	\$90.00	\$270.00
	26. printing	1.0	LS	\$35.00	\$35.00
	27.				\$0.00
	28.				\$0.00
L	29.				\$0.00
A	30.				\$0.00
B	31. water analysis (Gas, BTEX)	1.0	EA	\$87.50	\$87.50
	32. water analysis (Diesel)	1.0	EA	\$70.00	\$70.00
	33.				\$0.00

**TOTAL**

**\$762.50**