

1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501 EHVIROSHENTAL PROTECTION

00 APR -7 PM 2:57

April 5, 2000

Blymer Engineers Inc, 1829 Clement Avenue Alameda, CA 94501

### Gentlemen:

We are currently working with County of Alameda and the California State Fund to clean up a gasoline storage tank leakage. Enclosed is a Request for Proposal to Implement Correction Plan for our facility at 1630 Park Street, Alameda, CA.

If you would like to submit a bid for this work, please deliver your proposal no later than 5:00 pm, Monday April 17, 2000.

Thank you for your consideration.

Sincerely,

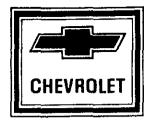
JoAnn Stewart
Safety Coordinator

JKS:js

Enclosure

cc: Eva Chu - Hazardous Materials Specialist





1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Kleinfelder, Inc. 1362 Ridder Park Dr. San Jose, CA 95131

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April 5, 2000

Environmental Strategies Corp 226 Airport Parkway San Jose, CA 95110

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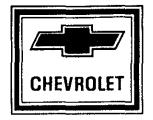
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1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Lowney Associates 405 Clyde Avenue Mountain View, CA 94043

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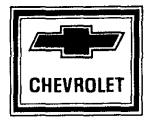
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1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Pacific Environmental Group 2025 Gateway Place, Ste 440 San Jose, Ca 95110

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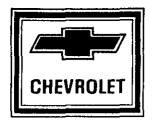
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1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Rust Environmental & Infrastructure 695 River Oaks Parkway San Jose, CA 95134

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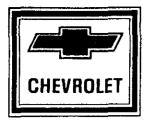
JoAnn Stewart Safety Coordinator

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1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Uribe Associates 2930 Lakeshore Avenue Oakland, CA 94610

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1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501

April 5, 2000

Tetra Tech, Inc. 180 Howard St. San Francisco, CA 94105

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JKS:js

Enclosure

cc: Eva Chu - Hazardous Materials Specialist



## To Prospective Bidders

Subject: Request For Proposal to Implement Corrective Action Plan for Good Chevrolet, 1630 Park Street, Alameda, CA

Reference: (a) Revised Passive Remedial Action Work Plan for Good Chevrolet, 1630 Park Street, Alameda, CA December 21, 1999

> (b) Alameda County Department of Environmental Health Work Plan Review/Approval Letter, dated January 19, 2000

### Ladies/Gentlemen:

We are currently soliciting proposals from interested firms to impliment the Corrective Action Plan for our property located at Good Chevrolet, 1630 Park Street, in the City of Alameda, Alameda County, California.

## **BACKGROUND**

The project site is an automobile dealership and service center located at 1630 Park Street in the City of Alameda, in Alameda County, California as indicated on Figure 1.

A 300 gallon waste oil storage tank and a 500 gallon underground gasoline storage tank were reportedly removed from the property by Petroleum Engineering, Inc. in October, 1986. A subsurface investigation including installation of three ground water monitoring wells (see Figure 2) was performed by Groundwater Technology, Inc. in January, 1987 (Groundwater Technology, Inc. Report Dated April 29, 1987).

The three monitoring wells were monitored to evaluate the ground water conditions and to establish the direction(s) of ground water flow at the project site. The monitoring determined that the direction of flow beneath the site varies from a northwesterly direction to a northeasterly direction throughout the year. The quarterly sampling has also detected Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds at various concentrations throughout the year.

A supplemental investigation was performed by Geo Plexus which included advancing 7 soil borings across the parking area of the property (see Figure 2). This investigation identified high concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylene) in the immediate vicinity of the former underground storage tanks at depths of 5-12 feet below the ground surface. The borings identified concentrations of Total Petroleum Hydrocarbons as gasoline as high as 15,000 parts per million (ppm) decreasing to 1,000 ppm within 30-feet from the former tanks (lateral direction) and decreasing to 1,800 ppm at the down-gradient property boundary.

Two additional ground water monitoring wells were installed by Geo Plexus in April, 1994 to further characterize the down-gradient water conditions. The findings of the initial ground water samples indicated a significant increase in concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds down-gradient of the property.

The ground water levels recorded to date reflect fluctuations ranging from 3 to 13 feet below the ground surface and indicate that ground water generally flows in a northwest direction.

A Remedial Investigation was performed by Geo Plexus in April, 1997 which included advancing eight (8) subsurface exploratory geo-probes at locations which were immediately "up-", "down", and "cross-gradient" from the former underground storage tanks (see Figure 3). Grab ground water samples were also obtained from the probes for analytical testing.

The findings of the investigation indicated that gasoline contaminated soil remain in-place at the project site and is confined to depths ranging from 7- to 11-feet below the ground surface and is of limited extent.

The concentrations of Benzene in the soil exceed the ASTM RBCA Tier-1 RBSL's for contaminant leaching to ground water and gas migration to indoor air. Similarly, the concentrations of Benzene in the ground water exceed the Tier-1 RBSL's for ground water ingestion and gas migration to indoor air; however, the concentrations are below the Tier-1 RBSL's for gas migration to outdoor air. It was concluded that the site conditions did not warrant active ground water remediation and a passive remedial technology was recommended.

Alameda County personnel subsequently provided directives that remedial action was not deemed appropriate and that the site could be considered for closure as a "low risk site" under the revised Regional Water Quality Control Board guidelines. As such it was directed that soil gas probes should be advanced to obtain data for a human health risk evaluation.

## **GROUND WATER DATA REVIEW**

Ground water elevations recorded suggest that the ground water flow is to the northwest as indicated on Figure 4. The ground water gradient for November, 1998 was determined to be 0.013 ft/ft (also see Figure 4). The direction of ground water was consistent with previously observed flow directions.

Table 1 summarizes the historic analytical test results for the monitoring well samples:

TABLE 1
SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA						
Date	Total Petroleum	<b>T</b>	m 1.	Ethyl-	Total	3.470000
<u>Sample</u>	<u>Hydrocarbons</u>	<b>Benzene</b>	<u>Toluene</u>	<b>Benzene</b>	<b>Xylenes</b>	<u>MTBE</u>
Monitoring W		1 1 40	0.707	1 700	6.010	
1-21-87 <sup>(1)</sup>	21,020	1,148	8,627	1,792	6,012	
1-11-89 <sup>(1)</sup>	1,400	74 470	· 10	13	5	
7-12-89 <sup>(1)</sup>	1,200	470	49	45 15	33	
4-09-91 <sup>(2)</sup>	850	260	10	15	12	
7-14 <b>-</b> 92 <sup>(3)</sup>	13,000	2,300	1,200	1,200	1,200	•
10-7-92 <sup>(3)</sup>	3,600	1,600	80	120	120	
1-11-93 <sup>(3)</sup>	1,200	410	16	23	19	
4-23-93 <sup>(3)</sup>	2,200	720	180	82	150	
7-08-93 <sup>(3)</sup>	3,200	1,200	110	97	100	
10-15 <b>-</b> 93 <sup>(3)</sup>	3,700	1,400	43	94	36	
1-25-94 <sup>(3)</sup>	1,600	680	16	41	35	
4-28-94 <sup>(3)</sup>	6,100	1,900	380	250	340	
7-27-94 <sup>(3)</sup>	6,000	1,800	510	220	450	
10-27-94 <sup>(3)</sup>	3,000	1,100	79	82	87	
1-26-95 (3)	1,600	660	100	82	87	
4-13-95 <sup>(3)</sup>	3,800	1,200	270	120	260	
7-21-95 <sup>(3)</sup>	5,200	1,500	450	190	400	
10-25-95 <sup>(3)</sup>	5,900	1,800	450	210	400	NTN 47 A
1-21-97 (3)	3,100	1,100	87	160	180	ND<7.3
11-12-98 <sup>(3)</sup>	1,000	280	3.0	3.3	7.9	ND<30
Monitoring W	ell MW-2					
1-21-87 (1)	5,018	386	1,981	285	1,432	
1-11-89 (1)	10,000	3,000	410	240	190	
7-12-89 <sup>(1)</sup>	7,600	2,700	540	250	320	
4-09 <b>-</b> 91 <sup>(2)</sup>	4,900	910	210	130	200	
7-14-92 <sup>(3)</sup>	13,000	4,400	1,500	610	1,100	
10-7-92 <sup>(3)</sup>	11,000	5,200	1,500	500	1,200	
1-11-93 <sup>(3)</sup>	17,000	940	1,100	480	930	,
4-23-93 <sup>(3)</sup>	52,000	13,000	8,400	1,700	5,300	
7-08-93 <sup>(3)</sup>	6,400	2,500	470	280	530	
10-15-93 <sup>(3)</sup>	17,000	3,900	870	500	940	
1-25-94 <sup>(3)</sup>	16,000	5,400	1,140	640	1,500	
4-28-94 <sup>(3)</sup>	15,000	4,000	910	480	1,200	•
7-27-94 <sup>(3)</sup>	18,000	6,000	760	630	1,600	
10 <b>-</b> 27-94 <sup>(3)</sup>	9,500	2,700	230	320	640	
1-26-95 <sup>(3)</sup>	5,900	1,900	290	230	500	
4-13-95 <sup>(3)</sup>	10,000	3,300	620	360	930	
7-21-95 <sup>(3)</sup>	9,900	3,300	320	390	` 830	
10-25-95 <sup>(3)</sup>			400	580	990	
1-21-97 (3)	13,000	4,900 2,600		330	660	NTD-20
	7,600	2,600	310			ND<20
11-12-98 <sup>(3)</sup>	31,000	11,000	750	1,500	2,300	ND<900

TABLE 1 (cont'd)

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA						
Date	Total Petroleum			Ethyl-	Total	
<u>Sample</u>	<b>Hydrocarbons</b>	<b>Benzene</b>	<u>Toluene</u>	Benzene	<b>Xylenes</b>	<b>MTBE</b>
	. •				•	
Monitoring W						
1-21-87 <sup>(1)</sup>	10,287	1,428	3,281	610	2,761	
1-11-89 <sup>(1)</sup>	5,300	1,800	340	150	160	
7-12 <b>-</b> 89 <sup>(1)</sup>	7,800	3,100	900	300	480	
4-09-91 <sup>(2)</sup>	9,400	1,400	730	200	510	
7-14-92 <sup>(3)</sup>	17,000	3,500	390	390	260	
10-7-92 <sup>(3)</sup>	9,200	4,300	470	390	610	
1-11-93 <sup>(3)</sup>	2,000	740	29	58	28	
4-23-93 <sup>(3)</sup>	6,500	2,600	280	260	190	
7-08-93 <sup>(3)</sup>	5,200	2,100	260	250	180	
10-15 <b>-</b> 93 <sup>(3)</sup>	11,000	3,500	580	430	370	
1-25-94 <sup>(3)</sup>	6,200	2,500	270	160	28	
4-28-94 <sup>(3)</sup>	5,300	1,700	190	210	180	
7-27-94 <sup>(3)</sup>	5,900	2,000	360	260	330	
10 <b>-</b> 27-94 <sup>(3)</sup>	8,000	2,200	580	260	470	
1-26-95 <sup>(3)</sup>	3,700	1,200	150	150	190	
4-13-95 <sup>(3)</sup>	4,000	1,400	200	180	210	
7-21-95 <sup>(3)</sup>	5,700	2,000	280	270	280	
10 <b>-2</b> 5-95 <sup>(3)</sup>	11,000	3,500	1,100	460	680	
1-21-97 <sup>(3)</sup>	2,200	860	63	71	80	ND
11-12-98 <sup>(3)</sup>	180	44	0.51	ND	0.92	ND<20
Monitoring W	ali MW-4					
4-28-94 <sup>(3)</sup>	190	3.8	2.9	2.1	3.1	ŀ
7-27-94 <sup>(3)</sup>	180	15	9.2	7.6	28	
10-27-94 <sup>(3)</sup>	130	8.6	6.6	4.5	17	
1-26-95 <sup>(3)</sup>	110	6.5	1.2	1.8	11	
4-13-95 <sup>(3)</sup>	82	3.9	N.D.	N.D.	2.5	•
7-21-95 <sup>(3)</sup>	130	8.8	1.3	4.5	7.6	
10-25-95 <sup>(3)</sup>	95	6.6	1.7	4.3	7.0	
1-21-97 <sup>(3)</sup>	not sampled	0.0	1.7	1,5	7.0	
11-12-98 <sup>(3)</sup>	not sampled					

TABLE 1 (cont'd)							
<b>SUMMARY</b>	<b>OF</b>	GROUND	WATER	<b>ANALYTICAL</b>	TEST	<b>DATA</b>	

Date <u>Sample</u>	Total Petroleum <u>Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	Ethyl- <u>Benzene</u>	Total <u>Xylenes</u>	MTBE
Monitoring W	Vell MW-5					
4-28-94 (3)	30,000	4,000	3,000	810	3,500	
7-27-94 <sup>(3)</sup>	9,300	2,000	800	290	940	
10-27-94 <sup>(3)</sup>	15,000	2,700	1,300	420	1,100	•
1-26-95 <sup>(3)</sup>	7,900	2,100	680	240	860	
4-13-95 <sup>(3)</sup>	7,900	2,400	580	340	630	
7-21 <b>-</b> 95 <sup>(3)</sup>	11,000	3,400	760	610	1,200	
10-25-95 <sup>(3)</sup>	13,000	2,900	830	570	1,100	
1-21-97 <sup>(3)</sup>	2,600	750	65	1860	280	ND
11-12-98 (3)	ND	2.2	ND	ND	ND	ND

Note: (1) Concentrations reported by Groundwater Technology, Inc.

- (2) Concentrations reported by Environmental Science & Engineering, Inc.
- (3) Samples obtained and reported by Geo Plexus, Inc.

### RISK ASSESSMENT INVESTIGATION

A Remedial Risk Assessment was subsequently performed which included advancing three (3) gas collection probes at the site to obtain soil gas measurements within and exterior to the existing building and performing a Tier-II ASTM Risk-Based Corrective Action (RBCA) assessment for the project site.

Soil gas samples were obtained at depths of 3-feet below the ground surface through the use of summa canisters. The analytical testing of the soil gas probe samples did not indicate the presence of significant volatile organic vapors within the upper 3-feet of soil at the "source area". This confirmed that, although there is some soil and ground water contaminants remaining, the extent of off-gassing through the upper soils is very low.

# **SUMMARY OF PREVIOUS FINDINGS**

The analytical test data from previous investigation activities indicated that low to moderate concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds (BTEX) remain in the soil in the immediate vicinity of the former tanks; however, the extent of soil contamination is limited. There is no significant presence of MTBE in the soil. The highest concentrations of gasoline were detected in Borings EB-9, 10, and 11 which are located downgradient of the former tanks and dispenser pump. The remaining samples indicated that the soil contamination extends in a radial pattern (cross- and down-gradient) from the former tank area.

The monitoring wells continued to exhibit low to moderate concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylene) suggesting that the source of these compounds is the former underground storage tanks. However, the concentrations reduce significantly with distance from the source area and there is no detectable presence of MTBE in the ground water.

The concentrations of Benzene in the soil exceed the Tier-II SSTL's for contaminant leaching to ground water and gas migration to indoor air; however, the concentrations are not significantly elevated from the SSTL's (less than one order of magnitude difference). Furthermore, the contaminant area is located beneath paved parking areas and not located beneath structures.

The concentrations of Benzene in the ground water exceed the Tier-II SSTL's for ground water ingestion and gas migration to indoor air; however, the shallow ground water is not used for human consumption and that there are no buildings existing or planned within the boundaries of the plume. Noting that the concentrations of Benzene are below the Tier-II SSTL's for gas migration to outdoor air, the two previous exposure pathways are of limited concern for the site conditions.

### RECOMMENDATIONS FOR REMEDIAL ACTION

It was recommended that limited site remediation be accomplished using oxygen releasing compounds (ORC manufactured by Regenisis) placed directly into the soil (boring backfill material) throughout the source area to promote oxygenation of the "shallow" soil and ground water and resulting in the associated biostimulation/ bioremediation of the existing petroleum compounds. Dissolved oxygen content, concentrations of contaminant gas constituents, and carbon dioxide levels should be monitored at the existing wells to evaluate the remedial progress and to support site closure.

### PROPOSED REMEDIAL ACTION PLAN

The objective of the proposed remedial action is to achieve sustained concentrations of Benzene and MTBE (and associated petroleum related contaminants) in the ground water below the RBCA Tier-II Threshold Levels for a commercial cancer risk of 1 x 10-5. It is fully anticipated that residual concentrations of heavier hydrocarbon compounds (referred to as Total Petroleum Hydrocarbons) will persist in the soil and ground water following completion of the treatment period. However, it is noted that current State of California guidelines do not include these heavier petroleum compounds in the remedial criteria.

To accomplish this objective, it is proposed to inject Oxygen Releasing Compounds (ORC's), manufactured and distributed by Regenisis Bioremediation Products and composed of magnesium peroxide directly into the soil throughout the "source area" as indicated on Figure 5. The principal benefits of this product are the oxygen release to the ground water to provide positive barrier for potential migration of these contaminants and further promote the bacterial degradation of the contaminants in the ground water.

It is anticipated that approximately 25-30 injection locations (advanced on 5-foot grid centers) with injection from 4-feet to 18-feet below the ground surface would be required to accomplish the initial remedial strategy.

The effectiveness of the remedial program would be monitored using existing ground water monitoring wells and is not anticipated to result in additional wells at the site. To monitor the oxygenation and remediation process, soil gas parameters including: lower explosive limit (LEL), total volatile hydrocarbons (TVH), percent oxygen (O<sub>2</sub>), and carbon dioxide (CO<sub>2</sub>) content will measured along with the dissolved oxygen (DO) content of the ground water in the monitoring wells. In addition, Alameda County has required that the ground water also be monitored for oxidation-reduction potential, nitrate, sulfate, ferrous ion and alkalinity.

It is anticipated that the passive remedial action would take approximately 18-30 months to accomplish the objective with one additional ORC re-injection episode (after 1-year) to restimulate recalcitrant sections of the contaminant plume.

Quarterly ground water monitoring reports will be prepared to continue to document the ground water conditions and to present the results of the analytical testing.

### FEE PROPOSAL

Please provide your current FEE SCHEDULE and a detailed bid summary for the field work associated with this project, system design, installation and 18-30-months of operation and provide a summary as detailed below:

Design, Preparation, Permitting, Site Verification	\$
Mobilization and Initial ORC Installation	\$
Initial Start-Up Testing	\$
18-Months Operation and Maintenance	\$
Sampling, Testing, and Reporting Initial 18-Months	\$
Re-Mobilization and Re-Injection of ORC	\$
Charges for Additional 12-Months of Operation and Maintenance	\$
Sampling, Testing, and Reporting Additional 12-Months	\$
Total Estimated Charges:	\$

