California Regional Water Quality Control Board
Central Valley Region
Karl E. Longley, ScD, P.E., Chair.

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Secretary for
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Arnold Schwarzenegger
Governor

25 June 2007

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Mr. Tom Green
Trustee for the Ethyl E. Green Trust
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CERTIFIED MAIL
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CLEANUP AND ABATEMENT ORDER NO. R5-2007- 0717, FORMER CHACON'S AUTO CLINIC, 4657 SHASTA DAM BOULEVARD, SHASTA LAKE CITY, SHASTA COUNTY, UST CASE #450122

Enclosed is Cleanup and Abatement Order No. R5-2007-0717 for the Former Chacon's Auto Clinic. This Order is issued pursuant Section 13304 of the California Water Code.

The Cleanup and Abatement Order directs Tom Green, primarily, and Shirley Chacon, secondarily, to submit or perform the following:

- **By 15 August 2007**, submit a *Site Investigation Work Plan for Petroleum-Related Constituents.*
- **By 15 August 2007**, submit a *Site Investigation Work Plan for Chlorinated Solvents* with a time schedule.
- **By 15 January 2008**, submit a draft corrective action plan for petroleum-related constituents.
- **By 15 January 2008,** submit a plan for addressing chlorinated solvent pollution; implement the plan according to the time schedule.
- **By 15 April 2008**, submit a final corrective action plan for total cleanup of petroleum-related constituents.
- **By 15 August 2008**, begin implementation of the approved remedial action for petroleum-related constituents.
- **Quarterly,** submit groundwater monitoring reports.

This Order also requires Tom Green, primarily, and Shirley Chacon, secondarily, to reimburse the Regional Water Board for reasonable costs associated with oversight of the solvent investigation and cleanup associated with the subject facility.

Failure to comply with Cleanup and Abatement Order No. R5-2007-0717 may result in further enforcement action in accordance with provisions of the California Water Code, which allows for administrative civil liability up to a maximum of five thousand dollars ($5,000) to fifteen thousand dollars ($15,000) for each day of violation, referral to the Attorney General for judicial enforcement, or both.

If you have any comments or questions, please contact Mey Bunte of my staff at (530) 224-4788 or the letterhead address.

JAMES C. PEDRI, P.E.
Assistant Executive Officer

MEWB: sae

Enclosure

cc + Enclosure: Regional Board Members, RWQCB, Rancho Cordova
California Department of Fish and Game, Redding
Frances McChesney, SWRCB, Counsel, Sacramento
Pat Leary, RWQCB, Rancho Cordova,
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CandA Order R5-2007-0717 Chacons auto clinic

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2007-0717
FOR
TOM GREEN, TRUSTEE OF THE ETHYL E. GREEN TRUST,
AND
SHIRLEY CHACON
FORMER CHACON'S AUTO CLINIC
SHASTA LAKE CITY

SHASTA COUNTY

This Order is issued to ***Tom Green, Trustee of the Ethyl E. Green Trust,*** **and** ***Shirley Chacon,*** hereafter referred to as Dischargers, based on provisions of California Water Code section 13304, which authorizes the California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board) to issue a Cleanup and Abatement Order (Order), and Water Code section 13267, which authorizes the Regional Water Board to require preparation and submittal of technical and monitoring reports.

The Executive Officer finds, with respect to the Dischargers' acts or failure to act, the following:

INTRODUCTION

1. The former Chacon's Auto Clinic is located at 4657 Shasta Dam Boulevard, Shasta Lake City, Shasta County Assessors' Parcel Number 005-250-063, Section 30, T33N, R4W, MDB&M, as shown in Attachment A which is attached to this Order. This parcel had historically been owned (but not continuously) by various members of the Green family, and is now owned by the Ethyl E. Green Trust.

2. The real property, which is now vacant, was historically used as a service station, car wash, and automobile repair facility. Four underground storage tanks (USTs) stored gasoline and waste oil at the facility. Petroleum constituents and solvents have been measured in the groundwater beneath the facility at concentrations exceeding water quality objectives (WQOs).

PROPERTY OWNERS

3. The date the property was first purchased by the Green Family is unknown. However, grant deed information from the Shasta County Recorder's office indicates the following:

   - In May 1965, J. Carl Green granted the property to Ethyl E. Green and Harold C. Green, son of Ethyl Green (Document No. 835-451).
   - In December 1970, Ethyl E. Green and Harold C. Green granted the property to Harold C. Green (Document No. 1052-47).

- In April 1985, Harold C. Green granted the property to Dean R. Bailey (Document No. 2137-16).
- In October 1986, Dean R. Bailey granted the property back to Harold C. Green (Document No. 2260-881).

A photograph in Shasta County Assessor's Office files dated December 1970 indicates the site was operated as a service station. Additionally, an undated photograph (appearing to be from the mid-1960's) indicates the operation of a car wash.

4. Zeferino and Shirley Chacon purchased the parcel in 1987 from Harold C. Green (then Trustee of the Ethyl E. Green Trust) and operated a car wash and automobile repair facility on the property. When Zeferino Chacon died in December 1997, Shirley Chacon granted the Ethyl E. Green Trust a Quit Claim Deed on the parcel, returning the real property to the Ethyl E. Green Trust. According to records at the Shasta County Tax Assessor's office, Shirley Chacon is still the recorded owner of the real property but tax bills are sent to the Ethyl E. Green Trust.

5. In a 5 December 1997written agreement signed by Shirley Chacon and Tom Green (current Trustee of the Ethyl E. Green Trust), it is stated that the Ethyl E. Green Trust would bear expenses related to property taxes and cleanup. Additionally, in an 18 November 2002 letter to the UST Cleanup Fund, Tom Green stated the Ethyl E. Green Trust is the current property owner of the parcel. Both signed documents are available in the Regional Water Board case file.

6. The Ethyl E. Green Trust has been named the primarily responsible party for cleanup at APN No. 005-250-063, 4657 Shasta Dam Boulevard, Shasta Lake City, because it owned the subject real property during the operation of a service station; it is the current actual owner of this real property; and it has accepted cleanup responsibility in writing. Shirley Chacon is named secondarily in this Order because, although she is the recorded owner of the real property, there is no evidence fueling was performed during the Chacon's ownership. Specifically, the gasoline USTs were abandoned in place prior to the Chacon's ownership and the Chacons did not operate the former service station. However, if investigation and cleanup do not proceed as required, Shirley Chacon will be required to comply with this Order.

SITE BACKGROUND

7. The 0.35-acre site is located in a retail/commercial section of Shasta Lake City. It is bound by Shasta Dam Boulevard to the south, Front Street to the north, Grand River Avenue to the east, and a commercial building to the west. An overhead canopy, automotive repair/office building, and auto storage stalls remain on-site. The site is currently used to park vehicles. The layout of the facility is presented in Attachment B, which is attached to this Order.

8. The real property is located approximately 765 feet above mean sea level (ft msl). Site topography is relatively flat, gently sloping towards the south. Regional surface

water in the vicinity of the site flows in an east-southeasterly direction towards Salt Creek. Salt Creek, tributary of Churn Creek (tributary to the Sacramento River), is located approximately 2 blocks from the site.

9. There were three gasoline USTs immediately north of the existing canopy: one 10,000 gallon unleaded gasoline tank, one 10,000 gallon leaded gasoline tank, and one 5,000 to 10,000-gallon tank that held premium gasoline and/or diesel. The tanks' installation dates are unknown. All three tanks were filled with cement slurry in August 1987 when the Chacons purchased the subject real property. It is unknown whether the dispenser piping was removed at the time the USTs were abandoned-in-place. No over-excavation was performed in the vicinity of the tanks or dispenser islands.

10. A fourth UST was located adjacent to the northeast corner of the automobile repair/office building. This tank, described as 275 to 550-gallons in size, was removed in August 1991 under the supervision of the Shasta County Environmental Health Division. Because elevated petroleum contamination was measured in the sidewalls and bottom of the excavation, further over-excavation was performed. Confirmation soil samples collected in March and June 1992 indicated residual total petroleum hydrocarbons (TPH)-gasoline and TPH-diesel. TPH-diesel was measured in shallow soil samples collected from borings 10 ft and 30 ft east of the excavation at 1,100 mg/kg and 220 mg/kg, respectively.

11. Based on the release discovered following the waste oil UST removal, a Leak Report was filed by Zeferino Chacon in July 1992. Shasta County Environmental Health referred this case to the Regional Water Board for lead enforcement in July 1994.

SUBSURFACE CONDITIONS

12. Soils beneath the site consist of alternating layers of clay, gravelly clay, and clay-silt-sand mixtures to depths of approximately 25 ft bgs. Shallow groundwater generally ranges between 4 and 5 ft bgs. Groundwater flow is towards the southeast, in the direction of Salt Creek, under a hydraulic gradient of 0.01 to 0.03 ft/ft.

13. In October 2000, nine soil borings were advanced around the parcel and five were converted to groundwater monitoring wells. A total of 17 soil samples and seven groundwater samples were collected and analyzed for TPH-gasoline, TPH-diesel, benzene, toluene, ethylbenzene, xylenes (BTEX compounds) and fuel oxygenates. Additionally, soil and groundwater samples from the three borings around the waste oil UST were analyzed for cadmium, chromium, lead, nickel, zinc, TPH-oil and grease, tetrachloroethylene (PCE), trichloroethylene (TCE), dichloroethylene (DCE), and vinyl chloride. Results are discussed below:

- **Hydraulically Upgradient and Downgradient of Former Waste Oil UST.** Metals were not measured at elevated levels in any of the soil or groundwater samples. Although no petroleum-related constituents were detected in soil samples collected upgradient of the waste oil UST, TPH-gasoline was measured

at elevated levels in soil downgradient of the waste oil UST. Chlorinated solvents were not detected in any soil sample. Groundwater results are summarized in the following table:

Groundwater Sampling Results, November 2000 (ug/L)

Constituent	TPH-gasoline	TPH-diesel	Benzene	PCE	MTBE	TCE	DCE	Vinyl chloride
MW-1 (upgradient of Waste Oil UST)	<50	ND	ND	**56**	ND	ND	ND	ND
MW-2 (downgradient of Waste Oil UST)	**2,300**	ND	**25**	ND	ND	ND	**2.6**	ND
MW-3 (downgradient of Waste Oil UST)*	**1,600**	ND	**12**	ND	ND	ND	**11.1**	**0.7**

*Also upgradient of the three former gasoline USTs

- **Hydraulically Crossgradient and Downgradient of Three Former Gasoline USTs.** Although residual TPH-gasoline and BTEX compounds were measured in the soil downgradient of the three gasoline USTs, no fuel oxygenates were detected in soils. Groundwater results are summarized in the following table:

Groundwater Sampling Results, October & November 2000 (ug/L)

Constituent	TPH-gasoline	TPH-diesel	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
MW-4 (downgradient of three gasoline USTs)	**32,000**	ND	**550**	**360**	**1,700**	**7,900**	**7.1**
MW-5 (crossgradient of three gasoline USTs)	**70**	ND	**16**	ND	**2.1**	**1.6**	**29**
SB-4 (crossgradient of three gasoline USTs)	ND	ND	ND	ND	ND	ND	ND
SB-5 (crossgradient of three gasoline USTs)*	**680**	ND	**6.5**	ND	**35**	**69**	**26**

*Also downgradient of Former Waste Oil UST

14. In June 2001, two additional groundwater monitoring wells, MW-6 and MW-7, were installed and in February 2005, MW-8 was installed. The eight wells are sampled quarterly for TPH-gasoline, BTEX compounds, fuel oxygenates, and chlorinated solvents. The source of chlorinated solvents, which were measured in upgradient and downgradient groundwater wells, has not been identified. It is possible that the waste oil tank contents have caused biologically mediated reductive dechlorination, resulting in the formation of PCE breakdown products including vinyl chloride. Maximum

groundwater monitoring results are summarized in the following table and presented in Attachments C and D, which are attached to this Order:

Maximum Groundwater Sampling Results, November 2000 to September 2006 (ug/L)

Well	TPH-gasoline	Benzene	Ethyl-benzene	Xylenes	MTBE	PCE	TCE	DCE	Vinyl Chloride
Former Waste Oil UST									
MW-1	**70**	ND	ND	ND	ND	**92**	ND	ND	ND
MW-2	**12,000**	**26**	**270**	**44**	**5.7**	ND	**1.2**	ND	ND
MW-3	**8,500**	**39**	**750**	**17**	ND	ND	ND	ND	**0.7**
Three Former Gasoline USTs									
MW-4	**33,000**	**550**	**4,100**	**7,900**	**26**	ND	ND	**17**	ND
MW-5	**18,000**	**370**	**920**	**1,600**	**56**	ND	ND	ND	ND
Downgradient of Facility									
MW-6	**110**	**1.3**	ND	ND	**10**	**1.2**	ND	ND	ND
MW-7	ND	ND	ND	ND	ND	**9.7**	ND	ND	ND
MW-8	ND	ND	ND	ND	**6.5**	**21**	**1.4**	ND	ND

REGULATORY COMPLIANCE HISTORY

15. In the 29 September 2005 *Third Quarter 2005 Groundwater Monitoring Report* submitted on behalf of Tom Green, Trustee for the Ethyl E. Green Trust, the consultant recommended that a Corrective Action Plan be prepared to address total petroleum hydrocarbons–gasoline and related compounds.

16. In a 16 December 2005 staff enforcement letter, Regional Water Board staff concurred with this recommendation and requested Tom Green, Trustee for the Ethyl E. Green Trust, submit a corrective action plan by 28 April 2006. No such document has been received.

AUTHORITY – LEGAL REQUIREMENTS

17. Section 13304(a) of the California Water Code provides that:

"Any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance,

shall upon order of the regional board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the regional board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

18. Section 13304(f) of the California Water Code provides that:

"Replacement water provided pursuant to subdivision (a) shall meet all applicable federal, state and local drinking water standards and shall have comparable quality to that pumped by the public water system or private well owner prior to the discharge of waste"

19. Section 13267(b)(1) of the California Water Code provides that:

"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

20. Section 13304(c)(1) of the California Water Code provides that:

"If waste is cleaned up or the effects of the waste are abated, or, in the case of threatened pollution or nuisance, other necessary remedial action is taken by any government agency, the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of subdivision (a), are liable to that government agency to the extent of the reasonable costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . ."

21. The Water *Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, 4th Edition* (hereafter Basin Plan) designates beneficial uses of the waters of the State, establishes WQOs to protect these uses, and establishes implementation policies to implement WQOs. The designated beneficial uses of the groundwater beneath the Site are domestic, municipal, industrial, and agricultural supply.

22. The State Water Resources Control Board (hereafter State Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304.* This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California.* Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.

23. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which sets forth the Regional Water Board's policy for managing contaminated sites. This policy is based on Water Code Sections 13000 and 13304, Title 23 CCR, Division 3, Chapter 15, and Title 27, Division 2, Subdivision 1 regulations, and State Water Board Resolution Nos. 68-16 and 92-49. The policy includes site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the basis for establishing soil and groundwater cleanup levels.

24. The State Board adopted the *Water Quality Enforcement Policy*, which states in part:

"At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the RWQCB allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the CAO should require the discharger(s) to abate the effects of the discharge. Abatement activities may include the provision of alternate water supplies." (Enforcement Policy, p. 19.)"

25. The petroleum hydrocarbon wastes detected at the site are not naturally occurring, and some are known human carcinogens. These wastes impair or threaten to impair the beneficial uses of the groundwater.

26. WQOs listed in the Basin Plan include numeric WQOs, e.g., state drinking water maximum contaminant levels (MCLs), and narrative WQOs, including the narrative toxicity objective and the narrative tastes and odors objective for surface and groundwater. Chapter IV of the Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that "[w]here compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Regional Water Board will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." Testing of petroleum hydrocarbons has identified a number of constituents that are not present in groundwater unaffected by the discharge and that could exceed a narrative WQO. All of these are constituents of concern. The numerical limits for the constituents of concern listed in the following table implement the Basin Plan WQOs.

Constituent	Limits	WQO	Reference
TPH-gasoline	5 ug/L	Tastes and Odors	McKee & Wolf, *Water Quality Criteria*, SWRCB, p. 230
Benzene	0.15 ug/L	Toxicity	California Public Health Goal (OEHHA)
Toluene	42 ug/L	Taste and Odor	Federal Register, Vol. 54, No. 97
Ethylbenzene	29 ug/L	Taste and Odor	Federal Register, Vol. 54, No. 97
Xylene	17 ug/L	Taste and Odor	Federal Register, Vol. 54, No. 97
MTBE	5 ug/L	Taste and Odor	Federal Register, Vol. 54, No. 97
PCE	0.06 ug/L	Toxicity	California Public Health Goal (OEHHA)
TCE	0.8 ug/L	Toxicity	California Public Health Goal (OEHHA)
cis-1,2-DCE	6 ug/L	California Primary MCL	California Department of Health Services
trans-1,2-DCE	10 ug/L	California Primary MCL	California Department of Health Services
Vinyl Chloride	0.05 ug/L	Toxicity	California Public Health Goal (OEHHA)

27. The constituents listed in Findings 13 and 14 are wastes as defined in California Water Code Section 13050(d). The groundwater exceeds the WQOs for the constituents listed in Finding No. 26. TPH-gasoline, BTEX compounds, MTBE, PCE, TCE, DCE, and vinyl chloride all exceed related numerical limits. The exceedance of applicable WQOs in the Basin Plan constitutes pollution as defined in California Water Code Section 13050(l)(1).

28. The constituents listed in Finding No. 27 are present in groundwater due to the disposal of wastes from the Site, are injurious to health or impart objectionable taste and odor when present in drinking water, and affect a considerable number of persons. As such, a condition of nuisance is created, as defined in California Water Code Section 13050(m).

DISCHARGERS LIABILITY

29. The Dischargers are subject to an order pursuant to Water Code section 13304 because the Dischargers have caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance. The condition of pollution is a priority violation and issuance or adoption of a cleanup or abatement order pursuant to Water Code Section 13304 is appropriate and consistent with policies of the Regional Water Board

30. This Order requires investigation and cleanup of the site in compliance with the Water Code, the Basin Plan, Resolution 92-49, and other applicable plans, policies, and regulations.

31. The Dischargers are subject to an order pursuant to Water Code section 13267, which requires submittal of technical reports, because existing data and information about the site indicate that waste has been discharged, is discharging, or is suspected of discharging, at the property, which is or was owned and/or operated by the Dischargers named in this Order. The technical reports required by this Order are necessary to assure compliance with Section 13304 of the California Water Code, including to adequately investigate and cleanup the site to protect the beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment.

32. If the Dischargers fail to comply with this Order, the Executive Officer may request the Attorney General to petition the superior court for the issuance of an injunction.

33. If the Dischargers violate this Order, the Dischargers may be liable civilly in a monetary amount provided by the Water Code.

34. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), pursuant to Title 14 CCR Section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with Title 14 CCR, Sections 15308 and 15330.

35. Any person affected by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Title 23 CCR Sections 2050-2068. The regulations may be provided upon request and are available at www.swrcb.ca.gov. The State Board must receive the petition within 30 days of the date of this Order.

IT IS HEREBY ORDERED that, pursuant to California Water Code Division 7, including Section 13304 and Section 13267, Tom Green, Trustee of the Ethyl E. Green Trust, and Shirley Chacon (hereafter Dischargers) shall:

Further investigate waste discharged from current and former petroleum facilities at 4657 Shasta Dam Boulevard, Shasta Lake City, Shasta County, and cleanup the waste and abate the effects of such waste, forthwith, in conformance with State Water Resources Control Board Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* and with the Regional Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin Basins* (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV), other applicable state and local laws, and consistent with HSC Division 20, chapter 6.8. "Forthwith" means as soon as is reasonably possible.

All work and reports shall follow the *Appendix A - Reports, Tri-Regional Recommendations for Preliminary Investigation and Evaluation of Underground Storage Tank Sites* (which may be found at http://www.waterboards.ca.gov/centralvalley.available_documents) and under permits required by State, County, and/or Local agencies.

Compliance with this requirement shall include, but not be limited to completing the tasks listed below. For purposes of this Order, Shirley Chacon is considered to be secondarily liable (see Finding 6) and Tom Green is required to complete the tasks as set forth below. If Tom Green fails to complete the tasks, Shirley Chacon may be required to do so upon notice by the Regional Water Board. The Dischargers shall:

1. **By 15 August 2007**, submit a *Site Investigation Work Plan for Petroleum-Related Constituents (Petroleum Work Plan)*, that includes a time schedule to collect a sufficient number of soil, soil vapor and/or groundwater samples to determine the lateral and vertical extent of petroleum-related waste constituents, including but not limited to, TPH-gasoline, BTEX compounds, and fuel oxygenates, for complete site characterization. The *Petroleum Work Plan* shall contain the information in *Appendix A - Reports, Tri-Regional Recommendations for Preliminary Investigation* and *Evaluation of Underground Storage Tank Site*. The *Petroleum Work Plan* shall be sufficient in scope to generate **by 15 January 2008** an appropriate plan for remedial action. Implement the *Petroleum Work Plan* according to the time schedule.

2. **By 15 August 2007**, submit a *Site Investigation Work Plan for Chlorinated Solvents (Chlorinated Solvents Work Plan)*, that includes a time schedule to collect a sufficient number of soil, soil vapor and/or groundwater samples to determine the lateral and vertical extent of chlorinated solvents, including but not limited to, TCE, PCE, DCE, and vinyl chloride, for complete site characterization. The *Chlorinated Solvents Work Plan* shall evaluate potential chlorinated solvent sources and preferential pathways. This work plan shall be sufficient in scope to generate **by 15 January 2008** an appropriate plan for addressing on-site and downgradient chlorinated solvent pollution. Implement the *Chlorinated Solvents Work Plan* according to the time schedule.

3. **By 15 January 2008**, submit a draft corrective action plan (CAP) for petroleum-related constituents based on findings of the petroleum site investigation that evaluates corrective actions that have a substantial likelihood to achieve cleanup of all petroleum-impacted soils and groundwater. The corrective actions must be evaluated with respect to implementability, cost, and effectiveness. The draft CAP shall include the rationale for selecting the preferred corrective action and a schedule for achieving cleanup. The draft CAP shall also include a certification statement that the proposed corrective action will not form a subsurface waste and thereby will not create a condition of pollution or nuisance as defined in CWC Section 13304(a). The draft CAP shall also certify that proposed cleanup methods adequately protect identified sensitive receptors and will cost- effectively clean up waste to the maximum extent feasible to meet numerical WQOs.

4. **By 15 April 2008**, submit a final CAP for total cleanup of petroleum-related constituents with a time schedule for implementation on all affected properties. Implement the final CAP according to the time schedule. The final CAP should include, but is not limited to detailed designs and technical support for all proposed treatments, monitoring, and associated waste treatment and discharge.

5. **Within 60 days** of Regional Water Board staff's approval of the final CAP **but no later than 15 August 2008**, begin implementation of the approved remedial actions and complete implementation in compliance with the time schedule.

6. For remediation system(s), submit Monthly Status Reports during the first three months of operation of any new system(s). Unless otherwise directed in writing by the Executive Officer or his/her representative(s), the monthly status reports shall include, at a minimum:

   - site maps indicating the capture zone and waste plumes,
   - average extraction rates of all treatment systems,
   - influent and effluent concentrations of TPH-gasoline, benzene, toluene, ethylbenzene, xylenes, and fuel oxygenates, TCE, PCE, DCE, vinyl chloride, appropriate lead scavengers, and organic lead,
   - mass of hydrocarbons treated during the reporting period and cumulative to date,
   - estimated mass of wastes remaining and predicted time frame for meeting cleanup objectives,
   - running and down time for the remediation system(s),
   - summary of contractor and consultant visits to the site, and evaluation of the overall remediation program and recommendations to correct deficiencies or increase efficiency.

   Perform quarterly monitoring after first three months of system operation and monitoring, unless otherwise directed by the Executive Officer.

7. The Dischargers shall ensure that cleanup methods cause no further migration of the waste constituents in groundwater. If monthly or quarterly sample results indicate further migration of petroleum waste constituents beyond the treatment volume, the Dischargers shall include **with the next required status report** a proposal to correct the condition. The proposed action(s) shall be completed **within 60 days** of staff approval of the proposal.

8. Sample each monitoring well **quarterly** and analyze for TPH-gasoline, BTEX compounds, fuel oxygenates, TCE, PCE, DCE, vinyl chloride, dissolved oxygen, oxidation-reduction potential, pH, iron II, nitrate, sulfate, and methane until otherwise directed in writing by the Executive Officer or his/her representative(s). Method Detection Limits (MDLs) shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. The MDLs shall reflect the detection capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from United States Environmental Protection Agency (USEPA) analytical method manuals. In relatively interference-free water, laboratory-derived MDLs are expected to closely agree with published USEPA MDLs.

9. Submit **Quarterly** Status Reports by the 1st day of the second month after the calendar quarter in which the samples were collected. The first quarter report is due **1 May**, the second quarter report is due **1 August**, the third quarter report is due **1 November**, and the fourth quarter report is due **1 February**. Quarterly reports are to include the information specified in *Appendix A - Reports, Tri-Regional Recommendations for Preliminary Investigation* and *Evaluation of Underground Storage Tank Site*. Regional Water Board staff will review Quarterly reports for adequacy relative to further site investigation and cleanup. Based on such reviews, the Regional Water Board Executive Officer may, at his/her discretion, issue additional site-specific monitoring and reporting requirements, which would become part of this Order.

GENERAL REQUIREMENTS

10. Reimburse the Regional Water Board for reasonable costs associated with staff oversight of investigation and cleanup associated with TCE, PCE, DCE, and vinyl chloride pollution. Failure to do so shall be considered a violation of this Order.

11. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, have appropriate reports prepared by, or under the supervision of, a registered professional engineer or geologist and signed by the registered professional. All technical reports submitted shall include a cover letter signed by the Dischargers, or authorized representatives, certifying under penalty of law that the signers have examined and are familiar with the report and that to their knowledge, the report is true, complete, and accurate. The Dischargers and/or authorized representative(s) shall also state if they agree with any recommendations/proposals

and whether or not they approved implementation.

12. Upon startup of any remediation system(s), operate the remediation system(s) continuously, except for periodic and required maintenance or unpreventable equipment failure. The Dischargers shall notify the Regional Water Board **within 24 hours** of any unscheduled shutdown of the remediation system(s) that lasts longer than 48 hours. This notification shall include the cause of the shutdown and the corrective action taken (or proposed to be taken) to restart the system. Any interruptions in the operation of the remediation system(s), other than for maintenance, emergencies, or equipment failure, without prior approval from Regional Water Board staff or without notifying the Regional Water Board within the specified time is a violation of this Order. **Within 7 working days** of a shutdown, the Dischargers shall submit a Technical Report containing at a minimum, but not limited to the following information:

- times and dates equipment were not working,
- cause of shutdown,
- if not already restarted, a time schedule for restarting the equipment, and,
- a Cleanup Assurance Plan to ensure that similar shutdowns do not recur. Cleanup Assurance Plans are to be completed **within 30 days** of the system shutdown.

13. Notify Regional Water Board staff at least three working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation that is not routine monitoring, maintenance, or inspection.

14. Obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order prior to beginning the work.

15. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished to fully comply with this Order.

16. Optimize remedial systems as needed to improve system efficiency, operating time, and/or waste removal rates, and report on the effectiveness of the optimization in the quarterly reports.

17. Maintain a sufficient number of monitoring wells to completely define and encompass the waste plume(s). If groundwater monitoring indicates the waste in groundwater has migrated beyond laterally or vertically defined limits during the quarter, then the quarterly monitoring reports must include a work plan and schedule, with work to begin **within thirty days** of Regional Water Board staff approval, to define the new plume limits.

18. Submit all written reports and analytical results to the Regional Water Board and electronic copies of all reports and analytical results over the Internet to the State Water Board Geographic Environmental Information Management System database (GeoTracker) at http://geotracker.swrcb.ca.gov. Electronic submittals shall comply with GeoTracker standards and procedures as specified on the State Water Board's web site.

19. If the Dischargers are unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Executive Officer, the Dischargers may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. An extension may be granted by revision of this Order or by a letter from the Executive Officer.

20. All work and directives referenced in this Order are required regardless of whether or not the UST Cleanup Fund approves the work for reimbursement.

21. If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

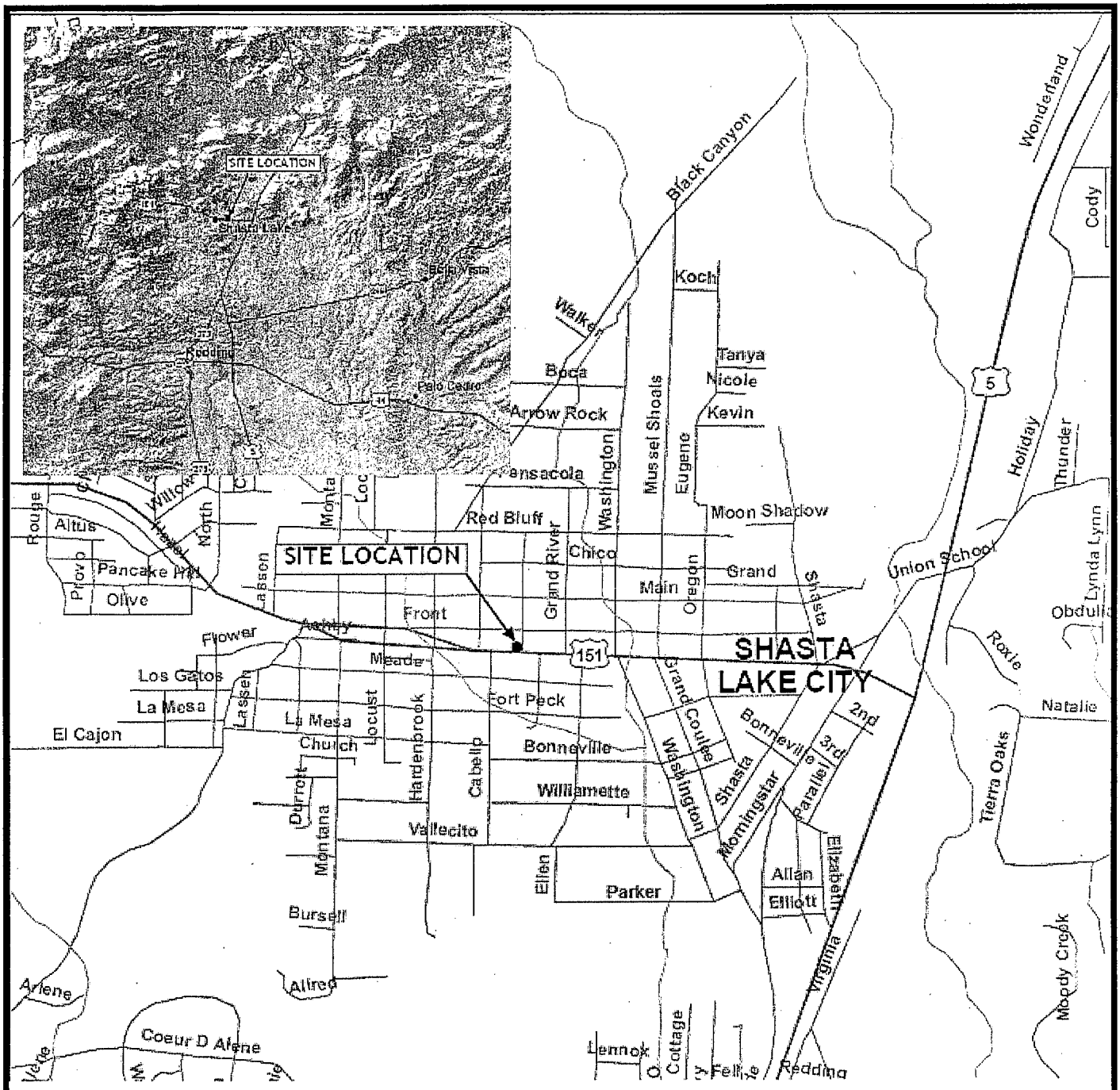
This Order is effective upon the date of signature.

JAMES C. PEDRI, P.E., Assistant Executive Officer

25 JUNE 2007
(Date)

MEWB: 25 June 2007

Attachment A: Location Map
Attachment B: Facility Map
Attachment C: Maximum Petroleum-Related Groundwater Concentrations
Attachment D: Maximum Chlorinated Solvent Groundwater Concentrations



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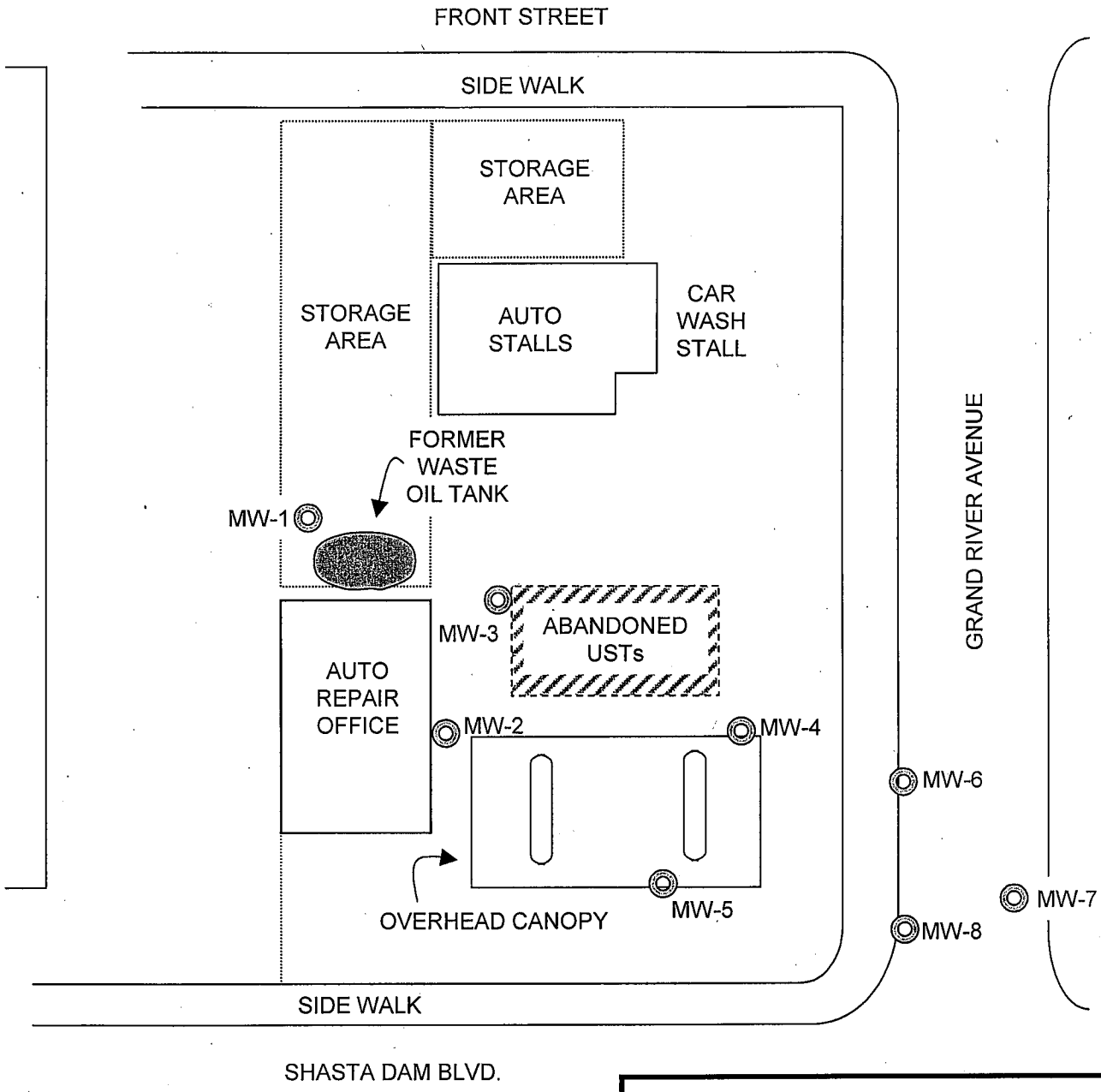
SOURCE: VESTRA RESOURCES, 2006

TOM GREEN, TRUSTEE OF THE ETHYL E. GREEN TRUST, AND SHIRLEY CHACON

FORMER CHACON'S AUTO CLINIC
SHASTA LAKE CITY
SHASTA COUNTY

SITE LOCATION MAP

SCALE: 1 IN = 1000 FT

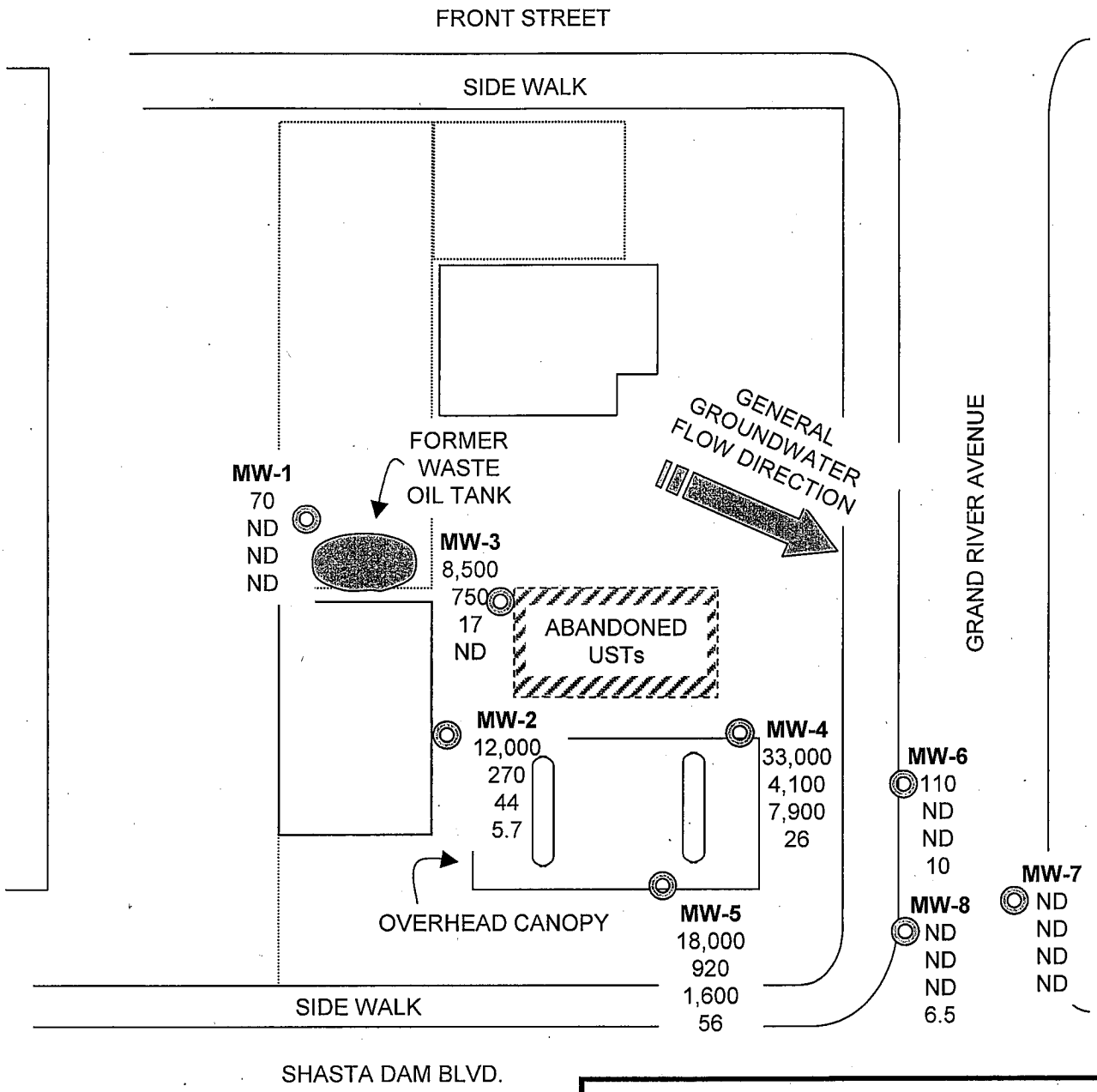


TOM GREEN, TRUSTEE OF THE ETHYL E. GREEN TRUST, AND SHIRLEY CHACON

FORMER CHACON'S AUTO CLINIC
SHASTA LAKE CITY
SHASTA COUNTY

FACILITY MAP

SCALE: 1 IN = 25 FT



LEGEND

MW-2	WELL NAME
6,700	TPH-gasoline
270	Ethyl-benzene
20	Xylenes
5.7	MTBE

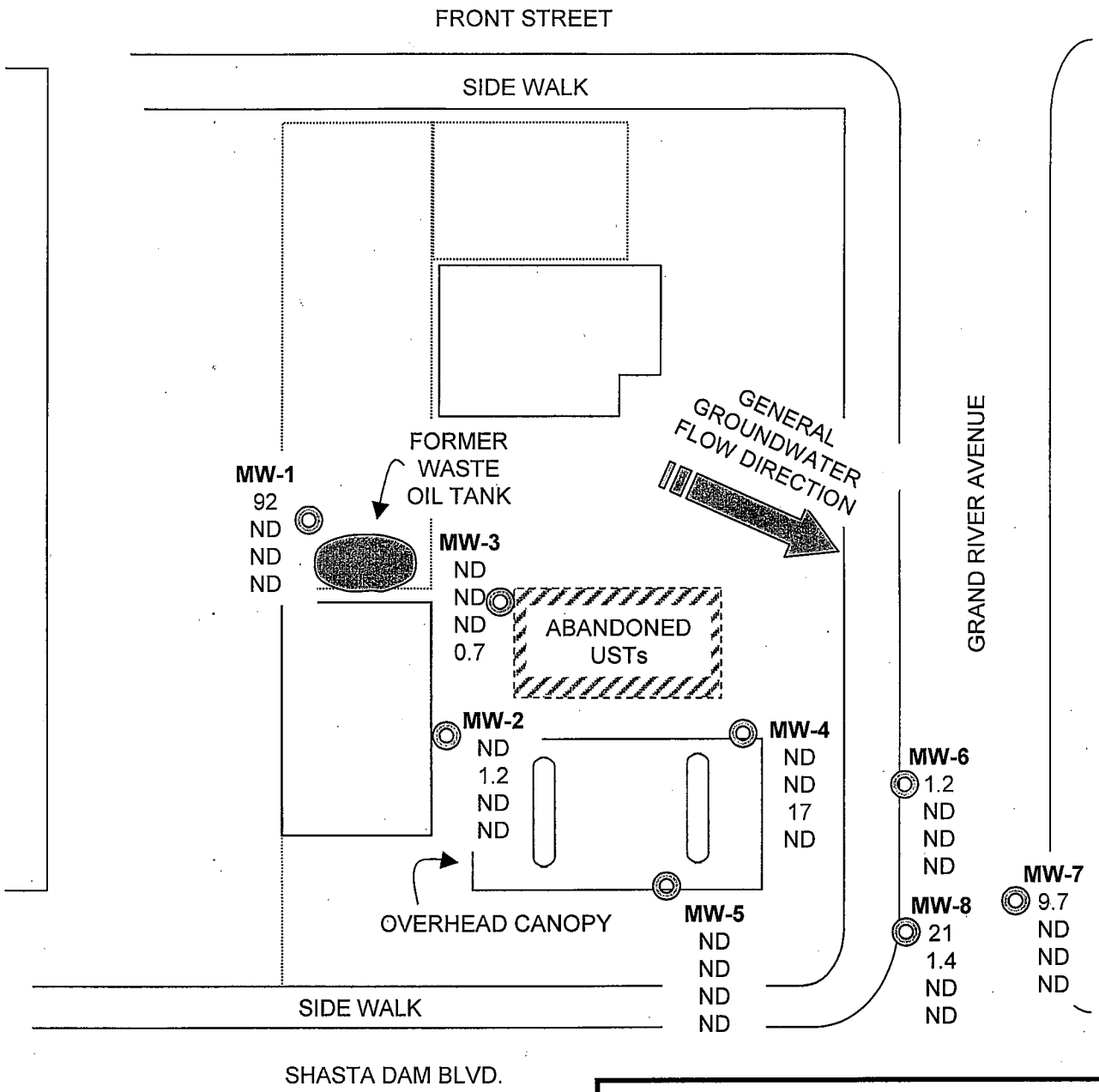
Concentrations in ug/L

SCALE: 1 IN = approximately 25 FT

TOM GREEN, TRUSTEE OF THE ETHYL E. GREEN TRUST, AND SHIRLEY CHACON

FORMER CHACON'S AUTO CLINIC
SHASTA LAKE CITY
SHASTA COUNTY

MAXIMUM PETROLEUM-RELATED GROUNDWATER CONCENTRATIONS (NOV 2000 TO SEPT 2006)



LEGEND

MW-2	WELL NAME
ND	PCE
1.2	TCE
ND	DCE
ND	Vinyl Chloride

Concentrations in ug/L

SCALE: 1 IN = approximately 25 FT

TOM GREEN, TRUSTEE OF THE ETHYL E. GREEN TRUST, AND SHIRLEY CHACON

FORMER CHACON'S AUTO CLINIC
SHASTA LAKE CITY
SHASTA COUNTY

MAXIMUM CHLORINATED SOLVENT GROUNDWATER CONCENTRATIONS (NOV 2000 TO SEPT 2006)