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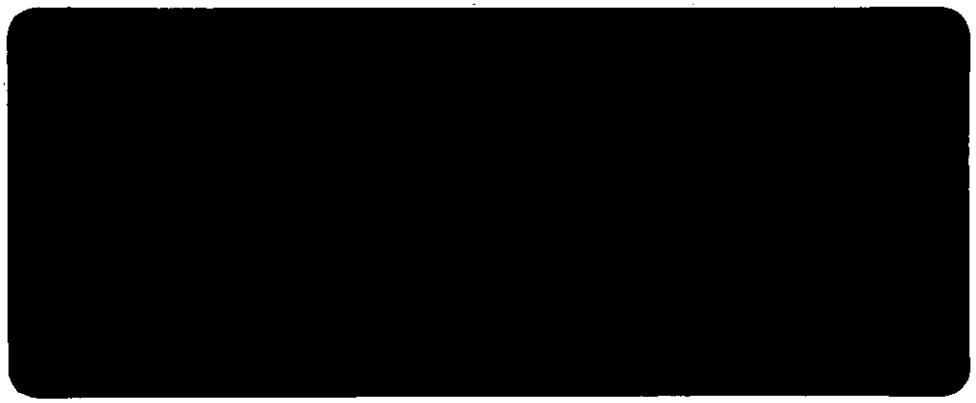
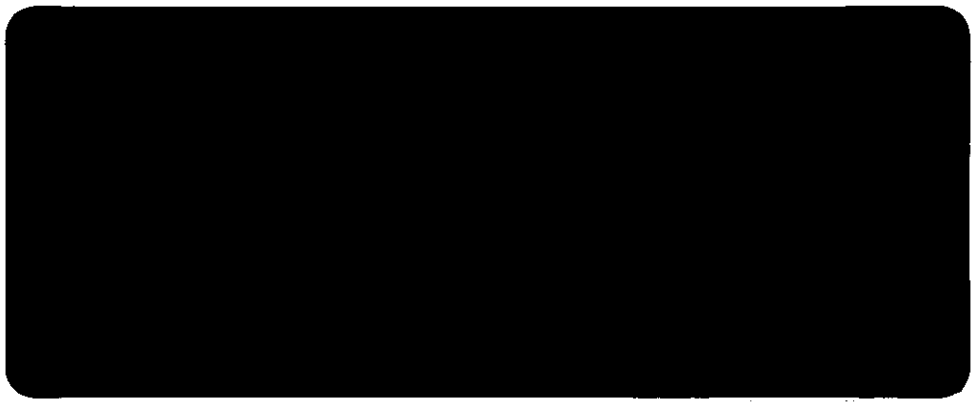
Clover-Chambers Creek Basin ground water management program





EMCON

CLOVER-CHAMBERS CREEK BASIN

GROUND WATER MANAGEMENT PROGRAM IMPLEMENTATION PROJECT

FINAL REPORT

Prepared for

Tacoma-Pierce County Health Department
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Clover-Chambers Creek Basin
Ground Water Management Program
Implementation Project
Final Report

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EXECUTIVE SUMMARY

In 1990 the Tacoma Pierce County Health Department applied for and was granted Centennial Clean Water Funds to begin implementation of the Clover-Chambers Creek Basin Ground Water Management Program. The proposal included three pilot projects to test planning alternatives. The pilot projects included additional aquifer monitoring, development of a long term aquifer monitoring plan, an underground storage tank local delegation study and a local abandonment survey and education program. The goal of this implementation project was to determine the effectiveness of three ground water quality protection strategies recommended as preferred options in the Clover-Chambers Creek Ground Water Management Program.

For this study the long term ground water monitoring plan options were developed with an understanding that several other monitoring efforts have been proposed or initiated within Pierce County in recent years. These efforts include the Pierce County Coordinated Water System Plan, and short term studies conducted by the USGS.

The current Tacoma-Pierce County Health Department ground water database was evaluated for completeness, ease of data entry, and ease of data reporting. A search of the database revealed 104 locations having at least one entry into the ground water quality data table, 920 depth to water entries, and approximately 76 entries related to well yield. The evaluation found that the current database format makes data review and entry difficult. Selected data was used along with data from water system purveyors to evaluate monitoring well suitability and develop future monitoring plan recommendations.

New water quality data was also generated through the sampling of 38 wells and springs. Monitoring was conducted over a twenty-five month period. Sampling included collection of static water levels, temperature, pH, conductivity, total dissolved solids, coliform, nitrate, selected metals and organic compounds.

Selected historical data were analyzed to provide a limited assessment of updated water quality statistics, evaluate indicator parameter trends and characterize the geochemistry for each aquifer zone. The statistical testing was performed on a limited number of parameters from wells that had sufficient historical data. Trend analyses were performed on four wells using nitrate. The plots showed generally constant nitrate levels in three of the four wells. In one well, nitrate levels appeared to show an increase. Trilinear diagrams were also prepared for each of the four aquifer zones. The plots indicated only

minor differences in the chemical compositions of ground water from the four aquifer zones.

Using the data described above, three ground water quality and quantity monitoring programs were developed for the CCC Basin to represent a range of options with variable costs and proportionate benefits.

The baseline option is intended almost exclusively as a working tool limited to internal use by the TPCHD for management of health related aquifer issues. The mid-range option is intermediate in both level of effort and long term utility and anticipates a significant level of "outreach" to extend data management benefits to system owners/operators in collecting and utilizing aquifer data. The "optimum" program has the potential for being an effective educational tool and incorporates substantial "outreach" capacity to foster comprehensive data collection, aquifer evaluation, and aquifer management throughout the basin.

Three options for ground water monitoring and data management are presented. All options include primary reliance on data currently being generated, and all options include provision for more effective database management. A consideration of the costs and benefits for Options 1, 2 and 3 points strongly to the recommendation of Option 2 as being more cost effective and is the preferred option.

Another element of the implementation grant was the underground storage tank pilot project. This project included a survey of registered UST facilities, evaluation of options for local delegation using Environmentally Sensitive Area designation and development of a local ordinance for UST regulation. The move to implement local delegation of UST regulation in the CCC Basin was unsuccessful. Changes in TPCHD UST Program staff led to delays in implementation of local delegation.

The UST survey collected useful, yet somewhat incomplete information about USTs in the CCC Basin. Specifically, information was obtained on the number of USTs in place, the level of compliance with Ecology registration requirements, the use and status of the USTs, the nature of the facility, and a host of other items relating to the potential for water quality degradation due to USTs at the facilities. One weak point in the survey is the absence of information on the two military bases located partially or totally within the CCC Basin.

A local well abandonment survey and educational program was also conducted for this study. The well abandonment survey was conducted to locate unused or improperly decommissioned wells. Educational material was developed to inform the public about the risk to water quality and safety from improperly abandoned wells.

The well abandonment survey was not successful in locating wells in need of proper decommissioning. Considering the cost of the survey and the minimal benefit obtained, a

door-to-door survey and questionnaire is not the approach that should be taken to identify wells in need of decommissioning. Other means needed to be found to locate abandoned wells.

Based, in part, on the experience documented in this summary report, TPCHD chose to actively pursue a local delegation program for well sealing and decommissioning. To bring this program into being, TPCHD staff negotiated an agreement for local delegation with Ecology and conducted a number of activities to notify the public and industry of the pending local program.

This program was implemented in April 1993 and program staff have been very successful in improving compliance with Chapter 173-160 WAC and in educating the well drilling industry and the public about the importance of proper well sealing and decommissioning.

Although the response of the general public to an educational brochure is difficult to measure, the personal safety issue with abandoned wells is so graphically presented on the cover that most individuals observed looking at the brochure were apparently moved to open it and examine at least some of the text inside. Agency response to the brochure has been excellent.

1 INTRODUCTION AND PROJECT SCOPE

The Clover-Chambers Creek (CCC) Basin comprises approximately 160 square miles located in central Pierce County, Washington. The CCC Basin includes the unincorporated communities of Parkland, Spanaway and Tillicum, the cities of Fircrest, Lakewood and University Place, the Town of Steilacoom, and the southern portions of the City of Tacoma. It also includes McChord Air Force Base and the northern and western portions of Fort Lewis. Figure 1-1 shows the CCC Basin boundaries and location.

The ground water aquifer system underlying the CCC Basin supplies drinking water for about 268,000 residents of Pierce County. For over 169,000 of these residents, it serves as the sole source of drinking water supply (Brown and Caldwell, 1991).

At the end of the 1970s, studies conducted by the Washington State Department of Health indicated that water quality of the CCC Basin aquifer was generally deteriorating. Levels of nitrates and chlorides were increasing and incidents of bacteriological contamination of wells were becoming a common occurrence. In the early 1980s, a number of significant site-specific ground water contamination problems, generally involving toxic chemicals, were discovered in the CCC Basin (Brown and Caldwell, 1991).

In response to the deterioration in ground water quality, the Tacoma-Pierce County Health Department (TPCHD) and the Washington Department of Ecology (Ecology) funded a geohydrologic study of the CCC Basin. This study, the *Clover-Chambers Creek Geohydrologic Study* (Brown and Caldwell, 1985) provided valuable information concerning the precise nature of the geologic and hydrologic make-up of the ground water system, documented the extreme vulnerability of the aquifer system to contamination from overlying land-use activities, and identified the geographic areas that were subject to the highest risk of ground water contamination. The *Clover-Chambers Creek Basin Geohydrologic Study* also provided the foundation for the development of a ground water management and protection program, published in 1991 (Brown and Caldwell, 1991).

In 1990 TPCHD applied for and was granted Centennial Clean Water Funds to begin implementation of the *Clover-Chambers Creek Basin Ground Water Management Program*. The proposal included three pilot projects to test planning alternatives

recommended in previous CCC Basin documents. The pilot projects included the following:

1. Additional aquifer quality and quantity monitoring and development of a long-term aquifer monitoring plan

2. An Underground Storage Tank (UST) local delegation study

3. A local well abandonment survey and education program

These pilot projects are discussed briefly in Section 1.2 and in greater detail in following sections of this report.

1.1 Project Goal

The goal of the Clover-Chambers Creek Basin Ground Water Management Program Implementation Project was to determine the effectiveness of three ground water quality protection strategies recommended as preferred options in the CCC Ground Water Management Program.

1.2 Project Tasks

To achieve the project goal the following seven tasks were undertaken:

Task 1: Additional Aquifer Quality and Quantity Monitoring, including development of Quality Assurance/Quality Control and Ground Water Sampling Plans, ground water monitoring for 25 months, and entry of monitoring results into a project database;

Task 2: Data and Trend Analysis to establish trends in ground water quality and quantity by comparing recently acquired data with historical data from the CCC Basin aquifer;

Task 3: Long-term Monitoring Plan for the CCC Basin that addresses implementation costs, resource needs, public health protection, monitoring parameters and funding sources at three potential funding levels;

Task 4: Underground Storage Tank Pilot Project that includes development of a local ordinance for UST regulation, exploration of funding options, and conducting a survey of UST facilities in the CCC Basin;

Task 5: Local Well Abandonment Survey and Education Program to locate abandoned wells on private properties in the CCC Basin and educate property owners,

local governments, and the general public on the potential risks to the aquifer and abandonment requirements;

Task 6: Final Technical Report and Data Transmittal to include the results of the ground water monitoring, the data and trend analyses, the recommended long-term monitoring plan, and the UST and well abandonment task results. The CCC Basin ground water data collected in the course of the grant will be sent to Ecology for incorporation into the STORET database; and

Task 7: Project Management to ensure that the grant tasks are conducted in a timely and efficient manner according to the grant agreement.

Work on the above tasks commenced in July 1991 with the signing of a grant agreement between TPCHD and Ecology. Many tasks were performed concurrently, however data analyses were performed and the long-term monitoring plan was developed after data collection was complete. The following sections are the summaries of task activities, such as water quality and quantity monitoring, and/or task products, including the recommended long-term ground water monitoring plan for the CCC Basin.

The monitoring plan sections of this report are intended to be a resource document used as guidance in the implementation of a ground water monitoring and management program for the CCC Basin. The report provides a basis of comparison for monitoring options, and, when a monitoring option is chosen, a checklist of technical plans and implementation processes that will need to be addressed in order to implement the program. For example, the technical report provides a preliminary list of probable monitoring wells, but all well sites will require field verification and the establishment of appropriate agreements with well owners for data sharing or additional data acquisition. Similarly, although the report identifies the approximate level of staffing and funding support for implementation, specific agreement, job descriptions, and management systems have yet to be developed to provide for program operation. Finally, although potential benefits and implementation issues are identified, the necessary public or administrative processes for resolving management issues have not been completed (e.g., advisory committee discussion, briefings to elected officials, hearings, etc.).

1.2.1 Chronology

The following is a chronology of the CCC Basin long-term monitoring program development:

1978 The Washington Department of Health (DOH) conducts an evaluation of historical water quality data for the CCC Basin. The evaluation

demonstrates that ground water contamination is evident in significant portions of the basin.

1981 DOH and the TPCHD conduct a follow-up survey of selected wells within the CCC Basin. This survey provides evidence of a general trend towards ground water quality degradation. The survey report recommends that a comprehensive geohydrologic study of the basin be undertaken and that an ongoing monitoring program be implemented.

1982 TPCHD, with assistance from Ecology and DOH, initiates the CCC Basin Geohydrologic Study intended to provide a technical basis for decisions by state and local entities concerning land and water use. The study includes collection of baseline water quality data and creation of a data management system within TPCHD to support development of a long-term monitoring program.

1985 The CCC Basin Geohydrologic Study is completed. The study's final report proposes a general management framework for CCC Basin ground water resources, including recommendations for the establishment of a long-term monitoring program integrating the baseline water quality data and data management system developed through the study.

1986 At the request of TPCHD, Ecology designates the CCC Basin as a Ground Water Management Area, the initial step in development of a formal Ground Water Management Program (GWMP) for the basin. Ecology appoints an oversight committee, the CCC Basin Ground Water Advisory Committee (GWAC), and TPCHD is designated by the Pierce County Executive to serve as lead agency for the GWMP.

1988 TPCHD secures funding for preparation of the CCC Basin GWMP and initiates program development.

1991 The CCC Basin GWMP is completed. The GWMP sets forth a series of management strategies deemed by TPCHD and the GWAC as necessary to protect and manage the water resources of the CCC Basin. One of the management strategies calls for TPCHD and the GWAC to implement a simple or basic long-term monitoring program which was developed as part of the GWMP. The management strategy also commits TPCHD and the GWAC to pursue a more comprehensive long-term monitoring program for future implementation.

1992 The Pierce County Council concurs with the management strategies put forth in the CCC Basin GWMP and Ecology officially certifies the program. This invokes provisions of RCW 90.44.420, which require

Pierce County, as a local government affected by the GWMP, to adopt regulations, ordinances, and/or programs for implementing the management strategies of the GWMP, including the long-term monitoring program.

1993 In order to partially satisfy Pierce County's obligations under the CCC Basin GWMP and with backing of the GWAC and Tacoma-Pierce County Board of Health, TPCHD secures a Centennial Clean Water Fund grant to support specific implementation activities including: investigation of local UST management; initiating a well abandonment survey and education program; implementation of the basic long-term monitoring program; and exploration of options for a more comprehensive long-term monitoring program.

1995 CCC Basin long-term monitoring program implementation planning under the Centennial Clean Water Fund Grant is completed. This document summarizes local UST management and well abandonment efforts, describes the results of the monitoring program data evaluation, and describes a recommended monitoring plan.

1.2.2 Coordination with Related Monitoring Efforts.

The CCC Basin long-term monitoring program is interrelated with several other monitoring efforts that have been proposed or initiated within Pierce County in recent years. Specifically, these efforts include a proposal for a county-wide long-term monitoring program that will be advanced through the Pierce County Coordinated Water System Plan (CWSP) Update, which is under preparation, and special short-term studies being conducted by the United States Geological Survey (USGS). During development of the CCC Basin long-term monitoring program, TPCHD has actively participated in planning activities associated with these related efforts to ensure coordination and to reduce the potential for redundancy.

CWSP Program. The proposed CWSP county-wide monitoring program is currently at a conceptual stage of development. Based upon review of preliminary documents produced for the CWSP update and discussions with the geotechnical consultant retained by the county to prepare those documents, it is apparent that the CCC Basin long-term monitoring program could easily be assimilated into the county-wide program, if and when it is implemented.

The CCC Basin long-term monitoring program exemplifies the level of planning that will be necessary in other major basins within Pierce County to successfully implement a county-wide monitoring program. TPCHD has initiated a similar planning effort for the Gig Harbor Peninsula basin under provisions of the Gig Harbor Ground Water

Management Program, which received concurrence of the Pierce County Council and was certified by Ecology in 1993. The Gig Harbor Peninsula and CCC Basin long-term monitoring programs will serve as essential building blocks for a county-wide monitoring effort.

USGS Studies. The CCC Basin monitoring program will be structured to incorporate data generated through the aforementioned special short-term studies conducted by the USGS, specifically the National Water Quality Assessment Project and the Puyallup/Tacoma Basin Study. In order to ensure coordination between the CCC Basin long-term monitoring program and the special studies, TPCHD will collaborate with USGS regarding selection of specific wells for monitoring, choice of data formats, and establishment of data exchange mechanisms.

2 DATABASE DESCRIPTION

2.1 Water Quality

2.1.1 Data Record and Storage Format

The TPCHD ground water database was evaluated for completeness, ease of data entry, and ease of data reporting. Historical data and data collected during this implementation grant were combined into a single water quality database. The combined TPCHD ground water database had been entered into a commercial software database program (Paradox) and consisted of several tables. The ground water chemistry data was stored in two Paradox tables. The historical data, collected prior to 1992, were downloaded from Cromemco (a proprietary hardware system developed and modified by Brown and Caldwell during presentation of the 1984 Geohydrologic Study). These data were previously converted to Paradox format and stored in Paradox table SC_C3. The more recent data from the current Ecology implementation grant collected since 1992 were entered into a separate Paradox table C3DATA.

Both historical and current data tables store chemistry data in a linear format in which one record contains one parameter collected at one location, date, and time. The chemistry data were referenced to sampling site information through a site identification field. The sampling and site property information was found in several tables, principally a table called WELLFILE. Ground water chemistry data were referenced to a code, referred to as the Pcode, corresponding to a standard list of chemical parameter codes. The Pcodes were derived by the USEPA and are used by Ecology for data submittal requirements for hazardous waste sites.

The two ground water chemistry tables, C3DATA and SC_C3 , were merged into one table, GWDATA, to evaluate overall database completeness. The data from the two tables were not of compatible formats and were reformatted accordingly. For example, table C3DATA was structured with the parameter results field as an alphanumeric data whereas the corresponding field in table SC_C3 was structured for numeric data. The structure of the combined file GWDATA was designed for data evaluation or export for this report. The newly created data table stores data in a similar linear format as the old files. However, storing the data in this format results in considerable complexity in data access and export. The data were evaluated in a simple spreadsheet table (flat file) format

with each parameter in a column and each row associated with a specific site, individual time, and parameters. The linear format required that a script (a Paradox program or macro) be written to produce output data in the spreadsheet format. Because of variable data entry characteristics, a separate script was required to export data for each specific chemical species. Scripts were written to export major element data including sodium, potassium, calcium, magnesium, alkalinity, chloride, sulfate, and nitrate. These major-ion scripts required additional manipulation to query GWDATA and place the data in a new temporary output table (MAJOR_I). Once in the new table, the data were exported in a format compatible with a commercial spreadsheet software program (Excel), the spreadsheet format used for display and analysis. Appendix A contains a listing of major ion data.

2.1.2 Database Completeness

A search of the data revealed 104 locations having at least one entry into the ground water quality data table. The sampling locations were located throughout the CCC drainage basin. The sampling locations were identified with CCC hydrostratigraphic zones A through Deep. Table 2-1 summarizes the number of wells that contained water quality data for each hydrostratigraphic zone. Wells open to more than one zone are listed with two zones (A/C). Appendix C contains a list of well names by hydrostratigraphic zone.

2.2 Quantity and Yield

The data used to evaluate monitoring well suitability and develop program recommendations were compiled from a review of water purveyor systems. Sources of data included existing files, previous reports, the TPCHD database, and interviews with well system purveyors and owners. For efficiency, sources are characterized either as "primary" (Group A), or "secondary" (Group B, special purpose wells, studies, etc.). The methodology used to review and standardize the data is described in Section 5.

Entry and evaluation of water system data was not included as a task in this project.

2.2.1 Water Levels

Water level data were also found in several Paradox tables. All of the water level data were combined in a new table WATLEV. Case by case manipulation was required to get the data into a common format. To estimate water level elevation, depth to water data was linked using a Paradox table with ground surface elevation data. A total of 920 depth to water entries were found that were referenced to 530 different locations, however, 188 (20.4 percent) of these depth to water entries were either blank or zero.

2.2.2 Well Yield

The ground water database also contained limited information about well yield. The information had been obtained from drillers reports and entered into the database by TPCHD personnel. The well yield information was stored in WELLNAME table. Well yield was cross referenced to CCC hydrostratigraphic zone. A total of 76 entries were linked to zones.

Basic statistics on aquifer capacity were calculated to identify trends. The average and median are measures of the central tendency of the well yield data sets. The average is affected more by extreme values than the median. The standard deviation is a measure of the spread about the average. The average ranged from 566 gallons per minute (gpm) in zone C/E to 2,169 gpm in zone A/C. The median ranged from 383 gpm in zone C/E to 1,750 gpm in zone Deeper. The high average and median values represent the high proportion of Group A systems (generally high yield wells) in the data available for statistical analysis.

These calculations are summarized in Table 2-2. Well yield is determined by well construction and aquifer characteristics. Neglecting well construction details, the different zones have similar well yields. The maximum well yield for each zone was well above 1,000 gpm. The highest yield reported was 6,240 gpm. Well yield also reflects the variety of uses found in each zone. For example, Zone A well yields reflect a range of water uses from the low flow requirements of domestic wells to high flow requirements of larger water district purveyors. For comparison, Zone E is almost exclusively composed of larger water system purveyors and reflects a higher yield. Table 2-2 shows the range of well yields found in each zone. The higher values reflect the yields required by larger purveyors. The lower yield, reflect domestic wells.

2.2.3 Other Data Sources

In addition to the existing database, several other sources of information were identified during development of this monitoring program.

A primary source of additional data is the records kept by the major water purveyors within the basin. Water level and production (plus water quality) information are recorded for all purveyor wells. Some of these wells have significant monitoring histories (over 20 years) which are useful in establishing long-term trends and serving as background data for the CCC Basin.

These data have not been compiled into a systematic database at this time and data entry and evaluation are not included in this report.

Secondary water level information can be obtained from minor water purveyors and other small "self-contained" water users, site-specific water quality monitoring programs (landfills, etc.), and other public and private scientific studies. These secondary sources may have data applicable to the overall monitoring effort; however, many of the quality control criteria for long-term analysis (consistency and duration of testing, laboratory quality control, etc.) may not be satisfied.

The data collected for this project are from both primary and secondary sources. Methods of data acquisition are detailed in Section 5.4.2, Methodology for Well Selection.

3 AQUIFER QUALITY AND QUANTITY MONITORING

3.1 Introduction

Task 1 of the CCC Basin GWMP Implementation Project included ground water sampling by TPCHD and participating water system purveyors. Over the course of the project, a total of 38 wells and springs were monitored (Table 3-1). The wells and springs monitored were chosen by TPCHD, based on the CCC Basin GWMP, with input from the Pierce County Regional Water Association and the DOH and Ecology to represent the various geographic areas and hydrologic zones of the CCC Basin. The locations of these wells are shown on Figure 3-1.

3.2 Water Quality/Quantity Sampling

Monitoring was conducted over a twenty-five month period from April 1992 through April 1994. No samples were collected by TPCHD in March or April of 1993 due to changes in field and administrative personnel. Not all wells were available for sampling in any given month due to limited seasonal operation or maintenance and construction requirements. All sampling and analysis was performed in accordance with the 1991 TPCHD Ground Water Monitoring Quality Assurance and Sampling Plans. Major components of the monitoring program are discussed below.

3.2.1 Field Measurements

Field measurements were taken on a monthly basis at all available monitoring sites. Parameters obtained included static water level (SWL), temperature, pH, conductivity and calculated total dissolved solids.

- Static water level: Measured at the time of water sample collection by TPCHD using a battery operated Actat Olympic Well Probe model 500 or by water purveyor personnel using a similar electric water level meter. If a well was so equipped, an air line was used for water level measurement. If the purveyor had already recorded a SWL reading for the month, that reading was used. Both the sampler and the method of measurement were noted as part of the data

collection. Measurement was not possible at some sites due to the well plumbing design or construction.

- Temperature: Readings were obtained by using a Hach One pH meter and temperature probe model 43800-00 with a resolution to 0.1 degrees Celsius (°C) and a relative accuracy of +/- 0.5 °C).

- pH: Measured by using a Hach One pH meter with an automatic temperature compensation unit (Model 44200-21). The Hach One pH electrode is capable of resolution to 0.01 pH and a relative accuracy of +/- 0.01). The meter was calibrated using manufacturer-supplied pH 4 and pH 7 buffer reagents prior to measurement each day that monitoring was to occur. In addition, the unit was re-calibrated during use in the field any time readings were suspect. The buffer solutions were prepared and replenished according to manufacturer's instructions. Calibrations and necessary adjustments were recorded in the QA/QC log (Appendix B).

- Conductivity: Measured by using a Hach Conductivity/TDS meter (Model 44600) with automatic temperature compensation from 0 to 100 °C (resolution to 0.1 microsiemens per centimeter [µS/cm] and a relative accuracy of ±1 percent of reading plus ±2 lowest significant digit). This meter was calibrated monthly using manufacturer-supplied solutions and de-ionized water.

- Total Dissolved Solids were calculated from the conductivity readings. Calibrations and necessary adjustments were recorded in the QA/QC log.

3.2.2 Bacterial Sampling

Samples for bacteria were taken by TPCHD personnel on a quarterly basis. Testing for coliform bacteria (presence-absence) and fecal coliform (presence-absence) was performed at the TPCHD laboratory, a DOH accredited laboratory. Relevant bacterial test results provided by participating water purveyors were also entered into the database.

3.2.3 Additional Parameters

Samples were analyzed for the additional parameters listed below, as described in the TPCHD project Quality Assurance and Sampling Plans. The following analyses were performed by Laucks Testing Laboratories, Inc., a DOH and Ecology accredited laboratory:

- Nitrate (as nitrogen)
- Detergents (surfactants)

- Iron
- Manganese
- Volatile organic compounds (VOCs)
- Chlorinated pesticides and polychlorinated biphenyls (PCBs)
- Total organic carbon (TOC)
- Cations/anions (Na, K, Ca, Mg, Cl, SO_4, bicarbonate-carbonate, NO_3)
- Dissolved metals (As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, and Zn)
- Alkalinity (bicarbonate)

3.3 Data Management

Upon receipt of sample results from the contract laboratory, the data were transcribed to data entry forms containing the proper codes for uploading to STORET. The data were then periodically entered into a database using Paradox software. This database will be delivered to Ecology along with this final report. The data generated by this project, as well as the historical CCC Basin ground water quality data on file at TPCHD are available for use upon request.

Due to the large volume of raw data generated by this task, the sampling results are not included in this report. The data, as well as the coded data entry forms will remain on file at TPCHD for examination or review upon request.

4 HISTORICAL DATABASE EVALUATION

Historical data were analyzed to provide updated water quality statistics, evaluate indicator parameter trends since 1985, and characterize the geochemistry (cation-anion balance) for each aquifer.

4.1 Statistical Evaluation

The data used in the statistical evaluations were obtained from the combined historical and implementation grant database. All available data were queried by indicator parameter and aquifer zone. Table 4-1 summarizes the results of the queries listing the number of wells by aquifer zone used in the statistical evaluations. Descriptive statistics were completed on four indicator parameters; conductivity, nitrate (as nitrogen), hardness, and chloride. Conductivity was used because total dissolved solids have been found to be proportional to conductivity; nitrate is an indication of septic contamination; hardness is a secondary MCL and is dependent upon calcium and magnesium; and chloride is considered a conservative tracer (i.e., chloride does not readily react with many elements or compounds) that may be indicative of a large number of potential surface impacts. The statistical parameters calculated were: number of measurements, minimum; maximum; average; and sample standard deviation. The statistics for each parameter are tabulated for each hydrostatic zone. Data are presented in Table 4-2.

The data was selected from the combined water quality database. The number of wells representing each hydrostratigraphic zone is listed in Table 2-1. The number of analyses represents the number of measurements, and one location can have multiple measurements.

Individual conductivity values were found to range between 28 µmho/cm and 431 µmho/cm. The highest value was found in zone A. Average values show little variation between the zones.

Individual nitrate-nitrogen ranged between not detected and 5.8 mg/L. The highest value (5.8 mg/L) was found in zone A. This value did not exceed the primary MCL of 10 mg/L, but did exceed the EPA Early Action level of 5.0 mg/L. Average values ranged from not detected to 2.1 mg/L.

Hardness values ranged from 20 to 150 mg/L as $CaCO_3$. This range includes waters characterized as soft (less than 60 mg/L as $CaCO_3$), moderately hard (61 to 120 mg/L as $CaCO_3$), and hard (121 to 180 mg/L as $CaCO_3$). The highest individual value was reported from zone A. Average values were very similar for all aquifers ranging form 53.1 to 69.1 mg/L as $CaCO_3$, indicative of waters between soft and moderately hard. No hardness values were measured for wells completed in the deepest aquifer (zones below E).

Individual chloride values ranged from 1 to 90 mg/L. The highest value was from zone A but was well below the secondary MCL of 250 mg/L. The average values ranged form 2.1 to 10.7 mg/L for the different aquifers. No significant differences were noted between aquifers on an average basis.

4.2 Indicator Trend Analysis

Time trend analyses were completed on four wells. Nitrate was selected for the trend analyses because nitrate data have been collected over a longer time period. Four nitrate as nitrogen time trend plots are included (Figures 4-1 to 4-4). The data are for Parkland Well no. 7, Frontier County Park, Fircrest Well No. 7, and Puyallup Maplewood Spring. The plots show that nitrate levels are fairly constant for three of the wells. However, Parkland Well No. 7 appeared to show an increase since January 1992. All the nitrate data ranged between 1 to 4 mg/L, well below the primary MCL of 10 mg/L.

4.3 Anion-Cation Balance

The anion-cation balances are derived from the major-ion chemistry data. The data were converted from concentration units of mg/L to units of milliequivalents per liter (meq/L). The units of meq/L expresses chemical concentration in terms of ionic charges per unit volume. The sum of all anions in meq/L should equal the sum of all cations in meq/L. Concentrations units of meq/L can be used to compare the chemical species balances of different ground water types. The anion-cation results table (Table 4-3) includes the totals of major-ions in meq/L, and the percent difference between total cations and anions calculated as

$$\text{percent difference (\%)} = ((\text{anions}-\text{cations})/(\text{anions}+\text{cations})) \times 100$$

For ground water with moderate dissolved solids content, a percent difference greater than ±5 percent indicates either that the chemical analysis contained errors or was incomplete. An incomplete analysis can occur when a non-major anion or cation was present in higher than expected concentrations and was not included in the balance calculations.

Of the 51 anion-cation balances calculated, 29 percent fall outside the ±5 percent criteria. However, other than the six analyses of the Downtown Tacoma Spring, the total anions plus cations does not exceed 5 meq/L, indicating ground water in the basin has low dissolved solids content. At these low concentrations the relative percent difference criteria are not as meaningful because of the limitation on the analytical precision of testing. Further, alkalinity has been shown to be dependent upon holding times, i.e., the time between collection and analyses. Ideally, alkalinity should be determined in the field and not in the laboratory. Because the data used in the calculations comes from a database, the method of alkalinity determination was unknown. Differences in the anion-cation balance at low ionic concentrations seen in CCC ground waters may reflect changes in ground water alkalinity that occurred between sample collection and analysis.

Trilinear Diagrams. Trilinear diagrams are useful for grouping waters into specific chemical types and for determining possible mixing of specific chemical types. Waters with similar source and geochemical evaluation may plot on a trilinear diagram as a group. Water from dissimilar sources and geochemical evolution may plot in different areas of the diagram. Trilinear diagrams can also be used to show mixing of specific chemical groups. A mixture of two waters will plot on a line connecting the two source points. Trilinear diagrams (also referred to as Piper diagrams) are an additional method used to interpret major element chemistry data. Relative percent chemical concentrations of sodium, potassium, calcium, magnesium, sulfate, chloride and alkalinity are plotted on a trilinear plot. Relative percent are calculated by dividing the concentrations in meq/L by total of anions or of cations.

Major ion data were queried from the combined database. A total of 118 complete major ion analyses were grouped into four hydrostratigraphic zones. This was all of the major ion data available. Data were plotted for zones A, C, E, and Deeper (Figures 4-5 through 4-8). A subtle trend was noticed in the data. Zone A was found to be relatively higher in sulfates and chlorides, whereas the deeper zones were higher in alkalinity. Because the data ranges overlap for many of the data points, the data from each zone cannot be distinguished by anion chemistry. Cation data for the four zones plot in similar areas on the trilinear diagram.

The trilinear plots indicate only minor differences between aquifer Zone A and deeper aquifer zones. The data from each zone plot in distinct patterns that for the most part overlap. The minor differences in anion chemistry between the shallow and deep aquifer zone reflect the effects of chemical evolution associated with water of older age.

5 MONITORING PROGRAM DEVELOPMENT

5.1 Background

The following ground water quality and quantity monitoring programs have been developed for the CCC Basin to represent a range of options with variable costs and proportionate benefits. As specified in the work plan, three levels of monitoring program options are defined, ranging from a basic minimum plan that relies almost exclusively on limited management of data currently being generated, to an "optimum" plan which incorporates existing data into a comprehensive program of well installation and data generation. The intermediate level program presents a balanced proposal intended to create the maximum benefit for a moderate level of funding support. All programs include specifications for effective data management and data utilization appropriate to the level of effort. The baseline option is intended almost exclusively as a working tool limited to internal use by the TPCHD for management of health related aquifer issues. The mid-range option is intermediate in both level of effort and long term utility and anticipates a significant level of "outreach" to extend data management benefits to system owners/operators in collecting and utilizing aquifer data. The "optimum" program has the potential for being an effective educational tool and incorporates substantial "outreach" capacity to foster comprehensive data collection, aquifer evaluation, and aquifer management throughout the basin.

5.2 Assumptions

All three monitoring programs developed incorporate a number of basic assumptions including:

- Three aquifers will be monitored. These are commonly referred to as the "A", "C", and "E" units. Monitoring of deeper aquifer units (G or H units) or of aquitards (the B, D, and F units) is not specifically included although existing "deep" wells suitable for monitoring are identified.

- All programs assume active cooperation of all major, Group A water purveyors in the CCC Basin either individually, through the Regional Water Association (RWA), the Water Cooperative of Pierce County, or other appropriate entity. The level of involvement varies with the option but includes, at a minimum,

access to or submittal of files and data on water quality, water levels, system configuration, and production.

- All programs assume that the data base system to be used will be Paradox (the specific version will depend on TPCHD hardware system upgrades). Spreadsheet software used in evaluation and output presentation may be either QuattroPro or Excel.

- All three programs, initially, are limited to the CCC Basin including contiguous areas that may be part of the aquifer recharge or discharge system. Expansion to other areas in Pierce County is possible but is not specifically addressed.

- It is assumed that the primary agency involved in implementing the ground water monitoring program will be the TPCHD, however, the monitoring programs identified do not preclude other agency or consultant involvement. Modifications to potential implementation scenarios may require modifications to the estimated costs.

5.3 Evaluation of Other Monitoring Programs

5.3.1 1985 Geohydrologic Study

The 1985 Geohydrologic Study (Section 8, page 25) provided preliminary outlines of a dedicated ground water monitoring program. Specifically, this program recommended:

1. Continue monitoring 35 existing and 4 dedicated wells established in the geohydrologic study.

2. Install 28 double completion wells in the A and C aquifer zones.

3. Install 6 wells in the E aquifer zone.

4. Perform routine monitoring for water level, pH, nitrate, chloride, TDS, and total coliform on a quarterly basis.

5. Incorporate the data in a data management system.

Twenty-seven of the thirty-five wells recommended in the 1985 study are included in the current options—nine in Option 1, 8 in Option 2, and 10 in Option 3. Routine monitoring includes a comparable parameters list as in 1985, however, the current options provide a range of monitoring frequencies. The current options all include specifications for a common database system. The 1985 recommendations also include cost estimates for phased implementation.

5.3.2 1995 CWSP Update

More recently a Long Term Ground Water Quantity and Quality Monitoring Program has been developed (by Hong West & Associates) for inclusion in the Pierce County CWSP Update. This plan has been reviewed for conformance with the plans developed as part of this project. The CWSP plan is generally conformable to the baseline option presented here regarding the number of wells and monitoring parameters and frequency. Both plans share the objectives of characterizing quantity and quality trends and providing a systematic database management process for effectively utilizing data currently being generated. The plan developed as part of the CWSP effort is both broader in scope (it provides County-wide recommendations) and less detailed regarding program specifics (particularly the different option levels and associated benefits). The programs identified for the CWSP and in this technical report are considered complementary, and a detailed comparison is provided for reference.

CWSP Objectives

The CWSP program provides a list of 12 specific objectives (Task 5 Project Memorandum, April 3, 1995 page 5). All the objectives listed are compatible with objectives of this implementation program. In particular, the goals of collecting reliable data, providing a centralized and standardized data management system, incorporating historical data, and minimizing costs by using existing data are directly reflected in the options identified. Objectives that relate to the use of the database to enhance aquifer management are called out for each option according to the relative degree to which that objective (e.g., identify water quality problems) can be satisfied by a specified database level.

Implementation

The CWSP identifies seven specific implementation activities: selecting of an oversight committee and a monitoring agency; surveying Group A purveyors; selecting a database management (software) system; finalizing the monitoring network; finalizing parameters and schedule; coordinating with other programs, and evaluating data. The options identified in this program do not specify a specific oversight committee, nor do they identify a specific survey at this time. However, the workplan assumes that selection of the appropriate option level will be made with advisory committee input and much of the information suggested in the survey has been tabulated (and is included in this document) during the process of well identification for each option.

The recommendations for a data management system are the same in both programs, and both programs assume that the actual network will need to be finalized through specific verification of preliminarily identified candidate wells. Both systems rely primarily on the

water quality data collected in satisfaction of SDWA requirements, however, the CWSP makes specific recommendation for additional parameter coverage, whereas the options presented in this report (specifically options 2 and 3) identify a mechanism and level of support necessary to implement additional data collection programs as such needs arise. Option 3 identifies, in addition, criteria for prioritization of new monitoring wells as may be needed to expand the database coverage. The approaches and recommendations of both programs are complementary and costs identified for the CWSP option are consistent with the level of database coverage identified for Option 1.

Well Network Coverage

The monitoring network identified for the proposed CWSP program identifies specific candidate wells for the A (shallow), C (sea level), and E (deeper) aquifer zones within and contiguous to the CCC Basin. A total of 35 wells are identified, comparable to the 40 wells catalogued for Option 1. Of these, 12 are in the shallow aquifer, 13 in the sea level aquifer, and 10 in the deeper (E or deeper) aquifer. The roughly equal representation of each aquifer zone is a slight departure from the program outlined in this report which locates wells in approximately a 3:2:1 ratio for the A, C and E zones. Option 1 identifies 10 wells in the E (6 wells) and deeper (4 wells) aquifer zones. Option 2 provides substantially greater coverage for the A and C zones and equivalent coverage for the deeper aquifers. Option 3 provides more extensive coverage for all zones.

5.4 General Description of Options

5.4.1 Descriptive Criteria

As noted in the introduction, three levels of monitoring have been identified to reflect different objectives in evaluation and utilization of the data. At the lower, baseline level, the TPCHD becomes a repository for receipt and maintenance of a database with the focus on limited internal uses of the data for departmental evaluation. At the optimum level, the objectives include internal evaluation, provision of a data resource for purveyors and other aquifer stakeholders, and the potential for educational outreach for comprehensive aquifer protection and management. Each option has a different level of personnel commitment, cost, user involvement, hydrogeological and data management (hardware/software) sophistication, and implementation and funding. The following functional categories have been identified to clarify the differences in the options:

1. Number and distribution of wells (for each of the three aquifers identified).

2. Personnel (time) commitments (estimated range) and related start-up costs.

3. Monitoring parameters and frequency, including well production data.

4. Database organization, particularly data entry, storage and output capabilities; representative software and hardware are also indicated.

5. Evaluation and reporting, specifically, the type and frequency of analysis and the manner of presentation or publication.

6. Costs/Administration; a preliminary order of magnitude estimate is provided based on personnel commitment and standard rates and on equipment and field activity costs; the length of the system implementation period is also indicated.

7. Implementation issues; monitoring and political coordination and administration issues are identified; funding options are also discussed.

8. Benefits and potential disadvantages; benefits to stakeholders and TPCHD are discussed and areas of potential problems are identified.

The three options are identified as "baseline" (Option 1), "midrange" (Option 2), and "optimum" (Option 3).

Specific details for each option are open to further modification as may be necessary to address specific constraints in funding, implementation considerations, personnel availability, or other considerations. In all cases, it is anticipated that option startup would be at a minimum level with a ramping up over a one to three year period.

5.4.2 Methodology for Well Selection

The monitoring well database was synthesized (or compiled) from several sources, primarily the 1985 CCC geohydrologic report (Brown and Caldwell, 1985) and its proposed monitoring plan (35 wells), and the TPCHD database of 104 wells with existing water quality data (see Section 2.0).

Washington State Water Supply Bulletin 22 (Walters and Kimmel, 1968) and four major Robinson & Noble reports (Robinson & Noble, 1992; 1994; 1995; 1995[in progress]) served as guides for well selection and provided hydrogeologic information for the area.

The criteria used for well selection for each of the three monitoring program options are listed below. Within each option, the criteria are listed in order of importance.

Option 1 Criteria

- Minimum total of 40 wells in Aquifers A and C distributed as described in Section 5.5.1. A total of 40 wells.
- Appropriate screened intervals (screened over a single unit except where aquitard B is absent).
- Sufficient historical water quality data (at least 3 records) to provide minimal characterization.
- Availability of historical level and production data.
- Long-term accessibility.

Option 2 Criteria

- All available and suitable wells in Aquifers A and C up to a maximum of 85 wells (see also Section 5.6.1).
- All wells in Option 1.
- Well distribution to meet the minimum requirements of Option 1 (see Section 5.5.1).
- Appropriate screened intervals (single layer screening also preferred in areas of layer B absence.
- Sufficient historical water quality data (at least 3 records) to provide minimal characterization.
- Historical level and production data available.
- Long-term accessibility.

Option 3 Criteria

- All wells identified in Options 1 and 2.
- Density targets of Aquifer A - one per 2 square miles
  C - one per 4 square miles
  E - one per 9 to 10 square miles
  Deeper - representative wells

- Appropriate screened intervals as for Option 2.
- Data history available.
- Historical level and production data available.
- Group B and individual domestic wells to be added if available.
- New wells to be installed in areas of data gaps or special concern.
- Long-term accessibility.

Each well was located according to the information available (usually to within 1/16 of a section). A map was then prepared for each option (Plates 1, 2, and 3) with detailed maps for each aquifer zone of Option 3 (Plates 3a, 3b, and 3c) in order to show the sites of proposed monitoring wells.

Several of the monitoring points are sites with multiple wells. Where the wells are completed in the same aquifer zone, it is assumed that only one will be sampled/monitored for water quality parameters (whichever well is more convenient). Where multiple wells at a site tap more than one aquifer zone, at least one well from each zone will be sampled. All wells will be monitored for water level and production data.

Domestic wells are included in all of the options. These inclusions were only made if the location was significant and a reliable geologic log existed. In the case of Options 2 and 3, domestic wells with prior water quality sampling histories were included as well. Because long-term access to these wells may prove problematic, and where access is denied, a similar well may need to be located or an observation well constructed. These should be treated on a case-by-case basis.

All options include a number of wells from zones deeper than the E aquifer: four in Option 1; an additional 7 (for a total of 11) in Option 2; and an additional three (for a total of 14) in Option 3.

Three springs were also included in Option 2 (ref. nos. 203, 205 and 238). These springs will provide good data on ground water as it reaches the surface. This data also will augment a useful historical record. An additional spring (ref. 315) was added for Option 3.

The Puyallup and Summit area wells are included since the hydrogeologic study for Firgrove Mutual, Inc. (Robinson & Noble, 1992) identified a component of ground water flow from the CCC Basin northward to the Puyallup Valley (with a major outflow at Maplewood Springs). Impacts within the northeastern portion of the basin could potentially effect areas outside the basin (in the Puyallup area).

The database list is divided according to option and aquifer completion zone . Several of the wells have dual or uncertain completion zones (i.e., aquifers A/C or C/E) and are mapped according to the upper of the two zones. The A/C wells typically show characteristics more similar to Aquifer A wells. The C/E wells are less certain as to the appropriate aquifer zone and are included with Aquifer C for simplicity and uniformity. Additional evaluation will be required for all multiple zone wells before they are incorporated into a long-term monitoring plan.

The database also indicates whether a given well is also listed on the TPCHD ground water quality database. Some wells from that list are not included, usually due to lack of construction/geologic information.

The Option 3 maps (Plates 3a, 3b, and 3c) indicate those areas where a new monitoring point must be located in order to provide the coverage of the basin assumed for that layer. Additional locations can be substituted with existing wells (not currently identified) of appropriate depth at or near the suggested locations. If no wells fit the necessary criteria for that location, newly constructed monitoring wells will be needed.

New monitoring well placement should be prioritized according to the following criteria:

1. Sites in or near the "high use/sensitive areas" as shown on Plate 4. These are areas where land use is such that the contamination potential is increased.

2. Sites within the area where confining layer B is not present as shown on Plate 5. This area is sensitive due to the lack of a low permeability layer that would limit the vertical transfer of contaminants.

3. Sites in areas of little/no knowledge such as along the northwest, southeast and southwest borders of the basin.

A total of 50 Aquifer A, 27 Aquifer B, and 15 Aquifer C and deeper additional monitoring locations are identified for Option 3. These locations have not been prioritized in this report.

5.5 Baseline (Option 1)

5.5.1 Monitoring Network

A total of 20 to 40 wells were targeted, approximately one-half in aquifer A, one-third in aquifer C, and one-sixth in aquifer E. Fifty-two wells at 40 locations were identified with somewhat more than one half in the A aquifer zone (see Plate 1 and Appendix D). The distribution is as follows: A zone - 28 wells (54 percent); C zone - 11 wells (21 percent);

E zone - 9 wells (17 percent); deeper zones - 4 wells (8 percent). All wells were chosen from existing wells with significant monitoring history. Locations have been chosen to provide a representative distribution throughout the basin, weighted toward areas of highest potential impact (i.e., areas of greatest commercial and industrial development) to the A aquifer. As identified, the candidate wells include 5 group B and one domestic well in order to provide adequate coverage.

5.5.2 Monitoring Parameters and Frequency.

The following data collection is anticipated: production and static water levels on a monthly basis; nitrate nitrogen analysis on a quarterly or semiannual basis, as required by SDWA regulations; bacteria (MPN) counts limited to a monthly basis; inorganic parameters (including anions/cations), VOCs and semiVOCs would be entered into the system on a frequency required by the Safe Drinking Water Act (SDWA) [generally every three years for larger systems]. Data from combined sources (e.g., two wells into a common header) may be allowed for wells from same aquifer or aquifers with no aquitard separation.

5.5.3 Database

The TPCHD would take receipt of hard (paper) or disk copies of data directly from purveyors or owners for entry by staff into the Paradox [Version 3.5/4.0] database. Output of data in spreadsheet format (QuattroPro) would be on an as needed basis almost exclusively for internal use. Data printouts could be made available to purveyors/owners without substantial modification on a request basis. This option assumes some simplification of the current database (e.g., all water level and all chemical quality data would be aggregated into single files) with the development of input forms and a report generator and scripts/macros for export to spreadsheets.

5.5.4 Reporting

Reporting would be limited to an annual internal database status report, plus responses to specific departmental (or County administration) requests. Responses to owners and purveyors would be provided only as staff availability permits. A yearly database transfer to Ecology is anticipated but would not include interpretation of trends. Detailed evaluation (e.g., trend or other statistical analysis) and special project reports would generally require separate authorization and funding.

5.5.5 Personnel

Personnel needs are estimated at one-fourth FTE (full time equivalent)(roughly 5 days per month) on a continuing basis. Staff activities are anticipated to be somewhat limited and would focus on data proofing, entry and compilation. Independent monitoring is not anticipated, and system management, upgrading, and reporting efforts are expected to be limited and primarily supportive of internal data usage.

5.5.6 Costs

Overall expenditure levels would be low with the principal cost being staff time. All data will be generated under currently mandated or voluntary purveyor programs. Current hardware and software systems will continue to be used with limited upgrades, however, initial database simplification and development (see 5.5.3, this option) will be required during the first year and may require additional staff allocation. Reporting costs will be minimized. It is anticipated that 6 months to one year would be required to achieve full option operation.

5.5.7 Implementation Issues

This option would present the fewest implementation difficulties because it relies largely on existing programs. The TPCHD would likely be designated as the lead agency if funding for staff support could be secured. Coordination between TPCHD and purveyors would be limited to data transmission.

5.5.8 Benefits and Disadvantages

This option presents both the fewest benefits and fewest disadvantages. Data usability would be limited primarily to internal use, and the flexibility for response to data requests or special evaluations would be quite limited. A primary disadvantage of this option is that the program might not be perceived as being of general benefit in aquifer management and so would receive little support. Under these conditions the monitoring and database system could fall into disuse and become non-functional.

5.6 Mid Range (Option 2)

5.6.1 Monitoring Network

A total of 60-80 wells were anticipated with approximately the following distribution: 50 percent in Aquifer A or A/C, 35 percent in Aquifer C or C/E, and 15 percent in

Aquifer E. A total of 101 wells at 85 locations and 2 springs were identified, including 6 domestic wells (see Appendix D). The distribution is as follows: A zone - 39 wells plus 1 spring (39 percent); C zone - 31 wells (30 percent); E zone - 11 wells, plus 1 spring (17 percent); and deeper zones - 11 wells (14 percent). Only 39 percent of these are located in the A and A/C aquifers due to a limited number of Group A wells in the upper aquifer zone in the southeastern portion of the CCC Basin. Nearly all wells are selected from existing wells with adequate monitoring history (i.e., this option attempts to use most available Group A and the more reliable Group B wells). Locations have been chosen to provide an evenly spaced distribution, weighted toward areas of high potential impact (industrial and commercial development concentrations) and areas of higher vulnerability for both the A and C aquifers. Because the coverage under this aquifer is incomplete, a limited number of new monitoring wells may be recommended for the A and C aquifers in areas of special concern.

5.6.2 Monitoring Parameters and Frequency

This option is generally similar to Option 1 with a reliance on data collected under other programs, particularly the SDWA. Under this option, the database will be expanded to include a large number of wells and efforts will be made to improve the database quality by eliminating multiple well source samples and installing dedicated sample taps on individual wells where needed. The data focus would be on static water levels, production records, nitrate-nitrogen, bacteria counts, and the more limited VOC, semiVOC and inorganic parameter data. For the identified springs, installation of flow measurement devices is recommended to provide information on seasonal and long-term yield.

5.6.3 Database Structure

The database would be created by the receipt and entry of hard copy (or disk) data from owners/purveyors into Paradox, Version 3.5/4.0. Initial database organization, management, and development will stress development of streamlined input forms and export scripts and macros. The process would be similar to Option 1, but, due to the more extensive database and the potential for a broader range of reporting formats, would be focused on streamlining the entry and output processes. In addition, TPCHD may assist data participants in the development of macros and formats for data recording, entry, and management (e.g., owner-specific entry formats, software and hardware selection, and limited training in data collection and recording). The goal would be to expand the database over time to include all data generated from the larger capacity Group A wells and a limited number of reliable Group B wells.

5.6.4 Reporting

Reporting would include Option 1 functions (primarily an annual database status summary, internal reports, and yearly transmission to Ecology) plus, in addition, a limited annual "state of the aquifer" report, working paper data compilations provided to major users on quantity and quality, and data printouts on an as-needed or requested basis.

5.6.5 Personnel

This option is estimated to require one-half to two-thirds FTE (10 days per month average plus 2 annual weeks) in the absence of monitoring activities. If monitoring is included, staff time may increase to 1.0 to 1.5 FTE. Staff activity will include data proofing, entry and compilation in addition to program administration, system maintenance, and response to data requests. Field activity may be necessary on a limited basis if selected monitoring wells are installed. Some on-call assistance to well owners/purveyors (e.g., preliminary visits and meetings to review data collection procedures or system configuration) may be provided. A semiannual data system and database upgrading and documentation process is anticipated, including the preparation of trend analysis, statistical, and health data summary reports (see also 5.6.4, this option.). Significant on-call response to data requests from owners, purveyors, and other stakeholders is anticipated under this option. Such assistance would include identification of optimal data reporting formats, technical advise on database utilization, data tabulations, and limited assistance with data evaluations.

5.6.6 Costs

The costs for this option are estimated to be moderate. Staff support is the single major cost since data is generated under other mandated and voluntary programs. First year costs are anticipated to be moderate and will include additional staff time for database simplification and development (see item 5.5.6, Option 1) and limited additional costs for software and hardware upgrades. Costs for well owner/purveyor assistance may include costs for owner software development and for installation of sampling taps. Reporting and reproduction costs will increase substantially over Option 1 due to a greater utilization of data by owners/purveyors, but major report reproduction costs are not anticipated. Costs for installation of spring flow recorders are anticipated to occur in the first 1-2 years of operation. Option 2 will ramp up over approximately 1 year for all suitable Group A wells. The inclusion of suitable Group B wells is anticipated to take up to 3 years. Identification and installation of newly installed monitoring wells is expected over a 3+ year period and may be dependent on additional grant funding.

5.6.7 Implementation Issues

Implementation of Option 2 is expected to be similar in many aspects to Option 1 due to the reliance on existing programs. However, because the effort would be made to include all Group A and appropriate Group B wells, and because of the more widespread utilization of the data generated, specific coordination initiatives will be required with other initiatives including the regional CWSP monitoring, USGS programs, and other special programs. The identification of a lead agency may require a broader discussion due to the wider data management implications. Finally, because of the larger program costs, additional funding options would require evaluation and specific short and long range funding plans may become critical for successful program implementation. Installation of new monitoring wells would require specific funding, and may depend on grant authorization.

5.6.8 Benefits and Disadvantages

Option 2 has substantial benefits compared to Option 1 due to a broader and more reliable data base, and the potential for database utilization in both regional and local (wellfield specific) aquifer management. This option could provide a considerable management resource tool for purveyors in evaluating needs and aquifer capacities. The disadvantages of this option are related to greater costs and the potential need for more well defined (and formalized) funding and management structures. Because of the greater implications for designation of a lead agency, and the need for broader funding support, the process for implementation is expected to be more involved and longer than for Option 1. An additional disadvantage of this option is that the development of widespread database usage for management needs may incur requests for additional data or evaluation beyond the scope of the option.

5.7 Optimum (Option 3)

5.7.1 Monitoring Network

For this option, the emphasis changes from a general spatial distribution to a specified density throughout the CCC Basin. For Aquifer A the target density was 1 well per ~2 square miles (sqmi); for Aquifer C, the target was 1 well per 4-5 sqmi; for Aquifer E, the target was 1 well per 8-10 sqmi.. This resulted in a projected network of 152 existing wells and 3 springs at 127 locations with the approximately same distribution (A zone - 63 wells and 2 springs (42 percent); C zone - 51 wells (33 percent); E zone - 20 wells and 1 spring (14 percent); and deeper zones - 18 wells (11 percent) as for option 2 (reference Appendix D and Plates 3a, 3b and 3c). In addition, in order to meet the proposed distribution density, an additional 57 A, 20 C, and 9 E or deeper well locations are

identified. Wells at these locations may be selected from existing domestic wells (primarily aquifer A) near the target location or by the installation of new monitoring or production wells. Identification of potentially available domestic wells is beyond the scope of this report.

5.7.2 Monitoring Parameters and Frequency

General parameter testing will be the same as for Option 2, however, owners/ purveyors may be requested to collect monthly nitrate data or other periodic indicator parameter data and selected wells will be tested annually for VOCs, metals, or anion/cation balance data. It is anticipated that funding may also be allocated for special projects, e.g., isotope testing to determine sources and flow rates in critical areas, or focused testing in known impacted areas. Only single well source samples (i.e., a single aquifer zone screening) will generally be used and efforts may include limited system modifications for this purpose. As with Option 2, springs would require installation of flow monitoring devices where they don't currently exist if feasible.

5.7.3 Database Structure

The basic database system structure described for Option 2 will be used, however, more complete data management package tools will be developed and offered to well owners. Hardware, software and data transmission specifications will be developed (with assistance provided to owners on data system acquisition), training outreach will be enhanced, and the database will be expanded to include all Group A and B wells and all new wells as they are installed. Hardware and software enhancements to the database system (e.g., Paradox for Windows, graphical and plotting interfaces) are anticipated. This option is expected to ramp up over a 3+ year period. Monitoring well installation will take 3+ years to complete.

5.7.4 Reporting

Reporting will be considerably more extensive than in Option 2 with additional scheduled and standard reports as requested by participants. Yearly reporting will focus on developing an Annual Open File Report for the CCC Basin suitable for publication by the Washington Department of Natural Resources (DNR). An annual water use summary for owners/purveyors for resource planning, annual nitrate and bacterial update reports, and special study reports will be prepared as they are completed. Data reports or printouts will be provided on request, and technical assistance memoranda may be prepared for educational and management purposes as needed.

5.7.5 Personnel

This option is estimated to require 1.25 to 2.0 FTE plus administrative support. Staff activity will include data proofing, entry and compilation, substantial outreach activities such as special report preparation, liaison with well owners/purveyors and public interest groups, routine production of aquifer evaluation reports for distribution, specified field activities including monitoring, and consultant supervision for well installation and special projects. It is assumed that TPCHD will actively be involved in monitoring and monitoring system expansion activities. Well installation (and possibly monitoring) may be performed under contract. Report preparation is anticipated to be a substantial activity, with the annual Open File Report preparation (see 5.7.4) a major activity for first two to three years. Database system (computer system) management will require significant effort and may include computer services assistance to purveyor and well owners.

5.7.6 Costs

Costs are rated as high compared to option 1 and 2. Increased costs are associated with a staff allocation of 1-2 people, computer system hardware and software upgrades, routine and special project field testing including monitoring and supply well sampling, and monitoring well installation. Special projects may incur contractual and contract oversight costs. Individual monitoring well site acquisition and installation costs may be on the order of $5000-10000 for Aquifer A, $7500-15000 for Aquifer C, and up to $40,000 for Aquifer E. Costs for spring flow measurement are anticipated to be moderate. Testing costs will depend on specific programs but are expected to be moderate. Reimbursement costs for owner/purveyor testing are anticipated to be low. The system development costs will be incurred incrementally over at least a 3 to 5 year period.

5.7.7 Implementation Issues

Implementation of Option 3 is anticipated to be considerably more difficult that Options 1 or 2, primarily due to substantially larger outlays of funds for monitoring well installation and special projects. In addition, identifying appropriate well locations and special project priorities will require coordination between stakeholders. Designation of lead agency and advisory committee responsibilities, is anticipated to require a broad discussion and resolution of issues such as prioritization of special projects, and the relationship between CCC monitoring and county wide monitoring needs. Finally, because of a larger annual budget and wider range of activities, greater attention will be required to overall management structure and short and long range objectives.

5.7.8 Benefits and Disadvantages

The primary benefits of Option 3 are the comprehensive aquifer monitoring well coverage, a broader parameter coverage and concomitant quality and quantity evaluation capability, and the enhanced ability of the lead agency and well purveyors and owners to conduct special studies and develop long range management projects. This option would provide a powerful management tool for both short and long range issues and would free the area from dependence on outside data sources. The primary disadvantage is the additional cost of this option, both for short term system expansions (e.g., monitoring well installations) and long term administration and data management. The added complexity of management and coordination may also be considered disadvantages.

6 MONITORING PROGRAM RECOMMENDATION

Three options for ground water monitoring and data management are presented. All options include primary reliance on data currently being generated, and all options include provision for more effective database management. The options provide a range of benefits and costs. The identification of an "optimum" monitoring option (Option 3) is developed from an assumption of providing for substantial data management ability and a moderate to high level of information dissemination to a broad spectrum of aquifer users. Option 2 is based on the premise of the maximum use of existing data. Option 1 identifies the minimum practical data management system. Option 2 provides substantial cost benefits over Option 1 by incorporating the maximum amount of available data into a similar management system while maintaining a substantially lower cost than Option 3. However, Option 2, like Option 1, has flexibility for expansion and the capacity to address special needs as may arise.

6.1 Preferred Option and Rationale

Option 1, as noted in Section 5.5, is the lowest cost option but also has the lowest level of benefits. This option is likely to be so restricted in its flexibility to respond to special basin needs as to limit its long-term viability.

Because Option 2 expands both the database and the outreach capability, it provides a broader usability at a moderate increase in cost, primarily for additional staff time to evaluate the data. It avoids, or defers, large capital and system outlay costs and permits the data management system to develop with the level of use.

Option 3, although providing substantial long range benefits, requires substantial investment at the outset prior to establishing the patterns of basin wide utilization which may direct database expansion in the future. For this reason, and because it is unlikely that funds are available for an extensive monitoring well installation and sampling program at this time, Option 3 is not recommended.

However, Option 3 does contain some elements that should be incorporated or considered for Option 2: specifically, an option for limited installation of monitoring wells, and the potential for special project funding. Option 2 reliance on the existing system of purveyor and owner wells leaves some significant gaps in the database for each of the three major aquifers. A limited number of monitoring wells (up to approximately 12), primarily in the

A and C aquifer zones, and a focused monitoring program should be prioritized for incorporation in Option 2 to ensure completeness of aquifer data coverage. Locations for those wells have not been identified. In some cases, new production wells may be installed to meet this need and may be funded, in part, with data management funding. Installation of monitoring wells implies that the data management agency or the owners/purveyors will initiate a long-term monitoring program for the newly installed monitoring wells.

A consideration of the costs and benefits for Options 1 and 2 points strongly to the recommendation of Option 2 as being more cost effective and is the preferred option.

7 UNDERGROUND STORAGE TANK PILOT PROJECT

7.1 Introduction

The Underground Storage Tank (UST) Pilot Project task in the CCC Basin Ground Water Management Program Implementation Project had the following objectives:

- To evaluate options for local delegation using the Environmentally Sensitive Area (ESA) designation under Chapter 173-360 WAC;
- To conduct a survey of registered UST facilities, perform a comparative analysis to determine registration compliance, and prepare a list of UST facilities surveyed;
- To develop a local ordinance for UST regulation; and
- To produce a summary report of progress and results of the task activities.

The text that follows is a summary of the activities conducted to meet the first three objectives listed above.

7.2 Local Program Delegation

Beginning in early 1992, TPCHD staff met with Ecology UST staff to discuss Ecology's current program costs, and staffing, and the requirements of state and federal UST regulations. Also discussed were funding and staffing needs for a TPCHD local delegation program, resources needed for data management and reporting to Ecology, the estimated number of USTs in the CCC Basin, the current state fee structure, and potential local funding sources.

Concurrent with these discussions, work began on the other task objectives, including the survey of Ecology-registered UST facilities and the development of a draft local ordinance to authorize a Pierce County UST Program.

In December 1992, several management changes were made in the UST Program at TPCHD. Due to these changes, the new UST program management requested a six

month delay in pursuing local program delegation so that staff first were adjusted to the new program.

Review of the possibilities for local UST program delegation later resumed and funding options were examined. One option discussed was the implementation of a hazardous materials facility fee. This type of fee was considered because due to the fact that state law prohibits the levy of local UST permit fees when Ecology already charges a permit fee. This option was abandoned because it did not appear feasible.

Project staff then proposed combining two other funding options to support local delegation. These options included an additional local UST permit fee allowed by state law if the CCC Basin is designated an ESA, and conferral of a portion of the Ecology UST permit fee to TPCHD. It was estimated by the TPCHD Waste Management Section that a local delegation program could be supported if the additional $37.50 annual permit fee per UST allowed under ESA designation could be supplemented by half of the existing Ecology fee ($37.50), for a total of $75.00 per UST.

This proposal, however, depended on two conditions, neither of which Ecology would support. TPCHD proposed that ESA designation be allowed for only a modest increase in UST regulatory activity. Specifically, TPCHD proposed improved UST program administration and taking enforcement action which is currently lacking. Ecology UST program staff reported that it was the opinion of Ecology's Assistant Attorney General that these activities would not be sufficient to justify ESA designation. In addition, the TPCHD proposal requested distribution of one half of the UST fee collected by Ecology to the local delegation program. It was Ecology's position that, until transition of UST fee collection to the Washington Department of Licensing is complete, no portion of the state fee can be committed to local delegation. Completion of the transition was estimated for late summer 1995.

Based on the above-described process, it was decided in the second quarter of 1994 that implementation of local program delegation was not feasible at the present time.

7.3 Survey of Registered UST Facilities

A survey of USTs in the CCC Basin was conducted to identify the rate of voluntary compliance with Ecology's UST program and collect other information on the potential for ground water degradation due to USTs. The first step in conducting the survey was to define the survey area boundaries. As the facilities in the South Tacoma Ground water Protection District (STGPD) were already regulated by TPCHD and extensive information about these facilities was on file, they were excluded from the survey. Information from the survey area in Pierce County is presented below and data on the USTs in the STGPD are listed separately. Information on USTs at McChord Air Force Base and Fort Lewis is not included in this summary report.

7.3.1 Methodology

To identify the UST facilities in the CCC Basin, three approaches were tried before a satisfactory method was found. The initial attempt to locate UST facilities involved identification of commercial parcels in the CCC Basin and review of Pierce County Assessor's records. However, the Assessor's records did not readily yield the desired information regarding site usage.

In the next approach, the Washington State Department of Revenue was contacted in the hope that tax information would lead to identification of sites with USTs. However, this information was not available to TPCHD on a county-by-county basis. It was decided that sifting through such a volume of state tax records would not be a productive use of staff time.

The final and most successful method was to obtain a list of registered USTs from Ecology. The list included all Ecology-registered USTs in Pierce County, however the list was narrowed down to the CCC Basin using ZIP codes. For the ZIP code areas overlapping the basin boundary, individual addresses were compared to a map of the CCC Basin. This method of survey site selection produced a list of 245 UST sites in the CCC Basin. Although this method would only locate facilities with some level of Ecology registration, it was decided that this was the best approach to take and would produce an accurate measure of compliance with Ecology UST registration requirements.

After the facilities in the basin were identified, a Facility Data Acquisition Form (FDAF) was developed for the survey. The information gathered in the survey included number, type(s) and current use status of USTs on site, and business practices such as painting, vehicle repair, pressure washing vehicles, etc. Also included in the survey were the amount(s) and kind(s) of hazardous substances on site and the storage and disposal methods used.

To gather more complete and accurate information, the survey was conducted through individual site visits, interviewing the owner or manager of the site where possible. On most occasions, someone at the site was available for interview. When no one was available, a FDAF, a self-addressed stamped envelope, and a letter of introduction was left for the facility owner/manager. The percentage of those returned was very low.

The survey was conducted over the summer of 1992 with site visits conducted during regular business hours Monday through Friday. Approximately 20 minutes were allowed for each interview, yielding an average of 15 site visits per day with the remaining work time set aside for data entry and other routine functions. The information obtained in the survey was entered into a database using Paradox software.

7.3.2 Survey Results

Of the 245 UST sites on the survey list, information was obtained on 227 of the sites. The list of sites surveyed and the data from the survey are shown in Appendix E. The data show far fewer USTs in place (both active and inactive) than Ecology records indicate. Ecology registration data indicate a total of 737 USTs at the 227 sites while TPCHD data show only 462 USTs at the same sites (63 percent of the USTs registered with Ecology) for facilities within the CCC Basin. The significant discrepancy may be explained, in part, by the large number of UST removals in Pierce County since 1989 with fewer upgraded USTs being installed. This is further supported by the fact that there were UST removals at 249 sites in Pierce County during the two years between the CCC Basin survey and the analyses of the survey data.

In addition to the USTs at the 227 surveyed facilities, there are a total of 63 USTs at 31 facilities in the CCC Basin portion of the STGPD, which is currently regulated by TPCHD and was not a part of the 1992 survey. These facilities are predominantly automobile service stations with gasoline storage tanks, or auto repair or fleet vehicle shops with gasoline, diesel or waste oil tanks.

Of the 227 facilities participating in the survey, 71 facilities (31 percent) have installed overfill protection for 236 USTs (51 percent of all USTs). Corrosion protection has been installed at 78 facilities (34 percent) for 244 USTs (53 percent). Some of the USTs at some facilities surveyed had both overfill and corrosion protection.

This survey also gathered information about activities at the registered UST sites which were likely to generate hazardous wastes. Facility personnel interviewed were asked to provide information about operations such as automotive repair and painting, manufacturing, and vehicle washing. The survey results show that 99 of the facilities surveyed (44 percent) perform automotive repair work. Ten facilities surveyed (four percent) perform vehicle painting and seven (three percent) perform manufacturing work.

Information regarding wastewater discharge was also gathered during the UST survey. Of the 227 facilities that responded to the survey, 21 (nine percent) discharge to a storm sewer system and two (one percent) utilize a sanitary sewer system. Eighteen of the facilities (eight percent) utilize oil-water separators.

7.3.3 UST Survey Conclusions

The data from this survey provide useful information for comparison of the number of Ecology-registered and unregistered USTs, and active and inactive USTs in the CCC Basin. This summary report also includes data on USTs at STGPD sites in the CCC Basin. Together, these two sources of data provide information on the number and use status of most of the USTs in the CCC Basin. However, a significant number of USTs are located on the two

military bases in the CCC Basin and this survey did not account for those areas. The 1992 survey should have included USTs located on the military bases within the CCC Basin, but that information was not collected.

The survey shows that approximately 275 Ecology-registered USTs (37 percent of all registered USTs in the CCC Basin) are no longer in place. Also, at 84 surveyed facilities (37 percent), Ecology registration data indicated 175 USTs were present (24 percent of the total registered in the CCC Basin) where there are now no USTs. This finding demonstrates the large number of UST removals without replacement which have occurred over the last few years. It may also be concluded that the number of active USTs in the CCC Basin, as well as all of Pierce County will continue to decrease.

7.4 Local Ordinance for UST Regulation

Work on the draft ordinance began in the third quarter of 1992. The draft ordinance was developed with the intent of adopting a locally regulated UST program for in-use USTs. The draft ordinance references the current requirements of Chapter 173-360 WAC, with the following differences:

- Delegation to TPCHD the authority for UST regulation at least as stringent as Chapter 173-360 WAC;
- Requirements for TPCHD review of all new USTs, including secondary containment of all USTs and piping;
- Requirements for spill prevention and spill management plans; and
- TPCHD authority for closure of an UST in accordance with Chapter 173-360 WAC and Pierce County Ordinance 88-134, including closure in any situation for which TPCHD determines that a current or potential public health threat exists.

The draft UST ordinance was presented to Ecology in December 1992 for review and comment. This took place during the time that the staff and program changes discussed above occurred.

Comments on the draft ordinance were received from Ecology at a meeting held at the Southwest Regional Headquarters in January 1993. Ecology UST program staff were also notified at the meeting of the recent program and staff changes at TPCHD, including the impending departure of the individual who oversaw the UST survey and drafted the UST local delegation ordinance.

Ecology comments were incorporated and the draft ordinance was presented to the newly assigned Hazardous Materials/UST Program staff and management in February 1993. The draft UST ordinance can be found in Appendix F.

7.5 UST Pilot Project Conclusions and Recommendations

The move to implement local delegation of UST regulation in the CCC Basin was unsuccessful. Changes in TPCHD UST Program staff led to delays in implementation of local delegation. When the new UST management at TPCHD proposed a local delegation program that would likely be acceptable in the current political and regulatory climate, Ecology was not able to meet the conditions required by TPCHD. It is assumed that an arrangement could eventually be worked out between TPCHD and Ecology, however, the decision was made to reduce the time and resources spent on this issue, and to seek local delegation at a later date.

The UST survey collected useful, yet somewhat incomplete information about USTs in the CCC Basin. Specifically, information was obtained on the number of USTs in place, the level of compliance with Ecology registration requirements, the use and status of the USTs, the nature of the facility, and a host of other items relating to the potential for water quality degradation due to USTs at the facilities. The survey information also highlights the trend toward UST removal without replacement and the presence of fewer USTs in the basin.

One weak point in the survey is the absence of information on the two military bases located partially or totally within the CCC Basin. While the majority of USTs in the CCC Basin were surveyed or are included in the STGPD, USTs on military bases still have the potential for adverse impact on basin ground water. Any future survey work should include these areas.

8 LOCAL WELL ABANDONMENT SURVEY AND EDUCATIONAL PROGRAM

8.1 Introduction

This summary report discusses the activities conducted under Task 5 of the CCC Basin Implementation Grant. Task activities included a local well abandonment survey and educational program. The survey methodology and results were summarized in 1992 after completion of the survey. The Task Conclusions section below discusses task activities as well as changes implemented at TPCHD since the completion of the survey.

8.2 Well Abandonment Survey

The well abandonment survey was conducted to locate unused or improperly decommissioned (abandoned) wells in areas of the CCC Basin where development has been existing for some time, but public water has only recently been brought into the area. A secondary objective was to educate the public about the risk to water quality and personal safety from abandoned wells, and about Washington State regulations on well abandonment.

8.2.1 Methodology

The well abandonment survey began in October 1991. Five Group A water systems serving the CCC Basin were selected for the survey. The survey areas selected are shown in Figure 8-1. The five survey areas represented an excellent spatial distribution of sites and conformed to guidelines outlined in the project grant agreement. The survey areas selected were within the following Group A water service districts:

- Firgrove Mutual
- Spanaway Water Company
- Parkland Light and Water Company
- Southeast Tacoma Mutual
- Lakewood Water District

Each water system manager was contacted by TPCHD staff for assistance in locating older, established housing areas where their water service lines were recently extended.

These sites were confined to an areal extent of approximately one-half to one square mile each. TPCHD staff also asked water system managers about any records they might have concerning abandoned wells within their service district.

All of the selected areas were thoroughly reviewed by field staff and an informational flyer and questionnaire was distributed to selected residences (Appendix G).

8.2.2 Survey Results

The survey produced very disappointing results. No wells were found through the residential survey, and very few wells were found through the water system purveyors. The cause of this result appears to be threefold:

1. The water system purveyors did not have accurate records of well locations that exist or existed within their service area boundary;

2. Actual contact with home owners was extremely limited. Homeowners were typically not present when TPCHD staff were in the field for the survey. Entering the property when the homeowner was not present, for the purpose of the well survey, was strictly forbidden by legal counsel. Homeowners who were present during the survey usually were not aware if a previous well had existed on their property or seemed somewhat uncooperative with the field staff; and

3. Response to a TPCHD questionnaire requesting well information was very poor. The Health Department distributed approximately 400 questionnaires to selected area residents. A total of 13 responses were received (3 percent). Of those responses, five were nonapplicable and eight did not know if a well had been present or not.

8.2.3 Discussion

The results of the survey highlight the current problem of locating abandoned wells in Pierce County and persuading the owners to properly decommission the wells. This difficulty is probably due to the following four factors:

1. The cost of decommissioning an abandoned well per Chapter 173-160 WAC, the Minimum Standards for Construction and Maintenance of Wells;

2. The absence of local and state enforcement procedures for illegally abandoned wells;

3. The absence of local and state policies requiring water system purveyors to report abandoned wells, when located, to the appropriate agency; and

4. Unfamiliarity on the part of the public on the importance of decommissioning abandoned wells.

These four factors are discussed in greater detail below:

1. Cost

   Decommissioning a well can be very cost prohibitive when compared to the alternative commonly used: doing nothing. Typically, a cased well can cost from $1,000 to $1,500 to decommission. Homeowners, contractors, and developers alike find it difficult to justify the cost of decommissioning a well when the chance of being caught illegally abandoning a well is low. However, monetary incentive in conjunction with a well decommissioning education program may be more successful. Financial programs, to assist homeowners in decommissioning their wells, should be investigated for development by state or local agencies.

   An abandoned hand-dug well is substantially less expensive to decommission but it is more difficult to get a licensed well driller to complete these types of projects. Well drillers are often not equipped to decommission a hand-dug well nor is there a great monetary incentive to take on this work. Homeowners or building contractors are usually involved in the decommissioning of these types of wells. Although Chapter 173-160 WAC indicates that any construction, maintenance, or alteration of an existing well must be done by a licensed well driller, it is impractical to assume all hand-dug wells will be decommissioned in this manner.

2. Enforcement Procedures

   Current state and local enforcement procedures for finding and decommissioning wells have been less than successful. A lack of adequate staffing on the state level and an absence of local abandoned well regulations contribute to the frustrations in dealing with this issue. Currently, there is one Ecology staff person to deal with well issues in Pierce County. That person must also manage well issues in six other counties. This situation does not lend itself to an effective means of locating and properly decommissioning abandoned wells in this or any other county. Local agencies have more daily contact with county land use issues, including wells, making them the better choice for well decommissioning enforcement. Currently, wells are located through building permits and inspections, by chance, reported by neighbors, etc. The 1991 legislature introduced a proposal to revise Chapter 173-160 WAC to allow local authority for the proper decommissioning of abandoned wells. TPCHD supports this move and has previously proposed local involvement in well construction and abandonment procedures. However, as elsewhere, proper funding and staffing

needs will have to be met prior to an agreement for this county to step into the arena of well construction and decommissioning.

3. Water Purveyor Reporting

   Currently there is no written requirement for a water purveyor to alert agencies to the presence of an abandoned well. TPCHD has asked purveyors within the CCC Basin to provide information on the location of any abandoned well that is identified through the routine operation of their company. Ecology, in conjunction with the DOH, may wish to consider a statewide policy of reporting abandoned wells to either local or state agencies. Without local delegation of well construction and abandonment, such a policy would be inappropriate for local health departments to implement because water systems that expand into large areas of the county (Group A water systems) are regulated by the DOH. However, a voluntary effort by the water purveyors may prove as successful as would requirements through state legislation.

4. Public Education

   Most property owners surveyed, and probably most Pierce County residents, are unaware of the importance of properly decommissioning a well. Additional educational effort is needed to increase community awareness of ground water quality and personal safety issues with abandoned wells.

8.3 Education Program

To increase public awareness of well abandonment issues, TPCHD published and distributed a brochure entitled, "The Abandoned Well Problem". A copy of the brochure is presented in Appendix H. The brochure is quite graphic in its illustration of the danger to personal safety and potential for ground water contamination presented by abandoned hand-dug wells. However, the issue of cased wells is also clearly stated as are the permit and licensing requirements for decommissioning of all abandoned wells. A description of the local TPCHD Well Sealing and Decommissioning Program, implemented in April 1993, is also included in the brochure.

To date, approximately 3,000 brochures have been distributed to state and local agencies, the water and sewage system design industries, the general public and many others through a number of methods. The following are only a few of the methods used to distribute the abandoned well brochure:

- TPCHD On-Site Sewage Program Newsletter;

- Brochure racks at TPCHD, the Pierce County Annex, county fire departments and county libraries;
- Meetings of the Pierce County Regional Water Association;
- Group B water system application packets; and
- Public meetings and health fairs

TPCHD will continue to educate the public and the development community about the requirements for proper well decommissioning through the Well Sealing and Decommissioning Program, and in its day-to-day land development permitting activities.

8.4 Task Conclusions

The well abandonment survey was not successful in locating wells in need of proper decommissioning. Considering the cost of the survey and the minimal benefit obtained, a door-to-door survey and questionnaire is not the approach that should be taken to identify wells in need of decommissioning. Other means needed to be found to locate abandoned wells. It appeared that the most promising approach is a local delegation program in which the local health department, or another local agency involved in site development, reviews all well construction and decommissioning within its jurisdiction.

Based, in part, on the experience documented in this summary report, TPCHD chose to actively pursue a local delegation program for well sealing and decommissioning. To bring this program into being, TPCHD staff negotiated an agreement for local delegation with Ecology and conducted a number of activities to notify the public and industry of the pending local program. These activities included a meeting with the Washington State Well Drillers and Ground Water Association to explain the issues and the purpose of the program, a news release to advertise a public meeting to announce the program, and notification of the land development industry through the TPCHD On-Site Sewage Newsletter.

This program was implemented in April 1993 and program staff have been very successful in improving compliance with Chapter 173-160 WAC and in educating the well drilling industry and the public about the importance of proper well sealing and decommissioning.

Although the response of the general public to an educational brochure is difficult to measure, the personal safety issue with abandoned wells is so graphically presented on the cover that most individuals observed looking at the brochure were apparently moved to open it and examine at least some of the text inside. Agency response to the brochure has been excellent. Many state and neighboring local jurisdictions have requested copies of the brochure and may be modeling a similar brochure after it.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

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TABLES

Table 2-1

Clover Chambers Creek Monitoring Program
Number of Wells in Each Hydrostratigraphic Zone

Hydrostratigraphic Zone	Number of Wells with Water Quality Data
A	20
A/C	2
C	18
C/E	3
E	10
Deeper	2
Unknown	49

Table 2-2

Clover Chambers Creek Monitoring Program
Well Yield Statistics

Zone	Number Of Wells	Minimum (gpm)	Maximum (gpm)	Median (gpm)	Average (gpm)	Standard Deviation (gpm)
A	29	15	5,500	465	1,299	1,661
A/C	5	185	4,250	1,572	2,169	1,828
C	23	10	6,240	500	969	1,340
C/E	4	50	1,450	383	566	631
E	8	458	3,525	1,500	1,752	961
DEEP	7	250	2,125	1,750	1,346	757

Table 3-1

Clover Chambers Creek Groundwater Monitoring Program
Water Quality/Quantity Monitoring Stations

Map #	Owner	Well Name	Site ID #	Data Base #
52	Bethany Lutheran		470106122221301	426
62	Downtown Tacoma	Spring	471332122253801	
29	Fircrest	Well 7	471327122310701	43
47	Firgrove Mutual	Well 10	470629122163101	25
45	Firgrove Mutual	Well 12	470737122195601	79
46	Firgrove Mutual	Well 5	470632122126701	26
40	Fort Lewis	Sequalichew 19A	470631122354201	
41	Fort Lewis	Sequalichew 19B	470631122354202	
39	Fort Lewis	Sequalichew Spr	470650122353701	
17	Fort Lewis	Well 13	470725122333202	500
FP	Frontier Park		470328122174001	
27	Lakewood Water	Well A1/A2	470749122322901	66A
9	Lakewood Water	Well D2	470902122321701	67
11	Lakewood Water	Well G2	470939122292601	64
6	Lakewood Water	Well J1	471045122282701	59A
30	Lakewood Water	Well O2	471112122333201	73
56	Lakewood Water	Well P1/P2	471035122300901	76
12	McChord AFB	711	470810122292301	380
53	McChord AFB	846	470717122301901	384
14	Parkland Water	Well 12	470738122263801	496
10	Parkland Water	Well 5	470903122253201	6
26	Parkland Water	Well 9	470833122271901	39
35	Ponce De Leon	Spring	470939122312001	624
61	Puyallup Water	Maplewood Spr	471029122190001	
54	S.E. Tacoma Mutual	Well 11	470949122243301	
42	S.E. Tacoma Mutual	Well 8	470953122242101	13
36	Shining Mountain	Well 1	470342122223201	33A
38	Sound Water	Tannenbaum Well	470421122191801	34
23	Spanaway Water	Well 3	470552122252001	329
16	Spanaway Water	Well 7	470612122241601	327
X	Spanaway Water	Well 9	470646122234601	314
48	Steilacoom	Well 4	471059122331301	77
S	Summit Water	Well 12	470942122215301	
43	Summit Water	Well 5/7	470915122210601	394
44	Tacoma Water	Gravity Line 1	470908122185901	14
58	Tacoma Water	Well 11A	471309122290602	204
T	Tacoma Water	Well 12A	471340122283001	53
32	Tacoma Water	Well U10	471255122325601	213

NOTE: Site is a combination of latitude and longitude (i.e., #32 471255122325601 is located at 47° 12' 55" N, 122°32' 56" W; the "01" indicates the number of the wells at the location.)

Table 4-1

Clover Chambers Creek Groundwater Monitoring Program
Number of Wells Used for Statistical Evaluation

Zone	Number of Wells
A	19
A/C	2
C	18
C/E	3
E	10
Deep	3

Table 4-2
Clovers-Chambers Creek Monitoring Program
Statistical Summary Of Groundwater Data

Zone	Number Analyses	Minimum	Maximum	Average	Standard Deviation
Conductivity (µmho/cm)					
A	182	28	431	176	57.6
A/C	2	131	189	160	41.0
C	193	65	300	158	34.2
C/E	4	108	157	134	20.2
E	92	79	300	148	33.4
DEEP	25	97	177	122	18.0
Nitrate (mg/L as N)					
A	120	ND	5.8	2.16	1.384
A/C	7	1.1	2.4	1.43	0.454
C	113	0.1	3.8	1.14	0.883
C/E	10	0.1	1.0	0.30	0.267
E	55	ND	3.7	0.93	0.944
DEEP	8	ND	ND	ND	ND
Hardness, total (mg/L as $CaCO_3$)					
A	36	21	150	69.1	27.49
A/C	2	55	81	68.0	18.38
C	13	25	75	53.1	12.88
C/E	4	42	65	55.0	10.23
E	19	20	128	54.5	28.60
DEEP	0	--	--	--	--
Chloride (mg/L)					
A	76	1.0	90.0	10.7	13.90
A/C	5	5.0	10.0	8.1	2.07
C	82	1.0	13.0	5.9	2.74
C/E	8	2.0	10.0	5.6	2.89
E	26	1.0	20.0	4.3	3.89
DEEP	7	2.0	3.0	2.1	0.38

Note: ND indicates all values were reported below detection limit.
"--" indicates no value reported.

Tabel 4-3
Clovers-Chambers Creek Monitoring Program
Anion-Cation Balance Results

Site Name	Site-Id	Date	Total Anions (meq/L)	Total Cations (meq/L)	Percent Difference (%)
Downtown Tacoma Spring	471332122253801	9/16/92	2.61	3.09	-8.5% *
Downtown Tacoma Spring	471332122253801	2/10/93	2.62	2.63	-0.2%
Downtown Tacoma Spring	471332122253801	6/14/93	2.57	3.36	-13.2% *
Downtown Tacoma Spring	471332122253801	10/13/93	2.66	2.96	-5.5% *
Downtown Tacoma Spring	471332122253801	2/16/94	2.86	2.65	3.8%
Downtown Tacoma Spring	471332122253801	4/19/94	2.80	2.67	2.4%
	Site Average		2.69	2.89	-3.5%
Fircrest Well 7	471327122310701	9/9/92	2.44	2.30	2.9%
Fircrest Well 7	471327122310701	2/11/93	2.27	2.26	0.2%
Fircrest Well 7	471327122310701	6/24/93	2.01	1.95	1.7%
Fircrest Well 7	471327122310701	10/13/93	2.23	2.47	-5.1% *
Fircrest Well 7	471327122310701	2/16/94	2.55	2.35	4.0%
Fircrest Well 7	471327122310701	4/20/94	2.44	2.54	-2.1%
	Site Average		2.32	2.31	0.3%
Fort Lewis Sequalichew 19B	470631122354202	9/16/92	1.17	1.22	-2.2%
Fort Lewis Sequalichew 19B	470631122354202	5/19/93	1.19	1.23	-1.5%
Fort Lewis Sequalichew 19B	470631122354202	9/21/93	1.19	1.18	0.8%
	Site Average		1.19	1.21	-1.0%
Frontier County Park	470328122174001	9/10/92	0.96	0.94	1.2%
Frontier County Park	470328122174001	6/23/93	1.02	1.00	1.2%
Frontier County Park	470328122174001	10/19/93	1.04	1.02	0.9%
Frontier County Park	470328122174001	2/14/94	1.18	1.06	5.2% *
Frontier County Park	470328122174001	4/18/94	1.18	1.05	5.9% *
	Site Average		1.08	1.01	2.9%
Lakewood Water District Well A2	470749122322901	9/9/92	1.21	1.15	2.8%
Lakewood Water District Well A2	470749122322901	2/24/93	1.17	1.18	-0.2%
Lakewood Water District Well A2	470749122322901	6/16/93	1.21	1.25	-1.8%
Lakewood Water District Well A2	470749122322901	10/13/93	1.21	1.39	-6.8% *
Lakewood Water District Well A2	470749122322901	2/16/94	1.39	1.21	7.0% *
Lakewood Water District Well A2	470749122322901	4/20/94	1.40	1.50	-3.5%
	Site Average		1.27	1.28	-0.4%
Mc Chord Air Force Base-711	470810122292301	9/16/92	1.70	1.64	1.5%
Mc Chord Air Force Base-711	470810122292301	2/4/93	1.51	1.49	0.8%
Mc Chord Air Force Base-711	470810122292301	6/14/93	1.40	1.48	-2.7%
Mc Chord Air Force Base-711	470810122292301	10/18/93	1.46	1.65	-6.1% *
Mc Chord Air Force Base-711	470810122292301	2/14/94	1.87	1.63	6.7% *
Mc Chord Air Force Base-711	470810122292301	4/18/94	1.82	1.66	4.7%
	Site Average		1.63	1.59	0.8%

Tabel 4-3
Clovers-Chambers Creek Monitoring Program
Anion-Cation Balance Results

Site Name	Site-Id	Date	Total Anions (meq/L)	Total Cations (meq/L)	Percent Difference (%)
Parkland Light & Water Company-Well No. 9	470833122271901	9/17/92	1.44	1.50	-1.9%
Parkland Light & Water Company-Well No. 9	470833122271901	2/10/93	1.43	1.63	-6.8% *
Parkland Light & Water Company-Well No. 9	470833122271901	6/14/93	1.44	1.56	-4.0%
Parkland Light & Water Company-Well No. 9	470833122271901	10/18/93	1.62	1.76	-4.3%
Parkland Light & Water Company-Well No. 9	470833122271901	2/14/94	1.62	1.43	6.1% *
	Site Average		1.51	1.58	-2.2%
Ponce De Leon Spring	470939122312001	2/11/93	1.24	1.22	0.8%
Ponce De Leon Spring	470939122312001	6/16/93	1.29	1.36	-2.4%
Ponce De Leon Spring	470939122312001	2/15/94	1.14	1.02	5.5% *
Ponce De Leon Spring	470939122312001	4/20/94	1.31	1.19	4.7%
	Site Average		1.25	1.20	2.1%
Puyallup Water Maplewood Spring	471029122190001	9/23/92	1.89	1.86	0.7%
Puyallup Water Maplewood Spring	471029122190001	2/11/93	1.89	1.86	0.8%
Puyallup Water Maplewood Spring	471029122190001	6/23/93	1.80	1.72	2.2%
Puyallup Water Maplewood Spring	471029122190001	2/15/94	2.02	1.88	3.6%
	Site Average		1.90	1.83	1.9%
Shining Mountain Elementary	470342122223201	9/10/92	1.42	1.40	0.7%
Shining Mountain Elementary	470342122223201	2/24/93	1.30	1.26	1.8%
Shining Mountain Elementary	470342122223201	6/16/93	1.30	1.40	-3.4%
Shining Mountain Elementary	470342122223201	10/27/93	1.32	1.44	-4.1%
Shining Mountain Elementary	470342122223201	2/14/94	1.42	1.28	5.4% *
Shining Mountain Elementary	470342122223201	4/19/94	1.38	1.23	5.7% *
	Site Average		1.36	1.33	1.0%
				Grand Total	6%

Notes: "*" indicates percent difference greater than ±5%.

Percent difference calculated using: (Anions-Cations)/(Anions+Cations)*100% with all concentrations on meq/L.

Nondetects were evaluated at 1/2 detectiopn limit.

FIGURES

FIGURE 1-1
CLOVER-CHAMBERS CREEK BASIN BOUNDARY

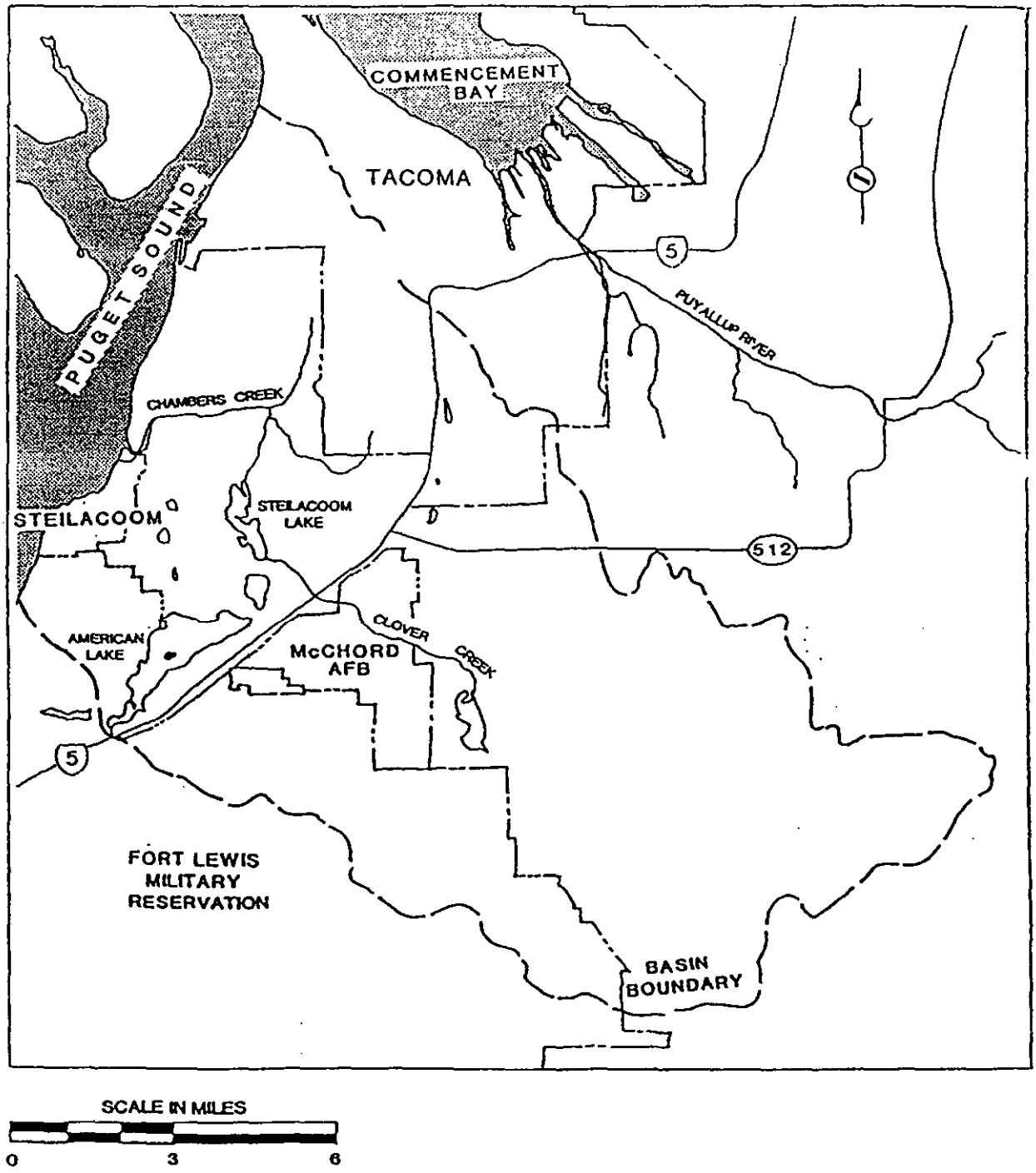
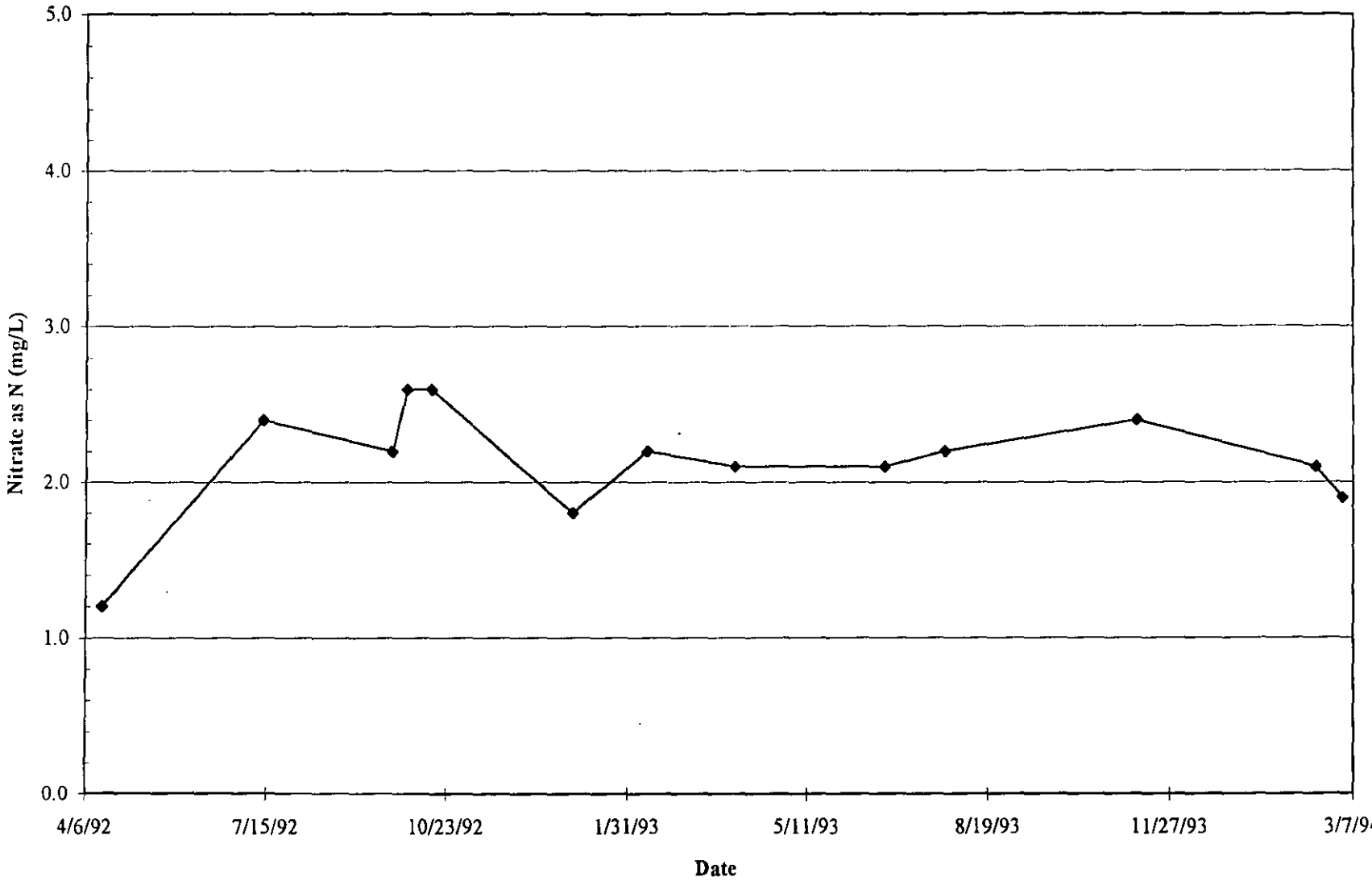


Figure 3-1
WATER QUALITY MONITORING STATIONS

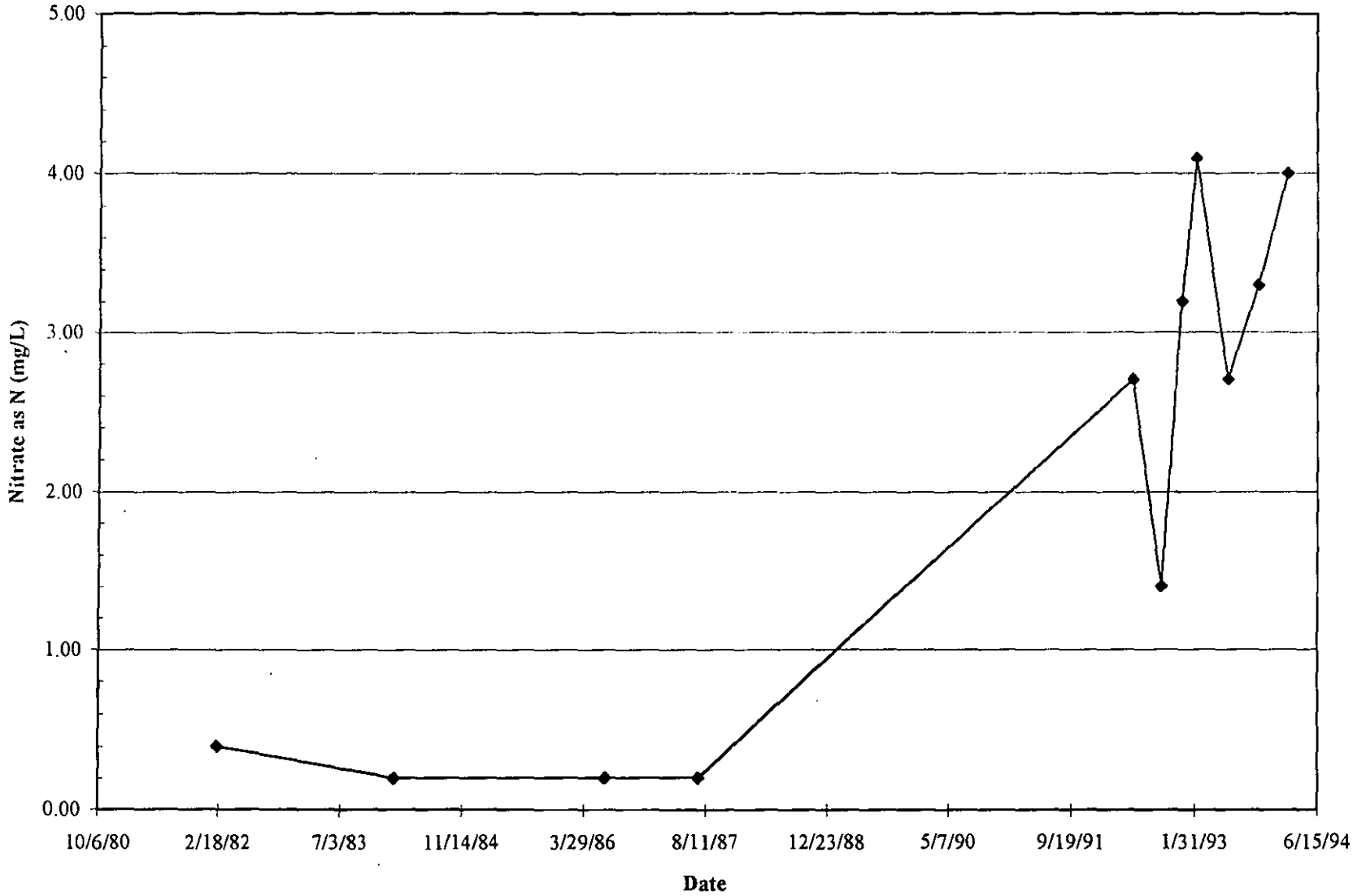
- Hydrolgic Zone A
- Hydrologic Zone C
- Hydrologic Zone E
- Hydrologic Zone G,H or deeper
- Springs
- Topographical Divide Boundary of Basin
- Estimated Extent of CCC Basin



EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

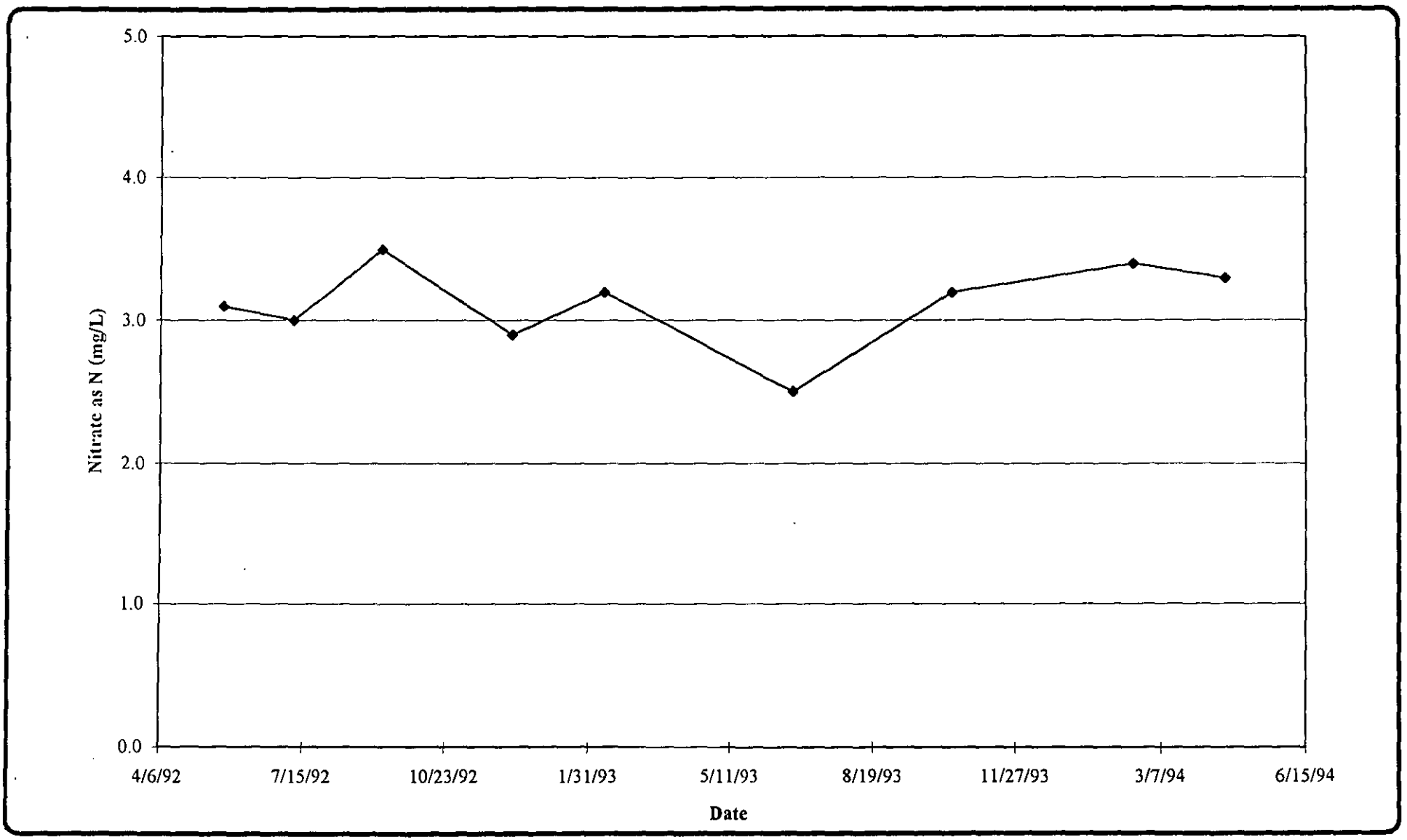
Figure 4-1
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
PUYALLUP MAPLEWOOD SPRING
NITRATE TREND PLOT



EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

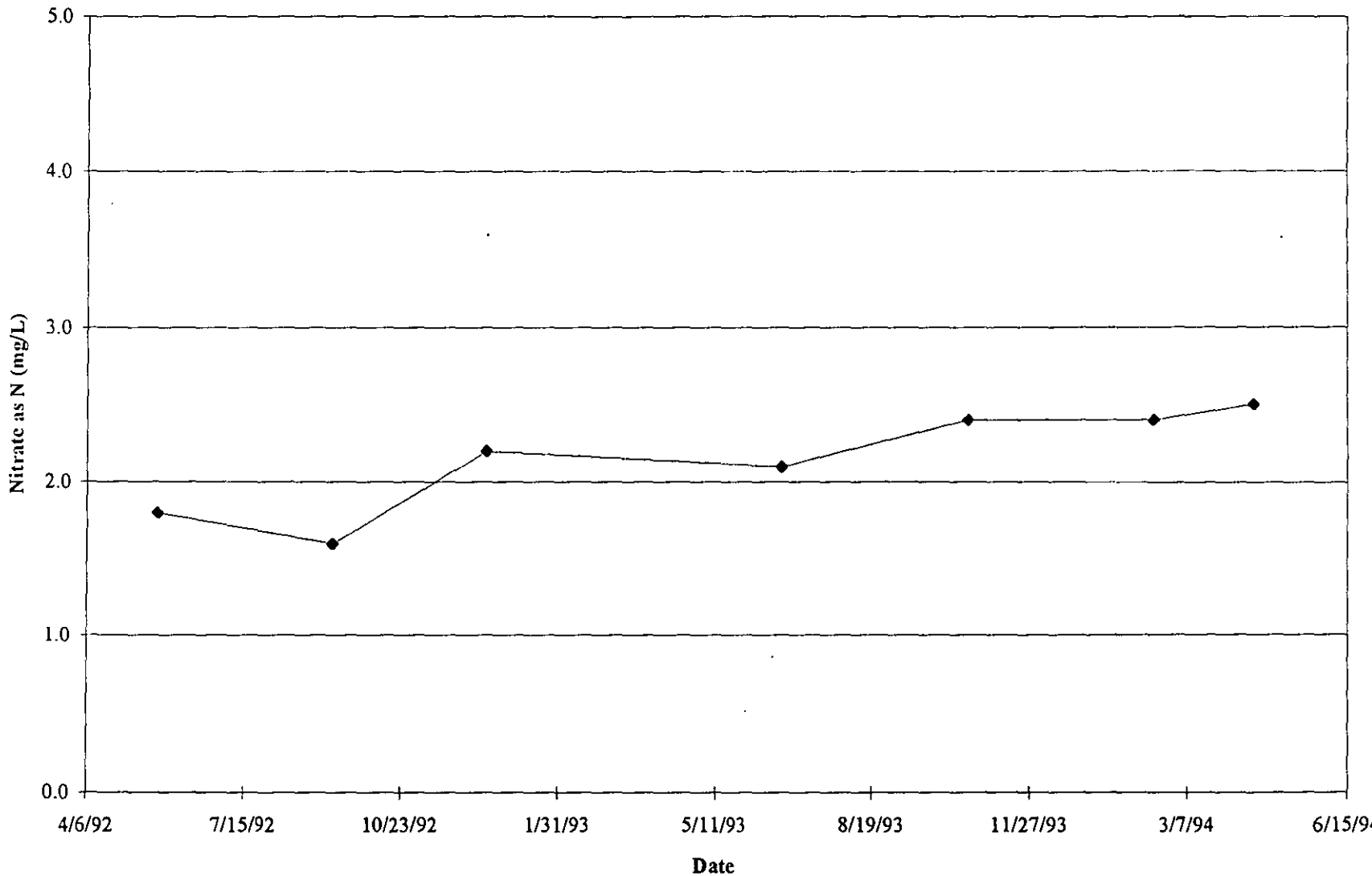
Figure 4-2
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
PARKLAND WELL No.7
NITRATE TREND PLOT



EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-3
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
FIRCREST WELL No.7
NITRATE TREND PLOT

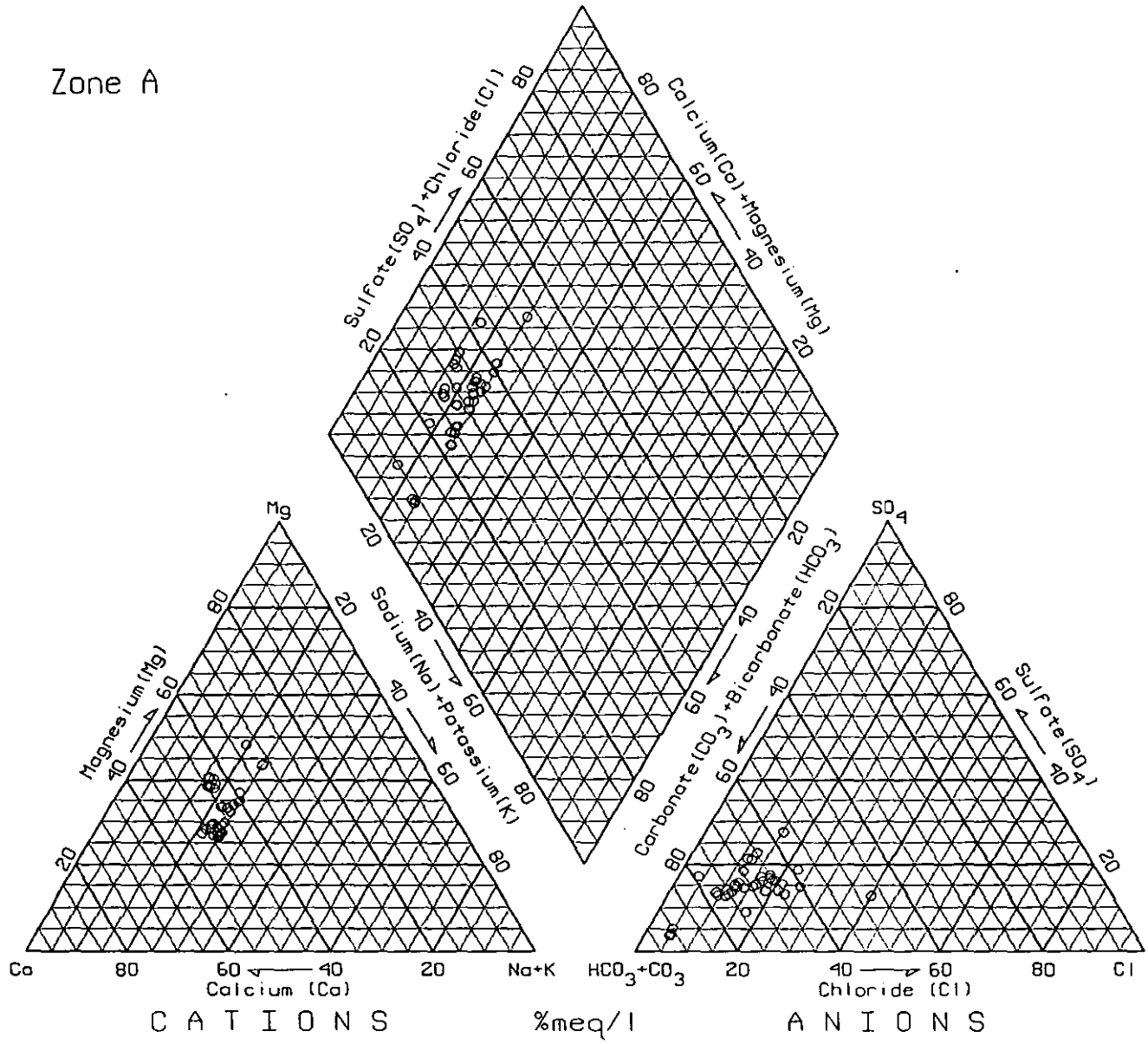


EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-4
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
FRONTIER COUNTY PARK
NITRATE TREND PLOT

Zone A



Number of Wells: 9

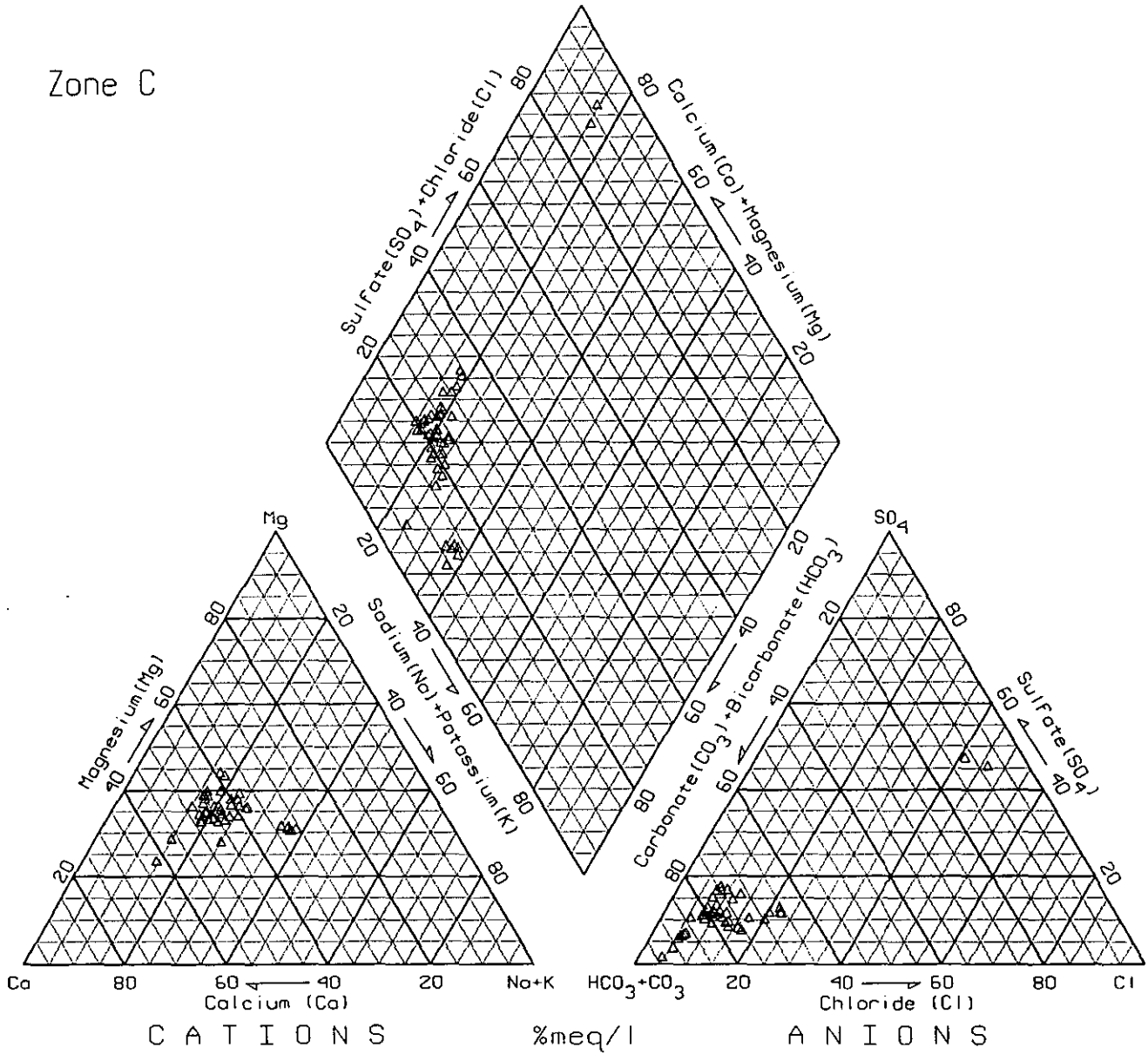
Number of Analysis: 40

EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-5
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
AQUIFER ZONE A
TRILINEAR PLOT

Zone C



Number of Wells: 12

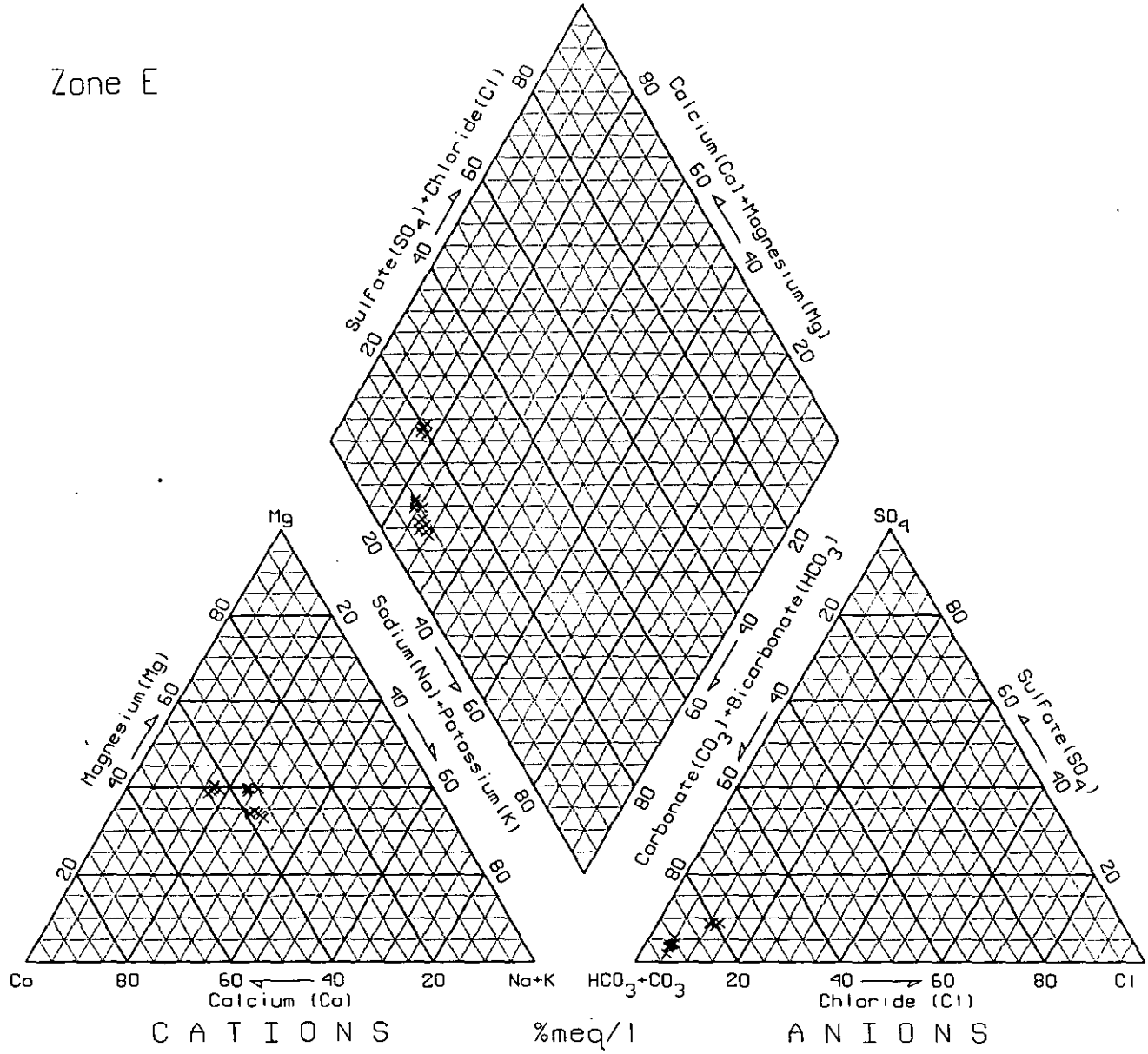
Number of Analysis: 52

EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-6
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
AQUIFER ZONE C
TRILINEAR PLOT

Zone E



Number of Wells: 4

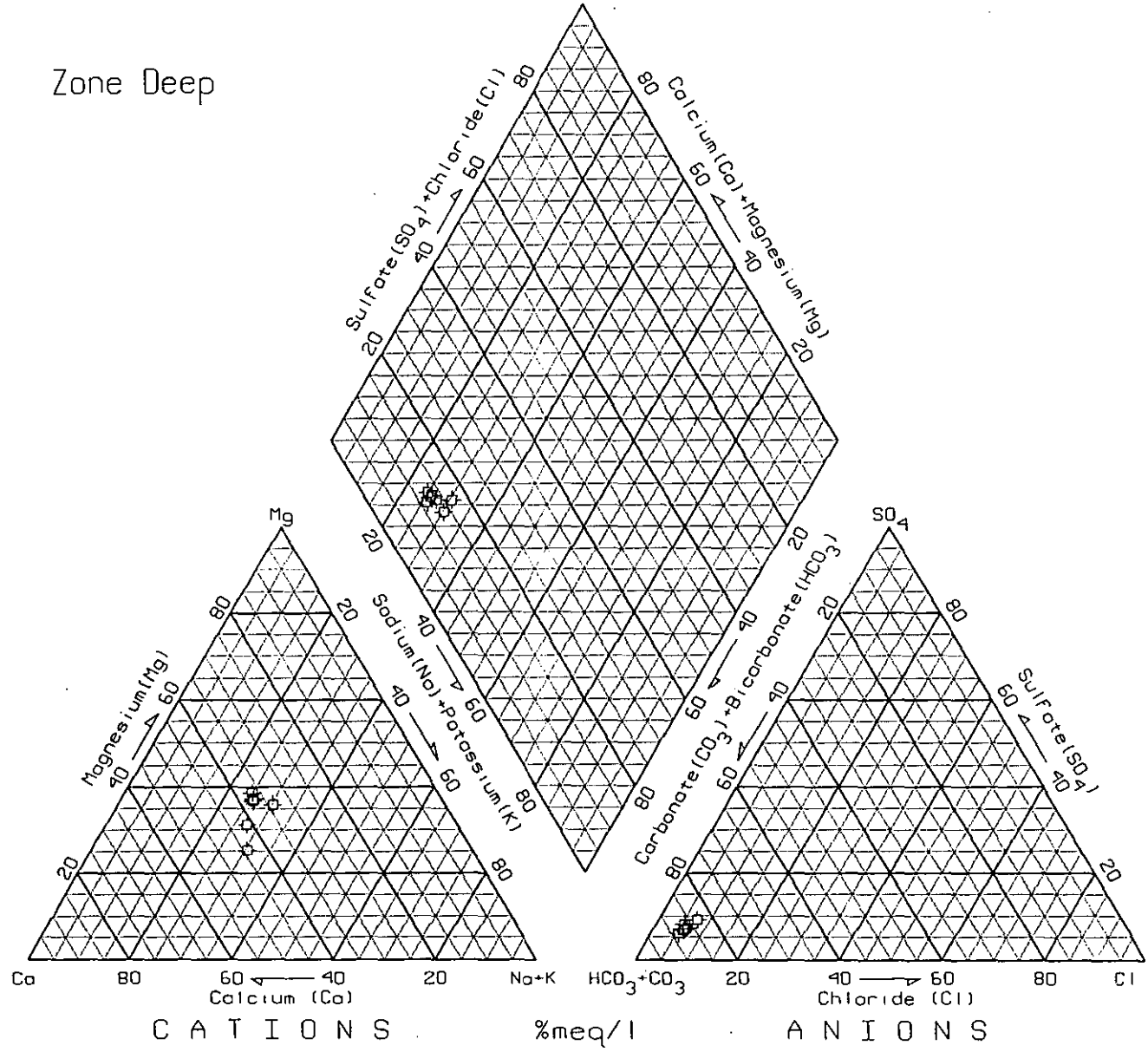
Number of Analysis: 17

EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-7
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
AQUIFER ZONE E
TRILINEAR PLOT

Zone Deep



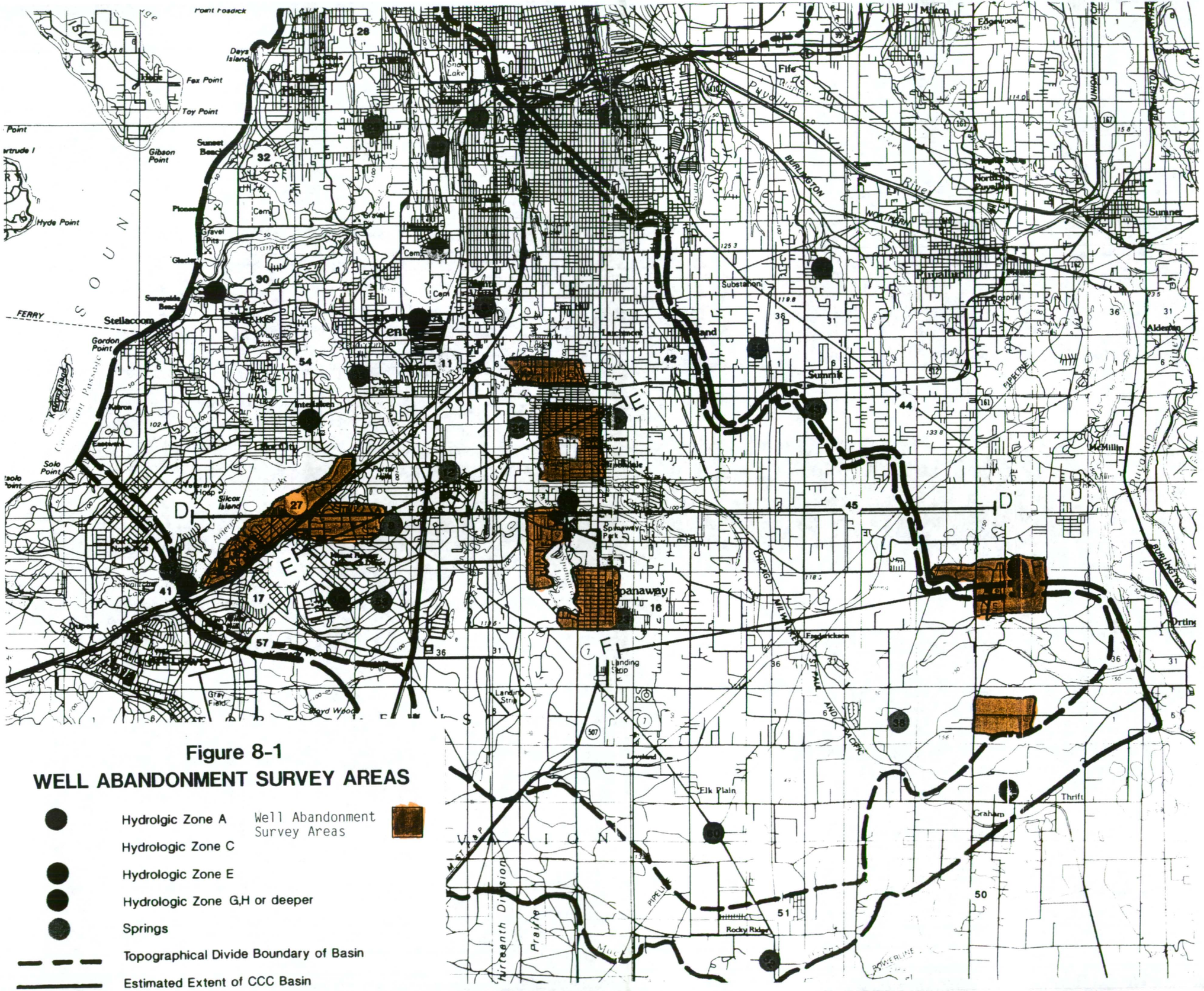
Number of Wells: 2

Number of Analysis: 7

EMCON

DATE 7/95
DWN. MDC
REV.
APPR.
PROJECT NO.
40156-003.001

Figure 4-8
CLOVER-CHAMBERS CREEK
MONITORING PROGRAM
AQUIFER ZONE DEEPER
TRILINEAR PLOT


Point Fosdick
Days Island
Fox Point
Toy Point
Gibson Point
Sunset Beach
Hyde Point
Pioneer
Gravel Pits
Glacier
Sunnyside Beach
FERRY
Stellacoom
Gordon Point
Solo Point
Silcox Island
Gray Field
Steilacoom Lake
Lake City
Interlaken
Chambers Prairie
Fife
Puyallup River
BURLINGTON
NORTHERN
Milton
Edgewood
Summer
Puyallup
Substation
Summit
Aldersgate
McMillin
Spanaway
Spanaway Park
Spanaway Lake
Landing Strip
Landing Camp
Fredrickson
Elk Plain
Graham
Thrift
Rocky Ridge
Prairie
Thirteenth Division
CHICAGO MILWAUKEE ST PAUL AND PACIFIC
PIPELINE
POWERLINE
SOUND
D
D'
E
E'
F
F'
S
T
V
I
O
N
Figure 8-1
WELL ABANDONMENT SURVEY AREAS
Hydrolgic Zone A
Hydrologic Zone C
Hydrologic Zone E
Hydrologic Zone G,H or deeper
Springs
Topographical Divide Boundary of Basin
Estimated Extent of CCC Basin
Well Abandonment Survey Areas

PLATES

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 1 WELL LOCATIONS

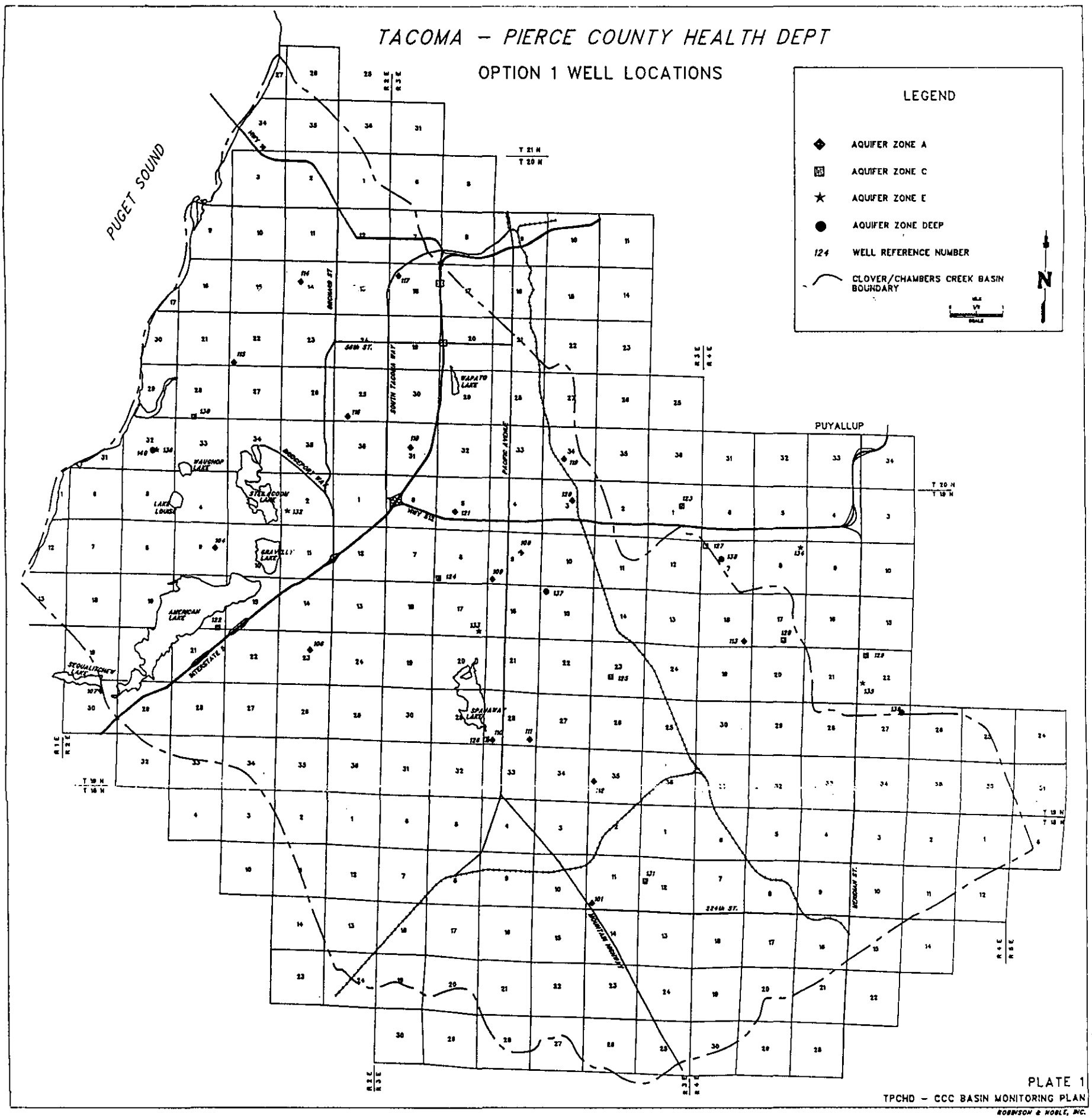


PLATE 1

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1985 JOB NO. 8456

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 2 WELL LOCATIONS

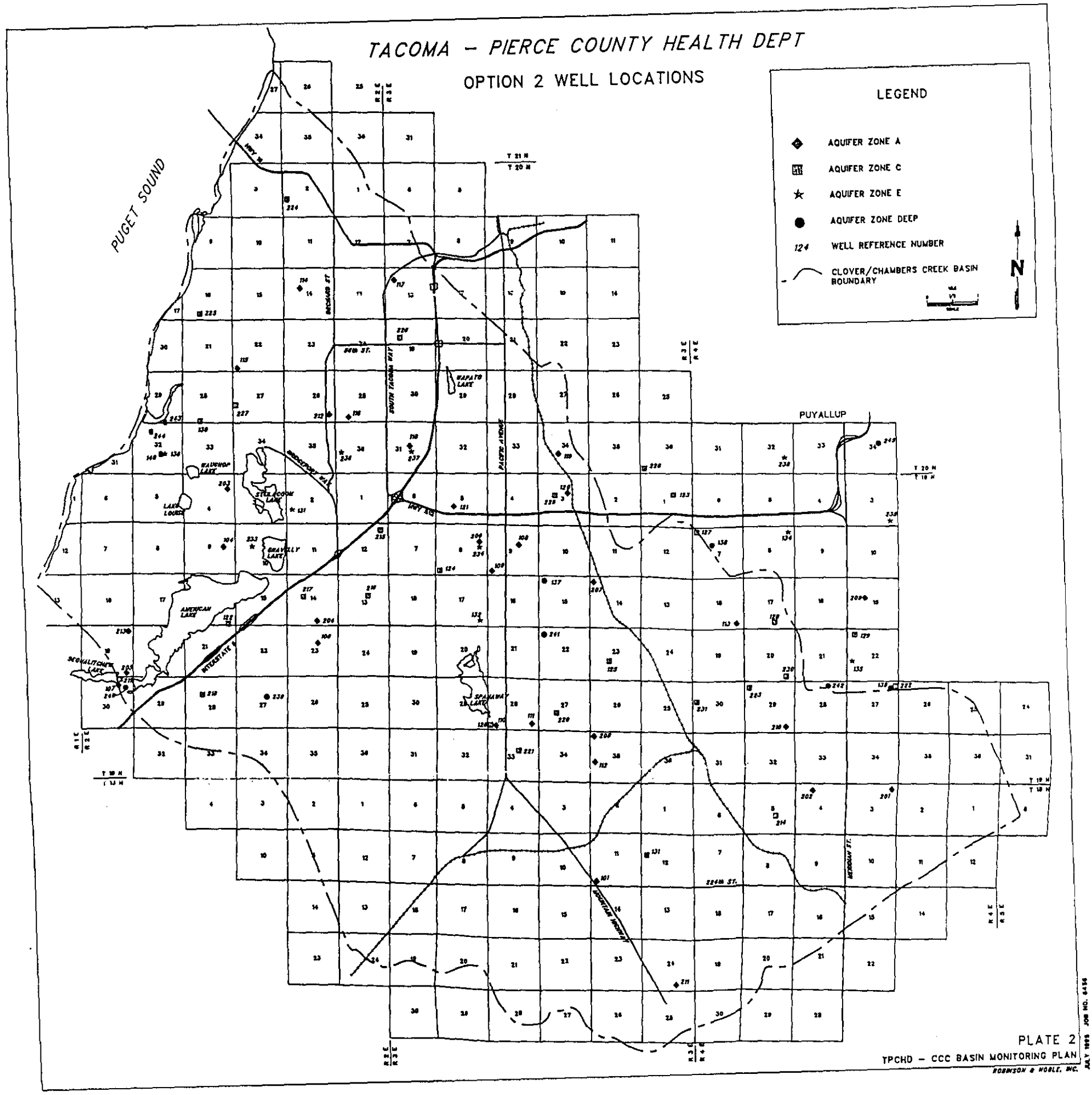


PLATE 2

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1995 JOB NO. 6456

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 3 WELL LOCATIONS

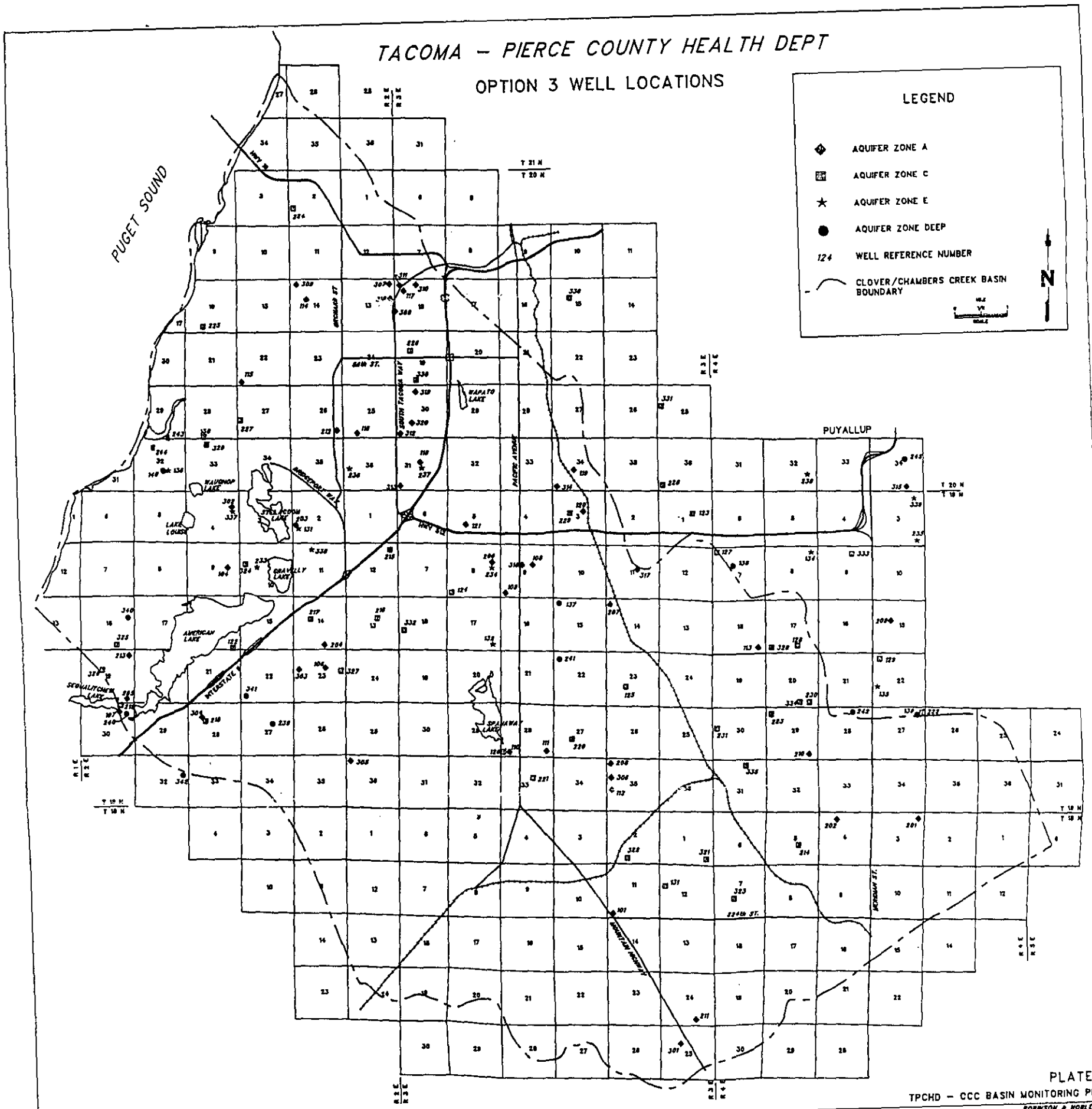


PLATE 3

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JUNE 1995 JOB NO. 6456

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 3 WELL LOCATIONS AND PROPOSED MONITOR SITES FOR AQUIFER ZONE A

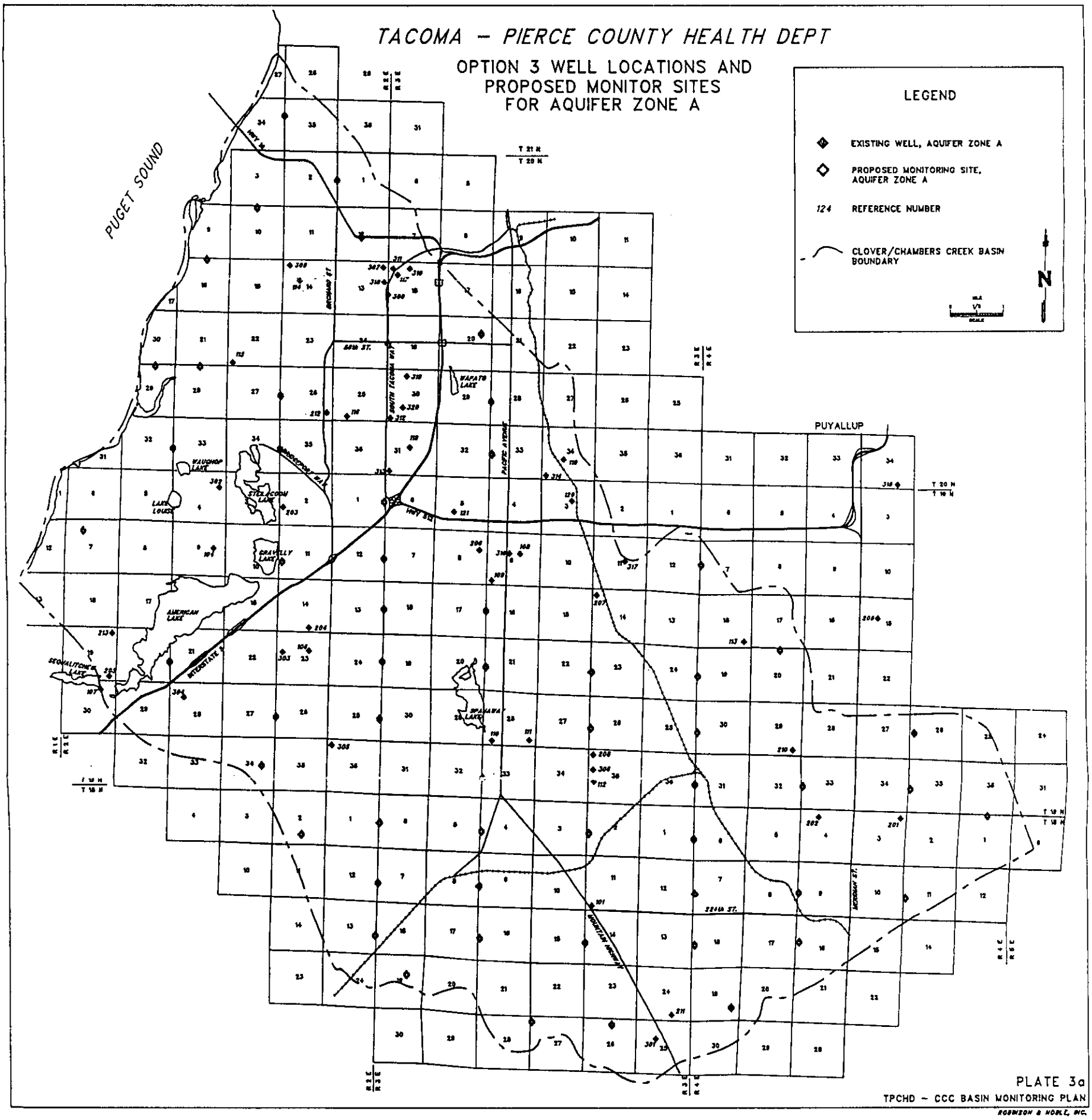


PLATE 3a

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1995 JOB NO. 6456

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 3 WELL LOCATIONS AND PROPOSED MONITOR SITES FOR AQUIFER ZONE C

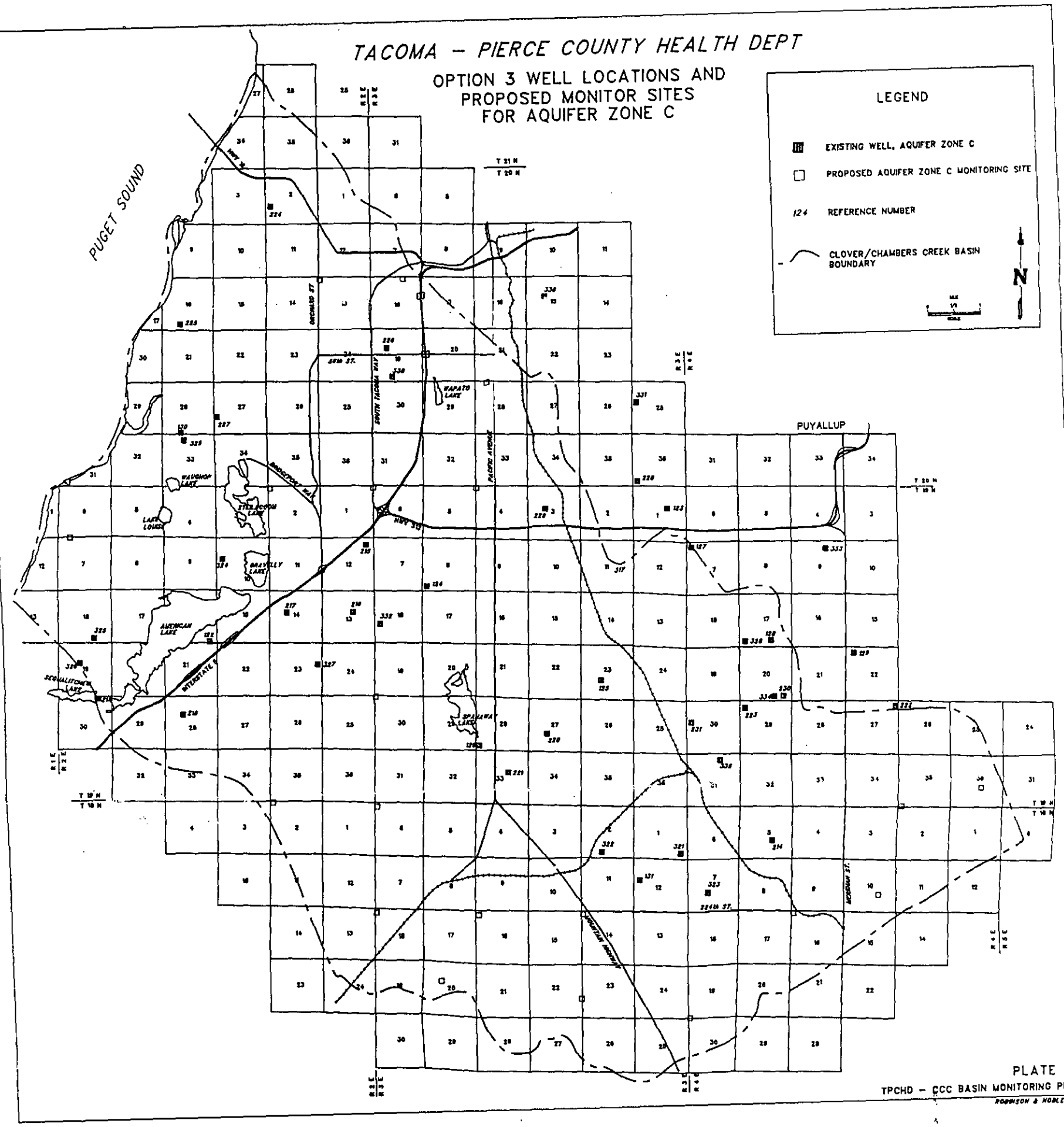


PLATE 3b

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1995 JOB NO. 6456

TACOMA – PIERCE COUNTY HEALTH DEPT

OPTION 3 WELL LOCATIONS AND PROPOSED MONITOR SITES FOR AQUIFER ZONE E (AND DEEPER)

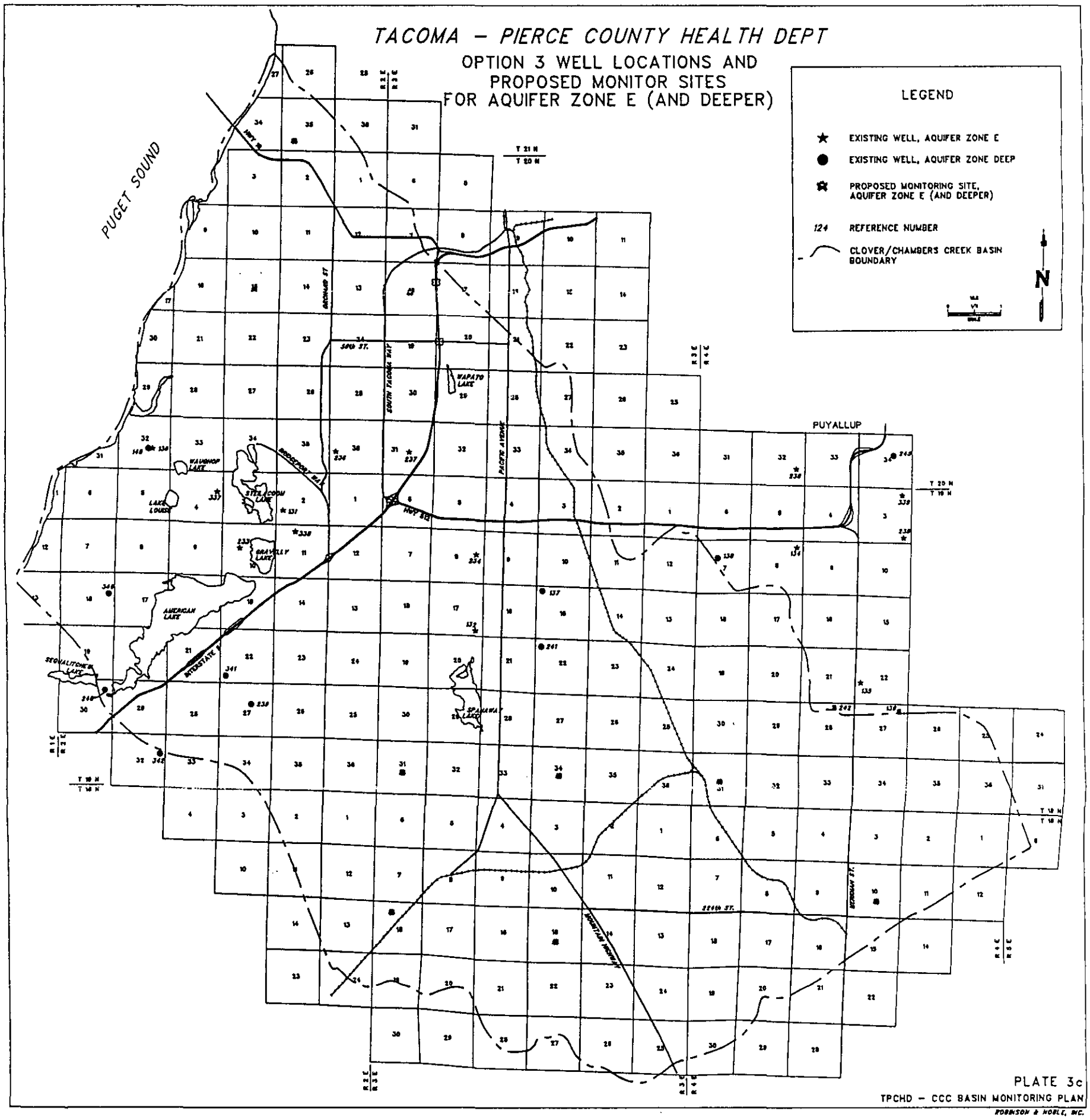


PLATE 3c

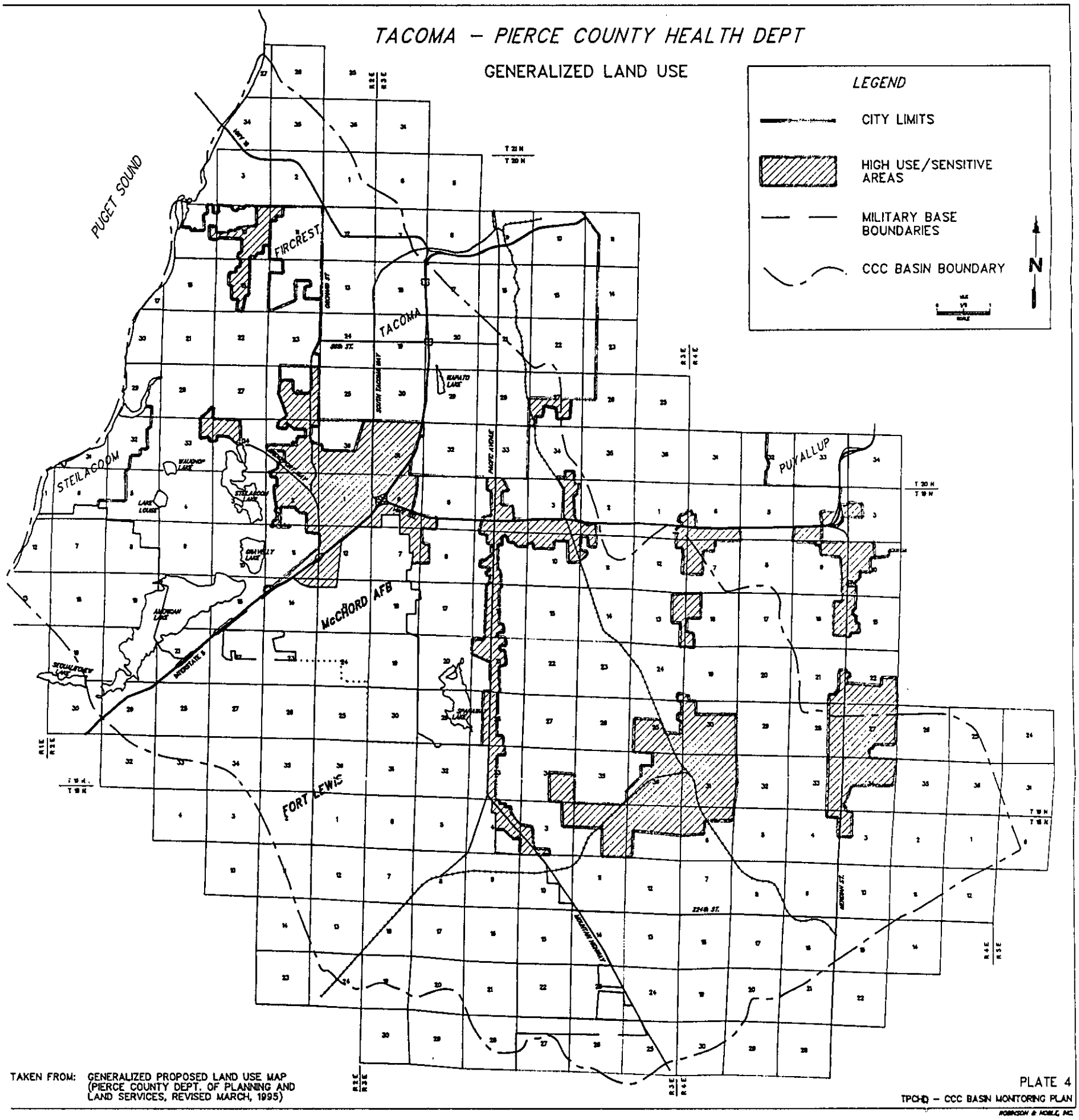
TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1995 JOB NO. 6484

TACOMA – PIERCE COUNTY HEALTH DEPT

GENERALIZED LAND USE



TAKEN FROM: GENERALIZED PROPOSED LAND USE MAP (PIERCE COUNTY DEPT. OF PLANNING AND LAND SERVICES, REVISED MARCH, 1995)

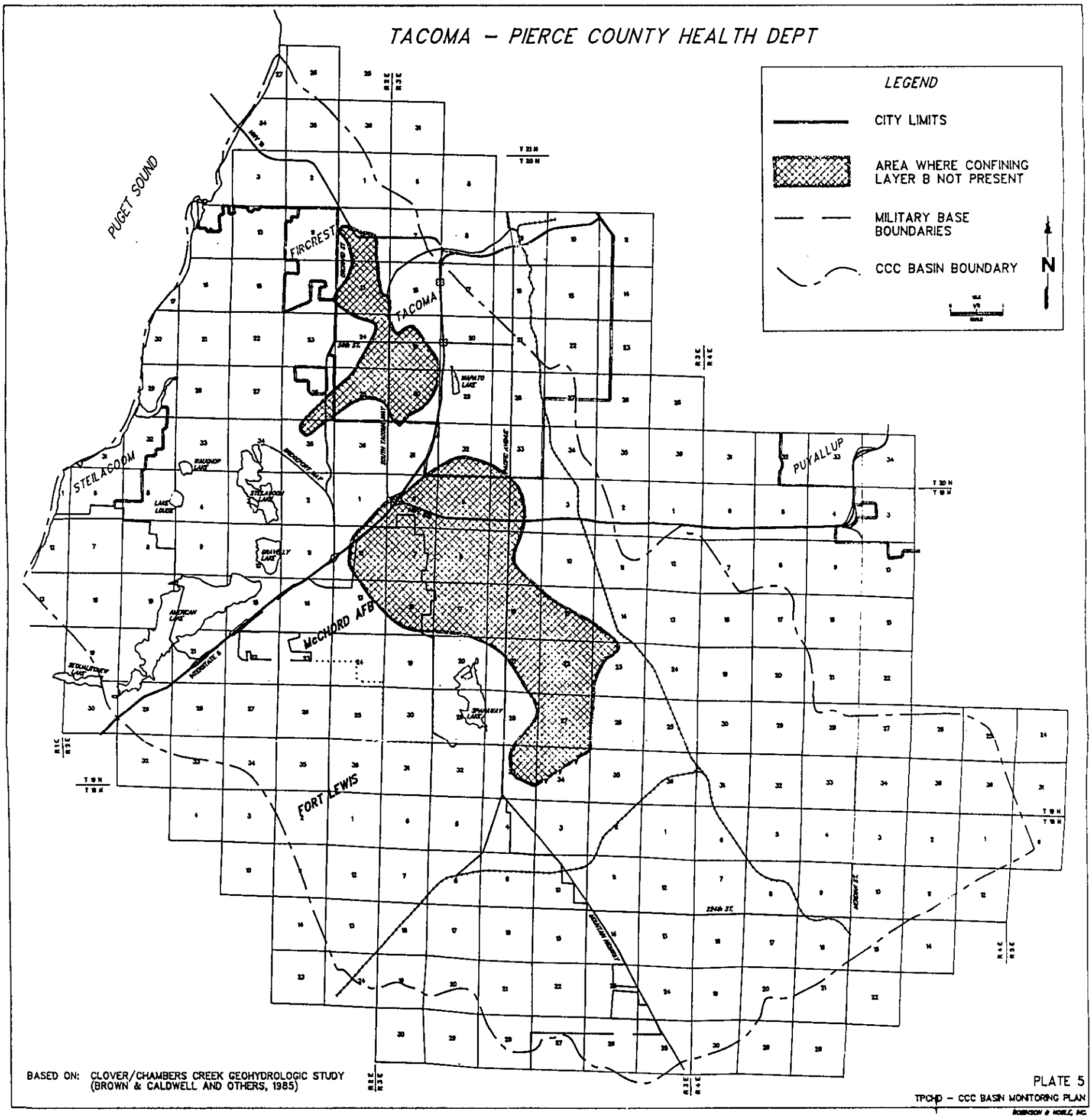
PLATE 4

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1995 JOB NO. 6436

TACOMA – PIERCE COUNTY HEALTH DEPT



BASED ON: CLOVER/CHAMBERS CREEK GEOHYDROLOGIC STUDY (BROWN & CALDWELL AND OTHERS, 1985)

PLATE 5

TPCHD – CCC BASIN MONITORING PLAN

ROBINSON & NOBLE, INC.

JULY 1985 JOB NO. 6436

APPENDIX A

LISTING OF MAJOR ION CHEMISTRY DATA

Appendix A
Tacoma-Pierce County Health Department
Clover-Chambers Creek Monitoring Program
Groundwater Chemistry Data
Major Ions

9/26/95

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
Unknown-3									
12/08/80							5.00		1.90
1/05/81							10.00 K		1.80
8/26/81									1.00
BETHANY LUTERAN CHURCH									
5/21/92	800								.20 U
7/10/92	850								.20 U
9/10/92	1030	7.10	1.10	11.00	5.80	2.00	2.00	64.00	.30
5/26/93	1200	7.10	.88	11.00	5.70	2.00	2.00	60.00	.30
9/21/93	1055	6.40	.88	10.00	5.70	2.00	2.00	64.00	.20 U
12/06/93	0								2.20
BETHEL GREEN ACRES-WELL # 1									
5/17/84									.20
CHARLES WRIGHT ACADEMY OLD WELL									
12/22/80							5.00 K		.30
1/20/81							10.00		.20 K
7/08/81							5.80		.20 K
CITY OF TACOMA 1-A									
12/15/80							10.00		3.30
1/12/81							10.00 K		3.80
7/07/81							7.50		3.80
CITY OF TACOMA 5-A									
12/15/80							10.00		2.10
1/12/81							10.00 K		3.00
CITY OF TACOMA 9-A									
12/15/80							90.00		1.50
1/12/81							75.00		2.60
2/04/81							40.00		2.50
CITY OF TACOMA GRAVITY LINE 1									
9/30/92	945	6.10	2.30	17.00	9.10	6.00	5.00	70.00	1.70
10/20/93	935	5.50	2.00	16.00	8.30	6.00	6.00	74.00	1.80
CITY OF TACOMA WELL 11A									
9/30/92	815	21.00	2.60	20.00	14.00			88.00	2.70
10/28/93	920	11.00	2.30	19.00	14.00	19.00	10.00	88.00	4.20
CITY OF TACOMA WELL 12A									
9/30/92	830	20.00	3.00	24.00	20.00	21.00	49.00	100.00	2.00
10/28/93	900	13.00	2.50	21.00	19.00	25.00	12.00	120.00	1.60
CITY OF TACOMA WELL U10									
9/30/92	915	6.90	1.80	13.00	4.70	1.00	2.00	70.00	.20 U
CRESCENT PARK WATER									
12/22/80							5.00 K		2.20

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
CROSS									
2/05/81							5.00 K		.20 K
DOWNTOWN TACOMA SPRING									
5/28/92	1100								2.90
7/16/92	1110								2.90
9/16/92	1015	8.10	2.90	22.00	19.00	18.00	8.00	90.00	2.90
12/09/92	1500								3.10
2/10/93	1230	8.10	2.40	18.00	16.00	18.00	8.00	90.00	3.10
6/14/93	1445	8.30	2.80	24.00	21.00	18.00	8.00	88.00	3.00
10/13/93	1300	8.30	2.80	21.00	18.00	18.00	9.00	90.00	3.20
2/16/94	1210	8.50	2.50	18.00	16.00	20.00	9.00	98.00	3.20
4/19/94	1030	8.00	2.20	19.00	16.00	19.00	8.00	98.00	3.10
ELK PLAIN SCHOOL									
1/15/81							10.00		5.40
2/09/81							15.00		5.10
FIR LANE MEMORIAL PARK									
1/12/81							10.00 K		3.40
1/28/81							5.00		4.10
FIRCREST WELL 7									
5/20/92	1300								3.10
7/08/92	1105								3.00
9/09/92	1130	7.60	2.20	17.00	13.00	19.00	7.00	80.00	3.50
12/09/92	1020								2.90
2/11/93	915	7.80	2.10	16.00	13.00	17.00	6.00	76.00	3.20
6/24/93	845	6.80	1.80	14.00	11.00	16.00	5.00	68.00	2.50
10/13/93	1230	8.10	2.60	18.00	14.00	17.00	6.00	74.00	3.20
2/16/94	945	9.70	2.30	16.00	13.00	20.00	6.00	86.00	3.40
4/20/94	1150	10.00	2.30	18.00	14.00	19.00	6.00	82.00	3.30
FIRGROVE MUTUAL INC-WELL # 2 144TH ST E									
3/18/81									.30
FIRGROVE MUTUAL INC-WELL # 3 154TH ST E									
1/06/81							10.00 K		.20 K
1/18/84									.20
FIRGROVE MUTUAL INC-WELL # 7 COLONY PARK									
1/06/81							10.00 K		.20 K
4/01/81									.20
7/21/81							3.80		.20 K
11/05/87							5.00		.50
FIRGROVE MUTUAL INC-WELLS #4 & #5									
4/01/81									.20
3/07/84									.40
FIRGROVE WELL 10									
7/23/92	1420	5.30	1.80	7.90	4.80	3.00	2.00	50.00	.20 U
6/15/93	845	5.90	1.60	8.50	5.20	3.00	2.00	48.00	.20 U
9/21/93	945	4.80	1.80	7.50	4.80	3.00	2.00	50.00	.20 U
2/15/94	1040	5.30	1.70	7.90	4.70	3.00	2.00	56.00	.20 U

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
FIRGROVE WELL 12									
5/28/92	1300								1.70
7/23/92	1400								1.80
9/17/92	1045	5.70	2.00	16.00	8.20	8.00	4.00	68.00	1.80
12/16/92	1030								2.00
2/10/93	1045		2.10	16.00	8.60		4.00	66.00	1.90
6/15/93	910	6.00	1.80	16.00	8.50	8.00	5.00	64.00	2.10
FIRGROVE WELL 5									
5/28/92	800								.50
7/23/92	1340								.40
9/17/92	1025	3.80	.96	7.20	2.70	3.00	2.00	30.00	.40
12/16/92	1015								.20
6/15/93	845	4.10	.85	7.60	2.80	3.00	3.00	28.00	.40
FLETT DAIRY INC-WELL #1									
12/16/80							10.00		3.10
1/26/81									3.70
1/27/81									3.70
FORT LEWIS SEQUALICHEW 19A									
7/16/92	840								.20 U
9/16/92	845	6.40	2.10	10.00	4.60	4.00	2.00	54.00	.20 U
5/19/93	900	6.80	1.50	7.50	4.80	3.00	2.00	46.00	.20 U
9/21/93	820	6.40	1.50	9.20	3.20	5.00	3.00	58.00	.20 U
FORT LEWIS SEQUALICHEW 19B									
7/16/92	840								.20 U
9/16/92	845	6.20	1.90	9.30	5.30	5.00	2.00	50.00	.20 U
5/19/93	900	6.20	2.10	9.30	5.40	5.00	3.00	50.00	.20 U
9/21/93	815	5.60	1.80	9.20	5.20	5.00	3.00	50.00	.20 U
FORT LEWIS SEQUALICHEW SPRING									
5/27/92	800								.50
7/16/92	825								.40
9/16/92	830	6.00	.90	11.00	3.80	6.00	3.00	44.00	.30
12/16/92	815								.50
2/04/93	830	5.90	.96	11.00	3.90	6.00	4.00	44.00	.50
6/23/93	820	5.20	.86	10.00	3.60	6.00	4.00	42.00	.40
10/19/93	830	6.20	.95	12.00	4.40	6.00	4.00	46.00	.40
2/15/94	815	6.60	1.10	12.00	4.20	7.00	4.00	54.00	.50
4/19/94	805	6.30	.97	12.00	4.10	7.00	4.00	48.00	.50
FORT LEWIS WATER-WELL #10									
12/01/80							5.00 K		.60
12/16/80							5.00 K		1.00
1/13/81							10.00 K		.70
7/21/81							3.80		.20
FORT LEWIS WELL 13									
5/27/92	830								.50
8/19/92	900								.40
9/16/92	915	6.60	1.70	17.00	7.00	9.00	4.00	70.00	.80
11/09/93	845	5.20	3.20	11.00	6.00	8.00	4.00	58.00	.40
FRAME									
2/18/81							10.00		2.50

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
FRAME									
FRONTIER COUNTY PARK									
5/21/92	930								1.80
9/10/92	940	5.00	1.20	8.00	3.50	5.00	5.00	30.00	1.60
12/17/92	1015								2.20
6/23/93	1415	5.80	1.10	8.60	3.50	5.00	6.00	30.00	2.10
10/19/93	1030	4.60	1.20	9.00	4.10	4.00	5.00	32.00	2.40
2/14/94	1235	4.60	1.10	9.90	4.10	5.00	5.00	38.00	2.40
4/18/94	1235	5.00	1.10	9.70	3.90	5.00	5.00	38.00	2.50
HADDEN									
12/16/80							5.00 K		1.80
1/15/81									2.00
LAKEWOOD WATER DISTRICT A-1									
12/16/80							5.00 K		.60
1/20/81							10.00 K		.40
7/14/81							3.80		.40
LAKEWOOD WATER DISTRICT WELL A2									
5/20/92	800								1.20
7/08/92	840								.50
8/12/92	845								.50
9/09/92	900	5.90	1.40	8.10	5.50	4.00	2.00	52.00	.50
12/09/92	845								.60
2/24/93	1000	5.60	1.50	8.40	5.80	4.00	2.00	50.00	.50
6/16/93	840	6.00	1.60	9.00	6.10	4.00	3.00	50.00	.60
10/13/93	825	6.50	2.10	10.00	6.70	4.00	3.00	50.00	.60
2/16/94	825	6.20	1.70	8.20	5.90	5.00	3.00	58.00	.60
4/20/94	825	7.30	1.90	11.00	7.10	5.00	3.00	58.00	.70
LAKEWOOD WATER DISTRICT-104TH&BRIDGEPORT F-2									
8/05/80									.10
4/13/83									3.90
3/25/86							2.00		.30
LAKEWOOD WATER DISTRICT-112TH & DEEPWOOD Q-1									
8/05/80									.10
6/06/83									.10 K
LAKEWOOD WATER DISTRICT-88TH & PINE J-1									
3/11/80									.70
12/16/80							10.00		3.00
1/20/81							20.00		3.00
1/30/81							20.00		2.00
7/14/81							12.00		3.10
3/25/86							10.00		2.10
7/08/92	920								2.10
8/12/92	920					22.00		2.10	2.10
9/09/92	945	7.50	2.00	20.00	11.00			82.00	2.20
12/09/92	900								2.20
2/24/93	1035	7.70	2.00	21.00	12.00	21.00	9.00	84.00	2.00
6/16/93	920	8.40	2.00	23.00	13.00	22.00	9.00	80.00	2.00
10/13/93	910	8.30	2.40	23.00	12.00	22.00	9.00	58.00	2.40
2/16/94	855	8.30	2.20	21.00	12.00	23.00	9.00	92.00	2.20
4/20/94	925	8.50	2.20	23.00	13.00	23.00	9.00	92.00	2.10

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
LAKEWOOD WATER DISTRICT-88TH & PINE J-1									
LAKEWOOD WATER DISTRICT-88TH & PINE J-2									
3/11/80									.90
LAKEWOOD WATER DISTRICT-G-1 & G-2 SCOTT									
4/13/83									.70
6/10/86							6.00		.70
7/08/92	905								1.10
8/12/92	905					12.00		1.00	1.00
9/09/92	930	6.00	2.00	15.00	7.90	12.00	2.00	70.00	1.20
2/24/93	1025	5.90	2.10	16.00	8.30	11.00	7.00	70.00	1.10
5/19/93	1040	6.20	1.90	17.00	8.80	3.00	2.00	66.00	.20 U
9/15/93	900	6.20	2.30	17.00	9.00	12.00	7.00	70.00	1.10
4/20/94	900	7.20	2.40	18.00	9.90	12.00	7.00	74.00	1.40
LAKEWOOD WATER DISTRICT-H-1 & H-2 PONDERS									
4/13/83									2.80
LAKEWOOD WATER DISTRICT-I-1 & I-3 HIPKINS,I-3									
8/05/80									.30
12/16/80							5.00 K		.20
1/20/81							10.00 K		.20 K
4/13/83									.40
5/20/83									.10 K
6/06/83									.10 K
LAKEWOOD WATER DISTRICT-INTERLAAKEN D - 2									
3/11/80									.13
12/16/80							5.00 K		3.20
1/20/81							10.00 K		.20 K
1/30/81									.40
4/13/83									1.80
3/25/86							11.00		4.60
5/20/92	900								.50
7/08/92	1015								.70
8/12/92	820								.70
9/09/92	830	5.40	1.70	8.00	5.20	4.00	2.00	52.00	.60
12/09/92	830								.60
2/24/93	945	5.60	1.60	8.50	5.70	4.00	2.00	52.00	.60
6/15/93	815	6.20	1.50	9.50	6.30	5.00	3.00	48.00	.70
10/13/93	805	6.50	2.40	10.00	6.70	4.00	2.00	54.00	.60
2/16/94	805	6.40	1.70	8.50	6.00	5.00	3.00	58.00	.60
4/20/94	810	6.80	2.00	9.80	6.60	4.00	3.00	56.00	.60
LAKEWOOD WATER DISTRICT-INTERLAAKEN D - 3									
3/11/80									10.00 K
12/16/80							5.00 K		.70
1/20/81							10.00 K		.20 K
7/14/81							5.80		.20
4/13/83									.60
3/25/86							11.00		4.60
LAKEWOOD WATER DISTRICT-L-1 & L-2&L-3 HEMLOCK									
3/11/80									2.00
12/16/80							10.00		4.50
1/20/81							20.00		4.10

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
LAKEWOOD WATER DISTRICT-L-1 & L-2&L-3 HEMLOCK									
7/14/81							17.00		5.80
6/06/83									.10 K
LAKEWOOD WATER DISTRICT-OAKBROOK O - 2									
3/11/80									.80
6/06/83									.10 K
5/20/92	1000								1.10
7/08/92	950								1.20
8/12/92	1000								1.20
9/09/92	1025	6.70	1.90	16.00	6.90	11.00	4.00	70.00	1.20
12/09/92	930								1.00
2/24/93	1100	6.20	1.80	16.00	7.30	12.00	4.00	68.00	1.20
6/16/93	1000	7.10	2.10	18.00	8.10	12.00	4.00	64.00	1.20
10/13/93	955	6.90	2.50	18.00	8.20	12.00	5.00	66.00	1.10
4/20/94	1005	6.30	2.00	16.00	7.40	13.00	5.00	74.00	1.20
LAKEWOOD WATER DISTRICT-P-1 & P-2 STEILACOOM									
3/11/80									.01 K
6/06/83									.70
7/29/86							2.00		.20 K
5/20/92	1040								.30
7/08/92	930								.30
8/12/92	940								.30
9/09/92	1005	5.50	1.30	8.50	5.40	2.00	2.00	58.00	.30
12/09/92	910								.30
6/16/93	940	6.40	1.20	9.80	6.40	2.00	2.00	54.00	.30
10/13/93	930	6.30	1.80	10.00	6.60	2.00	2.00	56.00	.30
2/16/94	915	6.40	1.40	8.50	5.90	3.00	2.00	62.00	.40
4/20/94	940	6.50	1.50	9.70	6.40	2.00	2.00	62.00	.30
LAKEWOOD WATER DISTRICT-TILLICUM A - 3									
3/11/80									.16
4/13/83									2.30
3/25/86							7.00		1.30
LAKEWOOD WATER DISTRICT-VIEW ROAD N - 2									
8/05/80									3.70 K
6/06/83									.60
LAKEWOOD WATER DISTRICT-WASHINGTON BLVD E-2									
8/05/80									.10
4/13/83									.90
6/10/86							1.00		.20 K
LAKEWOOD WATER DISTRICT-WASHINGTON BLVD E-3									
8/05/80									1.30
4/13/83									4.30
6/10/86							4.00		1.10
LAKEWOOD WTR DIST-K2-LAKE AVE-SOURCE 13									
8/05/80									.80 K
5/20/83									1.90
LE MAY ACRES-WELL # 3									
3/09/83									2.40
1/08/86							5.00 K		3.30

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
LE MAY ACRES-WELL # 3									
MARSHAL									
1/15/80									3.20
1/15/81							10.00 K		
2/03/81							10.00		3.80
7/21/81							5.80		1.60
MC CHORD AIR FORCE BASE-190									
1/13/81							10.00 K		.20 K
2/02/81							5.00 K		.20 K
2/05/81									.20
7/08/81							5.00		.20 K
8/15/87						5.00	2.00	.10 K	.10 K
MC CHORD AIR FORCE BASE-5003									
12/16/80							5.00 K		.20 K
1/26/81							10.00 K		.20 K
2/05/81							5.00		.20 K
MC CHORD AIR FORCE BASE-711									
12/16/80							5.00 K		.80
1/26/81							10.00 K		.50
7/08/81							6.70		.60
8/28/87						9.00	4.00	.60	.60
5/28/92	1300								.80
7/16/92	1300								.80
9/16/92	1400	6.40	2.60	15.00	6.70	8.00	4.00	68.00	.80
12/17/92	1330								.90
2/04/93	1445	6.70	2.20	13.00	6.00	7.00	4.00	60.00	.80
6/14/93	1030	7.50	2.00	12.00	6.10	6.00	4.00	56.00	.60
10/18/93	1030	7.80	2.10	14.00	6.80	7.00	4.00	58.00	.60
2/14/94	1025	6.10	2.40	15.00	6.80	9.00	5.00	74.00	.90
4/18/94	1030	6.90	2.60	15.00	6.60	8.00	4.00	74.00	.90
MC CHORD AIR FORCE BASE-832									
12/16/80							5.00 K		.20 K
1/26/81							10.00 K		.20 K
7/08/81							10.00		.20 K
8/28/87						10.00	1.00	.10 K	.10 K
5/28/92	1400								.20 U
7/16/92	1415								.20 U
9/16/92	1425	7.80	2.50	7.20	4.20	3.00	2.00	52.00	.20 U
12/17/92	1315								.20 U
2/04/93	1430	7.70	2.40	6.40	3.90	3.00	2.00	50.00	.20
6/14/93	1015	8.00	2.50	7.00	4.10	3.00	2.00	46.00	.20 U
10/18/93	1015	8.00	2.40	7.20	4.30	3.00	2.00	48.00	.20 U
2/14/94	1010	7.90	2.50	7.80	4.50	3.00	2.00	56.00	.20 U
4/18/94	1015	8.80	3.00	8.00	4.60	2.00	2.00	58.00	.20 U
PARKLAND #6-SOURCE #4									
12/17/80							5.00 K		.20 K
1/21/81							5.00		.20
1/28/81									.60
7/07/81							5.80		.20 K

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
PARKLAND LIGHT & WATER COMPANY-WELL #1									
1/07/81									.60
2/10/82									2.00
1/20/83									1.80
2/09/84									2.40
1/07/85									1.30
6/26/86							5.00		2.00
7/13/87							7.00		2.00
PARKLAND LIGHT & WATER COMPANY-WELL #11									
12/17/80							5.00 K		.20 K
1/07/81									.10
1/21/81							20.00		.70
7/07/81							1.00 K		.20 K
2/10/82									.60
2/09/84									.30
PARKLAND LIGHT & WATER COMPANY-WELL #12									
2/10/82									.20
2/09/84									1.90
6/26/86							5.00		1.60
7/08/86							2.00		.20 K
7/13/87							6.00		1.00
PARKLAND LIGHT & WATER COMPANY-WELL NO. 10									
12/17/80							5.00 K		1.40
1/07/81									.70
1/21/81							15.00		.20 K
1/28/81									.20 K
7/07/81							6.70		.40
1/20/83									2.90
1/07/85									1.10
6/26/86							10.00		1.90
PARKLAND LIGHT & WATER COMPANY-WELL NO. 9									
2/10/82									.40
2/09/84									.20
6/26/86							2.00		.20
7/13/87							3.00		.20 K
5/27/92	1030								2.70
9/17/92	945	7.30	1.70	14.00	5.30	5.00	7.00	52.00	1.40
12/09/92	1430								3.20
2/10/93	950	8.10	1.80	15.00	5.90	9.00	8.00	36.00	4.10
6/14/93	1315	7.10	1.50	15.00	5.60	8.00	7.00	44.00	2.70
10/18/93	1330	7.90	1.90	17.00	6.30	8.00	9.00	48.00	3.30
2/14/94	1130	6.40	1.40	14.00	5.10	9.00	8.00	46.00	4.00
PARKLAND WATER WELL 12									
5/27/92	1100								1.40
7/29/92	1030								1.50
9/17/92	930	5.90	1.70	14.00	6.20	9.00	10.00	48.00	1.40
6/14/93	1340	6.50	1.60	15.00	6.70	8.00	10.00	48.00	1.40
10/18/93	1350	5.70	1.70	14.00	6.10	9.00	11.00	50.00	1.50
2/14/94	1150	6.00	1.70	15.00	6.60	9.00	14.00	54.00	1.40
4/18/94	1145	6.10	1.80	14.00	5.90	9.00	11.00	54.00	1.50

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
PARKLAND-SOURCE 3-WELL 5									
1/07/81									2.50
5/27/92	900								2.90
7/29/92	900								3.00
9/17/92	915	7.80	1.30	14.00	6.50	10.00	7.00	50.00	3.00
12/09/92	1415								3.00
2/10/93	915	8.40	1.40	15.00	7.00	9.00	7.00	52.00	3.10
6/14/93	1400	8.00	1.10	14.00	6.50	9.00	7.00	48.00	3.20
10/18/93	1310	8.30	1.30	16.00	7.30	10.00	8.00	50.00	3.30
2/14/94	1110	8.40	1.40	14.00	6.90	9.00	7.00	54.00	3.40
4/18/94	1110	7.60	1.30	13.00	5.90	9.00	7.00	54.00	3.30
PAUL BUNYON SPORTSMAN CLUB									
12/29/80									.20 K
1/13/81							10.00 K		.20 K
7/08/81							5.00		.20 K
PLATING SITE									
12/17/80									1.40
PONCE DE LEON SPRING									
5/20/92	1300								1.80
7/08/92	1300								1.40
12/21/92	1010								2.10
2/11/93	945	5.70	1.00	12.00	4.20	8.00	6.00	38.00	2.00
6/16/93	1145	6.10	.90	14.00	4.50	7.00	5.00	44.00	1.80
2/15/94	845	5.20	1.00	10.00	3.30	7.00	6.00	36.00	1.50
4/20/94	1340	5.30	1.00	12.00	4.10	7.00	5.00	44.00	2.00
PUYALLUP WATER MAPLEWOOD SPRING									
4/15/92	800								1.20
7/13/92	800								2.40
9/23/92	845	6.00	2.10	16.00	9.10	6.00	6.00	72.00	2.20
10/01/92	0								2.60
10/15/92	800								2.60
1/01/93	0								1.80
2/11/93	1130	6.00	2.00	16.00	9.10	6.00	6.00	72.00	2.20
4/01/93	0								2.10
6/23/93	1345	5.60	1.90	15.00	8.30	6.00	6.00	68.00	2.10
7/26/93	0								2.20
11/09/93	0								2.40
2/15/94	1125	6.60	2.20	16.00	9.00	7.00	6.00	78.00	2.10
3/01/94	0								1.90
RIVARD									
12/23/80							5.00 K		.20
1/21/81							5.00 K		.20 K
1/28/81									.20 K
SCHIBIE									
2/02/81							10.00		1.90
SE TACOMA MUTUAL-SOURCE 1-WELL 1									
10/09/80									1.10
12/03/80							10.00		2.40
7/07/81							8.00		1.10

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
SE TACOMA MUTUAL-SOURCE 4-WELL 4									
10/09/80									1.20
SE TACOMA MUTUAL-SOURCE 4-WELL 6									
10/09/80									2.80
12/03/80							10.00		2.60
1/29/81							20.00		1.60
7/07/81							8.00		2.40
SE TACOMA MUTUAL-SOURCE 4-WELL 8									
10/09/80									1.20
SE TACOMA MUTUAL-SOURCE 5-WELL 5									
10/09/80									1.50
SHINING MOUNTAIN ELEMENTARY									
5/27/92	800								.20 U
7/10/92	825								.20 U
9/10/92	845	7.40	2.00	11.00	5.80	1.80	2.00	66.00	.20 U
12/16/92	945								.20 U
2/24/93	1400	7.20	1.70	9.50	5.20	2.00	2.00	60.00	.20 U
6/16/93	1300	7.80	1.50	11.00	5.70	2.00	2.00	60.00	.20 U
10/27/93	1115	7.90	2.00	11.00	6.00	1.00	2.00	62.00	.20 U
2/14/94	1345	7.50	1.80	9.60	5.20	2.00	2.00	66.00	.20 U
4/19/94	910	7.60	1.60	9.20	4.90	2.00	2.00	64.00	.20 U
SOUND WATER COMPANY TANNENBAUM WELL									
5/27/92	930	5.00					5.00	1.70	1.70
7/10/92	1000								1.60
9/10/92	1100	5.00	1.60	11.00	5.30	5.00	4.00	46.00	1.60
12/17/92	1045								1.60
2/04/93	950	4.90	1.30	10.00	5.00	5.00	4.00	46.00	1.50
6/23/93	1530	4.70	1.30	10.00	5.10	5.00	4.00	46.00	1.70
10/18/93	1225	5.40	1.30	12.00	6.00	5.00	5.00	50.00	1.80
2/14/94	1305	5.40	1.50	12.00	5.70	5.00	5.00	52.00	1.70
4/18/94	1335	5.50	1.60	11.00	5.30	5.00	4.00	54.00	1.70
SOUTH EAST TACOMA WATER WELL 11									
5/27/92	1445	5.00					5.00	1.30	1.30
7/16/92	1035								1.20
9/17/92	1115	5.70	1.40	15.00	7.50	6.00	5.00	64.00	1.20
12/17/92	1120								1.30
2/04/93	1050	5.40	1.30	14.00	6.90	6.00	5.00	64.00	1.30
4/14/93	1145			42.00				65.00	
6/23/93	1010	5.10	1.20	14.00	5.80	5.00	5.00	62.00	1.20
10/18/93	1115	6.10	1.40	17.00	8.30	6.00	5.00	74.00	1.30
2/16/94	1145	6.10	1.40	15.00	7.60	6.00	5.00	70.00	1.40
4/20/94	1245	6.30	1.70	16.00	8.10	6.00	5.00	68.00	1.50
SOUTHEAST TACOMA MUTUAL WATER -WELL NOS. 3,5,7									
10/09/80									2.50
7/13/83									2.50
4/14/86							10.00		3.10
SOUTHEAST TACOMA MUTUAL WATER -WELLS 1,4,8									
7/13/83									3.10
4/14/86							7.00		1.00

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
SOUTHEAST TACOMA MUTUAL WATER -WELLS 1,4,8									
5/27/92	1430	5.00					11.00	1.30	1.30
7/16/92	1020								1.10
9/17/92	1100	6.40	2.00	17.00	11.00	13.00	6.00	80.00	1.00
12/17/92	1000								1.00
2/04/93	1020	6.40	2.00	17.00	11.00	14.00	6.00	82.00	.90
4/14/93	1000			50.00				80.00	
6/23/93	950	5.30	1.70	14.00	9.10	12.00	6.00	74.00	1.00
10/18/93	1105	6.50	2.00	18.00	11.00	12.00	6.00	76.00	1.00
2/16/94	1130	6.90	2.10	16.00	12.00	15.00	6.00	86.00	1.00
4/20/94	1230	6.80	2.00	17.00	11.00	12.00	6.00	76.00	1.20
SOUTHEAST TACOMA MUTUAL WATER CO-WELL NOS. 2 & 6									
10/09/80									2.60
SOUTHEAST TACOMA MUTUAL WATER COMP-DELETED									
10/09/80									2.70
12/03/80							10.00		2.90
1/07/81							10.00 K		3.00
1/29/81									1.80
7/07/81							8.00		1.50
7/13/83									7.70
SOUTHEAST TACOMA MUTUAL WATER COMP-WELL NO. 10									
10/09/80									1.50
12/03/80							5.00		1.40
1/07/81							10.00 K		1.30
7/07/81							7.50		1.20
SPANAWAY WATER COMPANY-WELL # 2									
12/08/80							5.00		1.20
1/05/81							10.00 K		1.20
1/19/81							10.00 K		.40
3/24/81									1.40
2/14/84									.20
1/22/87							3.00		1.20
SPANAWAY WATER COMPANY-WELL # 3									
12/08/80							5.00		2.60
1/05/81							10.00 K		2.60
1/19/81							10.00		2.60
1/28/81									2.90
1/22/87							6.00		4.50
5/21/92	900								3.90
7/20/92	855								3.50
9/14/92	900	7.30	1.20	14.00	4.80	7.00	7.00	44.00	4.00
12/01/92	0			45.00				46.00	
12/21/92	930								5.10
10/18/93	845	7.50	1.20	15.00	4.90	7.00	9.00	44.00	4.00
2/14/94	845	8.70	1.30	16.00	5.40	8.00	10.00	42.00	5.30
4/18/94	840	7.60	1.10	14.00	4.60	8.00	8.00	42.00	5.00
SPANAWAY WATER COMPANY-WELL # 5									
12/08/80							5.00		1.60
1/05/81							10.00 K		1.60
1/19/81							10.00		1.00
1/28/81									1.60

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
SPANAWAY WATER COMPANY-WELL # 5									
7/08/81							8.30		1.60
SPANAWAY WATER COMPANY-WELL # 7									
12/08/80							5.00		
1/05/81							10.00 K		.90
1/19/81							10.00 K		.20 K
4/08/81									.40
7/08/81							5.80		.20 K
2/14/84									.20
1/22/87							13.00		1.30
5/21/92	1000								.80
7/20/92	905								.90
9/14/92	930	7.20	1.90	12.00	7.10	5.00	7.00	58.00	.90
12/01/92	0			33.00				55.00	
2/24/93	1305	6.60	1.70	12.00	6.90	5.00	6.00	58.00	1.30
6/14/93	845	7.90	2.00	13.00	8.20	5.00	8.00	62.00	.80
10/18/93	900	6.70	1.90	14.00	6.80	6.00	7.00	52.00	1.60
SPANAWAY WATER COMPANY-WELL # 8									
12/08/80							5.00		.60
1/05/81							10.00 K		.20 K
1/19/81							10.00 K		.20 K
3/24/81									.30
7/08/81							5.80		.20 K
2/14/84									.80
1/22/87							3.00		.20
SPANAWAY WATER COMPANY-WELL #1									
12/08/80							5.00		1.50
1/05/81							10.00 K		1.50
1/19/81							10.00 K		1.00
1/28/81									1.50
7/08/81							7.50		1.50
3/13/85									.20
1/22/87							5.00		2.90
SPANAWAY WATER COMPANY-WELL #9									
2/14/84									1.60
1/22/87							3.00		.20
5/21/92	930								1.80
7/20/92	930								1.80
9/14/92	930	5.80	1.40	15.00	6.30	7.00	10.00	50.00	1.80
12/01/92	0			71.00				54.00	
12/21/92	935								1.80
2/24/93	1315	5.50	1.30	14.00	6.10	7.00	10.00	50.00	1.90
6/14/93	900	6.30	1.40	16.00	6.90	7.00	10.00	60.00	2.00
10/18/93	915	6.40	1.30	17.00	7.40	8.00	10.00	52.00	2.10
2/14/94	905	6.30	1.50	16.00	7.00	8.00	11.00	56.00	2.10
4/18/94	910	6.00	1.20	15.00	6.10	8.00	10.00	58.00	2.10
STEILACOOM TOWN OF-WELL #4(LOT 3 & 4)									
1/06/81							10.00 K		.20 K
2/03/81							5.00		.20 K
11/12/82									.20
5/20/92	1330								.20
7/08/92	1330								.20 U

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
STEILACOOM TOWN OF-WELL #4(LOT 3 & 4)									
9/09/92	1345	8.40	1.30	8.10	5.60	1.00	2.00	62.00	.20 U
12/09/92	1100								.20 U
2/11/93	1030	8.60	1.20	8.40	5.60	1.00	3.00	60.00	.20 U
6/16/93	1100	9.40	1.00	8.80	6.00	1.00	2.00	60.00	.20 U
10/13/93	1100	9.50	2.00	9.40	6.30	1.00 U	2.00	60.00	.20 U
2/16/94	1040	9.40	1.30	7.80	5.60	1.00	2.00	66.00	.20 U
SULLIVAN									
2/18/81							10.00		.90
SUMMIT WATER COMPANY WELL 12									
4/15/92	847						6.00		2.60
6/03/92	800								2.20
9/23/92	800	7.80	2.10	17.00	10.00	9.00	5.00	74.00	1.50
2/10/93	1140	7.20	1.60	19.00	9.30	8.00	6.00	66.00	2.50
11/10/93	1150	6.80	1.90	16.00	11.00	12.00	7.00	68.00	2.90
2/09/94	0	7.00	1.70	22.00	10.00	11.00	7.00	3.40	3.40
2/15/94	930	7.40	2.10	16.00	11.00	12.00	7.00	76.00	2.90
SUMMIT WATER COMPANY WELL 5 OR 7									
4/15/92	838						7.00		1.10
6/11/92	1500								1.40
9/23/92	1030	6.80	2.00	19.00	10.00 U	10.00	6.00	84.00	1.40
2/10/93	1200	7.40	2.10	21.00	11.00	10.00	5.00	90.00	1.10
4/06/93	1515	7.00	1.50	26.00	8.00	10.00	5.00	85.00	1.40
6/23/93	1110	6.20	1.80	17.00	9.40	9.00	6.00	78.00	1.50
8/17/93	815	7.00	1.40	48.00	10.00		6.00	81.00	
2/09/94	0	6.00	1.70	26.00	6.00	8.00	6.00	1.80	1.80
2/15/94	950	6.40	1.80	18.00	9.60	10.00	6.00	88.00	1.60
SUNSET BEACH WATER SYSTEM-WELL # 1									
12/05/82							5.00 K		.30
TACOMA SPORTSMEN'S CLUB INC.-WELL #1									
1/06/81							10.00 K		.60
1/27/81							5.00 K		.20
2/18/81							10.00		.20 K
7/14/81							5.00		.20 K
THUN FIELD LANDFILL									
12/29/80									.50
VAGABOND MOTEL									
12/10/80							20.00		5.30
12/17/80									6.50
1/20/81							20.00		5.90
2/03/81							20.00		1.50
7/21/81							18.00		.20 L
WESTERN RANCHETTES INC MOBILE PARK-WELL #1-B									
3/14/86							4.00		1.00
WESTERN STATE HOSPITAL-WELL #1									
12/15/80							5.00		2.20
1/12/81							10.00 K		2.40
3/13/84							5.00		2.40

Date	Time	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	SO4 (mg/L)	Cl (mg/L)	Alkalinity (mg/L as CaCO3)	NO3 as N (mg/L)
WESTERN STATE HOSPITAL-WELL #1									
12/16/86							5.00 K		.20 K
1/04/88							5.00 K		.20
WESTERN STATE HOSPITAL-WELL #2									
12/15/80							5.00		.20 K
1/12/81							10.00 K		.20 K
3/13/84							5.00 K		.20
WOODBROOK TERRACE APTS-WELL #1									
12/16/80									3.50
12/22/80							5.00		3.20
1/21/81							10.00		2.90
11/10/83									3.80
4/14/87							1.00 K		4.80
WOODCREEK #3									
2/17/81							10.00		3.40

Notes: "K" or "U" indicate result was less then value shown

APPENDIX B

QA/QC LOG

Log: pH/3 range Conductivity Meter

Date		Comments			
7-7-93	office check no field	HACH pH	read 4.04 / 7.01	no adjustment	HACH Cond. read 0.9 µS/cm in deionized water
9-30-93	"	HACH	4.00 / 7.00	no adjustment	cond - 2.0 µS/cm in deionized water
10-7-93	"	HACH	4.02 / 7.03	"	cond - 0.9 µS/c in deionized w no adjustm.
11-8-93	"	HACH	4.02	"	cond - 0.9 µS/cm deionized H
11-9-93	"	"	7.01 / 4.01	"	—
11-10-93	"	"	7.00 / 4.02 / 7.01	"	—
12-7-93	"	"	4.02 / 7.01	"	cond. - 1.5 µS/cm in deionized
12-8-93	"	"	4.00 / 6.98	" / "	— / —
12-13-93	"	"	4.02 / 7.01	"	cond. 1.5 µS/cm deionized
1-18-94	"	"	4.05 / 7.20	re-calibrated to 4.01 / 7.00	—
1-19-94	"	"	4.02 / 7.02	no adjustment	—
1-24-94	"	"	3.99 / 7.07	recalibrated to 4.00 / 7.01	—
1-26-94	"	"	4.01 / 7.03	no adjustment	—
2-14-94	"	"	4.02 / 7.01	no adjustment	cond. 1.3 µS/cm deionized
2-15-94	"	"	4.02 / 7.02	no adjustment	—
2-16-94	"	"	4.01 / 7.01	" "	—
3-22-94	"	"	4.02 / 7.14	recalibrated to 4.01 / 7.00	—
3-23-94	"	"	4.02 / 7.01	no adjustment	—
3-24-94	"	"	4.02 / 7.00	" "	—

Log pH/3 range Conductivity Meters

Date		Comments		
3-28-94	office check	HACH - 4.02 7.01	no adjustments	cond. 1.1 uS/cm in deionized
4-18-94	"	4.01 7.00	" "	1.2 "
4-19-94	"	4.02 7.00	" "	
4-20-94	"	4.02 7.01	" "	

APPENDIX C

WELLS WITH WATER QUALITY DATA

Appendix B
Clovers-Chambers Creek Monitoring Plan
Wells With Water Quality Data
By Hydrostratigraphic Zone

Well Location

Hydrostratigraphic Zone: A

BETH. LUTHERAN
CHARLES WRIGHT ACADEMY OLD WELL
TACOMA WATER WELL 12A
CITY OF TACOMA 9-A
ELK PLAIN SCHOOL
FLETT DAIRY INC-WELL #1
FORT LEWIS SEQUALICHEW SPR
FORT LEWIS #10
LAKEWOOD WATER DISTRICT-88TH & PINE J-1
LAKEWOOD WATER DISTRICT-L-1 & L-2&L-3 HEMLOCK
LAKEWOOD WATER DISTRICT-G-1 & G-2 SCOTT
PARKLAND LIGHT & WATER COMPANY-WELL #1
PARKLAND LIGHT & WATER COMPANY-WELL #5
PARKLAND WATER WELL 9
PONCE DE LEON SPRING
SOUTHEAST TACOMA MUTUAL WATER CO-WELL NOS. 2 & 6
SPANAWAY WATER COMPANY-WELL #1
SPANAWAY WATER WELL 3
SPANAWAY WATER COMPANY-WELL # 2
WOODBROOK TERRACE APTS-WELL #1

Hydrostratigraphic Zone: A/C

SE TACOMA MUTUAL-SOURCE 1-WELL 1
SOUTHEAST TACOMA MUTUAL WATER COMP-WELL NO. 10

Hydrostratigraphic Zone: C

CITY OF TACOMA 1-A
CITY OF TACOMA 5-A
FIRGROVE MUTUAL INC-WELL # 2 144TH ST E
FIRGROVE WELL 12
FIRGROVE MUTUAL INC-WELLS #4 & #5
FORT LEWIS SEQUALICHEW 19B
FORT LEWIS WELL 13
LAKEWOOD WATER DISTRICT-OAKBROOK O - 2
LAKEWOOD WATER DISTRICT A-1
MC CHORD AFB711
MC CHORD AFB846
MC CHORD AIR FORCE BASE-5003
SOUND WATER TANNENBAUM WELL
SPANAWAY WATER COMPANY-WELL #9
SPANAWAY WATER COMPANY-WELL # 7
SUMMIT WATER WELL 12
SUMMIT WATER WELL 5 OR 7

Well Location

Hydrostratigraphic Zone: C
TACOMA WATER WELL U10

Hydrostratigraphic Zone: C/E
FIRGROVE MUTUAL INC-WELL # 7 COLONY PARK
MC CHORD AIR FORCE BASE-190
WESTERN RANCHETTES INC MOBILE PARK-WELL #1-B

Hydrostratigraphic Zone: DEEP
FIRGROVE WELL 10
FORT LEWIS SEQUALICHEW 19A

Hydrostratigraphic Zone: E
SHINING MTN WELL 1
TACOMA WATER GRAVITY LINE 1
FIRGROVE MUTUAL INC-WELL # 3 154TH ST E
LAKEWOOD WATER DISTRICT-88TH & PINE J-2
LAKEWOOD WTR DIST-K2-LAKE AVE-SOURCE 13
LAKEWOOD WATER DISTRICT-VIEW ROAD N - 2
LAKEWOOD WATER DISTRICT-P-1 & P-2 STEILACOOM
PARKLAND LIGHT & WATER COMPANY-WELL #11
PARKLAND LIGHT & WATER COMPANY-WELL #12
PUYALLUP WATER MAPLEWOOD SPR

Hydrostratigraphic Zone: UNK
BETHEL GREEN ACRES-WELL # 1
DOWNTOWN TACOMA SPRING
FRONTIER PARK
CRESCENT PARK WATER
CROSS
FIR LANE MEMORIAL PARK
FRAME
HADDEN
LE MAY ACRES-WELL # 3
LAKEWOOD WATER WELL A2
LAKEWOOD WATER DISTRICT-TILLICUM A - 3
LAKEWOOD WATER DISTRICT-104TH&BRIDGEPORT F-2
LAKEWOOD WATER WELL D2
LAKEWOOD WATER DISTRICT-INTERLAAKEN D - 3
LAKEWOOD WATER DISTRICT-WASHINGTON BLVD E-2
LAKEWOOD WATER DISTRICT-WASHINGTON BLVD E-3
LAKEWOOD WATER DISTRICT-H-1 & H-2 PONDERS
LAKEWOOD WATER DISTRICT-I-1 & I-3 HIPKINS,I-3
LAKEWOOD WATER DISTRICT-112TH & DEEPWOOD Q-1
MARSHAL

Wells With Water Quality Data
By Hydrostratigraphic Zone

Well Location

Hydrostratigraphic Zone: UNK

PONCE DE LEON SPRING
PARKLAND WATER WELL 12
PARKLAND #6-SOURCE #4
PARKLAND #10-SOURCE #7
PAUL BUNYON SPORTSMAN CLUB
PLATING SITE
RIVARD
SE TACOMA MUTUAL-SOURCE 4-WELL 6
SCHIBIE
SE TACOMA MUTUAL-SOURCE 5-WELL 5
SE TACOMA MUTUAL-SOURCE 4-WELL 4
SE TACOMA WELL 11
SE TACOMA MUTUAL-SOURCE 4-WELL 8
SE TACOMA MUTUAL-SOURCE 5-WELL 7
SOUTHEAST TACOMA MUTUAL WATER -WELLS 1,4,8
SOUTHEAST TACOMA MUTUAL WATER -WELL NOS. 3,5,7
SPANAWAY WATER COMPANY-WELL # 5
SPANAWAY WATER COMPANY-WELL # 8
SULLIVAN
SUNSET BEACH WATER SYST EM-WELL # 1
TACOMA SPORTSMEN'S CLUB INC.-WELL #1
TACOMA WATER WELL 11A
THUN FIELD LANDFILL
FIR CREST WELL 7
STEILACOOM TOWN OF-WELL #4(LOT 3 & 4)
VAGABOND MOTEL
WESTERN STATE HOSPITAL-WELL #1
WESTERN STATE HOSPITAL-WELL #2
WOODCREEK #3

APPENDIX D

WELLS INCLUDED IN MONITORING OPTIONS

Table D-1

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 1

1985 Well #	Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHD WQ
	101	Elk Plain Sch.	1	A	388.0	18N/03E-11N	Y
	102	Lakewood	G-1, G-2	A	249.0	19N/02E-01K	Y
	103	Lakewood	L-1,L-2	A	241.8	19N/02E-04G	Y
	104	Lakewood	V-1	A	214.9	19N/02E-09L	Y
11	105	Lakewood	H-1,H-2	A	251.3	19N/02E-14B	Y
	106	McChord	S47	A		19N/02E-23G	N
	107	Ft. Lewis	Sullivan	A		19N/02E-30B	N
	108	Parkland	5-A	A	276.0	19N/03E-09G	Y
	109	Parkland	9-S	A	282.0	19N/03E-09N	Y
	110	Spanaway	1	A	328.0	19N/03E-28N	Y
23	111	Spanaway	3	A	338.5	19N/03E-28R	Y
	112	Spanaway	S1	A	367.0	19N/03E-35M	N
	113	Nagle, George	Domestic	A	300.0	19N/04E-18R	N
29	114	Fircrest	7	A		20N/02E-14F	Y
3	115	Charles Wright Acad.	1	A	98.0	20N/02E-22N	Y
34	116	Flett Dairy	1	A		20N/02E-25P	Y
1	117	Tacoma	9A	A	242.0	20N/03E-18D	Y
6	118	Lakewood	J-1	A	251.5	20N/03E-31E	Y
	119	SETM	2,6	A	248.0	20N/03E-34L	Y
	120	SETM	1,8	A/C	273.3	19N/03E-03G	Y
	121	SETM	3,5,7	A/C	251.0	19N/03E-05L	Y
	122	Lakewood	A-1,A-2	C	171.4	19N/02E-16R	Y
27	123	Summit	12	C	253.0	19N/03E-01G	Y
	124	Parkland	10-S	C	272.0	19N/03E-06N	Y
	125	Spanaway	9	C	265.2	19N/03E-23L	Y
	126	Spanaway	2A	C	230.0	19N/03E-28N	Y
	127	Summit	5,7	C	269.0	19N/04E-07D	Y
	128	Firgrove	12	C	254.0	19N/04E-17Q	Y
	129	Firgrove	2	C	240.0	19N/04E-22D	Y
30	130	Lakewood	0-2	C	108.0	20N/02E-28P	Y
	131	Bethel Sch.	1	E		18N/03E-12E	Y
	132	Lakewood	K-1, K-2	E	191.0	19N/02E-02M	Y
	133	Parkland	6-Y, 12-Y	E	251.0	19N/03E-17R	Y
	134	Tacoma	GL-1, GL-2	E	128.0	19N/04E-08A	Y
	135	Firgrove	3	E	251.0	19N/04E-22M	Y
	136	Lakewood	N-2	E	105.5	20N/02E-32K	Y

Table D-1

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 1

1985 Well #	Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHD WQ
	137	Parkland	13-G	Deep	218.0	19N/03E-15D	N
	138	Summit	15	Deep	198.0	19N/04E-07F	N
	139	Firgrove	10	Deep	254.7	19N/04E-27A	Y
	140	Lakewood	N-1	Deep	128.4	20N/02E-32K	Y

NOTE: SWL = earliest recorded water level elevation.

Table D-2

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 2

Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHD WQ
201	Suncrest Builders	Domestic	A	558.0	18N/04E-03A	N
202	Schmidt, Stanley	Domestic	A	428.0	18N/04E-04C	N
203	Ponce de Leon Spring	Spring	A	240.0	19N/02E-02M	Y
204	McChord	S2058	A		19N/02E-14Q	N
205	Ft. Lewis	Sequalichew	A		19N/02E-19R	Y
206	Parkland	1-I	A	200.0	19N/03E-08H	Y
207	Sager, Leonard	Domestic	A	280.0	19N/03E-14D	Y
208	Spanaway	S2	A	363.0	19N/03E-35D	N
209	Parks, F.	Domestic	A	466.0	19N/04E-15F	N
210	Nevares, Mickey	Domestic	A	370.0	19N/04E-29R	N
211	Bethel Green Water	1	A/C	397.0	18N/03E-24Q	Y
213	Ft. Lewis	1	A/C		19N/02E-19B	N
212	Lakewood	U-1	A/C	208.0	20N/02E-26R	N
214	Sound Water	1,2	C	403.0	18N/04E-05K	Y
215	McChord	832	C		19N/02E-12A	Y
216	McChord	711	C		19N/02E-13G	Y
217	McChord	5003	C		19N/02E-14F	Y
218	Ft. Lewis	13	C	134.0	19N/02E-28F	Y
219	Ft. Lewis	Seq. 19B	C	207.0	19N/02E-30B	Y
220	Spanaway	7	C	260.0	19N/03E-27L	Y
221	Spanaway	8	C	352.0	19N/03E-33G	N
222	Firgrove	4,5	C	379.0	19N/04E-27A	Y
223	Firgrove	13	C	324.5	19N/04E-29D	N
224	Tacoma Comm. College	HVAC	C	170.0	20N/02E-02M	N
225	Tacoma	U-10	C	86.0	20N/02E-16P	Y
226	Tacoma	5A	C		20N/02E-19F	Y
227	Lakewood	0-1	C	134.4	20N/02E-27M	N
228	Summit	10	C	272.0	20N/03E-36M	N
229	SETM	11	C/E	241.3	19N/03E-03F	N
230	Firgrove	7	C/E	313.0	19N/04E-20R	Y
231	Tacoma	TW 89.6	C/E		19N/04E-30E	N

Table D-2

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 2

Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHD WQ
232	Firgrove	19A, 19B	E	426.0	18N/04E-03C	N
233	Lakewood	D-2	E	229.1	19N/02E-10L	N
234	Parkland	11-I	E	193.0	19N/03E-08H	Y
235	Fruitland	5	E	111.0	19N/04E-03R	Y
236	Lakewood	P-1, P-2	E		20N/02E-36M	Y
237	Lakewood	J-2	E	183.0	20N/03E-31E	Y
238	Puyallup	Maplewood Sp.	E	78.0	20N/04E-32J	Y
239	Ft. Lewis	S	Deep	167.0	19N/02E-27G	Y
240	Ft. Lewis	Seq. 19A	Deep		19N/02E-30B	Y
241	Parkland	S-M	Deep	207.0	19N/03E-22D	N
242	Firgrove	14	Deep	280.0	19N/04E-28B	N
243	Rainy River Paper	1,2,3,4	Deep	14.0	20N/02E-29Q	N
244	Steilacoom	4	Deep	11.0	20N/02E-32C	Y
245	Puyallup	13	Deep		20N/04E-34G	N

NOTE: Option 2 includes all Option 1 wells.
SWL = earliest recorded water level elevation.

Table D-3

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 3

1985 Well #	Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHND WQ
	301	Bethel Lutheran	1	A	441.0	18N/03E-25F	Y
	302	Lakewood	S-2 (a)	A	206.9	19N/02E-04H	N
	303	Woodbrook Terrace Ap.	Domestic	A	270.0	19N/02E-23E	Y
	304	WA Nat'l. Guard	?	A		19N/02E-28F	N
	305	Ft. Lewis	10	A		19N/02E-36D	Y
25	306	Travino, Al	Domestic	A	400.0	19N/03E-35E	Y
	307	Tacoma	2?	A		20N/02E-13A	N
	308	Tacoma	6A, 11A	A	244.0	20N/02E-13J	Y
	309	Fircrest	?	A		20N/02E-14D	N
	310	Tacoma	12A	A		20N/03E-18C	Y
	311	Tacoma	2A, 2B	A		20N/03E-18D	N
	312	Tacoma	3A	A		20N/03E-30N	N
31	313	Neim, Marion K.	Domestic	A	244.0	20N/03E-31Q	N
33	314	Lawrence, Earl R. Jr.	Domestic	A	249.0	20N/03E-34N	N
	315	Puyallup	Wildwood Sp.	A		20N/04E-34Q	N
10	316	Parkland	2-A, 3-A	A/C	265.0	19N/03E-09F	N
	317	SETM	10	A/C	258.0	19N/03E-11G	Y
	318	Tacoma	4A	A/C		20N/02E-13H	N
	319	Tacoma	8A	A/C		20N/03E-30C	N
	320	Tacoma	7A, 10B, 18	A/C		20N/03E-30L	N
19	321	Dillinger, Dale	Domestic	C	350.0	18N/03E-01R	Y
21	322	Crouse, H. Bernard	Domestic	C	350.0	18N/03E-02F	Y
20	323	Dubis, Ronald	Domestic	C	360.0	18N/04E-07L	Y
7	324	Lakewood	I-2, I-3	C	168.0	19N/02E-10B	Y
	325	Ft. Lewis	2	C		19N/02E-18Q	N
	326	Ft. Lewis	3	C		19N/02E-19F	N
	327	McChord	846	C		19N/02E-23H	N
	328	Firgrove	16	C	265.0	19N/04E-17N	N
5	329	Western State Hosp.	3	C		20N/02E-33C	Y
	330	Tacoma	1A	C		20N/03E-19P	N
	331	Summit	4,8	C	190.5	20N/03E-25E	N
	332	McChord	190	C/E		19N/03E-18M	Y
	333	Fruitland	1,2	C/E	171.0	19N/04E-09B	N
	334	W. Mobile Ranchette	1,2	C/E	325.0	19N/04E-20Q	Y
22	335	Kindell, Eugene	Domestic	C/E	355.0	19N/04E-31B	Y
	336	Tacoma	Portland Av.	C/E	99.0	20N/03E-15F	N

Table D-3

Tacoma-Pierce County Health Department - CCC Basin Monitoring Plan
Option 3

1985 Well #	Ref. No.	Owner	Well Number	Aquifer Zone	Const. SWL	Location	TPCHND WQ
	337	Lakewood	S-2 (b)	E	161.4	19N/02E-04H	N
	338	Lakewood	R-1	E	181.3	19N/02E-11C	N
	339	Puyallup	33	E	79.9	19N/04E-03A	N
	340	Ft. Lewis	4, 4A	Deep		19N/02E-18H	N
	341	Ft. Lewis	7	Deep		19N/02E-22N	N
	342	Ft. Lewis	6	Deep		19N/02E-32H	N

NOTE: Option 3 includes all Option 2 wells.
SWL = earliest recorded water level elevation.

APPENDIX E

UST SURVEY RESULTS

Facility name: Pro Rental Contact person: Doug Helton
Facility address: 10001 Lakeview Dr SW Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:		Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	N/A				

Facility name: Arco 4485 Contact person: Davinder Sahota
Facility address: 10006 S Tacoma Way Zip code: 98499

Active tanks-doe:	7	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	7	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	8
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Pat's Parking Inc Contact person: Site Abandoned
Facility address: 1005 S. 112th Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	2	Inactive tanks-tpchd:	5
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Puget Sound Bank Contact person: No Contact
Facility address: 10103 Plaza Drive Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco (Ronaco Inc) Contact person: Veronica
Facility address: 10117 S Tacoma Way Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Southgate Elementary Contact person: Jim Brown
Facility address: 10202 Earley Ave SW Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Chevron 94347 Contact person: Mike
Facility address: 10202 Gravelly Lake Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	9
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Town of Steilacoom Contact person: Ken Gardner
Facility address: 1030 Roe St Zip code: 98388

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	8
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	YES	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	NO	Spill prevention plan:	NO				

Facility name: BP Site #11258 Contact person: Stella
Facility address: 10302 S Tacoma Way Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	38
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Metropolitan Movers Contact person: Gertraud Givens
Facility address: 10303 Portland Ave Zip code: 98445

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	15
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Bestway Ent Inc Contact person: Bill Bond
Facility address: 10309 Lakeview SW Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Rolin Auto Inc Contact person: Site Abandoned
Facility address: 10310 Steilacoom Blv Zip code: 98498

Active tanks-doe:	3	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Pierce Co Utilities Contact person: Bill Murphy
Facility address: 10311 Chambers Creek Zip code: 98467

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Exxon 7-7017 Contact person: Site Abandoned
Facility address: 1033 Regents Blvd Zip code: 98466

Active tanks-doe:	0	Active tanks-tpchd:		Inactive tanks-doe:	4	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Firestone #31H8 Contact person: Robert Chandler
Facility address: 10501 Gravelly Lake Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: KAMG Contact person: None
Facility address: 10506 S Steele Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Frederick D. Grant Contact person: Fred Grant
Facility address: 10515 Pacific Hwy S. Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	6
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Cenex AG Inc Contact person: Peggy Lusk
Facility address: 10610 Pacific Ave Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	5	Number constructed-steel:	4	Number constructed-frp:	1
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	74
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: The Southland Corp Contact person: Bob DeNinno
Facility address: 10649 108th Ave SW Zip code: 98498

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Looker Trucking Contact person: Steve Hay
Facility address: 10708 Golden Given Zip code: 98445

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	0	Cumulative tank age:	48
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco Company Station Contact person: Mary Firdman
Facility address: 10716 Pacific Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Evergreen Homes Contact person: Ross May
Facility address: 10720 26th Ave S. Zip code: 98444

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: BP Site #11260 Contact person: Mike Mekhal
Facility address: 10801 Bridgeport Way Zip code: 98499

Active tanks-doe:	8	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	8	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	4
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO*	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: WA Electric Co Contact person: Jim McNellif
Facility address: 10817 26th Ave CT S. Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	1	Cumulative tank age:	3
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: The Southland Corp Contact person: Bob DeNinno
Facility address: 10822 Pacific Hwy S. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Transportation Contact person: Donna Kirder
Facility address: 10824 18th E. Zip code: 98445

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	69
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Rental Marts Contact person: Rick Larsen
Facility address: 108th & Bridgeport Way Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	40
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	NO	Spill prevention plan:	NO				

Facility name: Lonestar NW Contact person: None
Facility address: 10901 Halcyon Dr. Zip code: 98406

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Brown Bear Car Wash Contact person: Darren Caudill
Facility address: 10913 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Western Furnace Contact person: Ken Stevens
Facility address: 1109 S. 108th Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Floyd Singletary Contact person: Floyd Singletary
Facility address: 11102 Bridgeport Way Zip code: 98499

Active tanks-doe:	5	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: B & B Glass Co Inc Contact person: Fred J. Schumaker
Facility address: 11104 Gravelly Lake Dr Zip code: 98499

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	1
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Al's Auto Supply & Repair Contact person: Greg Everett
Facility address: 11111 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: D. Snider & Son Contact person: Site Abandoned
Facility address: 11111 Pacific Ave Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: BP Site #11088 Contact person: Vonda Clark
Facility address: 11202 Pacific Ave/112th Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Circle K #1468 Contact person: Suzanne Sund
Facility address: 11202 Steele Ave. Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Tacoma Area Maint Facility Contact person: Ned Williams
Facility address: 11211 41st S.W. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	16
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Williams Truck Co Contact person: Site Vacant (Ryker Owns)
Facility address: 11211 44th Ave E. Zip code: 98446

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Ryker Machine and Welding Contact person: Ben Hrvatin
Facility address: 11219 44th Ave E. Zip code: 98446

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: R.W. Rhine Inc Contact person: Jim Nelson
Facility address: 1124 E. 112th St. Zip code: 98445

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	15
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	NO				

Facility name: Fox's Drywall Inc Contact person: Wayne Kady
Facility address: 11307 26th Ave CT E. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: St. Clare Hospital Contact person: Art Ricketts
Facility address: 11315 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	4
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Lakeview Light & Power Co Contact person: Don Geiselman
Facility address: 11509 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	2	Number constructed-steel:	0	Number constructed-frp:	2
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	2
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Ducolon Mechanical Contact person: Ray Ducolon
Facility address: 11517 Pacific Hwy S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Gary Henricksen Contact person: Nannette Henricksen
Facility address: 11621 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	5	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: CC & CO Contact person: Keith Watts
Facility address: 11706 24th Ave E. Zip code: 98444

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: U-Haul Co of Lakewood Contact person: Ken Mills
Facility address: 11748 Pacific Hwy S. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	1	Cumulative tank age:	19
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Lakewood Water District Contact person: Bob Forster
Facility address: 11900 Gravelly Lake Dr SW Zip code: 98499

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	2	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Prestige Station 5631 Contact person: Scott Deshaco
Facility address: 11908 Pacific Ave. Zip code: 98444

Active tanks-doe:	7	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	7	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	12
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Floyd Singletary Contact person: Site Abandoned
Facility address: 11910 Pacific Hwy S.W. Zip code: 98499

Active tanks-doe:	6	Active tanks-tpchd:		Inactive tanks-doe:		Inactive tanks-tpchd:	
Total identified-doe:	6	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Precision Tune Contact person: Doug Bennett
Facility address: 11924 Pacific Hwy S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: AAMCO Transmission Contact person: Mike Melton
Facility address: 12006 Pacific Hwy Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	N/A				

Facility name: Western Auto Licensing Contact person: Mead C. McDonald
Facility address: 12166 Pacific Ave. Zip code: 98444

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	5	Inactive tanks-tpchd:	5
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Cleo's Roofing Div of Harcor Contact person: Cleo Harrison
Facility address: 12218 Vernon Ave S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Exxon 7-7142/Han Contact person: Site Abandoned
Facility address: 12315 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	0	Active tanks-tpchd:		Inactive tanks-doe:	4	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: ICA Inc Contact person: Site Abandoned
Facility address: 12320 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	5	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	5	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Pacific Pride Contact person: Card Lock
Facility address: 12605 Pacific Hwy S. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Ponder's Auto Parts Inc Contact person: Keith Charboneau
Facility address: 12828 Pacific Hwy S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Prestige Station 4490 Contact person: Rob Denniston
Facility address: 13005 Gravelly Lake Zip code: 98499

Active tanks-doe:	7	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	7	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	4
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: B.P. Contact person: Keith Peterson
Facility address: 13101 Gravelly Lake Dr Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	16
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Brown Bear Car Wash Contact person: Alan Conway
Facility address: 13204 Pacific Ave Zip code: 98444

Active tanks-doe:	6	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	6	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	3
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Texaco Contact person: Marci Milcoff
Facility address: 13221 Pacific Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	12
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Harold Lemay Ent Inc Pierce Co Contact person: Norm LeMay
Facility address: 13502 Pacific Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	39
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Parkland Texaco Contact person: Frank Elder
Facility address: 13521 Pacific Ave Zip code: 98444

Active tanks-doe:	11	Active tanks-tpchd:	6	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	11	Total identified-tpchd:	6	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:	6	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Glenco Inc Contact person: Glenn Davies
Facility address: 14012 Pacific Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Central Maintenance Shop Contact person: Pietro Scarafiotti
Facility address: 1420 112th St E. Zip code: 98445

Active tanks-doe:	5	Active tanks-tpchd:	6	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	6	Number constructed-steel:	6	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	78
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YE!
Written plan for separat:	NO	Spill prevention plan:	NO				

Facility name: Minit Lube #1101 Contact person: John Cuzzetto
Facility address: 14605 Pacific Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	0	Cumulative tank age:	45
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO*	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: 60 Minit Tune Contact person: Frank
Facility address: 14708 Pacific Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:		Number overfill protect:	0	Cumulative tank age:	14
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: William J. Murray Contact person: Site Abandoned
Facility address: 14720 Woodbrook Dr S.W. Zip code: 98439

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Sprinker Recreation Center Contact person: Don Garwood
Facility address: 14824 South C St. Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	7
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Cey's Automotive Contact person: Jim Neuens
Facility address: 14902 Union Ave S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Spanaway Park Contact person: Kent Baskett
Facility address: 14905 Breseman blvd Zip code: 98387

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	39
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Jackpot Station 325 Contact person: Mike Paisley
Facility address: 1501 S. Union Zip code: 98405

Active tanks-doe:	6	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	6	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	15
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Unocal 6135 Contact person: Site Abandoned
Facility address: 15114 Pacific Ave Zip code: 98444

Active tanks-doe:	6	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	6	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: BP Site #11091 Contact person: Mary Kay Page
Facility address: 15119 Pacific Ave Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	YES				

Facility name: Columbia Sheet Metal Inc Contact person: Les Froembling
Facility address: 1525 S. 108th St. Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	8
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: U-Haul Co of Spanaway Contact person: Ken Mills
Facility address: 15315 Pacific Ave S. Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	22
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Ceccanti Inc Contact person: Rick Ceccanti
Facility address: 15405 Spanaway Loop Zip code: 98387

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Arco 4340 Contact person: Tony Gibbon
Facility address: 15408 Union Ave S.W. Zip code: 98498

Active tanks-doe:	5	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	YES				

Facility name: Spanaway Jr High & Thompson E Contact person: Dennis Whitney
Facility address: 15701 East B St./15605 E Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco Contact person: Sherri Hunter
Facility address: 15905 Pacific Ave Zip code: 98387

Active tanks-doe:	5	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	16
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Rainier Honda Contact person: Dewaine
Facility address: 16002 Pacific Ave Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	3
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Handy Mart Grocery Contact person: Jenney Stevens
Facility address: 16105 Canyon Rd Zip code: 98373

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Pacific Ave Transmission Contact person: Charles Covington
Facility address: 16120 Pacific Ave Zip code: 98387

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Jackpot Station 320 Contact person: Mike Paisley
Facility address: 16521 Pacific Ave S. Zip code: 98387

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	1	Cumulative tank age:	80
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Dan's U Pump Contact person: Marlene Rafferty
Facility address: 16702 Pacific Ave Zip code: 98387

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	4	Cumulative tank age:	80
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Pierce Co Airport Contact person: Bruce Thun
Facility address: 16715 Meridian E. Zip code: 98373

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	3
Total identified-doe:	2	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YE
Written plan for separat:	NO	Spill prevention plan:	YES				

Facility name: Tacoma Bark Supply Contact person: Sharon Scott
Facility address: 16828 S Meridian Zip code: 98373

Active tanks-doe:	2	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: BP Site #11080 Contact person: Tony Sholing
Facility address: 17410 Pacific Ave Zip code: 98387

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	0	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Chevron 95851 Contact person: Dave
Facility address: 17519 Pacific Ave Zip code: 98387

Active tanks-doe:	10	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	10	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	5
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Station 71 Contact person: Joe Kearney
Facility address: 17520 22nd Ave E. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	0		
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0		
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0		
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A		
Written plan for separat:	N/A	Spill prevention plan:	YES						

Facility name: Puyallup Sand & Gravel Contact person: Dennis Long
Facility address: 18001 Meridian S. Zip code: 98373

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0		
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0		
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0		
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A		
Written plan for separat:	N/A	Spill prevention plan:	N/A						

Facility name: Tacoma Plumbing & Heating Inc Contact person: Al Stakset
Facility address: 1819 112th St E. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1		
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0		
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	29		
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO		
Written plan for separat:	N/A	Spill prevention plan:	NO						

Facility name: Texaco Contact person: Hee Avery
Facility address: 1822 S. Jackson Zip code: 98465

Active tanks-doe:	5	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0		
Total identified-doe:	5	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3		
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	9		
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A		
Written plan for separat:	N/A	Spill prevention plan:	NO						

Facility name: Exxon 7-6388/Lindwood Contact person: Site Abandoned
Facility address: 1830 S. 84th Zip code: 98444

Active tanks-doe:	5	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	6		
Total identified-doe:	5	Total identified-tpchd:	6	Number constructed-steel:		Number constructed-frp:			
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:			
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A		
Written plan for separat:	N/A	Spill prevention plan:	N/A						

Facility name: Day Island Yacht Harbor Contact person: Sue Mayes
Facility address: 1855 Day Island Blvd E. Zip code: 98466

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	2	Inactive tanks-tpchd:	2		
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0		
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	16		
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	YES		
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A		
Written plan for separat:	N/A	Spill prevention plan:	N/A						

Facility name: Roy Y Jackpot 319 Contact person: Mike Paisley
Facility address: 19121 Pacific Ave S. Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	52
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Tacoma Drapery Contact person: Junz Lee
Facility address: 1923 Mildrid W. Zip code: 98466

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	2
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: The Southland Corp 2323-20872 Contact person: Bob DeNinno
Facility address: 19825 Mt Hwy Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	29
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Spanaway Airport Inc Contact person: Ralph Lawson
Facility address: 203 188th St E. Zip code: 98387

Active tanks-doe:	4	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	2	Number constructed-steel:	0	Number constructed-frp:	2
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	2
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Tacoma Truss Systems Contact person: Michael Hart
Facility address: 20617 MT Highway E. Zip code: 98387

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	16
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NC
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Metal Marine Pilot Inc Contact person: Dr. Freeman
Facility address: 2119 Mildred St W. Zip code: 98466

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	(
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	(
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	3(
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	YI
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N,
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Benco Photo NW Contact person: Cory Cowty
Facility address: 215 84th St. Zip code: 98444

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: O'Neils Marketing Contact person: Mark O'Neil
Facility address: 21621 Mt Highway Zip code: 98387

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	2
Total identified-doe:	1	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	14
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Automatic Wilbert Vault Co Contact person: John Culbert
Facility address: 2206 E. 121st St. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	33
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	YES
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Robert Bourne/Wholesale Auto Contact person: Buck Bourne
Facility address: 221 S. Judson Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Minit Lube #1112 Contact person: Travis Smith
Facility address: 2218 Mildred W. Zip code: 98446

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	28
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: OK Grocery Contact person: Ji Ho An
Facility address: 22208 Mt Highway E. Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	33
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Bethel High School Contact person: Jerry Rich
Facility address: 22215 38th Ave E. Zip code: 98387

Active tanks-doe:	2	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	23
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Big O's Deli Contact person: Mark O'Neil
Facility address: 22321 Mt Highway Zip code: 98387

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Leland M. McArthur Contact person: Site Abandoned
Facility address: 2305 Mildred St W. Zip code: 98466

Active tanks-doe:	3	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Trans National Leasing Co Inc Contact person: Bob Lewis
Facility address: 2310 104th Court S. Zip code: 98444

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Elk Plain Co Shop Contact person: Tom Meek
Facility address: 23101 Mt Highway E. Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	93
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Sipes Const Co Inc Contact person: Lorna Sipes
Facility address: 2417 104th St. South Ct. Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: BP Site #11074 Contact person: Jerry Reitz
Facility address: 2602 N. Pearl St/26th Zip code: 98407

Active tanks-doe:	4	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Barney & Bernies Texaco Contact person: Marilyn Feller
Facility address: 26620 Mt Highway E. Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	9
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Lakeview Pit N. Contact person: No Tanks
Facility address: 2800 104th St S.W. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	2	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Lincoln Tree Farm Contact person: Bruce Anderson
Facility address: 28001 Mt Highway Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Loveland Center Contact person: Dave Ogden
Facility address: 3002 224th ST. E. Zip code: 98387

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	0	Number constructed-frp:	2
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	9
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Town of Fircrest PSB Contact person: Dave Claybaugh
Facility address: 302 Regents Blvd Zip code: 98466

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	14
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Prestige Stat 5642 Contact person: JoBeth Bush
Facility address: 3025 Steilacoom Blvd Zip code: 98388

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	8
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Harrison Plumbing & Heating Co Contact person: Ron Harrison
Facility address: 3303 Center St. Zip code: 98409

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Pierce County Transit Contact person: Darrell Gatcher
Facility address: 3701 96th St. S.W. Zip code: 98444

Active tanks-doe:	0	Active tanks-tpchd:	17	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	0	Total identified-tpchd:	17	Number constructed-steel:	0	Number constructed-frp:	17
Number constructed-other:	0	Number corrosion protect:	17	Number overfill protect:	17	Cumulative tank age:	85
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	YES	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	YES				

Facility name: Dominion Auto Sales Contact person: Site Unoccupied
Facility address: 3801 6th Ave Zip code: 98466

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	4	Inactive tanks-tpchd:	7
Total identified-doe:	6	Total identified-tpchd:	7	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Joe Clesson's Roofing Inc Contact person: Joe Clesson
Facility address: 3803 94th S.W. Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	0	Cumulative tank age:	40
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Ingraham Oil Co Inc Contact person: Steve Ingraham
Facility address: 3810 84th St Court Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Chevron 97944 Contact person: Bob Shaffer
Facility address: 3923 Bridgeport Way W. Zip code: 98466

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:		Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	16
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Athletic Supply Contact person: Tim Larson
Facility address: 4001 100 St S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco Contact person: Steve Phipps
Facility address: 4002 Bridgeport Way Zip code: 98466

Active tanks-doe:	11	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	11	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	5
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Bethel Trans Dept Contact person: Bob Klein
Facility address: 4015 E 224th St Zip code: 98387

Active tanks-doe:	12	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	12	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	5
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	NO				

Facility name: MT View Memorial Park Contact person: Robert Freeman
Facility address: 4100 Steilacoom Blvd S.W. Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: BP Oil Company #11086 Contact person: Ruth Wickstrom
Facility address: 4813 Bridgeport Way Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	6
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Lowell J. Fielder Contact person: Abandoned Site
Facility address: 4401 6th Ave Zip code: 98406

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Chevron 93914 Contact person: Wayne Duckett
Facility address: 4401 S. 19th St. Zip code: 98405

Active tanks-doe:	5	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	32
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Exxon 7-3420/Kray Contact person: Site Abandoned
Facility address: 4402 Bridgeport Way Zip code: 98466

Active tanks-doe:	0	Active tanks-tpchd:		Inactive tanks-doe:	4	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Clover Park Voc Tech Institute Contact person: Art Wallin
Facility address: 4500 Steilacoom Blvd S.W. Zip code: 98499

Active tanks-doe:	10	Active tanks-tpchd:	5	Inactive tanks-doe:		Inactive tanks-tpchd:	0
Total identified-doe:	10	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	0	Cumulative tank age:	81
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: HC Auto Care Contact person: Jeff Thomas
Facility address: 4515 S. 19th Zip code: 98405

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Lakewood Masonry Supply Contact person: Site Abandoned
Facility address: 4610 113th S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:		Inactive tanks-doe:		Inactive tanks-tpchd:	
Total identified-doe:	1	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: McLane NW Contact person: Joe Spiegner
Facility address: 4700 100th St S.W. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:		Number overfill protect:	0	Cumulative tank age:	36
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Aro Glass Co Contact person: Gunner Aro
Facility address: 4713 S. Washington Zip code: 98409

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: The Southland Corp 2324-24520 Contact person: Bob DeNinno
Facility address: 4720 Bridgeport Way Zip code: 98466

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	0	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Greenfield 2 Co 070365 Contact person: None
Facility address: 4802 South J St. Zip code: 98408

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: PCFD 2 Station 2-4 Contact person: Paul Webb
Facility address: 5000 Steilacoom Blvd S.W. Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:		Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	2	Cumulative tank age:	40
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	YES				

Facility name: Bethel Maint Dept Contact person: Darrell Six
Facility address: 516 E 176th St Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	60
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Calvary Cemetary Assc Contact person: John Gruse
Facility address: 5212 70th St W. Zip code: 98467

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	10
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: J.H. Large Trucking Inc Contact person: Jim Large
Facility address: 5317 131st St Ct E. Zip code: 98446

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Randles Sand & Gravel Inc Contact person: Don Christianson
Facility address: 5324 182nd St E. Zip code: 98446

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YE
Written plan for separat:	YES	Spill prevention plan:	N/A				

Facility name: K Mart #4467 Contact person: None
Facility address: 5401 100th St. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: The Southland Corp 2324-22622 Contact person: Bob DeNinno
Facility address: 5520 Orchard Zip code: 98467

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	33
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Texaco Contact person: Nancy Caloren
Facility address: 5610 Orchard Zip code: 98467

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	C
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	24
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NC
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: ST. Francis Cabrini Contact person: Alan Nelson
Facility address: 5717 S.W. 108th St. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	38
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Ronaco Inc Contact person: Sherri Pedersen
Facility address: 5744 N. 26th St. Zip code: 98407

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	32
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: South Tacoma Concrete Const Contact person: Gerri Moorehead
Facility address: 5812 S. Adams Zip code: 98409

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: European Motors Corp Contact person: Gary Svoboba
Facility address: 5911 Steilacoom Blvd S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	1	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Brown Bear Car Wash Contact person: Cecil Beal
Facility address: 5950 6th Ave Zip code: 98406

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	N/A				

Facility name: Lennox Co 070378 Contact person: Field Worker
Facility address: 601 S. 113th St. Zip code: 98444

Active tanks-doe:	2	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: BP Site #11084 Contact person: Mike Thompson
Facility address: 6101 6th Ave Zip code: 98406
Active tanks-doe: 5 Active tanks-tpchd: 4 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 5 Total identified-tpchd: 4 Number constructed-steel: 1 Number constructed-frp: 3
Number constructed-other: 0 Number corrosion protect: 3 Number overfill protect: 4 Cumulative tank age: 34
Past/present remediation: Vehicle repair: YES Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: YES Oil/water separator: YE
Written plan for separat: NO Spill prevention plan: NO

Facility name: Arco Contact person: Javaid Iqbael
Facility address: 6101 Steilacoom Blvd S.W. Zip code: 98499
Active tanks-doe: 4 Active tanks-tpchd: 3 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 4 Total identified-tpchd: 3 Number constructed-steel: 3 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: Number overfill protect: 3 Cumulative tank age: 54
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/
Written plan for separat: N/A Spill prevention plan: YES

Facility name: Lakewood Colonial Center Contact person: No Tanks Located
Facility address: 6124 1/2 Motor Ave S.W. Zip code: 98498
Active tanks-doe: 1 Active tanks-tpchd: 0 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: Number constructed-frp:
Number constructed-other: Number corrosion protect: Number overfill protect: Cumulative tank age:
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/
Written plan for separat: N/A Spill prevention plan: N/A

Facility name: Addison Const Supply Inc Contact person: Mark Andrews
Facility address: 6201 S. Adams St. Zip code: 98409
Active tanks-doe: 1 Active tanks-tpchd: 0 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: 0 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 0 Number overfill protect: 0 Cumulative tank age: 0
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/
Written plan for separat: N/A Spill prevention plan: N/A

Facility name: Lakewood Colonial Center Contact person: No Tanks Located
Facility address: 6310 MT Tacoma Dr. Zip code: 98499
Active tanks-doe: 1 Active tanks-tpchd: 0 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: Number constructed-frp:
Number constructed-other: Number corrosion protect: Number overfill protect: Cumulative tank age:
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/
Written plan for separat: N/A Spill prevention plan: N/A

Facility name: Rick Bennett Contact person: Site Abandoned
Facility address: 6318 6th Ave/Mildred Zip code: 98406
Active tanks-doe: 4 Active tanks-tpchd: Inactive tanks-doe: 0 Inactive tanks-tpchd:
Total identified-doe: 4 Total identified-tpchd: Number constructed-steel: Number constructed-frp:
Number constructed-other: Number corrosion protect: Number overfill protect: Cumulative tank age:
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/
Written plan for separat: N/A Spill prevention plan: N/A

Facility name: Lonestar NW Contact person: Richard Inwards
Facility address: 6320 Grandview Dr W. Zip code: 98467

Active tanks-doe:	2	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	1
Total identified-doe:	2	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	5	Cumulative tank age:	83
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Kim's Auto Repair Contact person: Site No Longer Exists
Facility address: 6402 S. Yakima Ave Zip code: 98408

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Wapato Park Maint Contact person: Kerry Phibbs
Facility address: 6470 S. Sheridan Zip code: 98408

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Fircrest Golf Club Contact person: Keith Pegg
Facility address: 6520 Regents Blvd Zip code: 98466

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	26
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Chevron 96350 Contact person: Site Abandoned
Facility address: 6615 6th Ave Zip code: 98406

Active tanks-doe:	5	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	5	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: BP Site #11077 Contact person: Eugene Noland
Facility address: 6622 19th St W. Zip code: 98466

Active tanks-doe:	8	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	8	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	6
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: BP Site Contact person: Dick Hanson
Facility address: 6918 6th Ave Zip code: 98406

Active tanks-doe:	5	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	0	Cumulative tank age:	**
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: W.G. Bott Contact person: Site Abandoned
Facility address: 7014 S. Park Ave Zip code: 98408

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	3	Inactive tanks-tpchd:	3
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Meadow Park Golf Course Maint Contact person: Jeff Johnson
Facility address: 7108 Lakewood Dr W. Zip code: 98467

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	5
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Texaco Contact person: Carl Hammerich
Facility address: 7202 S. Park Ave Zip code: 98408

Active tanks-doe:	4	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	0	Cumulative tank age:	**
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Robert Smith Contact person: Robert Smith
Facility address: 7206 Meadow Pard Rd W. Zip code: 98467

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: City of Tacoma Engine Co #16 Contact person: Lt Dave Paul
Facility address: 7216 6th Ave Zip code: 98406

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	37
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Nielsen Pacific LTD Contact person: Steve Nielson
Facility address: 7216 Lakewood Dr W. Zip code: 98439

Active tanks-doe:	9	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	2
Total identified-doe:	9	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	**
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: City of Tacoma Contact person: Steve Wilkins
Facility address: 7247 S. Park Zip code: 98408

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	30
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Fred Meyer Contact person: No Contact
Facility address: 7250 Pacific Ave S. Zip code: 98408

Active tanks-doe:	1	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	1	Total identified-tpchd:		Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:					

Facility name: USA Petroleum Corp #193 Contact person: Site Not Found*
Facility address: 7250 Pacific Zip code: 98408

Active tanks-doe:	3	Active tanks-tpchd:		Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Les Schwab Tire Store Contact person: Gerry Jacobs
Facility address: 7424 Pacific Ave Zip code: 98408

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Chevron 96839 Contact person: Norm Harrell
Facility address: 7501 Steilacoom Blvd Zip code: 98498

Active tanks-doe:	4	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	9
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Circle K #1462 Contact person: Site No Longer Exists
Facility address: 7508 40th St W. Zip code: 98466

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	NO
Written plan for separat:	NO	Spill prevention plan:	N/A				

Facility name: Landscaping by Pat Boring Contact person: Darrell Jackson
Facility address: 7517 Grange St W. Zip code: 98467

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: A&A Woodstoves Contact person: Leif
Facility address: 752 S. 108th St. Zip code: 98444

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	YES
Manufacturing:	YES	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco Coop Contact person: Site Abandoned
Facility address: 7717 Bridgeport Way Zip code: 98467

Active tanks-doe:	5	Active tanks-tpchd:		Inactive tanks-doe:		Inactive tanks-tpchd:	
Total identified-doe:	5	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Arco 4266 Contact person: Reg Keddie
Facility address: 7718 Bridgeport Way Zip code: 98467

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	15
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Charles Wright Academy Contact person: Dan Witherow
Facility address: 7723 Chambers Creek Rd Zip code: 98467

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: South Tacoma Fish Hatchery Contact person: Ulf Rasmusson
Facility address: 7723 Phillips Rd S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:	1	Cumulative tank age:	6
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: The Southland Corp 2324-18563 Contact person: Bob DeNinno
Facility address: 7727 Custer Rd Zip code: 98467

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	30
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Tacoma Narrows Bridge Maint Contact person: Jon Moergen
Facility address: 7815 Olympic Blvd Zip code: 98406

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Al's Thunderbird Arco Contact person: Virginia Goodenow
Facility address: 7901 Steilacoom Blvd S.W. Zip code: 98498

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	5
Total identified-doe:	4	Total identified-tpchd:	5	Number constructed-steel:	5	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	**
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	YES	Storm sewer discharge:	YES	Oil/water separator:	
Written plan for separat:		Spill prevention plan:	N/A				

Facility name: Pierce County Fire Dist 3 Contact person: Marvin Cole
Facility address: 7909 40th St W. Zip code: 98466

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	2	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	NO	Spill prevention plan:	YES				

Facility name: PCFD 2 station 2-2 Contact person: Greg Cooper
Facility address: 8017 Washington Blvd S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Gai's Seattle French Baking Co Contact person: Dick Graham
Facility address: 8203 Durango St. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	12
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Graham Plywood Contact person: None
Facility address: 8220 Eustis-Hunt Rd Zip code: 98387

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	3
Total identified-doe:	4	Total identified-tpchd:	3	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Texaco Contact person: William Grider
Facility address: 8223 Steilacoom Blvd Zip code: 98498

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	3	Number constructed-frp:	1
Number constructed-other:	0	Number corrosion protect:	1	Number overfill protect:	1	Cumulative tank age:	95
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	CAR	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: 10HC4 Contact person: Site Abandoned and Razed
Facility address: 8224 Steilacoom Blvd/820 Zip code: 98498

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: National Auto Parts Contact person: Manager
Facility address: 8233 S. Tacoma Way Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: BP Site #11090 Contact person: M.R. Alyousif
Facility address: 8235 S. Hosmer/84th Zip code: 98408

Active tanks-doe:	8	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	8	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	5	Cumulative tank age:	5
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: B.P. Contact person: Monty Younce
Facility address: 8305 Steilacoom Blvd S.W. Zip code: 98498

Active tanks-doe:	5	Active tanks-tpchd:	5	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	5	Number constructed-steel:	0	Number constructed-frp:	5
Number constructed-other:	0	Number corrosion protect:	5	Number overfill protect:	0	Cumulative tank age:	35
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Phillips 66 Co SS#071402 Contact person: Abandoned Site
Facility address: 8310 W. 27th St. Zip code: 98466

Active tanks-doe:	0	Active tanks-tpchd:		Inactive tanks-doe:	3	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Paratransit Contact person: Phil Singleton
Facility address: 8311 Durango S.W. Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	YES
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	YES
Written plan for separat:	YES	Spill prevention plan:	N/A				

Facility name: Chevron 93647 Contact person: Ken Heckel
Facility address: 8425 S. Hosmer Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	0	Number constructed-frp:	3
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	21
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: William C. Grider Contact person: Site Abandoned
Facility address: 8401 S. Tacoma Way Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Jackpot Station 346 Contact person: Mike Paisley
Facility address: 8424 Pacific Ave Zip code: 98444

Active tanks-doe:	6	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	6	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	18
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Texaco Contact person: Gerry
Facility address: 8433 S. Hosmer Zip code: 98444

Active tanks-doe:	5	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	5	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	12
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Chevron 94369 Contact person: Site Abandoned
Facility address: 8501 W. 27th Zip code: 98466

Active tanks-doe:	5	Active tanks-tpchd:		Inactive tanks-doe:		Inactive tanks-tpchd:	
Total identified-doe:	5	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Jackpot Station 347 Contact person: Mike Paisley
Facility address: 8533 S. Tacoma Ave Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	**
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: 6384 Contact person: Site Abandoned
Facility address: 8602 S. Hosmer Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	4	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: David's Auto Repair Contact person: David Been Jr.
Facility address: 8702 Veterans Dr S.W. Zip code: 98498

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	4	Inactive tanks-tpchd:	4
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Pierce County Fire Dist 2 Contact person: Steve Hodges
Facility address: 8710 87th Ave S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:	1	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	1	Number constructed-steel:	1	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	10
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: David Spangler Contact person: No Such Address
Facility address: 8710 W. 27th Zip code: 98466
Active tanks-doe: 3 Active tanks-tpchd: Inactive tanks-doe: Inactive tanks-tpchd:
Total identified-doe: 3 Total identified-tpchd: Number constructed-steel: Number constructed-frp:
Number constructed-other: Number corrosion protect: Number overfill protect: Cumulative tank age:
Past/present remediation: Vehicle repair: Vehicle washing: Painting:
Manufacturing: Sanitary sewer discharge: Storm sewer discharge: Oil/water separator:
Written plan for separat: Spill prevention plan:

Facility name: Econo Lube & Tune #164 Contact person: Don Wattum
Facility address: 8724 S. Tacoma Way Zip code: 98409
Active tanks-doe: 1 Active tanks-tpchd: 1 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: 1 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 1 Number overfill protect: 1 Cumulative tank age: 3
Past/present remediation: Vehicle repair: YES Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/A
Written plan for separat: N/A Spill prevention plan: NO

Facility name: Refreshing Springs Church Contact person: Monique Haskins
Facility address: 8802 Bridgeport Zip code: 98499
Active tanks-doe: 1 Active tanks-tpchd: 0 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: 0 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 0 Number overfill protect: 0 Cumulative tank age: 0
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/A
Written plan for separat: N/A Spill prevention plan: N/A

Facility name: Fort Steilacoom Park Contact person: John Howard
Facility address: 8802 Dresden Lane S.W. Zip code: 98498
Active tanks-doe: 2 Active tanks-tpchd: 2 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 2 Total identified-tpchd: 2 Number constructed-steel: 2 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 0 Number overfill protect: 0 Cumulative tank age: 40
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/A
Written plan for separat: N/A Spill prevention plan: NO

Facility name: Tiderunner Contact person: Jim Lindsey
Facility address: 9001 Pacific Ave Zip code: 98444
Active tanks-doe: 1 Active tanks-tpchd: 0 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 1 Total identified-tpchd: 0 Number constructed-steel: 0 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 0 Number overfill protect: 0 Cumulative tank age: 0
Past/present remediation: Vehicle repair: YES Vehicle washing: YES Painting: NO
Manufacturing: YES Sanitary sewer discharge: NO Storm sewer discharge: YES Oil/water separator: NO
Written plan for separat: NO Spill prevention plan: N/A

Facility name: Narrows Marina Inc Contact person: Stu Maier
Facility address: 9007 S. 19th St. Zip code: 98466
Active tanks-doe: 5 Active tanks-tpchd: 2 Inactive tanks-doe: 0 Inactive tanks-tpchd: 0
Total identified-doe: 5 Total identified-tpchd: 2 Number constructed-steel: 2 Number constructed-frp: 0
Number constructed-other: 0 Number corrosion protect: 0 Number overfill protect: 0 Cumulative tank age: 29
Past/present remediation: Vehicle repair: NO Vehicle washing: NO Painting: NO
Manufacturing: NO Sanitary sewer discharge: NO Storm sewer discharge: NO Oil/water separator: N/A
Written plan for separat: N/A Spill prevention plan: YES

Facility name: Straight Line Auto Repair Contact person: Site Abandoned
Facility address: 9116 Washington Blvd S.W. Zip code: 98498

Active tanks-doe:	1	Active tanks-tpchd:		Inactive tanks-doe:		Inactive tanks-tpchd:	
Total identified-doe:	1	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Bennies Contact person: Bernie
Facility address: 9202 Washington Blvd S.W. Zip code: 98498

Active tanks-doe:	9	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	9	Total identified-tpchd:	4	Number constructed-steel:	0	Number constructed-frp:	4
Number constructed-other:	0	Number corrosion protect:	4	Number overfill protect:	4	Cumulative tank age:	8
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Tacoma Cemetary Contact person: Jack Harding
Facility address: 9212 Chambers Creek Rd W. Zip code: 98467

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Gene's Towing Contact person: Gene Myers
Facility address: 9212 S. Tacoma Way Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Oregon Pacific Bldg Products Contact person: Bob Phillips
Facility address: 9213 51st S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Fir Lane Memorial Contact person: Stace Overaa
Facility address: 924 E 176th St Zip code: 98387

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:	yes				

Facility name: American Lake Marina Contact person: Tony Hope
Facility address: 9306 Veterans Dr S.W. Zip code: 98498

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	2	Cumulative tank age:	38
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: University SD #83 Bus Garage Contact person: Mike Patterson
Facility address: 9311 Chambers Creek Rd Zip code: 98467

Active tanks-doe:	4	Active tanks-tpchd:	4	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	44
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Lakewood/Tacoma Ind Park Contact person: None
Facility address: 9317 47th Ave S.W. Bldg 9 Zip code: 98499

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	1	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: CC Pierce College Contact person: Al Downs
Facility address: 9401 Farwest Dr S.W. Zip code: 98498

Active tanks-doe:	8	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	8	Total identified-tpchd:	2	Number constructed-steel:	0	Number constructed-frp:	2
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	6
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Pierce Co Fire Protection Dist Contact person: Gary
Facility address: 9512 17th Ave E. Zip code: 98445

Active tanks-doe:	2	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	0	Number constructed-frp:	2
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	14
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Contractors Building Supply Co Contact person: Stew Capps
Facility address: 9516-39 Ave Ct S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: The Southland Corp 2323-18585 Contact person: Bob DeNinno
Facility address: 9517 S. Steele Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	30
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Lakewood Colonial Center Contact person: None
Facility address: 9540 Bridgeport Way S.W. Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Ken's Tire Service Contact person: Ken Winters
Facility address: 9601 Gravelly Lake Dr S.W Zip code: 98499

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: U-Haul Co of Parkland Contact person: Ken Mills
Facility address: 9601 Pacific Ave S. Zip code: 98444

Active tanks-doe:	3	Active tanks-tpchd:	2	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	2	Number overfill protect:	2	Cumulative tank age:	22
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: The Auto Shop Contact person: Refused To Divulge Name
Facility address: 9602 Pacific Ave Zip code: 98444

Active tanks-doe:	4	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	4	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Safelite Auto Glass Contact person: Jeff Cusato
Facility address: 9639 Pacific Ave Zip code: 98444

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Ace Discount Brake Contact person: Manager
Facility address: 9642 Gravelly Lake Dr S.W Zip code: 98499

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	2	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Summit Water & Supply Co Contact person: Nell Doyle
Facility address: 9701 50th Ave E. Zip code: 98446

Active tanks-doe:	2	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	2
Total identified-doe:	2	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	20
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: BMC Holding Inc Contact person: Brian Bentz
Facility address: 9721 40th Ave S.W. Zip code: 98499

Active tanks-doe:	1	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	1	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: 6064 Contact person: Site Abandoned
Facility address: 9810 Gravelly Lake Dr S.W Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Jackpot Foodmart Contact person: Mike Paisley
Facility address: 9815 Golden Given Rd E. Zip code: 98445

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	3	Number overfill protect:	3	Cumulative tank age:	9
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	YES				

Facility name: Chambers Creek County Shop Contact person: Gary Greuver
Facility address: 9820 Chambers Creek Rd Zip code: 98467

Active tanks-doe:	3	Active tanks-tpchd:	3	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	76
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	YES	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	NO
Written plan for separat:	N/A	Spill prevention plan:	NO				

Facility name: Car Wash Ent Inc Contact person: Site Abandoned
Facility address: 9821 S. Tacoma Way Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	
Total identified-doe:	3	Total identified-tpchd:		Number constructed-steel:		Number constructed-frp:	
Number constructed-other:		Number corrosion protect:		Number overfill protect:		Cumulative tank age:	
Past/present remediation:		Vehicle repair:		Vehicle washing:		Painting:	
Manufacturing:		Sanitary sewer discharge:		Storm sewer discharge:		Oil/water separator:	
Written plan for separat:		Spill prevention plan:					

Facility name: Parkland Midland Tune Up Serv Contact person: Jim Lunschen
Facility address: 9848 Portland Ave Zip code: 98445

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	4
Total identified-doe:	3	Total identified-tpchd:	4	Number constructed-steel:	4	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Auto Lube Contact person: Darrell Larsen
Facility address: 9901 Gravelly Lake Dr S.W Zip code: 98499

Active tanks-doe:	0	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	2
Total identified-doe:	0	Total identified-tpchd:	2	Number constructed-steel:	2	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	40
Past/present remediation:		Vehicle repair:	YES	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: The Southland Corp 2324-18863 Contact person: Bob DeNinno
Facility address: 9923 Gravelly Lake Dr Zip code: 98499

Active tanks-doe:	3	Active tanks-tpchd:	0	Inactive tanks-doe:	0	Inactive tanks-tpchd:	0
Total identified-doe:	3	Total identified-tpchd:	0	Number constructed-steel:	0	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	0	Cumulative tank age:	0
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	NO	Oil/water separator:	N/A
Written plan for separat:	N/A	Spill prevention plan:	N/A				

Facility name: Associated Contact person: Rich Williams
Facility address: Lakewood-Tacoma Ind Park Zip code: 98499

Active tanks-doe:		Active tanks-tpchd:	3	Inactive tanks-doe:		Inactive tanks-tpchd:	0
Total identified-doe:		Total identified-tpchd:	3	Number constructed-steel:	3	Number constructed-frp:	0
Number constructed-other:	0	Number corrosion protect:	0	Number overfill protect:	3	Cumulative tank age:	30
Past/present remediation:		Vehicle repair:	NO	Vehicle washing:	NO	Painting:	NO
Manufacturing:	NO	Sanitary sewer discharge:	NO	Storm sewer discharge:	YES	Oil/water separator:	YES
Written plan for separat:	NO	Spill prevention plan:	NO				

APPENDIX F

DRAFT ORDINANCE

CLOVER CHAMBERS CREEK UNDERGROUND STORAGE TANK
DRAFT ORDINANCE
February 2, 1993

Sections:

1. DEFINITIONS:

Applicable definitions for this chapter include those definitions specified in Chapter 173-360-120 Washington Administrative Code (WAC) which are applicable to the sections of Chapter 173-360 WAC referenced herein.

Additional Definitions are:

Department: The Tacoma-Pierce County Health Department (TPCHD).
Director: The Director of the Tacoma-Pierce County Health Department or his/her authorized representative.
Ecology: The Washington State Department of Ecology.
UST: Underground Storage Tanks as defined in W.A.C. 173-360-120.

2. AUTHORITY AND SCOPE:

A) The Director shall enforce this chapter and any standards promulgated by the Board of Health Relative to this chapter. The Board of Health is empowered to and shall write standards necessary for implementation of this chapter, consistent herewith. Said standards shall be at least as stringent as those set forth in Chapter 173-360 WAC and shall be as directed under the Memorandum of Agreement dated_____ with Ecology.

B) The Director or his/her duly authorized representative may, with the consent of the occupant thereof, or pursuant to a lawfully issued warrant, enter any building or premises at any reasonable time to perform any of the duties imposed on him/her by this chapter and the Board of Health regulations established in accordance herewith.

C) As stipulated in the Memorandum of Agreement between the Department and Ecology of_____, 19___ all facilities with underground storage tanks, licensed by Ecology and or otherwise regulated by the TPCHD, located within Pierce County shall comply with the requirements of this chapter.

3. **ENVIRONMENTALLY SENSITIVE AREA:**

A) Environmentally sensitive area. Pursuant to Chapter 173-360-510 WAC, the Clover Chambers Creek Basin is hereby designated an environmentally sensitive area subject to the provisions of this chapter.

4. **REGULATION OF HAZARDOUS MATERIALS HANDLING:**

5. **NEW UST SYSTEMS CONSTRUCTION AND NOTIFICATION:**

A) No new UST systems shall be installed unless a geohydrological assessment as described in chapter 21.16 of the Pierce County Code is completed and accepted as providing satisfactory evidence that the installation of the UST will not adversely affect the groundwater beneath the proposed site.

B) New installations and system repairs shall be designed in accordance with Chapter 173-360-305 WAC, except that all systems shall have secondarily contained product delivery systems including turbine and piping termination sumps, double walled or equivalent piping and under dispenser containment. All UST systems containing hazardous waste or any material determined by the TPCHD to pose an exceptional risk to public health and/or the environment must be completely secondarily contained by dual walled tanks and piping. The TPCHD may impose additional requirements, restrictions, and conditions as deemed necessary.

C) All installation work shall be performed by contractors fully licensed under the authority of Chapter 173-360-600 through 173-360-690 WAC. The installation shall not be conducted until approval has been granted by the Tacoma-Pierce County Health Department. Application for approval shall consist of a project description, specifications and drawings detailing compliance with Chapter 173-360-305 WAC and this chapter.

D) Upon completion of the installation, the Tacoma-Pierce County Health Department must receive a complete as-built drawing of the installation and the Ecology installation checklist. Operation may not begin until the system has been inspected and approved by the TPCHD.

6. **UPGRADING OF EXISTING UST SYSTEMS:**

A) Not later than 12-22-98, all existing systems shall meet the requirements of section 5(b) through (d) of this chapter.

7. **SPILL AND OVERFILL CONTROL REQUIREMENTS:**

As of the effective date of this chapter all facilities shall prepare written spill prevention and response plans. The written plans shall address compliance with the provisions of Chapter 173-360-315, and must be approved by the TPCHD.

8. **OPERATION AND MAINTENANCE OF CORROSION PROTECTION:**

Operation and maintenance of corrosion protection systems shall be conducted pursuant to the requirements of Chapter 173-360-320 WAC.

9. **COMPATIBILITY:**

All UST and all regulated UST systems in operation shall conform to the compatibility requirements of Chapter 173-360-323 WAC.

10. **REPAIR OF UST SYSTEMS:**

All repair of UST systems shall comply with the requirements of Chapter 173-360-305 WAC and section 5(b) through (d) of this chapter.

11. **RELEASE DETECTION:**

All UST systems in operation after the effective date of this chapter must comply with the release detection requirements of Chapter 173-360-330 through 173-360-355 WAC.

12. **REPORTING RELEASES AND SPILLS:**

All owners and operators of UST systems shall report to the Tacoma-Pierce County Health Department within 24 hours the occurrence of any of the events described in Chapter 173-369-360 and 173-369-375 WAC.

13. **REMEDIATION OF RELEASES AND SPILLS:**

A) All releases and spills shall be completely investigated and be remediated, by the tank owner and/or operator, to the satisfaction of the Tacoma-Pierce County Health Department. The investigation and remediation shall comply with, at a minimum, the requirements of Chapter 173-360-375 WAC and to applicable portions of Chapter 173-340 WAC.

B) Releases and spills may result in the issuance of an order to close all or part of the UST system in question by the TPCHD. In this event, all assessment and remediation shall comply with the TPCHD requirements for UST closure, assessment and remediation (Pierce County Ordinance 88-134).

14. CLOSURE AND CHANGE IN SERVICE:

A) Closures and all Changes in Service affecting regulated UST systems shall comply with the requirements of Chapter 173-360-385 and 173-360-399 WAC and the requirements of Pierce County Ordinance 88-134.

B) Permanent closure shall cause the complete removal of the UST system unless the removal would result in damage to buildings or other major structures. Owners or operators will be required to submit engineering documentation attesting to the potential damage prior to the authorization of in-place abandonment. The documentation must be prepared by a registered professional engineer.

C) Any UST system abandoned in place prior to 12-22-88 must be closed according to this chapter, unless it is determined by the Tacoma-Pierce County Health Department that the closure was in compliance with generally accepted practices in effect at the time of abandonment.

D) The Tacoma-Pierce County Health Department may also require closure and assessment to be conducted in accordance with this chapter for any situation for which the Tacoma-Pierce County Health Department determines that a current or potential public health threat exists.

15. ADDITIONAL COMPLIANCE AUTHORITY:

The Tacoma-Pierce County Health Department may require an UST system owner or operator to provide any information that is necessary to determine compliance with this chapter. The ability to request information shall include, but not be limited to all records, plans, receipts, documents related to UST installation, operation, and closure along with monitoring or investigation data and reports. The Tacoma-Pierce County Health Department may also require an owner or operator to perform monitoring and/or testing as needed to ensure compliance with this chapter.

16. VIOLATIONS:

Any person, firm, corporation who disobeys, omits, neglects or refuses to comply with, or resists enforcement of any of the provisions of this chapter shall be guilty of a misdemeanor and shall be punished by a fine in any amount not to exceed five thousand dollars or by imprisonment in the Pierce County Jail for a term not exceeding one year or by both such fine and imprisonment. Anyone found guilty of a violation shall be deemed guilty of a separate offense

for every day during any portion of which any violation of any provision of this chapter is committed, allowed or continued. Nothing herein shall prevent the Director from utilizing civil remedies available to him/her under state law for the enforcement of this chapter.

17. **ENFORCEMENT:**

It shall be the duty of the Director to enforce and administer the provisions of this chapter.

18. **APPEALS:**

Procedures for appeals to the hearings examiner or Board of Health from any ruling, decision or order of the Health Department shall be taken in accordance with Sections 5.02.260 and 5.02.180 of the Official Code of the City of Tacoma.

19. **SEVERABILITY:**

The provisions of this chapter are hereby declared to be separate and severable, and the invalidity of any clause, sentence, paragraph, subdivision, section or portion of this chapter or the invalidity of the application thereto any person or circumstance shall not affect the validity of its application to other persons and circumstances.

APPENDIX G

ABANDONED WELL SURVEY FLYER WITH QUESTIONNAIRE

TACOMA-PIERCE COUNTY
HEALTH DEPARTMENT
ALFRED M. ALLEN, MD, MPH
Director of Health

Tacoma-Pierce County Health Department
Well Survey

Dear Homeowner:

The Tacoma-Pierce County Health Department is conducting a well survey in five study areas throughout Pierce County. Your neighborhood has been selected as one of the survey areas.

PURPOSE

The purpose of this survey is to catalogue the location and condition of all wells within an area that has recently been provided with the option of receiving drinking water from a large public water system.

The Health Department is requesting information about your well if your home was using an individual well prior to connection to a public water system and/or if you currently have a well on your property that is not in use. Information about your well will enable the Health Department to complete an accurate survey of wells in your area.

RESPONSE

You may respond to this request by mail, by contacting Tyrone Woolfolk at 591-7667, or by contacting myself at 596-2851. We would like a brief description of the condition and uses of your well, specifically, has the well has been capped, abandoned, used for irrigation purposes, or other uses.

Your cooperation will be of great value in helping this department to evaluate and protect this county's drinking water supply. Thank you for any assistance you can give the Health Department with this study.

Sincerely,

Brad D. Harp, Hydrogeologist
Environmental Specialist III
Water Resources Section
ENVIRONMENTAL HEALTH DIVISION

BH:cf

APPENDIX H

ABANDONED WELL BROCHURE

What is an Abandoned Well?

A "well" includes any excavation which is intended for use in the location, diversion, artificial recharge, or withdrawal of ground water.

An *abandoned* well is defined as any well which is unusable, or which is in such disrepair that it's continued use is impractical or is an environmental, safety, or public health hazard.

All abandoned wells are required to be properly decommissioned in accordance with state WAC 173-160, the Minimum Standards for Construction and Maintenance of Wells.

Who is Responsible?

The property owner is ultimately responsible for the proper construction or decommissioning of a well. However, state law says "any person" who causes a well to be constructed or decommissioned in violation of state regulations can be held accountable.

Concerns About Abandoned Wells

Abandoned or improperly decommissioned wells can become environmental, safety or public health hazards.

Excavations associated with "hand dug" wells and vault wells are particularly dangerous. These wells present a safety concern, especially for small children, who could be injured falling into the well.

Abandoned wells also act as direct conduits for contaminants to reach ground water. Contaminants entering the ground water through abandoned wells degrade the quality of drinking water surrounding the well. The seriousness of this problem depends on the types and quantities of contaminants entering the abandoned well.

Decommissioning an Abandoned Well

Decommissioning of an abandoned well must be done by a licensed well driller. There are different procedures for decommissioning a well depending on the type of well installed. All wells shall be decommissioned in accordance with state WAC 173-160.

- Contact a licensed well driller.
- Submit a *Notice of Intent to Decommission a Well* form to the Department of Ecology.
- Complete an application from the Tacoma-Pierce County Health Department (TPCHD).
- Obtain approval of decommissioning process through the TPCHD.

Several additional steps are required for the construction of new wells. Please contact a licensed well driller or the Tacoma-Pierce County Health Department for further information.

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Questions?

Questions involving well construction or decommissioning procedures, costs or site-specific details should be directed to licensed well drillers. Please contact:

Washington State Drillers and Ground Water Association
(206) 847-7074

Specific questions regarding rules and regulations pertaining to well construction and decommissioning or WAC 173-160 can be directed to:

Tacoma-Pierce County Health Department
Water Resources Section
(206) 591-6470
or
Washington State Department of Ecology
(206) 407-0281

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Tacoma-Pierce County Health Department
3629 South D Street, MS 021
Tacoma, WA 98408-6897

THE Abandoned Well PROBLEM

TACOMA-PIERCE COUNTY HEALTH DEPARTMENT

Well Decommissioning Program