Casey Weaver
Engineering Geologist
Environmental Office
California Energy Commission
1516 Ninth Street, MS-40
Sacramento, CA 95814

DOCKET
08-AFC-2
DATE
RECD. 03/04/10

Casey:

Enclosed is the documentation for the 19 February 2010 response e-mail.

Enclosed:

1. Stetson "Fremont Basin Salt/Nutrient Management Plan Proposal"

2.. Stetson "Evaluation of Groundwater Resources in California City, 2009"

3. California City "Urban Water Management Plan, 2000"

4. California City "Urban Water Management Plan, Draft 2010"

5. "Lahontan/California City, MOU, 1989"

6. "Modification to Lahontan/California City, MOU, 1989" 2 June 2008

7. California City Potable Water Wells Location Map

8. Thomas M. Stetson's "Review of Water Supply and Water Quality, California City Area, Kern County, California, February, 1971"

9. Saint-Amand Scientific Services "Ground-Water Resources of California City", November, 1991

Sincerely,

Michael J. Bevins

Public Works Director
City of California City

21000 Hacienda Blvd.
California City, CA 93505

Office: (760) 373-7297
Cell: (760) 596-2861

pwdir @ccis.com

STETSON
ENGINEERS INC.

861 Village Oaks Drive, Suite 100 · Covina, California 91724 · (626) 967-6202
FAX: (626) 331-7065 · email: wc@stetsonengineers.com

2171 E. Francisco Blvd., Suite K · San Rafael, California 94901 · (415) 457-0701
FAX: (415) 457-1638 · email: sr@stetsonengineers.com

2659 W. Guadalupe Rd., Suite D213 · Mesa, Arizona 85202 · (480) 839-5910
FAX: (480) 839-6560

SERVING CLIENTS SINCE 1957

08-Marketing

Reply to: Covina

February 12, 2010

Mr. Michael J. Bevins
California City Public Works Department
21000 Hacienda Boulevard
California City, CA. 93505

Subject: Proposal for Professional Engineering Services
Salt/Nutrient Management Plans

Dear Mr. Bevins:

In response to your telephone call on February 11, 2010 Stetson Engineers Inc. (Stetson) is pleased to submit this Scope of Work and proposed budget to provide professional engineering services to the City of California City (City) to develop a Salt/Nutrient Management Plan for the Freemont Valley Groundwater Basin. Salt/Nutrient Management Plans are required as part of the State Water Resources Control Board "Recycled Water Policy" adopted in 2009. A copy of the "Recycled Water Policy" is included as Attachment A. The Policy requires Salt/Nutrient Management Plans for all groundwater basins to be adopted by 2014. The primary objective is to develop a Salt/Nutrient Management Plan that protects/preserves water quality and develop those plans in conjunction with the Lahontan Regional Water Quality Control Board and impacted Stakeholders. The Salt/Nutrient Management Plans are particularly important where recycled water may impact groundwater quality.

Stetson proposes a phased approach to development of a Salt/Nutrient Monitoring Plan Phase I consists of development of a discussion draft to be circulated amongst stakeholders. Phase II work will include workshops with stakeholders and potential modifications to the Plan.

The Phase I Scope of Work and budget for Stetson's professional engineering services are described below.

Phase I Scope of Work

Task 1 – Kick-off Meeting

Stetson will meet with the City staff to initiate the Salt/Nutrient Management planning process. The City may wish to involve other Stakeholders, including potentially impacted producers, at this kick off meeting.

Task 2 - Obtain Available Data and Information

Stetson will make diligent efforts to obtain available data and information on the geology, hydrology, hydrogeology, groundwater production, and groundwater quality in the area, including those published in reports from previous studies and investigations. Some of this information was previously collected as part of Stetson's preparation of the report entitled "Evaluation of Groundwater Resources in California City". In addition to Stetson's reference library, stakeholders in the area will be contacted for available data and information on their groundwater production, water quality and activities impacting groundwater replenishment and water quality. Other agencies such as the Kern County Environmental Health Services (KCEHS), Lahontan Regional Water Quality Control Board (RWQCB), California Department of Water Resources (DWR), and United States Geological Survey (USGS) will also be contacted for similar data and information.

Task 3 – Develop Salt/Nutrient Plan

Stetson will use the outline included in Attachment B to prepare a Salt/Nutrient Management Plan for the Freemont Valley Groundwater Basin. The contents, framework and process may be subject to modification as the result of input from the Regional Water Quality Control Board staff and stakeholders.

Estimated Budget

The budget for the Phase I Scope of Work is estimated at approximately $35,000 and is for development of an initial draft Salt/Nutrient Management Plan. As part of Phase II work Stetson is prepared to attend meetings with impacted stakeholders and provided revisions to the draft on a time and materials basis.

Stetson is prepared to commence work upon your authorization and will bill monthly for productive work done on this project according the attached standard fee schedule and expense rate sheet in Attachment C.

We thank you for the opportunity to assist the City in completing this investigation successfully. If you have any questions or desire additional information relating to this proposal, please do not hesitate to let me know.

Sincerely,

Kevin R. Smead
Stetson Engineers Inc

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ATTACHMENT A

Recycled Water Policy

1. *Preamble*

California is facing an unprecedented water crisis.

The collapse of the Bay-Delta ecosystem, climate change, and continuing population growth have combined with a severe drought on the Colorado River and failing levees in the Delta to create a new reality that challenges California's ability to provide the clean water needed for a healthy environment, a healthy population and a healthy economy, both now and in the future.

These challenges also present an unparalleled opportunity for California to move aggressively towards a sustainable water future. The State Water Resources Control Board (State Water Board) declares that we will achieve our mission to "preserve, enhance and restore the quality of California's water resources to the benefit of present and future generations." To achieve that mission, we support and encourage every region in California to develop a salt/nutrient management plan by 2014 that is sustainable on a long-term basis and that provides California with clean, abundant water. These plans shall be consistent with the Department of Water Resources' Bulletin 160, as appropriate, and shall be locally developed, locally controlled and recognize the variability of California's water supplies and the diversity of its waterways. We strongly encourage local and regional water agencies to move toward clean, abundant, local water for California by emphasizing appropriate water recycling, water conservation, and maintenance of supply infrastructure and the use of stormwater (including dry-weather urban runoff) in these plans; these sources of supply are drought-proof, reliable, and minimize our carbon footprint and can be sustained over the long-term.

We declare our independence from relying on the vagaries of annual precipitation and move towards sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use of stormwater. To this end, we adopt the following goals for California:

- Increase the use of recycled water over 2002 levels by at least one million acre-feet per year (afy) by 2020 and by at least two million afy by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030.
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The purpose of this Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), in a manner that implements state and federal water quality laws. The State Water Board expects to

develop additional policies to encourage the use of stormwater, encourage water conservation, encourage the conjunctive use of surface and groundwater, and improve the use of local water supplies.

When used in compliance with this Policy, Title 22 and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to potable water for such approved uses.

2. *Purpose of the Policy*

a. The purpose of this Policy is to provide direction to the Regional Water Quality Control Boards (Regional Water Boards), proponents of recycled water projects, and the public regarding the appropriate criteria to be used by the State Water Board and the Regional Water Boards in issuing permits for recycled water projects.

b. It is the intent of the State Water Board that all elements of this Policy are to be interpreted in a manner that fully implements state and federal water quality laws and regulations in order to enhance the environment and put the waters of the state to the fullest use of which they are capable.

c. This Policy describes permitting criteria that are intended to streamline the permitting of the vast majority of recycled water projects. The intent of this streamlined permit process is to expedite the implementation of recycled water projects in a manner that implements state and federal water quality laws while allowing the Regional Water Boards to focus their limited resources on projects that require substantial regulatory review due to unique site-specific conditions.

d. By prescribing permitting criteria that apply to the vast majority of recycled water projects, it is the State Water Board's intent to maximize consistency in the permitting of recycled water projects in California while also reserving to the Regional Water Boards sufficient authority and flexibility to address site-specific conditions.

e. The State Water Board will establish additional policies that are intended to assist the State of California in meeting the goals established in the preamble to this Policy for water conservation and the use of stormwater.

f. For purposes of this Policy, the term "permit" means an order adopted by a Regional Water Board or the State Water Board prescribing requirements for a recycled water project, including but not limited to water recycling requirements, master reclamation permits, and waste discharge requirements.

3. *Benefits of Recycled Water*

The State Water Board finds that the use of recycled water in accordance with this Policy, that is, which supports the sustainable use of groundwater and/or surface water, which is

sufficiently treated so as not to adversely impact public health or the environment and which ideally substitutes for use of potable water, is presumed to have a beneficial impact. Other public agencies are encouraged to use this presumption in evaluating the impacts of recycled water projects on the environment as required by the California Environmental Quality Act (CEQA).

4. *Mandate for the Use of Recycled Water*

a. The State Water Board and Regional Water Boards will exercise the authority granted to them by the Legislature to the fullest extent possible to encourage the use of recycled water, consistent with state and federal water quality laws.

(1) The State Water Board hereby establishes a mandate to increase the use of recycled water in California by 200,000 afy by 2020 and by an additional 300,000 afy by 2030. These mandates shall be achieved through the cooperation and collaboration of the State Water Board, the Regional Water Boards, the environmental community, water purveyors and the operators of publicly owned treatment works. The State Water Board will evaluate progress toward these mandates biennially and review and revise as necessary the implementation provisions of this Policy in 2012 and 2016.

(2) Agencies producing recycled water that is available for reuse and not being put to beneficial use shall make that recycled water available to water purveyors for reuse on reasonable terms and conditions. Such terms and conditions may include payment by the water purveyor of a fair and reasonable share of the cost of the recycled water supply and facilities.

(3) The State Water Board hereby declares that, pursuant to Water Code sections 13550 *et seq.*, it is a waste and unreasonable use of water for water agencies not to use recycled water when recycled water of adequate quality is available and is not being put to beneficial use, subject to the conditions established in sections 13550 *et seq*. The State Water Board shall exercise its authority pursuant to Water Code section 275 to the fullest extent possible to enforce the mandates of this subparagraph.

b. These mandates are contingent on the availability of sufficient capital funding for the construction of recycled water projects from private, local, state, and federal sources and assume that the Regional Water Boards will effectively implement regulatory streamlining in accordance with this Policy.

c. The water industry and the environmental community have agreed jointly to advocate for $1 billion in state and federal funds over the next five years to fund projects needed to meet the goals and mandates for the use of recycled water established in this Policy.

d. The State Water Board requests the California Department of Public Health (CDPH), the California Public Utilities Commission (CPUC), and the California Department of Water Resources (CDWR) to use their respective authorities to the fullest extent practicable to assist the State Water Board and the Regional Water Boards in increasing the use of recycled water in California.

5. *Roles of the State Water Board, Regional Water Boards, CDPH and CDWR*

The State Water Board recognizes that it shares jurisdiction over the use of recycled water with the Regional Water Boards and with CDPH. In addition, the State Water Board recognizes that CDWR and the CPUC have important roles to play in encouraging the use of recycled water. The State Water Board believes that it is important to clarify the respective roles of each of these agencies in connection with recycled water projects, as follows:

a. The State Water Board establishes general policies governing the permitting of recycled water projects consistent with its role of protecting water quality and sustaining water supplies. The State Water Board exercises general oversight over recycled water projects, including review of Regional Water Board permitting practices, and shall lead the effort to meet the recycled water use goals set forth in the Preamble to this Policy. The State Water Board is also charged by statute with developing a general permit for irrigation uses of recycled water.

b. The CDPH is charged with protection of public health and drinking water supplies and with the development of uniform water recycling criteria appropriate to particular uses of water. Regional Water Boards shall appropriately rely on the expertise of CDPH for the establishment of permit conditions needed to protect human health.

c. The Regional Water Boards are charged with protection of surface and groundwater resources and with the issuance of permits that implement CDPH recommendations, this Policy, and applicable law and will, pursuant to paragraph 4 of this Policy, use their authority to the fullest extent possible to encourage the use of recycled water.

d. CDWR is charged with reviewing and, every five years, updating the California Water Plan, including evaluating the quantity of recycled water presently being used and planning for the potential for future uses of recycled water. In undertaking these tasks, CDWR may appropriately rely on urban water management plans and may share the data from those plans with the State Water Board and the Regional Water Boards. CDWR also shares with the State Water Board the authority to allocate and distribute bond funding, which can provide incentives for the use of recycled water.

e. The CPUC is charged with approving rates and terms of service for the use of recycled water by investor-owned utilities.

6. *Salt/Nutrient Management Plans*

a. *Introduction.*

(1) Some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives established in the applicable Water Quality Control Plans (Basin Plans), and not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. These conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water and water supply augmentation using surface or recycled water. Regulation of recycled water alone will not address these conditions.

(2) It is the intent of this Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.

b. *Adoption of Salt/ Nutrient Management Plans.*

(1) The State Water Board recognizes that, pursuant to the letter dated December 19, 2008 and attached to the Resolution adopting this Policy, the local water and wastewater entities, together with local salt/nutrient contributing stakeholders, will fund locally driven and controlled, collaborative processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California, including compliance with CEQA and participation by Regional Water Board staff.

(a) It is the intent of this Policy for every groundwater basin/sub-basin in California to have a consistent salt/nutrient management plan. The degree of specificity within these plans and the length of these plans will be dependent on a variety of site-specific factors, including but not limited to size and complexity of a basin, source water quality, stormwater recharge, hydrogeology, and aquifer water quality. It is also the intent of the State Water Board that because stormwater is typically lower in nutrients and salts and can augment local water supplies, inclusion of a significant stormwater use and recharge component within the salt/nutrient management plans is critical to the long-term sustainable use of water in California. Inclusion of stormwater recharge is consistent with State Water Board Resolution No. 2005-06, which establishes sustainability as a core value for State Water Board programs and

also assists in implementing Resolution No. 2008-30, which requires sustainable water resources management and is consistent with Objective 3.2 of the State Water Board Strategic Plan Update dated September 2, 2008.

(b) Salt and nutrient plans shall be tailored to address the water quality concerns in each basin/sub-basin and may include constituents other than salt and nutrients that impact water quality in the basin/sub-basin. Such plans shall address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects.

(c) Such plans may be developed or funded pursuant to the provisions of Water Code sections 10750 *et seq.* or other appropriate authority.

(d) Salt and nutrient plans shall be completed and proposed to the Regional Water Board within five years from the date of this Policy unless a Regional Water Board finds that the stakeholders are making substantial progress towards completion of a plan. In no case shall the period for the completion of a plan exceed seven years.

(e) The requirements of this paragraph shall not apply to areas that have already completed a Regional Water Board approved salt and nutrient plan for a basin, sub-basin, or other regional planning area that is functionally equivalent to paragraph 6(b)3.

(f) The plans may, depending upon the local situation, address constituents other than salt and nutrients that adversely affect groundwater quality.

(2) Within one year of the receipt of a proposed salt and nutrient management plan, the Regional Water Boards shall consider for adoption revised implementation plans, consistent with Water Code section 13242, for those groundwater basins within their regions where water quality objectives for salts or nutrients are being, or are threatening to be, exceeded. The implementation plans shall be based on the salt and nutrient plans required by this Policy.

(3) Each salt and nutrient management plan shall include the following components:

(a) A basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations. The scale of the basin/sub-basin monitoring plan is dependent upon the site-specific conditions and shall be adequate to provide a reasonable,

cost-effective means of determining whether the concentrations of salt, nutrients, and other constituents of concern as identified in the salt and nutrient plans are consistent with applicable water quality objectives. Salts, nutrients, and the constituents identified in paragraph 6(b)(1)(f) shall be monitored. The frequency of monitoring shall be determined in the salt/nutrient management plan and approved by the Regional Water Board pursuant to paragraph 6(b)(2).

(i) The monitoring plan must be designed to determine water quality in the basin. The plan must focus on basin water quality near water supply wells and areas proximate to large water recycling projects, particularly groundwater recharge projects. Also, monitoring locations shall, where appropriate, target groundwater and surface waters where groundwater has connectivity with adjacent surface waters.

(ii) The preferred approach to monitoring plan development is to collect samples from existing wells if feasible as long as the existing wells are located appropriately to determine water quality throughout the most critical areas of the basin.

(iii) The monitoring plan shall identify those stakeholders responsible for conducting, compiling, and reporting the monitoring data. The data shall be reported to the Regional Water Board at least every three years.

(b) A provision for annual monitoring of Emerging Constituents/ Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products or pharmaceuticals) (CECs) consistent with recommendations by CDPH and consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy.

(c) Water recycling and stormwater recharge/use goals and objectives.

(d) Salt and nutrient source identification, basin/sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.

(e) Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.

(f) An antidegradation analysis demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.

(4) Nothing in this Policy shall prevent stakeholders from developing a plan that is more protective of water quality than applicable standards in the Basin Plan. No Regional Water Board, however, shall seek to modify Basin Plan objectives without full compliance with the process for such modification as established by existing law.

7. *Landscape Irrigation Projects*

a. *Control of incidental runoff.* Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff may be regulated by waste discharge requirements or, where necessary, waste discharge requirements that serve as a National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm water system permits, but regardless of the regulatory instrument, the project shall include, but is not limited to, the following practices:

(1) Implementation of an operations and management plan that may apply to multiple sites and provides for detection of leaks, (for example, from broken sprinkler heads), and correction either within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever occurs first,

(2) Proper design and aim of sprinkler heads,

(3) Refraining from application during precipitation events, and

(4) Management of any ponds containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater, and there is notification of the appropriate Regional Water Board Executive Officer of the discharge.

b. *Streamlined Permitting*

(1) The Regional Water Boards shall, absent unusual circumstances (i.e., unique, site-specific conditions such as where recycled water is proposed to be used for irrigation over high transmissivity soils over a shallow (5' or less) high quality groundwater aquifer), permit recycled water projects that meet the criteria set forth in this Policy, consistent with the provisions of this paragraph.

(2) If the Regional Water Board determines that unusual circumstances apply, the Regional Water Board shall make a finding of unusual circumstances based on substantial evidence in the record, after public notice and hearing.

(3) Projects meeting the criteria set forth below and eligible for enrollment under requirements established in a general order shall be enrolled by the State or Regional Water Board within 60 days from the date on which an application is deemed complete by the State or Regional Water Board. For projects that are not enrolled in a general order, the Regional Water Board shall consider permit adoption within 120 days from the date on which the application is deemed complete by the Regional Water Board.

(4) Landscape irrigation projects that qualify for streamlined permitting shall not be required to include a project specific receiving water and groundwater monitoring component unless such project specific monitoring is required under the adopted salt/nutrient management plan. During the interim while the salt management plan is under development, a landscape irrigation project proponent can either perform project specific monitoring, or actively participate in the development and implementation of a salt/nutrient management plan, including basin/sub-basin monitoring. Permits or requirements for landscape irrigation projects shall include, in addition to any other appropriate recycled water monitoring requirements, recycled water monitoring for CECs on an annual basis and priority pollutants on a twice annual basis. Except as requested by CDPH, State and Regional Water Board monitoring requirements for CECs shall not take effect until 18 months after the effective date of this Policy. In addition, any permits shall include a permit reopener to allow incorporation of appropriate monitoring requirements for CECs after State Water Board action under paragraph 10(b)(2).

(5) It is the intent of the State Water Board that the general permit for landscape irrigation projects be consistent with the terms of this Policy.

c. *Criteria for streamlined permitting.* Irrigation projects using recycled water that meet the following criteria are eligible for streamlined permitting, and, if otherwise in compliance with applicable laws, shall be approved absent unusual circumstances:

(1) Compliance with the requirements for recycled water established in Title 22 of the California Code of Regulations, including the requirements for treatment and use area restrictions, together with any other recommendations by CDPH pursuant to Water Code section 13523.

(2) Application in amounts and at rates as needed for the landscape (i.e., at agronomic rates and not when the soil is saturated). Each irrigation project shall be subject to an operations and management plan, that may apply to multiple sites, provided to the Regional Water Board that specifies the agronomic rate(s) and describes a set of reasonably practicable measures to ensure compliance with this requirement, which may include the development of water budgets for use areas, site

supervisor training, periodic inspections, tiered rate structures, the use of smart controllers, or other appropriate measures.

(3) Compliance with any applicable salt and nutrient management plan.

(4) Appropriate use of fertilizers that takes into account the nutrient levels in the recycled water. Recycled water producers shall monitor and communicate to the users the nutrient levels in their recycled water.

8. *Recycled Water Groundwater Recharge Projects*

a. The State Water Board acknowledges that all recycled water groundwater recharge projects must be reviewed and permitted on a site-specific basis, and so such projects will require project-by-project review.

b. Approved groundwater recharge projects will meet the following criteria:

(1) Compliance with regulations adopted by CDPH for groundwater recharge projects or, in the interim until such regulations are approved, CDPH's recommendations pursuant to Water Code section 13523 for the project (e.g., level of treatment, retention time, setback distance, source control, monitoring program, etc.).

(2) Implementation of a monitoring program for constituents of concern and a monitoring program for CECs that is consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy and that takes into account site-specific conditions. Groundwater recharge projects shall include monitoring of recycled water for CECs on an annual basis and priority pollutants on a twice annual basis.

c. Nothing in this paragraph shall be construed to limit the authority of a Regional Water Board to protect designated beneficial uses, *provided* that any proposed limitations for the protection of public health may only be imposed following regular consultation by the Regional Water Board with CDPH, consistent with State Water Board Orders WQ 2005-0007 and 2006-0001.

d. Nothing in this Policy shall be construed to prevent a Regional Water Board from imposing additional requirements for a proposed recharge project that has a substantial adverse effect on the fate and transport of a contaminant plume or changes the geochemistry of an aquifer thereby causing the dissolution of constituents, such as arsenic, from the geologic formation into groundwater.

e. Projects that utilize surface spreading to recharge groundwater with recycled water treated by reverse osmosis shall be permitted by a Regional Water Board within one year of receipt of recommendations from CDPH. Furthermore, the Regional Water Board shall give a high priority to review and approval of such projects.

9. *Antidegradation*

a. The State Water Board adopted Resolution No. 68-16 as a policy statement to implement the Legislature's intent that waters of the state shall be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state.

b. Activities involving the disposal of waste that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

c. Groundwater recharge with recycled water for later extraction and use in accordance with this Policy and state and federal water quality law is to the benefit of the people of the state of California. Nonetheless, the State Water Board finds that groundwater recharge projects using recycled water have the potential to lower water quality within a basin. The proponent of a groundwater recharge project must demonstrate compliance with Resolution No. 68-16. Until such time as a salt/nutrient management plan is in effect, such compliance may be demonstrated as follows:

(1) A project that utilizes less than 10 percent of the available assimilative capacity in a basin/sub-basin (or multiple projects utilizing less than 20 percent of the available assimilative capacity in a basin/sub-basin) need only conduct an antidegradation analysis verifying the use of the assimilative capacity. For those basins/sub-basins where the Regional Water Boards have not determined the baseline assimilative capacity, the baseline assimilative capacity shall be calculated by the initial project proponent, with review and approval by the Regional Water Board, until such time as the salt/nutrient plan is approved by the Regional Water Board and is in effect. For compliance with this subparagraph, the available assimilative capacity shall be calculated by comparing the mineral water quality objective with the average concentration of the basin/sub-basin, either over the most recent five years of data available or using a data set approved by the Regional Water Board Executive Officer. In determining whether the available assimilative capacity will be exceeded by the project or projects, the Regional Water Board shall calculate the impacts of the project or projects over at least a ten year time frame.

(2) In the event a project or multiple projects utilize more than the fraction of the assimilative capacity designated in subparagraph (1), then a Regional Water Board-deemed acceptable antidegradation analysis shall be performed to comply with Resolution No. 68-16. The project proponent shall provide sufficient information for the Regional Water Board to make this determination. An example of an approved method is the method used by the State Water Board in connection with Resolution No. 2004-0060 and the Regional Water Board in connection with Resolution No. R8-2004-0001. An integrated approach (using surface water, groundwater, recycled water, stormwater, pollution prevention, water conservation, etc.) to the implementation of Resolution No. 68-16 is encouraged.

d. Landscape irrigation with recycled water in accordance with this Policy is to the benefit of the people of the State of California. Nonetheless, the State Water Board finds that the use of water for irrigation may, regardless of its source, collectively affect groundwater quality over time. The State Water Board intends to address these impacts in part through the development of salt/nutrient management plans described in paragraph 6.

(1) A project that meets the criteria for a streamlined irrigation permit and is within a basin where a salt/nutrient management plan satisfying the provisions of paragraph 6(b) is in place may be approved without further antidegradation analysis, provided that the project is consistent with that plan.

(2) A project that meets the criteria for a streamlined irrigation permit and is within a basin where a salt/nutrient management plan satisfying the provisions of paragraph 6(b) is being prepared may be approved by the Regional Water Board by demonstrating through a salt/nutrient mass balance or similar analysis that the project uses less than 10 percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin (or multiple projects using less than 20 percent of the available assimilative capacity as estimated by the project proponent in a groundwater basin).

10. *Emerging Constituents/Chemicals of Emerging Concern*

a. *General Provisions*

(1) Regulatory requirements for recycled water shall be based on the best available peer-reviewed science. In addition, all uses of recycled water must meet conditions set by CDPH.

(2) Knowledge of risks will change over time and recycled water projects must meet legally applicable criteria. However, when standards change, projects should be allowed time to comply through a compliance schedule.

(3) The state of knowledge regarding CECs is incomplete. There needs to be additional research and development of analytical methods and surrogates to determine potential environmental and public health impacts. Agencies should minimize the likelihood of CECs impacting human health and the environment by means of source control and/or pollution prevention programs.

(4) Regulating most CECs will require significant work to develop test methods and more specific determinations as to how and at what level CECs impact public health or our environment.

b. *Research Program.* The State Water Board, in consultation with CDPH and within 90 days of the adoption of this Policy, shall convene a "blue-ribbon" advisory panel to guide future actions relating to constituents of emerging concern.

(1) The panel shall be actively managed by the State Water Board and shall be composed of at least the following: one human health toxicologist, one environmental toxicologist, one epidemiologist, one biochemist, one civil engineer familiar with the design and construction of recycled water treatment facilities, and one chemist familiar with the design and operation of advanced laboratory methods for the detection of emerging constituents. Each of these panelists shall have extensive experience as a principal investigator in their respective areas of expertise.

(2) The panel shall review the scientific literature and, within one year from its appointment, shall submit a report to the State Water Board and CDPH describing the current state of scientific knowledge regarding the risks of emerging constituents to public health and the environment. Within six months of receipt of the panel's report the State Water Board, in coordination with CDPH, shall hold a public hearing to consider recommendations from staff and shall endorse the recommendations, as appropriate, after making any necessary modifications. The panel or a similarly constituted panel shall update this report every five years.

(3) Each report shall recommend actions that the State of California should take to improve our understanding of emerging constituents and, as may be appropriate, to protect public health and the environment.

(4) The panel report shall answer the following questions: What are the appropriate constituents to be monitored in recycled water, including analytical methods and method detection limits? What is the known toxicological information for the above constituents? Would the above lists change based on level of treatment and use? If so, how? What are possible indicators that represent a suite of CECs? What levels of CECs should trigger enhanced monitoring of CECs in recycled water, groundwater and/or surface waters?

c. *Permit Provisions.* Permits for recycled water projects shall be consistent both with any CDPH recommendations to protect public health and with any actions by the State Water Board taken pursuant to paragraph 10(b)(2).

11. *Incentives for the Use of Recycled Water*

a. *Funding*

The State Water Board will request CDWR to provide funding ($20M) for the development of salt and nutrient management plans during the next three years (i.e., before FY 2010/2011). The State Water Board will also request CDWR to provide priority funding for projects that have major recycling components; particularly those that decrease demand on potable water supplies. The State Water Board will also request priority funding for stormwater recharge projects that augment local water supplies. The State Water Board shall promote the use of the State Revolving Fund (SRF) for water purveyor, stormwater agencies, and water recyclers to use for water reuse and stormwater use and recharge projects.

b. *Stormwater*

The State Water Board strongly encourages all water purveyors to provide financial incentives for water recycling and stormwater recharge and reuse projects. The State Water Board also encourages the Regional Water Boards to require less stringent monitoring and regulatory requirements for stormwater treatment and use projects than for projects involving untreated stormwater discharges.

c. TMDLs

Water recycling reduces mass loadings from municipal wastewater sources to impaired waters. As such, waste load allocations shall be assigned as appropriate by the Regional Water Boards in a manner that provides an incentive for greater water recycling.

ATTACHMENT B

Salt/Nutrient Management Plan Outline

1) Introduction
   a) Description of the Recycled Water Policy (Attachment A)
      i) Purpose of Policy
      ii) Benefits of recycled water
      iii) Mandate for use of recycled water
      iv) Salt/nutrient management plans
   b) Goal of Salt/nutrient management plan
2) Components of a salt/nutrient management plan
   a) Describe groundwater basin/production
   b) Sources of water replenishment/use and goals/water quality
      i) Storm runoff
      ii) Recycled Water
      iii) Other
   c) Basin assimilative capacity evaluation
   d) Measures to manage salt/nutrient loading
   e) Anti-degradation analysis
3) Regional Board Water Quality Control Plan
      i) Water quality objectives
      ii) Beneficial Uses/Potential Impacts
4) Identity salt/nutrient management activities/past studies

5) Description of the Basin
   a) Physical description
      i) Geology
      ii) Hydrogeology
      iii) Hydrology
      iv) Production
      v) Water Quality

6) Sources of Basin Replenishment
   a) Stormwater/local water
   b) Recycled
   c) other
7) Recharge goals and objectives

8) Existing Water Quality monitoring
   a) Title 22 (groundwater/ surface water)
      i) General mineral—TDS, nitrate, chloride, sulfate, etc
      ii) Inorganics (metals)
      iii) VOCs
      iv) Perchlorate
      v) NDMA
      vi) 1,2,3-TCP
      vii) 1,4- dioxane
      viii)Frequency/follow-up
   b) Storm Water Monitoring
   c) Identify Potential Impairment

9) Proposed Salt/Nutrient Water Quality Monitoring Plan
   a) Title 22 – compounds that are monitored, the location of monitoring and frequency of monitoring

10) Basin assimilative capacity
11)Implementation measures to manage salt and nutrient loading in Basin
12)Analysis demonstrating that the plan will satisfy Resolution No. 68-16 (anti-degradation policy)
13)Summary

ATTACHMENT C

STETSON
ENGINEERS INC.

2171 E. Francisco Blvd., Suite K • San Rafael, California 94901
Phone: (415) 457-0701 • FAX: (415) 457-1638 • email: sr@stetsonengineers.com

Covina and Bakersfield, California • Mesa, Arizona • Centennial, Colorado • Diamondhead, Mississippi

Standard Fee Schedule

Special Project Director	**$200.00**	**Per Hour**
Principal	**$185.00**	**Per Hour**
Project Manager, Senior	**$173.00**	**Per Hour**
Supervisor I	**$173.00**	**Per Hour**
Supervisor II	**$163.00**	**Per Hour**
Supervisor III	**$155.00**	**Per Hour**
Senior I	**$147.00**	**Per Hour**
Senior II	**$131.00**	**Per Hour**
Senior III	**$121.00**	**Per Hour**
Construction Manager	**$120.00**	**Per Hour**
Construction Manager / Oversight	**$105.00**	**Per Hour**
Senior Construction Inspector	**$105.00**	**Per Hour**
Senior Field Geologist	**$120.00**	**Per Hour**
Senior Associate	**$110.00**	**Per Hour**
Associate I	**$105.00**	**Per Hour**
Associate II	**$100.00**	**Per Hour**
Associate III	**$95.00**	**Per Hour**
Senior Assistant	**$92.00**	**Per Hour**
Assistant I	**$89.00**	**Per Hour**
Assistant II	**$84.00**	**Per Hour**
Assistant III	**$79.00**	**Per Hour**
GIS Manager	**$105.00**	**Per Hour**
GIS Specialist I	**$89.00**	**Per Hour**
GIS Specialist II	**$79.00**	**Per Hour**
Technical Illustrator	**$79.00**	**Per Hour**
AutoCAD Technician	**$79.00**	**Per Hour**
Aide I	**$68.00**	**Per Hour**
Aide II	**$58.00**	**Per Hour**
Aide III	**$53.00**	**Per Hour**
Project Coordinator I	**$121.00**	**Per Hour**
Project Coordinator II	**$89.00**	**Per Hour**
Project Coordinator III	**$79.00**	**Per Hour**
Contract Management	**$95.00**	**Per Hour**
Administrative I	**$68.00**	**Per Hour**
Administrative II	**$58.00**	**Per Hour**
Administrative III	**$53.00**	**Per Hour**

Note: Testimony fees are 150% of standard rates and apply to depositions, court time and time spent on stand-by at attorneys request. Travel Time and preparation time is charged at standard rates. Stetson Engineers Inc. authorizes only staff at associate classification or higher to tesity as expert witnesses.

Note: Add 5% to above billing rates for contracts requiring a "Waiver of Subrogation"

STETSON
ENGINEERS INC.

Direct Expense Rates

Expense Description	Billing Rate
Fax (In-House)	$.30 / sheet
CAD (In-House)	$15.00 / hour
GIS Expense (In-House)	$15.00 / hour
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Mileage	$.585 / mile
Reproduction B & W (In-House)	$.15 / sheet
Reproduction Color 8.5 x 11 (In-House)	$.89 / sheet
Reproduction Color 11 x 17 (In-House)	$1.89 / sheet
Plotter Reproduction (In House)	$1.50 / sq. ft
Survey Equipment	$120.00 / day

All other project expenses (i.e., telephone, commercial transportation, meals, lodging, postage, outside reproduction, etc.) are billed at cost

EVALUATION OF GROUNDWATER RESOURCES IN CALIFORNIA CITY

CITY OF CALIFORNIA CITY

APRIL 2009

STETSON ENGINEERS INC.
861 VILLAGE OAKS DRIVE – COVINA, CALIFORNIA 91724

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EXECUTIVE SUMMARY

In July 2008, Stetson Engineers Inc. (Stetson) was retained by the City of California City (City) to conduct an evaluation of the groundwater resources within the City. Although the City overlies several groundwater basins, the Stetson evaluation, in compliance with the City staff direction, focuses only on the Freemont Valley Groundwater Basin (FVGB), which has been the City's primary water supply source. The base period from 1945 through 2007 was selected for the evaluation to include the prolonged drought period from 1945 to 1964 and the most recent conditions.

Results of this evaluation indicate the FVGB appears to be divided hydrogeologically into two subbasins by the Muroc Fault: the Mojave City Subbasin on the south and the California City Subbasin on the north. In the Mojave City Subbasin, groundwater generally flows easterly from the western boundary toward the City of Mojave and then northeasterly toward the Muroc Fault. When the groundwater level is high, groundwater appears to flow across the Muroc Fault and cascade into the California City Subbasin. This subsurface flow was estimated to reach up to 5,500 acre-feet in 1952. Groundwater in the California City Subbasin generally flows from the surrounding boundaries toward the Koehn Lake, a low depression located in the central part of the subbasin.

Based on its topography and hydrogeology, the FVGB covers a surface area of approximately 216,000 acres of the Freemont Valley, of which 143,000 acres are in the California City Subbasin and 73,000 acres are in the Mojave City Subbasin. The FVGB was estimated to contain approximately 8,300,000 acre-feet of groundwater in the 1950s, which is considered to be at observed historic high, consisting of 5,700,000 acre-feet in the California City Subbasin and 2,600,000 acre-feet in the Mojave City Subbasin. Due to the prolonged drought period from 1945 to 1964 and large extractions for agricultural uses in the 1960s and 1970s, groundwater levels throughout the FVGB declined significantly and reached approximately 100 feet drop in the groundwater elevation in the vicinity of the Koehn Lake. As a result, the FVGB groundwater storage was estimated to reduce to 6,900,000 acre-feet in 2007, consisting of 4,400,000 acre-feet in the California City Subbasin and 2,500,000 acre-feet in the Mojave City Subbasin.

Groundwater recharge, i.e. the net amount of recharge water entering the groundwater storage, to the FVGB is derived primarily from direct percolation of precipitation on the valley floor, percolation of runoff from the surrounding watersheds, and subsurface flow from the Antelope Valley Groundwater Basin (AVGB) through an alluvial narrows between the Castle Butte and the Twin Buttes. The annual groundwater recharge to the FVGB was estimated by separate groundwater balance spreadsheets for the Mojave City and California City Subbasins, which were developed exclusively for this evaluation by Stetson, using historic precipitation from 1945 to 2007 at the Mojave, Tehachapi, and Randsburg Stations. The annual precipitation averaged from 5.44 inches at Mojave to 6.04 inches at Randsburg and 10.83 inches at Tehachapi. Well 30S/37E-36G01 in the California City Subbasin and Well 12N/12W-35R01 in the Mojave City Subbasin were selected as the key wells for calibration, i.e. comparison of their actual and

calculated water levels, because they have the longest historic water level records that represent actual changes in hydrogeologic conditions of each subbasin.

The calculated annual groundwater recharge to the Mojave City Subbasin varied from zero to approximately 16,100 acre-feet including 9,500 acre-feet from direct percolation of precipitation on the valley floor and 6,600 acre-feet from percolation of runoff from the surrounding watersheds. On the average, the Mojave City Subbasin has received approximately 3,100 af/yr, including 2,700 af/yr from direct percolation of precipitation on the valley floor and 400 af/yr from percolation of runoff from the surrounding watersheds.

The calculated annual groundwater recharge to the California City Subbasin varied from approximately 2,600 (subsurface inflow from the AVGB) to 82,100 acre-feet including 18,400 acre-feet from direct percolation of precipitation on the valley floor, 61,100 acre-feet from percolation of runoff from the surrounding watersheds, and 2,600 acre-feet of subsurface flow from the AVGB. On the average, it has received approximately 13,100 af/yr, including 5,200 af/yr from direct percolation of precipitation on the valley floor, 5,000 af/yr from percolation of runoff from the surrounding watersheds, 300 af/yr of subsurface flow from the Mojave City Subbasin, and 2,600 af/yr of subsurface flow from the AVGB. Although the calculated groundwater recharge for each subbasin is reasonable and consistent with previous estimates, it is considered as an engineering estimate because of uncertainties of the groundwater production used in the groundwater balance spreadsheets. Nevertheless, the calculated annual groundwater recharge of 16,200 af/yr (13,100 af/yr for the California City Subbasin and 3,100 af/yr for the Mojave City Subbasin) may be considered as the average safe yield for the FVGB because, by definition, the safe yield is the amount of naturally occurring groundwater which can be economically and legally withdraw from a groundwater basin on a sustained basis without the undesirable occurrence of continued lowering of groundwater levels in that basin. This definition, however, is subject to debate.

The City's water demands were estimated to increase from 4,542 af/yr in 2007 to 12,655 af/yr in 2025. The water demands from the Mojave Public Utility District (MPUD) were estimated to increase from 1,261 af/yr in 2008 to 7,629 af/yr in 2025. The groundwater production from the City and MPUD, however, is not likely to affect each other due to the effects of the Muroc Fault.

In order to meet the future water demands while preventing further degradation of the FVGB groundwater resources, the City may consider (1) to reduce the City's water demands by conservation and/or limitation of growth, (2) to increase the City's water supply by developing groundwater in the Mojave City Subbasin, (3) to start a City groundwater elevation monitoring program by measuring the static water levels in the City's wells on a monthly basis, (4) to coordinate with other major groundwater producers in the FVGB and with the federal, state, regional, and local agencies to develop and implement a basinwide groundwater monitoring program and a basinwide groundwater management plan to collect necessary and reliable data to manage the groundwater resources of the FVGB, (5) to develop and adopt an alternative groundwater management plan under Assembly Bill 3030 to protect the City's groundwater supply, and (6) to refine the groundwater balance spreadsheets when adequate and accurate data become available to obtain better estimates for the groundwater recharge to the FVGB.

I. INTRODUCTION

On July 7, 2008, Stetson entered an agreement with the City to provide professional engineering services for conducting an evaluation of the City's groundwater resources to support the preparation of the City's Urban Water Management Plan (UWMP). The scope of work for Stetson's engineering services includes a kick-off meeting, data collection, a field trip, a review of available data and information, an evaluation of the availability and suitability of groundwater for potable water supply, and coordination, presentation, and report preparation. During the kick-off meeting on July 23, 2008, City staff indicated that the quantity of reliable groundwater supplies, not quality, is the most important issue and that Stetson evaluation should focus on the FVGB, the primary source of the City's water supply.

This report (Report) is prepared, as part of the Stetson scope of work, to summarize the data collected, the evaluation performed, and conclusions on the availability of groundwater within the City.

II. WATER SUPPLIES AND DEMANDS IN CALIFORNIA CITY

The City, which was incorporated in 1965 with a surface area of approximately 208 square miles (mi^2), is located in the high desert 100 miles north of the City of Los Angeles and 60 miles east of the City of Bakersfield in the Kern County. The City limit extends from the Kern-San Bernardino Counties line on the east to State Road (SR) 14 on the west and from SR 58 on the south to the Township 30S/31S boundary on the north, as shown on Plate II-1. The City had its origins in 1958 when Mr. Nat Mendelsohn, a real estate developer and sociology professor, purchased 80,000 acres of Mojave Desert land with the aim of master-planning California's next great city. He designed a model city, which he hoped would one day rival the City of Los Angeles, around a Central Park with a 26-acre artificial lake. The City population was 8,385 at the 2000 census and was estimated at 12,659 in July 2006 [1].

The City overlies three groundwater basins in the South Lahontan Hydrologic Region, named the Freemont Valley, Antelope Valley, and Harper Valley Basins by the California Department of Water Resources (DWR) as shown on Plate II-2 [2], but the FVGB has been the City's primary source of water supply. Currently, the City owns and operates five (5) water production wells (Wells No. 2, 3, 10, 14, and 15) with a total pumping capacity of approximately 4,425 gallons per minute (gpm) [3]. The City just completed a new well in May 2006, i.e. Well No. 16. When this well is placed into service, the total pumping capacity will reach approximately 5,200 gpm. The locations of the City's wells are shown on Plate II-3.

The City has purchased State Water Project water from the Antelope Valley-East Kern Water District (AVEK) since 1981 through a connection (turn-out) located on California City Boulevard at Randsburg-Mojave Road. The AVEK connection has a gravity feed capacity of approximately 1,700 to 2,000 gpm [3]. The location of the AVEK connection is shown on Plate II-3.

The City's annual water demand increased from approximately 3,713 acre-feet per year (af/yr) in 2000 to approximately 4,542 af/yr in 2007, as shown on Plate II-4. The annual groundwater demand ranged from approximately 3,032 acre-feet per year (af/yr) in 2003 to approximately 3,528 af/yr in 2004 at an average of approximately 3,300 af/yr. The annual State Water Project water demand ranged from approximately 234 af/yr in 2001 to approximately 1,459 af/yr in 2007 at an average of approximately 700 af/yr. Annual water supplies from the City's wells and the AVEK connection between 2000 and 2007 are shown in Table II-1.

The City's future water demands were estimated by multiplying the projected population with an estimated per capita average daily demand (CADD). The City population in 2025 was estimated to be 17,062 at a 2.0-percent growth rate, 23,870 at a 3.5-percent growth rate, and 33,226 at a 5.0-percent growth rate. As a result, the City's water demands in 2025 were projected to vary from 6,498 to 12,655 af/yr when using a CADD of 340 gallons per capita per day (gpcd) and from 4,683 to 9,119 af/yr when using a CADD of 245 gpcd [3].

III. DATA COLLECTION AND REVIEW

In addition to data and information provided by the City, Stetson also searched available data and information from its in-house library and from various federal, state, regional, and local agencies. The documents were scanned and selected documents were reviewed to evaluate the availability of groundwater resources in the FVGB. A list of the documents obtained by Stetson is included as Appendix A.

IV. FIELD TRIP

As part of the Stetson scope of work, Stetson staff conducted a field trip to the FVGB on Monday, August 25, 2008. The primary objective of the field trip is to observe on-site conditions of the City's existing production wells including Waterman and Wonder Acres Wells and the FVGB. The Stetson field trip was assisted and guided by Mr. Glenn Metzger from the City's Utilities Department.

During the Stetson visit, all the City's wells were operated, except for Well No. 3 and Well No. 16. Pumping equipment at Waterman Well has been removed, and Wonder Acres Well was not operable. Stetson staff also visited the City's Well No. 1, which is an inactive well being used as an observation well monitored by the United States Geological Survey (USGS). The water level in this well was measured at 362.17 feet below the top of casing at 12:55 PM using an electronic sounder. The coordinates of the wells visited by Stetson were also recorded using a Garmin GPS III Plus unit. The locations of the wells are shown on Plate IV-1. The well coordinates are included in Table IV-1. Pictures of the wells taken during the field trip were included as Appendix B.

Stetson staff drove across the FVGB on SR 14, Randsburg Red Rock Road, and Garlock Road and stopped at several pre-selected points to observe the on-site conditions of the FVGB. The first point, located at Sequoia Boulevard and Carson Drive, was selected to observe the watershed boundary and the narrows between the Twin Buttes and the Castle Butte through

which groundwater from the AVGB flows into the FVGB. The second point, located at Hacienda Boulevard and Wilson Road, was selected to observe the cross section across the narrows between the Twin Buttes and the Castle Butte and potential traces of the Muroc Fault across the FVGB. The third and fourth points; located at SR 14 and Phillips Road and at SR 14 and the Jawbone gas station, respectively; were selected to observe the southern and central portions of the FVGB. The fifth point, located at Randsburg Red Rock Road and Last Chance Canyon, was selected to observe the Koehn Lake. The sixth point, located at Garlock Road and U.S. Highway 395 (US 395), was selected to observe the northern portion of the FVGB. The locations of these points are shown on Plate IV-1. Pictures taken at these points are included as Appendix C.

During the entire field trip, the sky was clear and the temperature was hot. The hottest temperature was 104 ^{o}F. No running water was observed in creeks and streams identified on the USGS quadrangle maps.

V. EVALUATION OF FREEMONT VALLEY GROUNDWATER BASIN

V.1. Groundwater Basin Boundaries

The FVGB underlines the Freemont Valley in the eastern Kern County and the northwestern San Bernardino County, identified by the DWR as Groundwater Basin Number 6-46, as shown on Plate II-2. The FVGB is bounded on the northwest by the Garlock Fault zone against impermeable crystalline rocks of the El Paso Mountains and the Sierra Nevada; on the east by crystalline rocks of the Summit Range, Red Mountains, Castle Butte, Bissell Hills, and Rosamond Hills; and on the southwest by the AVGB along a groundwater divide approximated by a line connecting the mouth of the Oak Creek through the Middle Butte to exposed basement rock near the Gem Hill. The surface area of the FVGB is estimated at 335,000 acres by the DWR [4].

Based on the DWR description, the FVGB boundaries were refined on the USGS quadrangle maps (1:24,000 scale) using available data and information including wells identified on the maps, the watershed boundaries, historic groundwater level data, and observations during the field trips. The refined boundaries of the FVGB, as shown on Plate V-1, are generally similar to the DWR boundaries, except for those on the south and southeast. On the southeast, the low hills along the watershed boundary between the Galileo Hill and the Radio Tower Hills were considered to separate the FVGB from the AVGB. The watershed boundary of the Oak Creek and an interpreted groundwater divide along the hills from the Standard Hill through the Sanborn Hill to the Radio Tower Hills were considered as the FVGB boundary on the south.

Since the Muroc Fault appears to traverse the FVGB and to act as a barrier to the FVGB groundwater flow, it was considered as an intrabasin boundary dividing the FVGB into two subbasins: the California City subbasin on the north, and the Mojave City subbasin on the south. Based on these boundaries, the surface area of the FVGB was measured at approximately 215,783 acres including 142,451 acres in the California City Subbasin and 73,332 acres in the Mojave City Subbasin. The surface area measurements are shown on Plate V-2.

V.2. Geology

The FVGB geologic formations may be divided into two main groups, consolidated rocks of Tertiary and pre-Tertiary age, and unconsolidated deposits of Quaternary age. The consolidated rocks form the mountains and hills surrounding the valley area and the basement complex underlying the unconsolidated deposits to make up the sides and bottom of the FVGB. The unconsolidated deposits form the FVGB [5]. These geologic formations are described in the California geologic maps (Bakersfield, Trona, Los Angeles, and San Bernardino Sheets) published by the Division of Mines and Geology, Department of Conservation [6-9].

The consolidated rocks lying between the Tehachapi Mountains and the El Paso Mountains along the FVGB western boundary consist primarily of Mesozoic granitic rocks (granite and adamellite or tonalite and diorite), Pre-Cenozoic granitic and metamorphic rocks, middle and/or lower Pliocene marine rocks, Miocene volcanic rocks (andesite or basalt), Paleozonic marine rocks (limestone or dolomite), and Paleocene non-marine rocks. The FVGB eastern boundary is formed by undivided Precambrian metamorphic rocks (primarily schist) of the Rand Mountains and Mesozoic granitic rocks of the low hills from the Rand Mountains through the Castle Butte, Twin Buttes, Radio Tower Hills, De Stazo Hill, and Sanborn Hill to the Standard Hill, as shown on Plate V-3. The consolidated rocks are considered impermeable [5].

The unconsolidated deposits consist primarily of Recent Quaternary alluvium in the valley floor and Pleistocene Quaternary non-marine deposits in the alluvial fans along the low hills of the eastern boundary, the FVGB northern tip, and the alluvial fans between the Oak Creek and the Cache Creek along the western boundary. Quaternary lake deposits are also present in the low lying area lower than the elevation of 2,000 feet above mean sea level (msl), and salt deposits are observed within the dry bed of the Koehn Lake, the lowest area in the Freemont Valley, as shown on Plate V-3. *"The older alluvium of Pleistocene age underlies most of the valley floor. It consists mainly of poorly sorted arkosic gravel, sand, silt, and clay. The older alluvium is oxidized and generally unconsolidated, but in some place it is slightly cemented. This formation is permeable, extends below the water table, yields water freely to wells, and is the most important water-bearing unit in the area."* [5] According to available drillers' logs, these unconsolidated materials are interbedded with layers of shale at various thickness in many places, especially in the central portion of the FVGB.

The thickness of the unconsolidated deposits was estimated in several previous reports. *"It is estimated that the 1,000 foot thickness referred to by Kennedy is the upper 1,000 feet of saturated sediments. The average depth from ground surface to water table in these basins is about 200 feet. Therefore, the 1,000 foot thickness of saturated sediments represents a total thickness of about 1,200 feet immediately below ground surface."* [10] In the DWR report, *"Alluvium is about 1,190 feet thick (Bader 1969; DWR 1964) along the margin of the basin and thins toward the middle of the basin, where it is interbedded with thick layers of lacustrine silt and clay near Koehn Lake."* [4] The most recent report indicates that *"Well data from Koehler (1977) showed an alluvial thickness of 500 to 800 feet north of the Cantil Fault and an alluvial thickness of 400 to 900 feet south of the fault. Information from water supply wells completed on*

the plant site suggest that the thickness reported by Koehler (1977) of 800 feet may be low, as the total depths of the wells on the site vary from about 800 to 1,700 feet below ground surface (bgs). If the wells were completed in alluvial materials, these depths suggest that unconsolidated materials may be thicker than reported by Koehler (1977) in the area of the plant site." [11]

In order to have a better understanding of the thickness of the unconsolidated deposits in the FVGB, several cross sections were generated using available drillers' logs and well depths published in the DWR reports [5, 12-13] and the USGS quadrangle maps (1:24,000 scale). The locations of these cross sections are shown on Plate V-1. The A-A'cross section following the longitudinal axis of the FVGB from the vicinity of the City of Mojave on the south to US 395 on the north, indicates that the thickness of the unconsolidated deposits varies from approximately 280 feet in the south to approximately 800 feet at the Muroc Fault line in the Mojave City Subbasin, as shown on Plate V-4a. In the California City Subbasin, it varies from approximately 700 feet at the Muroc Fault in the south to approximately 800 feet in the vicinity of the Koehn Lake, and then pinches out at the FVGB northern tip near US 395, as shown on Plates V-4a through V-4c. The B-B' cross section, which traverses the central FVGB near the town of Cantil, indicates that the thickness of the unconsolidated deposits is relatively uniform at approximately 800 feet in the middle portion and then pinches out to the consolidated rocks at approximately 7,000 feet from the west and east boundaries, as shown on Plate V-5. The C-C' cross section, which traverses the southern part of the FVGB near the City of Mojave, indicates that the thickness of the unconsolidated deposits is approximately 450 feet in the eastern portion of the cross section but pinches out to the consolidated rocks at approximately 16,000 feet from the western boundary, as shown on Plate V-5. The D-D' cross section, which follows the longitudinal axis of the narrows between the Castle Butte and the Twin Buttes, indicates that the thickness of the unconsolidated deposits in the narrows varies from approximately 300 feet in the AVGB to approximately 700 feet in the FVGB, as shown on Plate V-6. The E-E' cross section, which traverses the narrows near the Freemont Valley watershed boundary, indicates that the thickness of the unconsolidated deposits is approximately 450 feet at the center and pinches out at the edges, as shown on Plate V-6.

Several named and unnamed faults in the Freemont Valley are identified on the California geologic maps, as shown on Plate V-3. The longest one is the Garlock Fault and El Paso Fault system that runs along the north and west sides of the Freemont Valley and separates the consolidated rocks of the Tehachapi, Piute, and El Paso Mountains from the FVGB. These faults form restrictive groundwater barriers on the west and northwest sides of the FVGB [4]. The Cantil Valley Fault, which appears to be a branch of the Garlock Fault, runs from the Garlock Fault near the town of Cantil, bisects the FVGB through the Koehn Lake, and rejoins the Garlock Fault approximately 9 miles east of US 395. According to the DWR, effects of the Cantil Valley Fault are not known [4], but recent studies indicate that it is a partial barrier to groundwater flow [11]. The Randsburg-Mojave Fault runs along the northeastern side of the Freemont Valley and separates the consolidated rocks of the Rand Mountains from the FVGB. The Muroc Fault traverses the southern portion of the FVGB and forms a partial barrier to groundwater flow [4]. The unnamed faults include a fault running parallel to the Muroc Fault across the narrows between the Castle Butte and the Twin Buttes, and a southeast-northwest fault running from the

Castle Butte to the vicinity of the Pine Tree Canyon mouth. The effects of these unnamed faults on groundwater in the FVGB are not known.

V.3. Hydrology

The Freemont Valley is a relatively flat area with a depression, the Koehn Lake, in the central portion. The Koehn Lake is a dry lake with the bed elevation at approximately 1,880 feet above mean sea level (msl). In the area north of the Koehn Lake, the ground surface elevation increases toward the surrounding mountains and reaches approximately 3,000 feet msl at the northern tip near the Kern County-San Bernardino County line. In the area south of the Koehn Lake, the ground surface elevation decreases easterly from the base of the Tehachapi and Piute Mountains (approximately 3,300 feet at the mouth of the Oak Creek) toward the Cache Creek and then slopes northeasterly toward the Koehn Lake in the area north of the California City.

In addition to precipitation and runoff on the valley floor, i.e. the FVGB, the Freemont Valley also receives runoff from the watersheds of the Oak Creek, Cache Creek (West), Lone Tree Canyon, Jawbone Canyon, Red Rock Canyon, Last Chance Canyon, Mesquite Canyon, Iron Canyon, Goler Gulch, Hardcash Gulch, and unnamed streams on the west side and from the water sheds of the Fiddler Gulch, Cache Creek, and unnamed streams on the east, as shown on Plate V-1. The total area of these watersheds is approximately 432,606 acres, as shown on Plate V-2. Surface water in the Freemont Valley drains toward the Koehn Lake, except in the Oak Creek watershed in the southernmost part of the Freemont Valley, where it drains southeasterly toward the Rogers Lake.

There are three precipitation stations with long-term records located within the Freemont Valley watershed: Tehachapi, Mojave, and Randsburg. The approximate locations of these precipitation stations are shown on Plate IV-1. Available historic records obtained from the National Data Centers of the National Oceanic and Atmospheric Administration (NOAA) [12] indicates that precipitation is highest at the Tehachapi Station and lowest at the Mojave Station. Annual precipitation at the Tehachapi Station between 1931 and 2007, as shown in Table V-1, ranged from 3.98 inches (in 1959) to 27.77 inches (in 1983) at an average of 10.95 inches. Annual precipitation at the Mojave Station between 1941 and 2007, as shown in Table V-2, ranged from 0.77 inches (in 2007) to 15.51 inches (in 1983) at an average of 5.72 inches. Annual precipitation at the Randsburg Station between 1938 and 2007, as shown in Table V-3, ranged from 0.83 inches (in 1953) to 16.44 inches (in 1992) at an average of 6.32 inches. The cumulative departure curve at the Mojave Station, as shown on Plate V-7, indicates that the Freemont Valley has experienced wet-dry cycles with a prolonged drought period from 1945 to 1964 and a prolonged wet period from 1976 to 1984. Currently, the Freemont Valley is in a dry period starting from 1998. Precipitation on the Freemont Valley floor may have significant losses from evaporation and transpiration; however, during an exceptionally wet season, flashfloods may occur and runoff may originate on or cross the valley floor to reach the playas and the Koehn Lake [13].

The USGS established several streamflow stations in the Freemont Valley watershed on the Oak Creek, Cache Creek, Pine Tree Creek, Cottonwood (Jawbone) Creek, and Goler Gulch, as shown

on Plate IV-1; however, the operation of these streamflow stations was discontinued. Available streamflow data at these stations from the USGS Surface-Water Data for USA [14], as shown in Appendix D, indicate that the Freemont Valley may receive significant runoff from its watersheds during wet years. At the Oak Creek Station, the annual runoff from 1957 to 1986 varied from zero to 7,071 af/yr at an average of 889 af/yr. The highest peak streamflow discharge at this station was observed at approximately 1,740 cubic feet per second (cfs) on May 14, 1973. At the Cache Creek Station, the annual runoff from 1962 to 1972 varied from zero to 270 af/yr at an average of 80 af/yr. The highest peak streamflow discharge at this station was observed at approximately 2,100 cfs on June 7, 1972. At the Pine Tree Station, the annual runoff from 1958 to 1979 varied from zero to 1,557 af/yr at an average of 179 af/yr. The highest peak streamflow discharge at this station was observed at approximately 300,000 cfs on August 23, 1961. At the Cottonwood (Jawbone) Creek Station, the annual runoff from 1966 to 1972 varied from zero to 97 af/yr at an average of 40 af/yr. The highest peak streamflow discharge at this station was observed at approximately 51,500 cfs on August 8, 1963. At the Goler Gulch Station, the annual runoff from 1966 to 1972 varied from zero to 46 af/yr at an average of 12 af/yr. The highest peak streamflow discharge at this station was observed at approximately 776 cfs on February 25, 1969.

V.4. Hydrogeology

The USGS divided the FVGB identified by the DWR into six subunits: Koehn, California City, Chaffee, Oak Creek, Gloster, and Willow Springs, as shown on Plate V-8 [10]. The Koehn Subunit is in the western part of the FVGB located within the Freemont Valley watershed and separated from the California City and Chaffee Subunits by the Randsburg-Mojave Fault. This subunit may receive groundwater moving across the Randsburg-Mojave Fault from the California City Subunit. The California Subunit is the portion of the FVGB east of the Randsburg-Mojave Fault and north of the Muroc Fault. This subunit is hydraulically connected to the AVGB by the alluvial filled narrows between the Castle Butte and the Twin Buttes through which groundwater moves from the AVGB to the FVGB. The California Subunit also receives groundwater moving northward across the Muroc Fault from the Chaffee Subunit. The Oak Creek Subunit is the potion of the FVGB identified by the DWR located within the Antelope Valley watershed and west of the Randsburg-Mojave Fault. The Chaffee, Gloster, and Willow Springs Subunits cover the portion of the FVGB identified by the DWR located east of the Randsburg-Mojave Fault and south of the Muroc Fault, but their boundaries are not well defined. *"The area is shown on figure 2 and includes one large ground-water subbasin northeast of Mojave, called the Chaffee area, a relatively large subbasin north of the Rosamond fault near Willow Springs, and several minor basins or subbasins in Antelope Valley in the area east of Willow Springs and north of the Rosamond Hills. The largest of these is the so-called Gloster area between Soledad Mountain and the Rosamond Hills."* [15]

Review of the historic water levels [5,15] and the recent water levels [11] at the wells within the Freemont Valley does not appear to confirm the hydrogeologic effects of the faults in the area, except for the Muroc Fault. The significant difference in the depths to water in Well 32S/36E-22C01 (612.40 feet on January 27, 1958) and 32S/36E-21Q01 (372.88 feet on November 3, 1955), which are located approximately 1.3 miles across the Muroc Fault, confirm the

hydrogeologic effects of this fault. It acts as a groundwater barrier and divides the FVGB into two subbasins, named the Mojave City Subbasin and the California Subbasin for the purposes of this evaluation. The depth to water in the Mojave City Subbasin varied from over 300 feet in the alluvial fan areas along the Tehachapi Mountains to less than 150 feet along the low hills between the Soledad Mountains and the Radio Tower Hills. The depth to water in the California City Subbasin varied more drastically from near or above the ground surface in the vicinity of the Koehn Lake to over 600 feet near the Muroc Fault.

Generalized groundwater elevation contours interpreted from the historic water levels at the wells in the FVGB between 1955 and 1958, as shown on Plate V-9, indicate that the FVGB is a closed groundwater basin, i.e. without subsurface outflow. In the Mojave City Subbasin, groundwater appears to flow generally in an easterly direction from the alluvial fan along the Tehachapi Mountains and then "cascade" into the California City along the Muroc Fault. In 1958, groundwater cascading appeared to occur mainly in the vicinity of Wells 32S/36E-23Q01 and 32S/37E-32N01 and created a groundwater mound with the water table rising above the elevation of 2,300 feet msl, as shown on Plate V-9. The rate of cascading groundwater was not estimated during the previous investigations, but the subsurface flow across the Muroc Fault was estimated to vary from 500 to 2,500 af/yr [10] and may reach 20,000 af/yr [16].

In the California City Subbasin, groundwater appears to flow from the alluvial fans along the surrounding mountains and hills toward the depression in the vicinity of the Koehn Lake. In addition to groundwater from the Mojave City Subbasin, the California City Subbasin also receives subsurface flow from the AVGB through the alluvial narrows between the Castle Butte and the Twin Buttes. In the previous investigations, *"... the estimated subsurface flow ranges from 600 to 900 acre-feet per year. The Geological Survey estimated that the annual flow through the one mile cross-section of the narrows was 100 to 500 acre-feet."* [10] These estimates appear to be low. Using a hydraulic gradient of approximately 0.00341 (estimated from the water table shown on Plate V-6), a flow area of approximately 1,800,000 square feet (ft^2) (estimated from the wet area shown on Plate V-6), and a hydraulic conductivity of 50 feet per day (ft/d) or 374 gallons per day per square foot (gpd/ft^2), the subsurface flow from the AVGB to the FVGB was calculated at approximately 2,570 af/yr.

Long-term groundwater level data obtained from the USGS Ground Water Data for USA: Water Levels [17], as shown in Appendix E, indicate that the groundwater levels in the FVGB have declined significantly since 1955, probably due to the prolonged drought period from 1945 to 1964 and excessive groundwater extraction in the FVGB in the late 1950s, 1960s, and 1970s. The hydrograph for Well 29S/39E-33K01, which is located north of the Koehn Lake, indicates a decline in groundwater level of about 100 feet between 1976 and 1984. The water level in this well stabilized between 1985 and 1996 and recovered about 60 feet from 1996 to 2008, as shown on Plate V-10. The hydrograph for Well 30S/37E-36G01, which is located in the central portion of the FVGB just south of the Koehn Lake, indicates a decline of approximately 105 feet between 1953 and 1985. The water level in this well appeared to stabilize between 1985 and 1995 and recovered approximately 15 feet from 1996 to 2008, as shown on Plate V-11. The hydrograph for Well 31S/37E-35N01, which is located in the south central portion of the FVGB just north of the California City, indicates a decline of approximately 28 feet between 1953 and

1980. The water level in this well appeared to stabilize between 1980 and 1991 and recovered approximately 6 feet between 1991 and 2008, as shown on Plate V-12. The hydrograph for Well 32S/37E-26N01, which is the California City's Well No. 1 located in the southern portion of the FVGB, indicates a decline of approximately 20 feet between 1961 and 1980. The water level in this well recovered approximately 13 feet between 1980 and 1984 and then declined approximately 32 feet between 1984 and 2008, as shown on Plate V-13. In the Mojave City Subbasin, the hydrograph for Well 12N/12W-35R01 indicates a decline of approximately 8 feet between 1957 and 1985. The water level in this well stabilized between 1985 and 1992 and then declined approximately 2 feet between 1992 and 2008, as shown on Plate V-14.

To date, the aquifer or aquifer system in the FVGB have not been fully understood. According to the DWR [4], *"groundwater in the alluvium is generally unconfined, although locally confined conditions occur near Koehn Lake."* This is consistent with interpretations in a previous investigation [10] stating *"confined layers of sand and gravel, which thin or lens out downslope to impervious clay near playas such as Koehn Lake, produce the largest yields."* Historic water level data also indicate that portion of the aquifer system in the FVGB, particularly in the vicinity of the Koehn Lake, is under confined conditions. Data and information on the characteristics of the FVGB aquifer system such as conditions (confined or unconfined), transmissivities, hydraulic conductivities, and coefficients of storage are very limited. Results of a pump test, which was conducted between August 30 and October 2, 2007 in the Cinco area, suggest that the aquifer in that area is confined to semi-confined with a transmissivity ranging from approximately 122,000 to 520,000 gallons per day per foot (gpd/ft) (16,310 to 69,520 square feet per day (ft^2/d)) and a coefficient of storage ranging from 0.0003 to 0.0158 [11]. Using the perforation intervals from the video reports, the hydraulic conductivity of the aquifer is calculated to vary from 256 to 959 gallons per day per square foot (gpd/ft^2) (34 to 128 feet per day (ft/d)).

V.5. Groundwater Production

Groundwater has been withdrawn from the FVGB by hundreds of water supply wells to primarily support both domestic and agricultural uses in the Freemont Valley. A list of water supply wells in the FVGB compiled by the DWR is included in Appendix F, and their locations are shown on Plate V-15. According to this list, the FVGB was reported to have 288 water supply wells with a total pumping capacity of 86,060 gpm, including 39 water supply wells with a total pumping capacity of 7,420 gpm in the Mojave City Subbasin and 248 water supply wells with a total pumping capacity of 78,640 gpm in the California City Subbasin. However, the actual pumping capacity of the water supply wells in the FVGB is likely higher because the pumping capacity of many water supply wells was unknown or not reported.

It is unrealistic to obtain the actual total groundwater extraction in the FVGB. According to the DWR, the net water use in the Freemont Valley, which was calculated by multiplying the estimated land use areas by the estimated net water use rate for each land use type, was estimated at approximately 23,300 acre feet in 1950, 22,600 acre-feet in 1957, and 15,500 acre-feet in 1961 [18]. The groundwater production for agricultural uses, however, was reported to reach 60,000 acre-feet in 1976 [19]. Using the reported pumping capacity with an estimated running time of

50 percent, the water supply wells in the FVGB may produce up to 6,000 af/yr from the Mojave City Subbasin and 63,400 af/yr from the California City Subbasin.

In the FVGB, the California City Community Services District (CCCSD) and the Mojave Public Utility District (MPUD) are the major groundwater producers for municipal uses. The CCCSD pumping records from 1953 to 1969, as shown in Table V-4, indicates that relatively large production occurred in the 1950's, ranging from 14,233 af/yr in 1953 to 4,772 af/yr in 1958, when the wells were used for agricultural purposes. From 1959, the CCCSD groundwater production reduced significantly to 1,430 acre-feet in 1969 after irrigation was stopped. During the last eight years, the CCCSD (i.e., California City) groundwater production averaged approximately 3,300 af/yr, as discussed earlier in this report. The MPUD groundwater production was not reported, but was estimated at approximately 1,500 af/yr during the 1960s [10]. Recent groundwater productions are not available, but historic MPUD water sales (including groundwater) between 1989 and 2008 varied from 1,205 af/yr in 2005 to 1,978 af/yr in 2002 [20]. The MPUD water demands were projected to increase to 7,629 af/yr in 2025 [21].

V.6. Groundwater Storage

The groundwater storage in the FVGB was estimated by previous investigations; however, these estimated values vary widely from 1,900,000 acre-feet [22] to 15,000,000 acre-feet [16]. Some investigations provide comparable groundwater storage estimates such as 4,800,000 acre-feet [4], 6,260,000 acre-feet (in 1967) [10], and 4,100,000 acre-feet (in 1976) [19].

In an attempt to independently verify the previous estimates, the FVGB groundwater storage was estimated by multiplying the surface area of each subbasin with its average saturated thickness and the estimated effective porosity. The average saturated thickness of each subbasin was estimated by multiplying the average thickness along the longitudinal axis (cross section A-A') with the adjusted factor along the transverse cross sections (cross sections B-B' and C-C'). The estimated effective porosity is the weighted average of the effective porosities of the formations [23] within the production zone, i.e. the top 1,100 feet, of Well 30S/38E-19P01. The average saturated thicknesses and effective porosity of the FVGB estimated by Stetson are shown in Appendix G.

Based on the estimated average saturated thicknesses and effective porosity, the groundwater storage of the FVGB in 1955, which was considered to be at observed historic high, was estimated at approximately 8,300,000 acre-feet including 5,700,000 acre-feet in the California City Subbasin and 2,600,000 acre-feet in the Mojave City Subbasin, as shown in Table V-5. The groundwater storage of the FVGB in 1967 and 1976 was estimated at approximately 7,800,000 and 7,100,000 acre-feet, respectively. This estimated groundwater storage appears to be consistent with the value of 6,260,000 acre-feet in 1967 previously estimated by Thomas M. Stetson, Civil and Consulting Engineers [10].

Within the City boundary, the groundwater storage of the FVGB in 1955 was estimated at approximately 1,980,000 acre-feet including 1,610,000 acre-feet in the California City Subbasin and 370,000 acre-feet in the Mojave City Subbasin. This groundwater storage of the FVGB

within the City boundary, however, was estimated to reduce to approximately 1,860,000 acre-feet in 1967 and 1,700,000 acre-feet in 1976.

V.7. Groundwater Recharge

Recharge to the FVGB is derived primarily from direct percolation of precipitation on the valley floor and from percolation of runoff from the surrounding watersheds. The California City Subbasin also receives subsurface flows from the AVGB and the Mojave City Subbasin. The subsurface flow from the Mojave City Subbasin, however, does not appear to be perennial due to the hydrogeologic effects of the Muroc Fault. The subsurface flow across the Muroc Fault appears to occur only when the groundwater storage in the Mojave City Subbasin is high enough to allow groundwater to overflow the groundwater barrier created by the Muroc Fault. This subsurface flow appears to stop when the groundwater level in the Mojave City Subbasin is lower than the barrier crest, which was estimated at the elevation of approximately 2,420 feet msl based on historic water levels at Well 32S/36E-35D1.

Like the FVGB groundwater storage, the average groundwater recharge to the FVGB estimated by previous investigations varies widely, ranging from 3,300 to 56,000 af/yr, as shown in Table V-6. Again, in an attempt to provide a better understanding of the groundwater recharge to the FVGB, groundwater recharges were re-estimated using groundwater balance spreadsheets developed for the FVGB subbasins.

The groundwater balance spreadsheet for the Mojave City Subbasin includes components for direct percolation of precipitation on the valley floor, percolation of runoff from the Tehachapi Mountains watershed, subsurface outflow to the California City Subbasin, and net groundwater extraction, as shown on Plate V-16. The groundwater balance spreadsheet was simulated annually from 1945 through 2007 using historic precipitation at the Mojave Station for estimating direct percolation of precipitation on the subbasin valley floor and historic precipitation at the Tehachapi Station for estimating percolation of runoff from the surrounding watersheds. The subsurface outflow to the California City Subbasin was calculated as the difference between the simulated storage and the estimated full storage of the Mojave City Subbasin (i.e., 2,600,000 acre-feet). There was no outflow to the California City Subbasin if the difference is negative. Since the historic groundwater production in the Mojave City Subbasin is not known, it was roughly estimated based on available data and information such as the total pumping capacity for each year during calibration.

The groundwater balance spreadsheet for the Mojave City Subbasin was calibrated against the historic water level at Well 12N/12W-35R01, as shown on Plate V-14. Since the annual groundwater extraction between the late 1940s and the early 1960s was low, an estimated low value was assigned to match the historic water levels during this period by adjusting the coefficients for direct percolation of precipitation on the valley floor and percolation of runoff from the surrounding watersheds. When a good match was obtained, the calibrated coefficients were kept unchanged for the rest of the simulation period and annual net groundwater extractions were assigned to match with the historic water level trend at Well 12N/12W-35R01, as shown on Plate V-17. The simulation results, as shown in Table V-7, indicate that the groundwater

recharge to the Mojave City Subbasin between 1945 and 2007 may vary from zero to approximately 16,100 acre-feet including approximately 9,500 acre-feet from direct percolation of precipitation on the valley floor and approximately 6,600 acre-feet from percolation of runoff from the surrounding watersheds. The groundwater recharge to the Mojave City Subbasin averaged approximately 3,100 af/yr, including approximately 2,700 af/yr from direct percolation of precipitation on the valley floor and 400 af/yr from percolation of runoff from the surrounding watersheds. A diagram of the groundwater recharge to the Mojave City Subbasin is shown on Plate V-18. The simulation results show significant outflow from the Mojave City Subbasin to the California City Subbasin in 1945, 1952, 1957, and 1958, which is consistent with the observed water levels along the Muroc Fault, as shown on Plate V-9. There was no simulated outflow after 1958, as shown on Plate V-19.

The groundwater balance spreadsheet for the California City Subbasin includes components for direct percolation of precipitation on the valley floor, percolation of runoff from the Piute, El Paso, and Rand Mountains watersheds, subsurface inflows from the Mojave City Subbasin and the AVGB, and net groundwater extraction, as shown on Plate V-20. The groundwater balance spreadsheet was simulated annually from 1945 through 2007 using historic precipitation at the Mojave Station for estimating direct percolation of precipitation on the subbasin valley floor, historic precipitation at the Tehachapi Station for estimating percolation of runoff from the Piute and El Paso Mountains watersheds, and historic precipitation at the Randsburg Station for estimating percolation from runoff from the Rand Mountains watershed. The subsurface inflow from the Mojave City Subbasin was obtained from the groundwater balance spreadsheet for the Mojave City Subbasin. The subsurface inflow from the AVGB was assumed to be at 2,572 af/yr, as discussed in Section V.4. The California City Subbasin was assumed to be at observed historic high in 1945 with the groundwater storage of approximately 5,660,000 acre-feet. Since the historic groundwater extraction in the California City Subbasin is not known, it was roughly estimated based on available data and information such as the total pumping capacity for each year during calibration.

The groundwater balance spreadsheet for the California City Subbasin was calibrated against the historic water levels at Well 30S/37E-36G01, as shown on Plate V-11. The same procedures used for calibrating the groundwater balance spreadsheet for the Mojave City Subbasin were used. The calibration results, as shown on Plate V-21, indicate a good match. The simulation results, as shown in Table V-8, indicate that the groundwater recharge to the California City Subbasin between 1945 to 2007 may vary from 2,572 (subsurface inflow from the AVGB) to approximately 82,100 acre-feet including approximately 18,400 acre-feet from direct percolation of precipitation on the valley floor, approximately 36,800 acre-feet from percolation of runoff from the Piute and El Paso Mountains watersheds, approximately 24,300 acre-feet from percolation of runoff from the Rand Mountains watershed, and approximately 2,600 acre-feet of subsurface flow from the AVGB. The groundwater recharge to the California City Subbasin averaged approximately 13,100 af/yr, including approximately 5,200 af/yr from direct percolation of precipitation on the valley floor, 1,800 af/yr from percolation of runoff from the Piute and El Paso Mountains watersheds, 3,200 af/yr from percolation of runoff from the Rand Mountains watershed, 300 af/yr of subsurface flow from the Mojave City Subbasin, and 2,600

af/yr of subsurface flow from the AVGB. A diagram of the groundwater recharge to the California City Subbasin is shown on Plate V-18.

As a result, the total groundwater recharge to the FVGB averaged approximately 16,200 af/yr. Although this estimated groundwater recharge is consistent with the value of 16,100 acre-feet previously estimated by Thomas M. Stetson, Civil and Consulting Engineers [10], it is considered as an engineering estimate because of the uncertainties of the groundwater extractions in the FVGB, which is a controlling factor of the groundwater balance spreadsheets. This total groundwater recharge may be considered as the FVGB safe yield, which is defined as *"the amount of naturally occurring groundwater which can be economically and legally withdrawn from an aquifer on a sustained basis without impairing the native groundwater quality or creating an undesirable effect such as environmental damage"* [24]. This definition, however, is subject to debate.

V.8. Groundwater Quality

Groundwater quality of the FVGB appears to meet all drinking water standards established by the Title 22 of the California Department of Public Health (CDPH), except in some places where the constituent concentrations may exceed their maximum contaminant levels (MCLs). Historic water quality data [5,15] indicate that groundwater in the northern portion of the California City Subbasin north of Randsburg Red Rock Road appears to have the best quality. The constituent concentration at Well 29S/40E-22E02 in 1995 was 349 milligrams per liter (mg/l) for total dissolved solids (TDS), 115 mg/l for sodium, and 39 mg/l for chloride. The CDPH secondary MCLs for TDS are 500 mg/l (recommended level), 1,000 mg/l (upper level), and 1,500 mg/l (short-term level). The CDPH secondary MCLs for chloride are 250 mg/l (recommended level), 500 mg/l (upper level), and 600 mg/l (short-term level). There are no CDPH MCLs for sodium.

Groundwater in the vicinity of the Koehn Lake appears to have the lowest quality. The TDS, sodium, and chloride concentrations in Well 30S/38E-03B01 near Saltdale reached 101,000 mg/l, 36,400 mg/l, and 55,800 mg/l, respectively, in 1962. The groundwater quality appears to improve from the north to the south. The TDS concentration range varied between 600 and 1,000 mg/l in the area north of the Koehn Lake, between 500 and 700 mg/l in the area south of the Koehn Lake, and between 400 and 600 mg/l in the southern portion of the California City Subbasin. The sodium concentration range varied between 120 and 200 mg/l in the area north of the Koehn Lake, between 80 and 170 mg/l in the area south of the Koehn Lake, and between 80 and 150 mg/l in the southern portion of the California City Subbasin. The chloride concentration range varied between 80 to 300 mg/l in the area north of the Koehn Lake, between 80 and 170 mg/l in the area south of the Koehn Lake, and between 80 and 150 mg/l in the southern portion of the California City Subbasin.

In the Mojave City Subbasin, groundwater in the southern portion south of the City of Mojave appears to have a better quality than that in the northern portion near the Muroc Fault. The constituent concentrations in the southern portion ranged between 250 and 450 mg/l for TDS, between 45 and 100 mg/l for sodium, and between 10 and 70 mg/l for chloride. The constituent

concentrations in the northern portion ranged between 600 and 800 mg/l for TDS, between 60 and 100 mg/l for sodium, and between 50 and 70 mg/l for chloride.

Groundwater in the California City Subbasin within the City appears to meet all CDPH drinking water standards. The 2006 concentrations of groundwater from the City wells ranged from 456 to 610 mg/l for TDS, 63 to 131 mg/l for chloride, 120 to 150 mg/l for sodium, and 1.6 to 7.2 mg/l as NO_3 for nitrate [25]. The CDPH MCL for nitrate is 45 mg/l as NO_3.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In July 2008, Stetson entered an agreement with the City to provide professional engineering services for conducting an evaluation of the City's groundwater resources to support the preparation of the City UWMP. In compliance with the City direction, Stetson's work focused on the availability of groundwater in the FVGB, the primary source of the City's water supply.

The FVGB covers an area of approximately 216,000 acres of the Freemont Valley bounded by the Tehachapi, Piute, and El Paso Mountains on the north and west, the Rand Mountains and the low hills from the Galileo Hill to the Radio Tower Hills on the east, and the low hills from the Radio Tower Hills to the Standard Hill and the watershed boundary from the Standard Hill to the mouth of the Oak Creek on the south. The consolidated rocks forming the mountains, hills, and the basement complex make up the sides and bottom of the FVGB, which has a trough shape dipping from its north and south ends to the lowest area in the central portion near the Koehn Lake. The FVGB consists of unconsolidated deposits such as gravels, sands, and silt interbedded with layers of clay and shale of various thicknesses, especially in the Koehn Lake area. The thickness of the unconsolidated deposits along the FVGB longitudinal axis varies from approximately 300 feet at the southern boundary to approximately 800 feet in the Koehn Lake area and pinches out at the northern boundary near US 395. According to the results from the recent pump tests conducted in the Cinco area in 2007, the FVGB aquifer system in that area is confined to semi-confined with a transmissivity ranging from approximately 122,000 to 520,000 gpd/ft (16,310 to 69,520 ft^2/d), a hydraulic conductivity ranging from 256 to 959 (gpd/ft^2) (34 to 128 ft/d), and a coefficient of storage ranging from 0.0003 to 0.0158.

Groundwater exists in the FVGB at different depths. In the 1950s, when the FVGB was considered to be at observed historic high, the depth to water varied from above (artesian conditions) or near the ground surface in the vicinity of the Koehn Lake up to 560 feet in the area just north of the Muroc Fault. From the 1960s, the depth to water in the FVGB declined significantly due to a combination of the prolonged drought period from 1945 to 1964 and large groundwater extraction for agricultural uses, which was reported to reach 60,000 af/yr in 1976. The decline varied from approximately 100 to 105 feet in the northern portion, from 16 to 22 feet in the central portion, and 8 feet in the southern portion. In the 1980s, the depth to water in the FVGB generally stabilized until approximately 1995. Since then, the depth to water in the FVGB has partially recovered in the northern and north-central portions (from 2 to 50 feet), but continued to decline in the south-central and southern portions (from 2 to 16 feet) probably because of significant groundwater extraction for municipal and other uses in the areas.

Water level data between 1955 and 1958 indicate that the Muroc Fault acts as a barrier to groundwater flow and divides the FVGB into two subbasins: the Mojave City Subbasin in the south and the California City Subbasin in the north. Other major faults such as the Garlock Fault, El Paso Fault, Cantil Valley Fault, and Randsburg-Mojave Faults run along the longitudinal axis of the FVGB but do not appear to affect groundwater flow. The groundwater elevation contours generated from the water level data indicate that groundwater in the Mojave City Subbasin appears to flow in an easterly direction from the alluvial fan along the Tehachapi Mountains and then "cascade" into the California City Subbasin along the Muroc Fault when the water level is high. In the California City Subbasin, groundwater appears to flow from the alluvial fans along the surrounding mountains and hills toward the depression in the vicinity of the Koehn Lake. In addition to groundwater from the Mojave City Subbasin, the California City Subbasin also receives subsurface flow from the AVGB through the alluvial narrows between the Castle Butte and the Twin Buttes, which was estimated at approximately 2,572 af/yr. Based on these water level data, the groundwater storage of the FVGB was estimated at approximately 8,300,000 acre-feet including 5,700,000 acre-feet in the California City Subbasin and 2,600,000 acre-feet in the Mojave City Subbasin. The groundwater storage of the FVGB in 2007, however, was estimated to reduce to approximately 6,900,000 acre-feet including 4,400,000 acre-feet in the California City Subbasin and 2,500,000 acre-feet in the Mojave City Subbasin. Within the City boundary, the groundwater storage of the FVGB was estimated at approximately 1,980,000 acre-feet in 1955, 1,860,000 acre-feet in 1967, 1,700,000 acre-feet in 1976, and 1,650,000 in 2007.

Recharge to the FVGB is derived primarily from direct percolation of precipitation on the valley floor, percolation of runoff from the surrounding watersheds, and subsurface flow from the AVGB. The groundwater recharge to the FVGB was estimated using two groundwater balance spreadsheets developed for the Mojave City and California City Subbasins. Historic precipitations from 1945 to 2007 at the Mojave Station, Tehachapi Station, and Randsburg Station were used to estimate direct percolation of precipitation on the valley floor and percolation from runoff from the western and eastern watersheds, respectively. The average annual precipitation ranges from 5.44 inches at the Mojave Station to 6.04 inches at the Randsburg Station and 10.83 inches at the Tehachapi Station. Since the annual groundwater extraction in the FVGB is not known, the groundwater balance spreadsheets were calibrated during the period between the late 1940s and the early 1960s when groundwater extraction was minimal to determine the recharge coefficients for direct percolation of precipitation and percolation from runoff. Thereafter, the recharge coefficients were kept unchanged but the net groundwater extraction was adjusted within a reasonable range to calibrate against the measured water level in Well 30S/37E-36G01 in the California City Subbasin and Well 12N/12W-35R01 in the Mojave City Subbasin.

The groundwater balance spreadsheet for the Mojave City Subbasin was simulated first to estimate annual subsurface flow to the California City Subbasin, which was assumed to be the amount of the simulated annual storage above the full storage of 2,600,000 acre-feet. The simulation results indicate that significant subsurface flow ranging from approximately 3,300 to 5,500 acre-feet occurred in 1945, 1952, 1957, and 1958 but has stopped since 1959. The simulation results indicate that the groundwater recharge to the Mojave City Subbasin varied

from zero to approximately 16,100 acre-feet including 9,500 acre-feet from direct percolation of precipitation on the valley floor and 6,600 acre-feet from percolation of runoff from the surrounding watersheds. On the average, the Mojave City Subbasin receives approximately 3,100 af/yr, including 2,700 af/yr from direct percolation of precipitation on the valley floor and 400 af/yr from percolation of runoff from the surrounding watersheds.

The simulated annual subsurface flows from the Mojave City Subbasin were used as input for the groundwater balance spreadsheet for the California City Subbasin. The calculation results indicate that the groundwater recharge to the California City Subbasin varied from approximately 2,600 (subsurface inflow from the AVGB) to 82,100 acre-feet including 18,400 acre-feet from direct percolation of precipitation on the valley floor, 36,800 acre-feet from percolation of runoff from the Piute and El Paso Mountains watersheds, 24,300 acre-feet from percolation of runoff from the Rand Mountains watershed, and 2,600 acre-feet of subsurface flow from the AVGB. On the average, the California City Subbasin receives approximately 13,100 af/yr, including 5,200 af/yr from direct percolation of precipitation on the valley floor, 1,800 af/yr from percolation of runoff from the Piute and El Paso Mountains watershed, 3,200 af/yr from percolation of runoff from the Rand Mountains watershed, 300 af/yr of subsurface flow from the Mojave City Subbasin, and 2,600 af/yr of subsurface flow from the AVGB. Although the estimated groundwater recharge for each subbasin is reasonable and consistent with the previous estimate, it is considered as an engineering estimate because of the uncertainties of the net groundwater extraction used for the groundwater balance spreadsheets.

Based on the results from the Stetson evaluation, groundwater in the California City Subbasin appears to be adequate to meet the City's future water demands under worst-case conditions in 2025, which were projected to reach 12,655 af/yr, if groundwater extractions from other users in the subbasin are not significant. The MPUD water demands were projected to increase from 1,261 af/yr in 2008 to 7,629 af/yr in 2025. The groundwater production from the City and MPUD, however, is not likely to affect each other due to the effects of the Muroc Fault.

In order to meet the future water demands while preventing further degradation of the FVGB groundwater resources, the City may consider the following measures:

1. Reduce the City's water demands by conservation and/or limitation of growth. Groundwater in the California City Subbasin should be able to support the City's water demands in 2025 if the ADD is reduced from 340 to 245 gpcd at the 5-percent growth rate (9,119 af/yr), or if the growth rate is limited at 3.5 percent while maintaining the ADD at 340 gpcd (9,092 af/yr). The groundwater resources in the California City Subbasin would be more sustainable with both conservation and growth limitation. In fact, the City's water demands in 2025 would be 6,551 af/yr if the ADD and growth rate are reduced to 245 gpcd and 3.5 percent, respectively.

2. Increase the City's water supply by developing groundwater in the Mojave City Subbasin. Additional wells may be drilled within the City limit just south of the Muroc Fault and northwest of the Radio Tower Hills to meet the City's water demands south of

the Muroc Fault. This area is favorable for new wells because the water quality is very good and the depth to water is shallow.

3. Start a City groundwater elevation monitoring program by measuring the static water levels in the City's wells on a monthly basis. These water levels should be measured to the nearest one hundredth of a foot using an electronic sounder. The elevation of the measuring (reference) point at each well should be surveyed to the nearest one hundredth of a foot to obtain accurate elevations of the groundwater table of the California City Subbasin in the area.

4. Coordinate with other major groundwater producers such as MPUD in the FVGB and the federal, state, regional, and local agencies such as the USGS, DWR, California Regional Water Quality Control Board/Lahontan and Los Angeles Regions, Counties of Los Angeles, Kern, and San Bernardino, and AVEK to develop a basinwide groundwater management plan for the FVGB (FVGB Management Plan). The primary objective of the FVGB Management Plan is to optimize the use of the groundwater resources in the FVGB without further degrading its hydrogeologic and water quality conditions. In addition, a basinwide groundwater monitoring program for the FVGB (FVGB Monitoring Program), as part of the FVGB Management Plan, is also developed and implemented to provide necessary and reliable data such as groundwater extraction, water level, and water quality for the development of the FVGB Management Plan and to evaluate management measures or projects in the FVGB.

5. Alternatively, the City may consider developing and adopting a groundwater management plan under Assembly Bill (AB) 3030 to protect its groundwater supply. AB 3030 allows any local public agency which provides water service to all or a portion of its service area and whose service area includes all or a portion of a groundwater basin to adopt a groundwater management program. The law contains 12 components which may be included in a groundwater management plan. Each component may play some role in evaluating or operating a groundwater basin so that groundwater can be managed to maximize the total water supply while protecting groundwater quality.

6. Refine the estimated groundwater recharges to the California City and Mojave City Subbasins when appropriate data and information from the FVGB Monitoring Program become available, probably from 5 to 10 years. Accurate annual groundwater extraction for this period will be used to refine the recharge coefficients for direct percolation of precipitation and percolation from runoff in the groundwater balance spreadsheets for the California City and Mojave City Subbasins.

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TABLE II-1
HISTORIC WATER SUPPLIES IN CALIFORNIA CITY (IN ACRE-FEET)

YEAR	WELL NUMBER					GROUNDWATER	AVEK*	TOTAL
	2A	3	10	14	15A			
2000	1,317.24	95.14	503.86	881.81	654.09	3,452.14	260.89	3,713.03
2001	1,244.02	16.03	497.08	980.23	677.04	3,414.40	234.16	3,648.56
2002	1,139.63	62.45	482.26	888.70	826.07	3,399.10	415.81	3,814.91
2003	1,155.17	0.00	229.32	831.42	815.68	3,031.59	463.97	3,495.56
2004	1,106.25	342.89	239.72	862.71	976.81	3,528.38	795.04	4,323.42
2005	796.30	0.00	834.08	961.36	825.24	3,416.98	636.64	4,053.62
2006	774.00	1.21	1,151.13	244.33	1,030.24	3,200.91	1,052.04	4,252.95
2007	881.48	1.26	393.53	524.94	1,282.01	3,083.22	1,458.62	4,541.84
AVERAGE	1,051.76	64.87	541.37	771.94	885.90	3,315.84	664.65	3,980.49

* ANTELOPE VALLEY-EAST KERN WATER DISTRICT

TABLE IV-1
COORDINATES OF WELLS VISITED ON AUGUST 25, 2008

WELL NAME	STATE WELL NUMBER	WELL COORDINATE		RECORDED TIME	REMARKS
		LATITUDE	LONGITUDE		
WATERMAN	31S/39E-13N01	N 35°13'54.2"	W 117°45'20.5"	8/25/08 11:42 AM	NO PUMPING EQUIPMENT
ARTESIAN	31S/39E-13P01	N 35°13'53.3"	W 117°45'04.1"	8/25/08 11:50 AM	DESTROYED
NO. 10	32S/37E-26G01	N 35°07'07.3"	W 117°58'25.7"	8/25/08 12:18 PM	PUMPING
NO. 15A	32S/37E-26M02	N 35°07'00.1"	W 117°59'06.6"	8/25/08 12:24 PM	Q = 780 GPM
NO. 16	32S/37E-27F01	N 35°07'07.1"	W 117°59'33.7"	8/25/08 12:28 PM	NOT PUMPING (NEW WELL)
NO. 3	32S/37E-22N01	N 35°07'34.4"	W 117°59'06.3"	8/25/08 12:34 PM	INACTIVE
NO. 14	32S/37E-16R01	N 35°08'26.3"	W 118°00'14.3"	8/25/08 12:45 PM	PUMPING
NO. 2A	32S/37E-23N01	N 35°07'36.1"	W 118°00'11.2"	8/25/08 12:50 PM	PUMPING
NO. 1	32S/36S-26N01	N 35°06'41.1"	W 117°59'08.0"	8/25/08 12:55 PM	OBSERVATION, DTW = 362.17 FT
WONDER ACRES	32S/36E-22B03	N 35°08'16.3"	W 118°05'59.1"	8/25/08 2:00 PM	DOMESTIC, 6" DIA., 750 FT DEEP

TABLE V-1
HISTORIC PRECIPITATION AT TEHACHAPI STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1931	1.77	4.02	0.1	0.79	0.05	0.37	0.14	2.42	0.01	0.29	1.41	4.33	15.7
1932	1.5	2.94	1.27	0.89	1.52	0.18	0	0	4.51	2.6	0	2.24	17.65
1933	4.17	0.68	0.34	0.17	0.94	0.49	0	0	0	0.26	0	1.58	8.63
1934	0.69	1.09	0	0	0.46	0.61	0	0	0	1.15	2.19	1.78	7.97
1935	3.19	2.17	2.11	1.9	0.18	0	0	0.23	0.41	0.51	0.46	0.84	12
1936	0.59	4.14	1.73	0.96	0.56	0	0	0	0	0.63	0.08	3.17	11.86
1945	1.23	4.14	4.12	0.22	0.87	0.18	0.04	0.46	0.79	3.23	0.56	2.45	18.29
1946	1.07	0.42	1.22	0.14	0.51	0	0.26	0	0.27	0.44	3.62	1.97	9.92
1947	1.07	0.55	0.37	0.8	0.26	0	0	0.03	0	0.33	0.13	1.12	4.66
1948	0.02	1	2.12	0.87	0.27	0.63	0	0	0	0.03	0.16	1.06	6.16
1949	3.02	2.06	2.24	0.08	0.71	0	0	0	0	0.16	0.58	1.72	10.57
1950	1.95	1.07	1.18	0.3	0.2	0	0	0	0.32	0.2	1.37	0.73	7.32
1951	1.62	0.67	0.42	3.02	0.43	0	0	0	0	0.27	0.28	5.26	11.97
1952	3.47	0.77	5.31	1.54	0	0	0.14	0	0	0	3.12	3.1	17.45
1953	1.85	0.4	0.95	1.35	1.07	0	0	0.16	0	0.01	0.38	0.78	6.95
1954	2.43	0.87	2.14	0.2	0.15	0	0.11	0	0	0	1.12	0.65	7.67
1955	2.82	0.97	0	0.71	0.32	0	0	0	0	0	0.6	3.42	8.84
1956	3.23	0.45	0.04	3.14	0.41	0	0.04	0	0	0.32	0	0.17	7.8
1957	2.9	1.22	1.2	1.16	0.98	0.22	0	0	0	1.05	0.43	1.6	10.76
1958	1.69	5.44	3.52	2.09	0.14	0	0.35	0.04	0.36	0.27	0.75	0.12	14.77
1959	0	1.83	0.02	0.28	0.23	0	0	0	0.79	0	0	0.83	3.98
1960	1.5	4.48	1.37	0.47	0.07	0	0.01	0	0	0.07	3.01	0.13	11.11
1961	0.62	0.3	1.56	0.2	0.32	0	0	1.08	0	0.03	0.48	0.82	5.41
1962	1.43	6.09	1.16	0.08	0.3	0	0	0	0.06	0.13	0	0	9.25
1963	0.27	1.29	1.49	1.46	0.09	0.66	0	1.36	1.34	0.37	1.1	0	9.43
1964	0.8	0.42	1.84	1	0.38	0	0.22	0.01	0	0.29	1.02	4.43	10.41
1965	0.78	0.19	1.28	2.68	0	0	0.44	1.18	0	0	1.91	2.18	10.64
1966	0.79	0.99	0.45	0	0.18	0	0	0.6	0.32	0	2.42	3.87	9.62
1967	1.33	0.1	0.97	3.55	0.19	0	0	0.06	2.13	0	2.73	1.89	12.95
1968	0.59	0.63	1.36	0.4	0	0	0	0	0	0.48	1.21	2.24	6.91
1969	5.16	5.69	1.6	1.16	0.02	0	0.26	0	0.12	0.06	0.75	0.5	15.32
1970	2.37	3.24	0.25	0.71	0	0	0	0	0	0	6.22	2.01	14.8
1971	0.42	0.79	0.66	1.2	0.81	0	0.03	0.16	0.04	0	0.35	3.45	7.91
1972	0.09	0.12	0	0.22	0	0.77	0	0.25	0.04	0.19	2.51	3.31	7.5
1973	2.4	1.56	3.87	0.67	2.06	0	0	0.46	0	0.09	1.8	1.89	14.8
1974	2.55	0.11	1.67	2.01	0.56	0	0.04	0.35	0	2.23	0.51	1.06	11.09
1975	0.19	1.23	1.72	1.35	0	0	0	0.07	0.44	0.86	0.18	0.21	6.25
1976	0.07	1.87	0.8	0.58	0.14	0	0.04	0	1.8	0.82	0.56	0	6.68

TABLE V-1
HISTORIC PRECIPITATION AT TEHACHAPI STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1977	2.66	0.71	1.62	0	2.35	0.29	0	1.54	0	0.02	0	2.75	11.94
1978	2.29	6.09	5.21	1.51	0.04	0	0	0	0.9	0	0.47	1.27	17.78
1979	3.91	2.13	2.22	0.03	0.26	0	0	0.51	0.29	0.49	0.34	0.38	10.56
1980	3.46	3.17	1.71	0.78	0.46	0	0.43	0	0.07	0.28	0.01	0.61	10.98
1981	1.81	0.71	3.75	0.22	0.49	0	0	0	0	2.19	1.29	1.12	11.58
1982	2.49	0.59	3.93	1.89	0	0.2	0	0.42	0.36	0.95	2.47	3.13	16.43
1983	3.55	2.41	11.59	1.34	0.26	0	0	2.65	0.13	0.79	2.98	2.07	27.77
1984	0	0.64	0.09	0.55	0.01	0.09	1.1	1.02	0.01	0.31	1.91	3.25	8.98
1985	1.17	1.09	1.37	0.12	0.1	0.52	0	0	0.48	0.33	2.98	0.3	8.46
1986	1.87	2.24	2.53	0.31	0.08	0	0.02	0	0.06	0.14	0.99	0.81	9.05
1987	1.63	1.5	2.18	0.35	0.47	0.6	0	0	0.32	0.47	4.24	1.26	13.02
1988	1.39	1.02	0.59	1.2	0.9	0.13	0	0.03	0.02	0	1.91	1.69	8.88
1989	0.19	0.98	0.79	0.13	0.44	0	0	0	0.96	0.51	0.3	0	4.3
1990	1.63	0.79	1.22	0.24	1.39	0.04	0	0	0.25	0.05	0.68	0.74	7.03
1991	1.05	1.61	5.83	0	0.18	0	0.55	0	0	0.63	0.57	1.55	11.97
1992	1.54	4.53	3.17	0.66	0.06	0	0.1	0	0	1.18	0.05	4.45	15.74
1993	5.78	4.51	1.46	0.01	0	0.82	0	0	0	0.38	1.19	1.67	15.82
1994	0.41	1.85	0.55	1.51	0.61	0	0	0	0.05	0.3	1.44	1.37	8.09
1995	9.09	0.49	6.23	1.31	0.86	0.14	0.05	0.63	0	0	0.05	1.06	19.91
1996	2.78	3.79	1.2	0.36	0	0	0	0	0	1.57	1.07	2.47	13.24
1997	3.3	0.95	0	0.18	0	0	NR	NR	NR	NR	NR	NR	4.43
1998	3.29	9.37	3.15	1.6	1.31	0	0	0.76	1.44	0.06	1.34	0.47	22.79
1999	3.17	0.92	0.54	0.96	0	0.03	1.04	0	0.03	0	0.22	0	6.91
2000	1.37	4.1	1.46	0.61	0.79	0.08	0	0.3	0	0.81	NR	NR	9.52
2001	2.9	3	2.02	NR	0.01	0	0.57	NR	0	NR	1.96	NR	10.46
2002	0.42	0.08	1.33	0.08	0.39	NR	0.05	0	0	0.03	3.23	2.84	8.45
2003	0.1	3.33	1.68	1.85	0.44	NR	0.09	0.29	0.16	0	0.96	1.89	10.79
2004	0.86	4.07	NR	0.2	0	0	0	0.01	0	2.19	0.23	NR	7.56
2005	4.13	4.82	1.77	1.71	0.89	0	0.43	0.05	0.47	1.81	NR	1.54	17.62
2006	1.87	0.67	2.29	1.84	0.09	0	0.42	0	0	0.36	0.29	1.71	9.54
2007	0.7	1.79	0.94	NR	NR	0	NR	0	0.15	0.23	0.27	1.14	5.22
PERIOD OF RECORDS STATISTICS													
MEAN	1.92	2.03	1.84	0.89	0.42	0.11	0.10	0.26	0.29	0.50	1.17	1.67	10.95
MAX	9.09	9.37	11.59	3.55	2.35	0.82	1.1	2.65	4.51	3.23	6.22	5.26	27.77
MIN	0	0.08	0	0	0	0	0	0	0	0	0	0	3.98

TABLE V-2
HISTORIC PRECIPITATION AT MOJAVE STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1941	0.86	3.59	6.2	0.92	0	0	0	0	0	0.61	0.31	3.28	15.77
1942	0	0	0	0	0	0	0	0	0	0.45	0	0.4	0.85
1943	4.9	1.22	1.37	0	0	0	0	0	0.35	0.16	0.14	5.33	13.47
1944	1.08	5.27	1.32	0.06	0	0	0	0	0	0	2.81	0.19	10.73
1945	0.28	1.8	2.51	0.01	0	0	0	0	0.15	1.67	0	2.37	8.79
1946	0.04	0.57	1.14	0.12	0.02	0	0.56	0	0	0.12	0	0	2.57
1947	0.31	0.31	0.08	0.14	0	0	0	0.03	0	0.17	0.04	1.07	2.15
1948	0	0.44	0.77	0.25	0	0.28	0	0	0	0.07	0	0.63	2.44
1949	0.68	0.44	0.19	0	0	0	0	0.02	0	0	0.2	1.04	2.57
1950	0.42	0.32	0.32	0.28	0	0	0	0	0.24	0	0.1	0	1.68
1951	0	0.24	0.11	0.48	0.28	0	0	0	0	0.5	0.35	1.24	3.2
1952	2.88	0	3.21	0.13	0	0	0	0	0.02	0	1.57	1.92	9.73
1953	0.35	0.02	0.15	0.29	0.15	0	0	0.02	0	0	0.37	0.12	1.47
1954	1.43	0.55	0.99	0.02	0	0	0	0	0.02	0	0.77	0.42	4.2
1955	1.21	0.19	0	0.11	0.19	0	0	0	0	0	0.24	0.61	2.55
1956	1.27	0.01	0	1.15	0.44	0	0.24	0	0	0.06	0	0	3.17
1957	1.85	0.82	0.57	0.29	0.02	0.01	0	0	0	0.59	0.27	1.53	5.95
1958	0.54	2.58	1.74	1.75	0.05	0	0	0.01	0.33	0.16	0.13	0	7.29
1959	1.13	0.84	0	0	0	0	0	0	0.74	0	0	0.92	3.63
1960	0.99	1.08	0.03	0.09	0	0	0	0	0.2	0	0.97	0	3.36
1961	0.32	0	0.07	0	0	0	0	0.69	0	0	0.97	1.01	3.06
1962	0.48	2.85	0.44	0	0	0	0	0	0	0.05	0	0	3.82
1963	0.08	0.83	0.8	0.27	0	0.41	0	0.29	1.64	1.03	0.9	0.04	6.29
1964	0.53	0.02	0.32	0.2	0.18	0	0.06	0	0	0.3	0.52	0.12	2.25
1965	0	0	1.31	2.08	0	0.01	0.24	0.26	0	0	3.76	2.82	10.48
1966	0.55	0.23	0.15	0	0	0	0	0	0.45	0.06	1.07	1.15	3.66
1967	1.54	0	0.58	1.51	0	0	0.01	0	0.67	0	3.78	0.62	8.71
1968	0.26	0.53	0.43	0.32	0	0	0.28	0	0	0.14	0.48	0.27	2.71
1969	4.35	4.89	0.14	0.62	0.01	0.18	0.2	0	0	0	0.47	0	10.86
1970	0.4	0	1.65	0.06	0	0	0.35	0	0	0	2.68	1.48	6.62
1971	0.04	0.15	0	0.11	0.41	0	0	0	0.15	0	0.01	1.97	2.84
1972	0	0	0	0.05	0	0.31	0	0.08	0.04	0	0.93	0.17	1.58
1973	0.64	3	1.1	0.06	0.2	0	0	0.11	0	0	0.71	0.65	6.47
1974	1.62	0.06	0.31	0.33	0.35	0	0.13	0.03	0	1.74	0	0.97	5.54
1975	0.02	0.35	0.84	0.63	0	0	0	0	0.09	0	0	0.07	2
1976	0	1.32	0	0.1	0.04	0	0.13	0	2.94	0.05	0	0.24	4.82
1977	2.12	0.02	1.09	0	1.28	0	0	1.3	0	0.12	0	2.39	8.32

TABLE V-2
HISTORIC PRECIPITATION AT MOJAVE STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1978	2.63	6.24	3.02	0.77	0	0	0	0	0	0.05	0	0.38	13.09
1979	3.74	0.39	2.23	0	0	0	0.05	0	0	0.06	0	0	6.47
1980	3.39	0	1.56	0.18	0	0	0	0	0	0	0	0	5.13
1981	0	0.56	2.87	0.02	0.03	0	0	0	0.89	1.99	1.44	0	7.8
1982	1.72	0.46	2.55	1.15	0.04	0	0	0.01	0.33	0.06	1.47	1.04	8.83
1983	2.55	3.35	4.43	0.49	0	0	0	2.02	0.18	0.73	0.04	1.72	15.51
1984	0	0.01	0.13	0	0	0.4	2.43	0.29	0.27	0	0.7	3.35	7.58
1985	0.11	0.21	0	0	0	0	0	0	0.28	0.22	1.45	0.22	2.49
1986	1.12	1.43	0.89	0.07	0	0	0	1	0	0	0.66	0.57	5.74
1987	0.63	1.18	0	0	0.12	0.15	0	0	0	1.04	0.79	0.79	4.7
1988	2.06	0.3	0	0.47	0.15	0	1.06	0	0	0	0.22	0.65	4.91
1989	0.18	0.15	0.2	0	0.3	0	0	0	0.19	0	0	0	1.02
1990	0.65	0.03	0.1	0.08	0.06	0	0	0	0.16	0	0.41	0	1.49
1991	0.9	1.23	3.07	0	0	0	0.02	0	0	0.1	0.06	1.19	6.57
1992	0.4	5.25	2.59	0.34	0.08	0	0	0	0	0.71	0	2.72	12.09
1993	4.95	3.93	0.79	0	0	0.4	0	0	0	0.27	0.29	0.23	10.86
1994	0.07	1.19	0.32	0.09	0.08	0	0	0	0.01	0.36	0.55	0.27	2.94
1995	6.46	0.39	2.72	0.1	0	0.35	0	1.94	0	0	0	0.66	12.62
1996	0.5	1.14	0.28	0	0	0	0	0	0	0.57	0.65	1.41	4.55
1997	0.64	0	0	0.09	0	0	0.13	0	0.95	0.12	0.92	1.38	4.23
1998	0.87	6.85	1.46	0.41	1.15	0	0	1.2	1	0	0.34	0	13.28
1999	0.5	0.08	0.06	0.95	0	0	0.98	0	0	0	0	0	2.57
2000	0.21	1.67	1.16	0	0.12	0	0	0.11	0	0.24	0	0	3.51
2001	1.26	3.26	1.31	1.23	0	0	0	0	0	0	0.79	0.3	8.15
2002	0	0.21	0.15	0	0	0	0	0	0	0	0.82	1.8	2.98
2003	0.08	2.66	0.27	0.65	0.13	0	1.41	1.13	0.74	0	0	0.75	7.82
2004	0.03	1.08	0.46	0.09	0	0	0	0	0	2.47	0.1	0	4.23
2005	0	3.51	0.72	0.3	0	0	0	0	0	0	0.01	0.24	4.78
2006	0	0.71	0	0.24	0	0	0	0	0	0.29	0	0	1.24
2007	0	0	0	0	0	0	0	0.5	0	0	0.27	0	0.77
PERIOD OF RECORDS STATISTICS													
MEAN	1.03	1.22	0.94	0.30	0.09	0.04	0.12	0.16	0.19	0.26	0.55	0.82	5.72
MAX	6.46	6.85	4.43	2.08	1.28	0.41	2.43	2.02	2.94	2.47	3.78	5.33	15.51
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77

TABLE V-3
HISTORIC PRECIPITATION AT RANDSBURG STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1938	0.26	3.3	3.5	0.5	0	0.05	0.41	0.02	0.24	0	0	1.91	10.19
1939	1.48	0.12	0.96	0.1	0.22	0	0	1	3.22	0	0	0	7.1
1940	0.75	1.31	0.2	0.73	0	0	0	0	0	0.3	0.01	2.64	5.94
1941	2.77	3.96	2.47	1.68	0	0	0.04	0.89	0	0.65	0.18	2.83	15.47
1942	0	0.17	0.4	0.51	0	0	0	0.81	0	0.34	0	0.07	2.3
1943	5.8	1.06	0.97	0.69	0	0	0	0	0.15	0.59	0.04	4.73	14.03
1944	0.36	3.68	0.32	0.17	0.03	0	0	0	0	0	2.07	0.32	6.95
1945	0.05	2.1	0.75	0	0	0	0	1.58	0.05	0.78	0.01	1.81	7.13
1946	0	0.02	1.69	0.05	0	0	0.25	0.29	0.15	0	3.08	1.34	6.87
1947	0.03	0.27	0.13	0.44	0.04	0	0	0	0	0.19	0	1.25	2.35
1948	0	0.58	0.63	0.22	0	0.06	0	0	0	0.03	0	0.47	1.99
1949	1.25	0.44	0.68	0	0.08	0	0	0.13	0	0	0.2	1.73	4.51
1950	0.57	0.46	0.52	0.19	0	0	0.1	0.1	0.65	0	0.33	0	2.92
1951	0.3	0.06	0	0.35	0.74	0	0.38	0	0	0.33	0.29	2.16	4.61
1952	3.76	0.11	2.39	0.41	0	0	0.02	0	0.45	0	0.59	1.19	8.92
1953	0.33	0.01	0.08	0.16	0.01	0	0	0	0	0	0.18	0.06	0.83
1954	2.03	0.73	0.96	0	0	0	0.23	0	0	0	1.35	0.82	6.12
1955	0.98	0.46	0	0.28	0.2	0	0	0.05	0	0	0.46	0.03	2.46
1956	2	0	0	0.79	0.08	0	0.12	0	0	0.06	0	0	3.05
1957	1.68	0.7	0.43	0	0.03	0	0.01	0	0.09	0.57	0	0.8	4.31
1958	0.78	3.28	1.96	2.04	0	0	0.03	0.16	0.24	1	0.05	0	9.54
1959	1.1	1.65	0	0	0	0	0	0.2	0.68	0.04	0.06	1.07	4.8
1960	1.14	1.3	0.04	0.11	0	0	0.03	0	0.58	0.07	1.01	0	4.28
1961	0.13	0	0.14	0	0	0	0	0.41	0	0.02	0.79	0.94	2.43
1962	1.01	2.16	0.41	0	0	0	0	0	0	0.06	0	0.04	3.68
1963	0.34	1.22	0.54	0.23	0	0.22	0	0.6	1.17	1.6	1.22	0	7.14
1964	0.48	0.06	0.32	0.06	0	0	0	0.08	0.01	0.22	0.5	0.3	2.03
1965	0.07	0.04	1.14	2.73	0	0.19	0.33	0.22	0.02	0.1	3.62	2.7	11.16
1966	0.36	0.31	0.15	0	0.02	0	0	0	0.1	0.01	0.84	1.31	3.1
1967	1.38	0	0.22	1.74	0	0	0.04	0.54	0.41	0	1.72	0.78	6.83
1968	0.17	0.91	0.64	0.13	0	0.04	0.67	0.53	0	0.3	0.24	0.25	3.88
1969	4.02	4.76	0.38	0.66	0.09	0.15	0.26	0	0	0	0.53	0	10.85
1970	0.27	1.01	0.93	0	0	0	0.13	0	0	0.02	1.73	1.11	5.2
1971	0	0.14	0	0.16	0.1	0	0.05	0.16	0.24	0	0.04	1.67	2.56
1972	0	0.27	0	0.02	0	0.01	0	0	0	0	1.02	0.17	1.49
1973	0.7	2.6	1.09	0	0.28	0	0.03	0	0	0	0.68	0.43	5.81
1974	2.44	0	0.73	0.02	0.18	0	0.87	0.16	0	1.1	0.03	0.61	6.14
1975	0	0.74	0.46	0.49	0.06	0	0.02	0	0.49	0.04	0	0	2.3
1976	0	2.3	0.37	0.14	0.05	0	0.09	0	2	0.03	0.33	0.06	5.37

TABLE V-3
HISTORIC PRECIPITATION AT RANDSBURG STATION

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1977	1.25	0	0.81	0	1.01	0	0	1.3	0	0	0	2.16	6.53
1978	2.75	5.3	1.99	1.06	0	0	0	0.33	0.33	0.52	0.07	0.02	12.37
1979	2.4	0.11	2.18	0	0.06	0	0.12	0.08	0.05	0.01	0	0.1	5.11
1980	4.22	3.61	1.86	0.32	0.12	0	0.27	0	0	0	0	0.07	10.47
1981	1.26	0.41	3.32	0.06	0.24	0	0	0	0.02	0.69	1.58	0.1	7.68
1982	0.68	0.36	3.44	1.19	0.13	0	0.12	0.01	0	0.48	2.52	1.34	10.27
1983	2.49	3.7	5	0.51	0	0.15	0	1.51	0.25	0.1	0.09	1.78	15.58
1984	0	0	0.14	0	0	0	0.95	0.74	0	0	1.09	3.63	6.55
1985	0.23	0	0	0	0.05	0.05	0	0	0.32	0.02	1.08	0.66	2.41
1986	1.9	2.26	1.67	0.06	0	0	0.12	0.78	0	0	0.62	0	7.41
1987	1.24	0.2	0.72	0	0.33	0.46	0	0.01	0.26	2.12	0.81	1.83	7.98
1988	1.89	0.13	0.06	1.53	0	0	0.24	0.68	0.14	0	0.26	0.75	5.68
1989	0.19	0.51	0.57	0	0.01	0	0	0.01	0	0	0	0	1.29
1990	1.13	0.38	0.01	0.06	0.07	0	0.14	0.14	0.1	0	0.21	0.01	2.25
1991	0.94	1.53	4.18	0	0.04	0	0.01	0	0.39	0.21	0.02	1.02	8.34
1992	1.14	5.38	3.13	0.41	0.23	0	0.06	0	0	3.01	0	3.08	16.44
1993	4.06	3.17	0.5	0	0.01	0.41	0	0	0	0.22	0.45	0.39	9.21
1994	0.45	0.98	0.36	0.18	0.05	0	0	0	0	0.36	0.37	0.3	3.05
1995	6.21	0.79	2.31	0.93	0.04	0	0	0.1	0	0	0	1.13	11.51
1996	0.15	2.04	0.17	0	0	0	0.16	0.04	0	0.72	0.93	1.36	5.57
1997	0.61	0.01	0	0.04	0	0	0.08	0	2.29	0	0.96	0.79	4.78
1998	0.62	7.3	1.28	0.27	0.98	0	0	0.8	0.89	0.02	0.21	0	12.37
1999	0.37	0.1	0.23	1.78	0.31	0	0.37	0	0.01	0	0	0	3.17
2000	0.28	2.33	1.49	0.21	0.02	0.14	0	0.11	0	0.19	0	0	4.77
2001	2.24	3.16	0.45	0.73	0.08	0	0.14	0	0	0.21	0.99	0.24	8.24
2002	0.58	0.03	0.13	0.08	0.05	0	0	0	0	0.11	0.95	1.99	3.92
2003	0.1	2.59	0.39	0.66	0.3	0	0.12	0.02	0.5	0	0.89	0.89	6.46
2004	0	3.05	0.54	0.53	0	0	0	0.36	0	2.78	0.38	1.52	9.16
2005	4.15	2.87	1.63	0.18	0.13	0	0.34	0.57	0.48	2.11	0	0.04	12.5
2006	0.99	0.04	1.4	0.26	0.04	0.04	0	0	0	0.31	0	0.2	3.28
2007	0.01	0.35	0.29	0.18	0	0	0	0.01	0	0	0.18	0.27	1.29

PERIOD OF RECORDS STATISTICS

MEAN	1.19	1.36	0.96	0.39	0.09	0.03	0.11	0.22	0.24	0.32	0.54	0.88	6.32
MAX	6.21	7.30	5.00	2.73	1.01	0.46	0.95	1.58	3.22	3.01	3.62	4.73	16.44
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83

TABLE V-4
HISTORIC PUMPING RECORDS
FOR CALIFORNIA CITY COMMUNITY SERVICES DISTRICT

YEAR	PRODUCTION (ACRE-FEET)
1953	14,233
1954	7,708
1955	7,599
1956	11,210
1957	9,438
1958	4,772
1959	1,353
1960	375
1961	1,007
1962	1,401
1963	1,148
1964	1,859
1965	1,086
1966	1,087
1967	1,289
1968	1,482
1969	1,430

Source: *Review of Groundwater Conditions in Freemont Valley, Kern County, California* . Thomas M. Stetson, Civil and Consulting Engineers. July 24, 1970.

TABLE V-5
ESTIMATED GROUNDWATER STORAGE OF THE FREEMONT VALLEY GROUNDWATER BASIN

SUB-BASIN	SURFACE AREA (ACRE)	SATURATED AVERAGE THICKNESS (FEET)	EFFECTIVE POROSITY (%)	STORAGE VOLUME (ACRE-FEET)
CALIFORNIA CITY SUB-BASIN	142,451	405	9.80	5,660,063
MOJAVE CITY SUB-BASIN	73,332	364	9.80	2,612,323
FREEMONT VALLEY BASIN	**215,783**			**8,272,386**

NOTE: GROUNDWATER STORAGE ESTIMATED BASED ON 1955-1958 WATER LEVELS

TABLE V-6
ESTIMATED GROUNDWATER RECHARGES FROM PREVIOUS INVESTIGATIONS

INVESTIGATION AUTHOR	AVERAGE GROUNDWATER RECHARGE (ACRE-FEET/YEAR)		
	FROM PRECIPITATION	FROM SUBSURFACE FLOW	TOTAL
KENNEDY (1)	36,000	20,000	56,000
U.S. GEOLOGICAL SURVEY - AVEK (1)	18,000	100-500	18,100-18,500
THOMAS M. STETSON (1)	15,000-20,000	1,100-3,400	16,100-23,400
KOEHLER (2)	10,200	NA	10,200
ENSR/AECOM (2)	3,300-22,000	NA	3,300-22,000
SAINT-AMAND (3)	500-600	10,000	10,500-10,600

Sources: (1) Review of Groundwater Conditions in Freemont Valley, Kern County, California. Thomas M. Stetson. July 24, 1970.
(2) Beacon Solar Energy Project, Application for Certification. Volumes a and 2. ENSR/AECOM. March 2008.
(3) Ground-Water Resources of California City. Saint-Amand Scientific Services. November 26, 1991.

TABLE V-7

GROUNDWATER BALANCE SPREADSHEET FOR THE MOJAVE CITY SUBBASIN

	MOJAVE CITY SUBBASIN VALLEY FLOOR				OAK CREEK AND TEHACHAPI MOUNTAIN WATERSHEDS				TOTAL	NET	SUBTOTAL		TOTAL
	PRECIP.	VALLEY FLOOR	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	GROUNDWATER	GROUNDWATER	GROUNDWATER	OUTFLOW TO	GROUNDWATER
YEAR	MOJAVE	SURFACE AREA	COEFFICIENT	FROM RAINFALL	TEHACHAPI	AREA	COEFFICIENT	FROM RUNOFF	RECHARGE	EXTRACTION	STORAGE	CALIFORNIA CITY	STORAGE
	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET
													2,615,899
1945	8.79	73,332	0.1	5,372	18.29	97,048	0.01	537	5,909	500	2,621,308	5,409	2,615,899
1946	2.57	73,332	0	0	9.92	97,048	0.005	79	79	500	2,615,478	0	2,615,478
1947	2.15	73,332	0	0	4.66	97,048	0	0	0	500	2,614,978	0	2,614,978
1948	2.44	73,332	0	0	6.16	97,048	0.005	75	75	500	2,614,552	0	2,614,552
1949	2.57	73,332	0	0	10.57	97,048	0.005	79	79	500	2,614,131	0	2,614,131
1950	1.68	73,332	0	0	7.32	97,048	0.005	51	51	500	2,613,682	0	2,613,682
1951	3.20	73,332	0.1	1,956	11.97	97,048	0.01	196	2,151	500	2,615,333	0	2,615,333
1952	9.73	73,332	0.1	5,946	17.45	97,048	0.01	595	6,541	500	2,621,374	5,475	2,615,899
1953	1.47	73,332	0	0	6.95	97,048	0.005	45	45	500	2,615,444	0	2,615,444
1954	4.20	73,332	0.06	1,540	7.67	97,048	0.005	128	1,668	500	2,616,612	713	2,615,899
1955	2.55	73,332	0	0	8.84	97,048	0.005	78	78	500	2,615,477	0	2,615,477
1956	3.17	73,332	0.06	1,162	7.80	97,048	0.005	97	1,259	500	2,616,236	337	2,615,899
1957	5.95	73,332	0.1	3,636	10.76	97,048	0.005	182	3,818	500	2,619,217	3,318	2,615,899
1958	7.29	73,332	0.1	4,455	14.77	97,048	0.01	445	4,900	500	2,620,300	4,400	2,615,899
1959	3.63	73,332	0.02	444	3.98	97,048	0	0	444	2,500	2,613,843	0	2,613,843
1960	3.36	73,332	0.1	2,053	11.11	97,048	0.01	205	2,259	2,500	2,613,601	0	2,613,601
1961	3.06	73,332	0.02	374	5.41	97,048	0	0	374	2,500	2,611,475	0	2,611,475
1962	3.82	73,332	0.06	1,401	9.25	97,048	0.005	117	1,517	2,500	2,610,493	0	2,610,493
1963	6.29	73,332	0.06	2,306	9.43	97,048	0.005	192	2,498	4,000	2,608,991	0	2,608,991
1964	2.25	73,332	0	0	10.41	97,048	0.005	69	69	4,000	2,605,060	0	2,605,060
1965	10.48	73,332	0.1	6,404	10.64	97,048	0.005	320	6,725	4,000	2,607,785	0	2,607,785
1966	3.66	73,332	0.06	1,342	9.62	97,048	0.005	112	1,454	5,000	2,604,238	0	2,604,238
1967	8.71	73,332	0.1	5,323	12.95	97,048	0.01	532	5,855	5,000	2,605,093	0	2,605,093
1968	2.71	73,332	0	0	6.91	97,048	0.005	83	83	5,000	2,600,176	0	2,600,176
1969	10.86	73,332	0.1	6,637	15.32	97,048	0.01	664	7,300	6,000	2,601,476	0	2,601,476
1970	6.62	73,332	0.1	4,045	14.80	97,048	0.01	405	4,450	6,000	2,599,926	0	2,599,926
1971	2.84	73,332	0.06	1,041	7.91	97,048	0.005	87	1,128	6,000	2,595,054	0	2,595,054
1972	1.58	73,332	0	0	7.50	97,048	0.005	48	48	6,000	2,589,103	0	2,589,103
1973	6.47	73,332	0.1	3,954	14.80	97,048	0.01	395	4,349	6,000	2,587,452	0	2,587,452
1974	5.54	73,332	0.1	3,385	11.09	97,048	0.01	339	3,724	7,000	2,584,176	0	2,584,176
1975	2.00	73,332	0	0	6.25	97,048	0.005	61	61	7,000	2,577,237	0	2,577,237
1976	4.82	73,332	0.06	1,767	6.68	97,048	0.005	147	1,915	7,000	2,572,152	0	2,572,152
1977	8.32	73,332	0.1	5,084	11.94	97,048	0.01	508	5,593	7,000	2,570,744	0	2,570,744
1978	13.09	73,332	0.1	7,999	17.78	97,048	0.01	800	8,799	7,000	2,572,544	0	2,572,544
1979	6.47	73,332	0.1	3,954	10.56	97,048	0.005	198	4,152	7,000	2,569,695	0	2,569,695
1980	5.13	73,332	0.1	3,135	10.98	97,048	0.01	313	3,448	7,000	2,566,144	0	2,566,144
1981	7.80	73,332	0.1	4,767	11.58	97,048	0.01	477	5,243	8,000	2,563,387	0	2,563,387
1982	8.83	73,332	0.1	5,396	16.43	97,048	0.01	540	5,936	8,000	2,561,322	0	2,561,322
1983	15.51	73,332	0.1	9,478	27.77	97,048	0.07	6,635	16,113	10,000	2,567,435	0	2,567,435
1984	7.58	73,332	0.06	2,779	8.98	97,048	0.005	232	3,011	9,000	2,561,446	0	2,561,446
1985	2.49	73,332	0	0	8.46	97,048	0.005	76	76	3,000	2,558,522	0	2,558,522
1986	5.74	73,332	0.06	2,105	9.05	97,048	0.005	175	2,280	2,500	2,558,302	0	2,558,302
1987	4.70	73,332	0.1	2,872	13.02	97,048	0.01	287	3,159	2,500	2,558,962	0	2,558,962
1988	4.91	73,332	0.06	1,800	8.88	97,048	0.005	150	1,950	2,500	2,558,412	0	2,558,412
1989	1.02	73,332	0	0	4.30	97,048	0	0	0	1,000	2,557,412	0	2,557,412
1990	1.49	73,332	0	0	7.03	97,048	0.005	46	46	500	2,556,958	0	2,556,958
1991	6.57	73,332	0.1	4,015	11.97	97,048	0.01	401	4,416	3,000	2,558,374	0	2,558,374
1992	12.09	73,332	0.1	7,388	15.74	97,048	0.01	739	8,127	8,000	2,558,501	0	2,558,501
1993	10.86	73,332	0.1	6,637	15.82	97,048	0.01	664	7,300	8,000	2,557,801	0	2,557,801

TABLE V-7
GROUNDWATER BALANCE SPREADSHEET FOR THE MOJAVE CITY SUBBASIN

	MOJAVE CITY SUBBASIN VALLEY FLOOR				OAK CREEK AND TEHACHAPI MOUNTAIN WATERSHEDS				TOTAL	NET	SUBTOTAL		TOTAL
	PRECIP.	VALLEY FLOOR	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	GROUNDWATER	GROUNDWATER	GROUNDWATER	OUTFLOW TO	GROUNDWATER
YEAR	MOJAVE	SURFACE AREA	COEFFICIENT	FROM RAINFALL	TEHACHAPI	AREA	COEFFICIENT	FROM RUNOFF	RECHARGE	EXTRACTION	STORAGE	CALIFORNIA CITY	STORAGE
	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET
													2,615,899
1945	8.79	73,332	0.1	5,372	18.29	97,048	0.01	537	5,909	500	2,621,308	5,409	2,615,899
1946	2.57	73,332	0	0	9.92	97,048	0.005	79	79	500	2,615,478	0	2,615,478
1947	2.15	73,332	0	0	4.66	97,048	0	0	0	500	2,614,978	0	2,614,978
1948	2.44	73,332	0	0	6.16	97,048	0.005	75	75	500	2,614,552	0	2,614,552
1949	2.57	73,332	0	0	10.57	97,048	0.005	79	79	500	2,614,131	0	2,614,131
1950	1.68	73,332	0	0	7.32	97,048	0.005	51	51	500	2,613,682	0	2,613,682
1951	3.20	73,332	0.1	1,956	11.97	97,048	0.01	196	2,151	500	2,615,333	0	2,615,333
1952	9.73	73,332	0.1	5,946	17.45	97,048	0.01	595	6,541	500	2,621,374	5,475	2,615,899
1953	1.47	73,332	0	0	6.95	97,048	0.005	45	45	500	2,615,444	0	2,615,444
1954	4.20	73,332	0.06	1,540	7.67	97,048	0.005	128	1,668	500	2,616,612	713	2,615,899
1955	2.55	73,332	0	0	8.84	97,048	0.005	78	78	500	2,615,477	0	2,615,477
1956	3.17	73,332	0.06	1,162	7.80	97,048	0.005	97	1,259	500	2,616,236	337	2,615,899
1957	5.95	73,332	0.1	3,636	10.76	97,048	0.005	182	3,818	500	2,619,217	3,318	2,615,899
1958	7.29	73,332	0.1	4,455	14.77	97,048	0.01	445	4,900	500	2,620,300	4,400	2,615,899
1959	3.63	73,332	0.02	444	3.98	97,048	0	0	444	2,500	2,613,843	0	2,613,843
1960	3.36	73,332	0.1	2,053	11.11	97,048	0.01	205	2,259	2,500	2,613,601	0	2,613,601
1961	3.06	73,332	0.02	374	5.41	97,048	0	0	374	2,500	2,611,475	0	2,611,475
1962	3.82	73,332	0.06	1,401	9.25	97,048	0.005	117	1,517	2,500	2,610,493	0	2,610,493
1963	6.29	73,332	0.06	2,306	9.43	97,048	0.005	192	2,498	4,000	2,608,991	0	2,608,991
1964	2.25	73,332	0	0	10.41	97,048	0.005	69	69	4,000	2,605,060	0	2,605,060
1965	10.48	73,332	0.1	6,404	10.64	97,048	0.005	320	6,725	4,000	2,607,785	0	2,607,785
1966	3.66	73,332	0.06	1,342	9.62	97,048	0.005	112	1,454	5,000	2,604,238	0	2,604,238
1967	8.71	73,332	0.1	5,323	12.95	97,048	0.01	532	5,855	5,000	2,605,093	0	2,605,093
1968	2.71	73,332	0	0	6.91	97,048	0.005	83	83	5,000	2,600,176	0	2,600,176
1969	10.86	73,332	0.1	6,637	15.32	97,048	0.01	664	7,300	6,000	2,601,476	0	2,601,476
1970	6.62	73,332	0.1	4,045	14.80	97,048	0.01	405	4,450	6,000	2,599,926	0	2,599,926
1971	2.84	73,332	0.06	1,041	7.91	97,048	0.005	87	1,128	6,000	2,595,054	0	2,595,054
1972	1.58	73,332	0	0	7.50	97,048	0.005	48	48	6,000	2,589,103	0	2,589,103
1973	6.47	73,332	0.1	3,954	14.80	97,048	0.01	395	4,349	6,000	2,587,452	0	2,587,452
1974	5.54	73,332	0.1	3,385	11.09	97,048	0.01	339	3,724	7,000	2,584,176	0	2,584,176
1975	2.00	73,332	0	0	6.25	97,048	0.005	61	61	7,000	2,577,237	0	2,577,237
1976	4.82	73,332	0.06	1,767	6.68	97,048	0.005	147	1,915	7,000	2,572,152	0	2,572,152
1977	8.32	73,332	0.1	5,084	11.94	97,048	0.01	508	5,593	7,000	2,570,744	0	2,570,744
1978	13.09	73,332	0.1	7,999	17.78	97,048	0.01	800	8,799	7,000	2,572,544	0	2,572,544
1979	6.47	73,332	0.1	3,954	10.56	97,048	0.005	198	4,152	7,000	2,569,695	0	2,569,695
1980	5.13	73,332	0.1	3,135	10.98	97,048	0.01	313	3,448	7,000	2,566,144	0	2,566,144
1981	7.80	73,332	0.1	4,767	11.58	97,048	0.01	477	5,243	8,000	2,563,387	0	2,563,387
1982	8.83	73,332	0.1	5,396	16.43	97,048	0.01	540	5,936	8,000	2,561,322	0	2,561,322
1983	15.51	73,332	0.1	9,478	27.77	97,048	0.07	6,635	16,113	10,000	2,567,435	0	2,567,435
1984	7.58	73,332	0.06	2,779	8.98	97,048	0.005	232	3,011	9,000	2,561,446	0	2,561,446
1985	2.49	73,332	0	0	8.46	97,048	0.005	76	76	3,000	2,558,522	0	2,558,522
1986	5.74	73,332	0.06	2,105	9.05	97,048	0.005	175	2,280	2,500	2,558,302	0	2,558,302
1987	4.70	73,332	0.1	2,872	13.02	97,048	0.01	287	3,159	2,500	2,558,962	0	2,558,962
1988	4.91	73,332	0.06	1,800	8.88	97,048	0.005	150	1,950	2,500	2,558,412	0	2,558,412
1989	1.02	73,332	0	0	4.30	97,048	0	0	0	1,000	2,557,412	0	2,557,412
1990	1.49	73,332	0	0	7.03	97,048	0.005	46	46	500	2,556,958	0	2,556,958
1991	6.57	73,332	0.1	4,015	11.97	97,048	0.01	401	4,416	3,000	2,558,374	0	2,558,374
1992	12.09	73,332	0.1	7,388	15.74	97,048	0.01	739	8,127	8,000	2,558,501	0	2,558,501
1993	10.86	73,332	0.1	6,637	15.82	97,048	0.01	664	7,300	8,000	2,557,801	0	2,557,801

TABLE V-8

GROUNDWATER BALANCE SPREADSHEET FOR THE CALIFORNIA CITY SUBBASIN *

	CALIFORNIA CITY SUBBASIN VALLEY FLOOR				PIUTE AND EL PASO MOUNTAINS WATERSHED				RAND MOUNTAINS WATERSHED						TOTAL	NET	TOTAL	DEPTH TO WATER	
	PRECIP.	VALLEY FLOOR	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	INFLOW FROM	INFLOW FROM	GROUNDWATER	GROUNDWATER	GROUNDWATER	AT WELL 30S/37E-36G01 ***	
YEAR	MOJAVE	SURFACE AREA	COEFFICIENT	FROM RAINFALL	TEHACHAPI	AREA	COEFFICIENT	FROM RUNOFF	RANDSBURG	AREA	COEFFICIENT	FROM RUNOFF	MOJAVE CITY SUBBASIN	ANTELOPE VALLEY	RECHARGE	EXTRACTION **	STORAGE	(IN FEET BGS)	
	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	SIMULATED	MEASURED
																	5,660,063		
1945	8.79	142,451	0.1	10,435	18.29	236,638	0.02	2,087	7.13	93,511	0.005	278	5,409	2,572	20,760	5,000	5,675,843	28.87	
1946	2.57	142,451	0	0	9.92	236,638	0.005	153	6.87	93,511	0.005	268	0	2,572	2,992	5,000	5,673,835	29.01	
1947	2.15	142,451	0	0	4.66	236,638	0	0	2.35	93,511	0	0	0	2,572	2,572	7,500	5,668,907	29.37	
1948	2.44	142,451	0	0	6.16	236,638	0.005	145	1.99	93,511	0	0	0	2,572	2,717	7,500	5,664,124	29.71	
1949	2.57	142,451	0	0	10.57	236,638	0.005	153	4.51	93,511	0.003	105	0	2,572	2,830	10,000	5,656,954	30.22	
1950	1.68	142,451	0	0	7.32	236,638	0.005	100	2.92	93,511	0	0	0	2,572	2,672	10,000	5,649,626	30.75	
1951	3.20	142,451	0.1	3,799	11.97	236,638	0.02	760	4.61	93,511	0.003	108	0	2,572	7,238	10,000	5,646,864	30.95	
1952	9.73	142,451	0.1	11,550	17.45	236,638	0.02	2,310	8.92	93,511	0.005	348	5,475	2,572	22,255	15,000	5,654,118	30.43	
1953	1.47	142,451	0	0	6.95	236,638	0.005	87	0.83	93,511	0	0	0	2,572	2,659	15,000	5,641,778	31.31	29.32
1954	4.20	142,451	0.06	2,991	7.67	236,638	0.005	249	6.12	93,511	0.005	238	713	2,572	6,764	17,500	5,631,042	32.08	
1955	2.55	142,451	0	0	8.84	236,638	0.005	151	2.46	93,511	0	0	0	2,572	2,723	17,500	5,616,265	33.14	
1956	3.17	142,451	0.06	2,258	7.80	236,638	0.005	188	3.05	93,511	0.003	71	337	2,572	5,426	21,000	5,600,692	34.25	
1957	5.95	142,451	0.1	7,063	10.76	236,638	0.005	353	4.31	93,511	0.003	101	3,318	2,572	13,407	21,000	5,593,099	34.80	
1958	7.29	142,451	0.1	8,654	14.77	236,638	0.02	1,731	9.54	93,511	0.005	372	4,400	2,572	17,729	23,300	5,587,528	35.20	33.31
1959	3.63	142,451	0.02	862	3.98	236,638	0	0	4.80	93,511	0.003	112	0	2,572	3,546	23,000	5,568,074	36.59	
1960	3.36	142,451	0.1	3,989	11.11	236,638	0.02	798	4.28	93,511	0.003	100	0	2,572	7,458	23,300	5,552,232	37.72	40.15
1961	3.06	142,451	0.02	727	5.41	236,638	0	0	2.43	93,511	0	0	0	2,572	3,299	60,000	5,495,531	41.79	44.45
1962	3.82	142,451	0.06	2,721	9.25	236,638	0.005	227	3.68	93,511	0.003	86	0	2,572	5,606	60,000	5,441,136	45.68	50.28
1963	6.29	142,451	0.06	4,480	9.43	236,638	0.005	373	7.14	93,511	0.005	278	0	2,572	7,704	60,000	5,388,840	49.43	54.78
1964	2.25	142,451	0	0	10.41	236,638	0.005	134	2.03	93,511	0	0	0	2,572	2,706	60,000	5,331,545	53.53	57.92
1965	10.48	142,451	0.1	12,441	10.64	236,638	0.005	622	11.16	93,511	0.2	17,393	0	2,572	33,028	60,000	5,304,573	55.46	57.63
1966	3.66	142,451	0.06	2,607	9.62	236,638	0.005	217	3.10	93,511	0.003	72	0	2,572	5,469	60,000	5,250,042	59.37	56.36
1967	8.71	142,451	0.1	10,340	12.95	236,638	0.02	2,068	6.83	93,511	0.005	266	0	2,572	15,246	60,000	5,205,287	62.58	62.32
1968	2.71	142,451	0	0	6.91	236,638	0.005	161	3.88	93,511	0.003	91	0	2,572	2,824	60,000	5,148,111	66.67	63.67
1969	10.86	142,451	0.1	12,892	15.32	236,638	0.02	2,578	10.85	93,511	0.2	16,910	0	2,572	34,952	60,000	5,123,063	68.47	66.14
1970	6.62	142,451	0.1	7,859	14.80	236,638	0.02	1,572	5.20	93,511	0.003	122	0	2,572	12,124	60,000	5,075,187	71.90	73.05
1971	2.84	142,451	0.06	2,023	7.91	236,638	0.005	169	2.56	93,511	0	0	0	2,572	4,763	90,000	4,989,950	78.00	79.79
1972	1.58	142,451	0	0	7.50	236,638	0.005	94	1.49	93,511	0	0	0	2,572	2,666	90,000	4,902,616	84.26	95.07
1973	6.47	142,451	0.1	7,680	14.80	236,638	0.02	1,536	5.81	93,511	0.003	136	0	2,572	11,924	90,000	4,824,540	89.85	92.99
1974	5.54	142,451	0.1	6,576	11.09	236,638	0.02	1,315	6.14	93,511	0.005	239	0	2,572	10,703	90,000	4,745,243	95.53	98.59
1975	2.00	142,451	0	0	6.25	236,638	0.005	119	2.30	93,511	0	0	0	2,572	2,691	90,000	4,657,934	101.78	105.80
1976	4.82	142,451	0.06	3,433	6.68	236,638	0.005	286	5.37	93,511	0.003	126	0	2,572	6,417	90,000	4,574,351	107.77	110.63
1977	8.32	142,451	0.1	9,877	11.94	236,638	0.02	1,975	6.53	93,511	0.005	254	0	2,572	14,678	90,000	4,499,029	113.17	117.22
1978	13.09	142,451	0.1	15,539	17.78	236,638	0.02	3,108	12.37	93,511	0.2	19,279	0	2,572	40,498	90,000	4,449,527	116.71	118.82
1979	6.47	142,451	0.1	7,680	10.56	236,638	0.005	384	5.11	93,511	0.003	119	0	2,572	10,756	90,000	4,370,283	122.39	122.26
1980	5.13	142,451	0.1	6,090	10.98	236,638	0.02	1,218	10.47	93,511	0.2	16,318	0	2,572	26,197	90,000	4,306,480	126.96	140.28
1981	7.80	142,451	0.1	9,259	11.58	236,638	0.02	1,852	7.68	93,511	0.005	299	0	2,572	13,982	50,000	4,270,462	129.54	130.27
1982	8.83	142,451	0.1	10,482	16.43	236,638	0.02	2,096	10.27	93,511	0.2	16,006	0	2,572	31,156	50,000	4,251,619	130.89	131.12
1983	15.51	142,451	0.1	18,412	27.77	236,638	0.2	36,824	15.58	93,511	0.2	24,282	0	2,572	82,089	50,000	4,283,708	128.59	131.67
1984	7.58	142,451	0.06	5,399	8.98	236,638	0.005	450	6.55	93,511	0.005	255	0	2,572	8,676	40,000	4,252,384	130.84	134.02
1985	2.49	142,451	0	0	8.46	236,638	0.005	148	2.41	93,511	0	0	0	2,572	2,720	40,000	4,215,104	133.51	134.47
1986	5.74	142,451	0.06	4,088	9.05	236,638	0.005	341	7.41	93,511	0.005	289	0	2,572	7,290	2,000	4,220,393	133.13	131.78
1987	4.70	142,451	0.1	5,579	13.02	236,638	0.02	1,116	7.98	93,511	0.005	311	0	2,572	9,578	2,000	4,227,972	132.58	130.14
1988	4.91	142,451	0.06	3,497	8.88	236,638	0.005	291	5.68	93,511	0.003	133	0	2,572	6,493	2,000	4,232,465	132.26	129.23
1989	1.02	142,451	0	0	4.30	236,638	0	0	1.29	93,511	0	0	0	2,572	2,572	2,000	4,233,037	132.22	129.66
1990	1.49	142,451	0	0	7.03	236,638	0.005	88	2.25	93,511	0	0	0	2,572	2,660	20,000	4,215,697	133.46	131.83
1991	6.57	142,451	0.1	7,799	11.97	236,638	0.02	1,560	8.34	93,511	0.005	325	0	2,572	12,256	20,000	4,207,953	134.02	133.02
1992	12.09	142,451	0.1	14,352	15.74	236,638	0.02	2,870	16.44	93,511	0.2	25,622	0	2,572	45,416	25,000	4,228,370	132.56	134.54
1993	10.86	142,451	0.1	12,892	15.82	236,638	0.02	2,578	9.21	93,511	0.005	359	0	2,572	18,401	25,000	4,221,771	133.03	135.82
1994	2.94	142,451	0.06	2,094	8.09	236,638	0.005	175	3.05	93,511	0.003	71	0	2,572	4,912	25,000	4,201,683	134.47	139.97
1995	12.62	142,451	0.1	14,981	19.91	236,638	0.02	2,996	11.51	93,511	0.2	17,939	0	2,572	38,488	15,000	4,225,170	132.78	136.42
1996	4.55	142,451	0.1	5,401	13.24	236,638	0.02	1,080	5.57	93,511	0.003	130	0	2,572	9,184	5,000	4,229,354	132.48	135.15
1997	4.23	142,451	0.02	1,004	4.43	236,638	0	0	4.78	93,511	0.003	112	0	2,572	3,688	3,500	4,229,542	132.47	134.01
1998	13.28	142,451	0.1	15,765	22.79	236,638	0.2	31,529	12.37	93,511	0.2	19,279	0	2,572	69,145	3,500	4,295,187	127.77	131.57
1999	2.57	142,451	0	0	6.91	236,638	0.005	153	3.17	93,511	0.003	74	0	2,572	2,799	3,500	4,294,485	127.82	128.95
2000	3.51	142,451	0.06	2,500	9.52	236,638	0.005	208	4.77	93,511	0.003	112	0	2,572	5,392	3,500	4,296,377	127.68	126.08
2001	8.15	142,451	0.1	9,675	10.46	236,638	0.005	484	8.24	93,511	0.005	321	0	2,572	13,052	3,500	4,305,929	127.00	125.98
2002	2.98	142,451	0.06	2,123	8.45	236,638	0.005	177	3.92	93,511	0.003	92	0	2,572	4,963	3,500	4,307,392	126.89	123.73
2003	7.82	142,451	0.1	9,283	10.79	236,638	0.005	464	6.46	93,511	0.005	252	0	2,572	12,571	3,500	4,316,463	126.25	123.48
2004	4.23	142,451	0.06	3,013	7.56	236,638	0.005	251	9.16	93,511	0.005	357	0	2,572	6,193	3,500	4,319,156	126.05	122.84

TABLE V-8

GROUNDWATER BALANCE SPREADSHEET FOR THE CALIFORNIA CITY SUBBASIN *

	CALIFORNIA CITY SUBBASIN VALLEY FLOOR				PIUTE AND EL PASO MOUNTAINS WATERSHED				RAND MOUNTAINS WATERSHED						TOTAL	NET	TOTAL	DEPTH TO WATER	
	PRECIP.	VALLEY FLOOR	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	PRECIP.	WATERSHED	RECHARGE	NET RECHARGE	INFLOW FROM	INFLOW FROM	GROUNDWATER	GROUNDWATER	GROUNDWATER	AT WELL 30S/37E-36G01 ***	
YEAR	MOJAVE	SURFACE AREA	COEFFICIENT	FROM RAINFALL	TEHACHAPI	AREA	COEFFICIENT	FROM RUNOFF	RANDSBURG	AREA	COEFFICIENT	FROM RUNOFF	MOJAVE CITY SUBBASIN	ANTELOPE VALLEY	RECHARGE	EXTRACTION **	STORAGE	(IN FEET BGS)	
	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	INCHES	ACRES		ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	ACRE-FEET	SIMULATED	MEASURED
2005	4.78	142,451	0.1	5,674	17.62	236,638	0.02	1,135	12.50	93,511	0.2	19,481	0	2,572	28,863	3,500	4,344,518	124.24	122.46
2006	1.24	142,451	0	0	9.54	236,638	0.005	74	3.28	93,511	0.003	77	0	2,572	2,722	3,500	4,343,741	124.29	122.19
2007	0.77	142,451	0	0	5.22	236,638	0	0	1.29	93,511	0	0	0	2,572	2,572	3,500	4,342,813	124.36	122.05
Average	5.44			5,204	10.83			1,847	6.04			3,174	312	2,572	13,109	34,017			
ast 10 years	4.93			4,803	10.89			3,447	6.52			4,004	0	2,572	14,827	3,500			
ast 20 years	5.53			5,503	10.91			2,306	6.66			4,237	0	2,572	14,617	8,875			

ESTIMATE OF RECHARGE COEFFICIENT FOR VALLEY FLOOR

Precipitation Range	Precipitation (inches)	Recharge Coefficient
0	0	
		0
Average/2	2.72	
		0.02
Average	5.44	
		0.06
10	10	
		0.1

ESTIMATE OF RECHARGE COEFFICIENT (PIUTE AND EL PASO MOUNTAINS)

Precipitation Range	Precipitation (inches)	Recharge Coefficient
0	0	
		0
Average/2	5.41	
		0.005
Average	10.83	
		0.02
20	20	
		0.2

ESTIMATE OF RECHARGE COEFFICIENT (RAND MOUNTAINS)

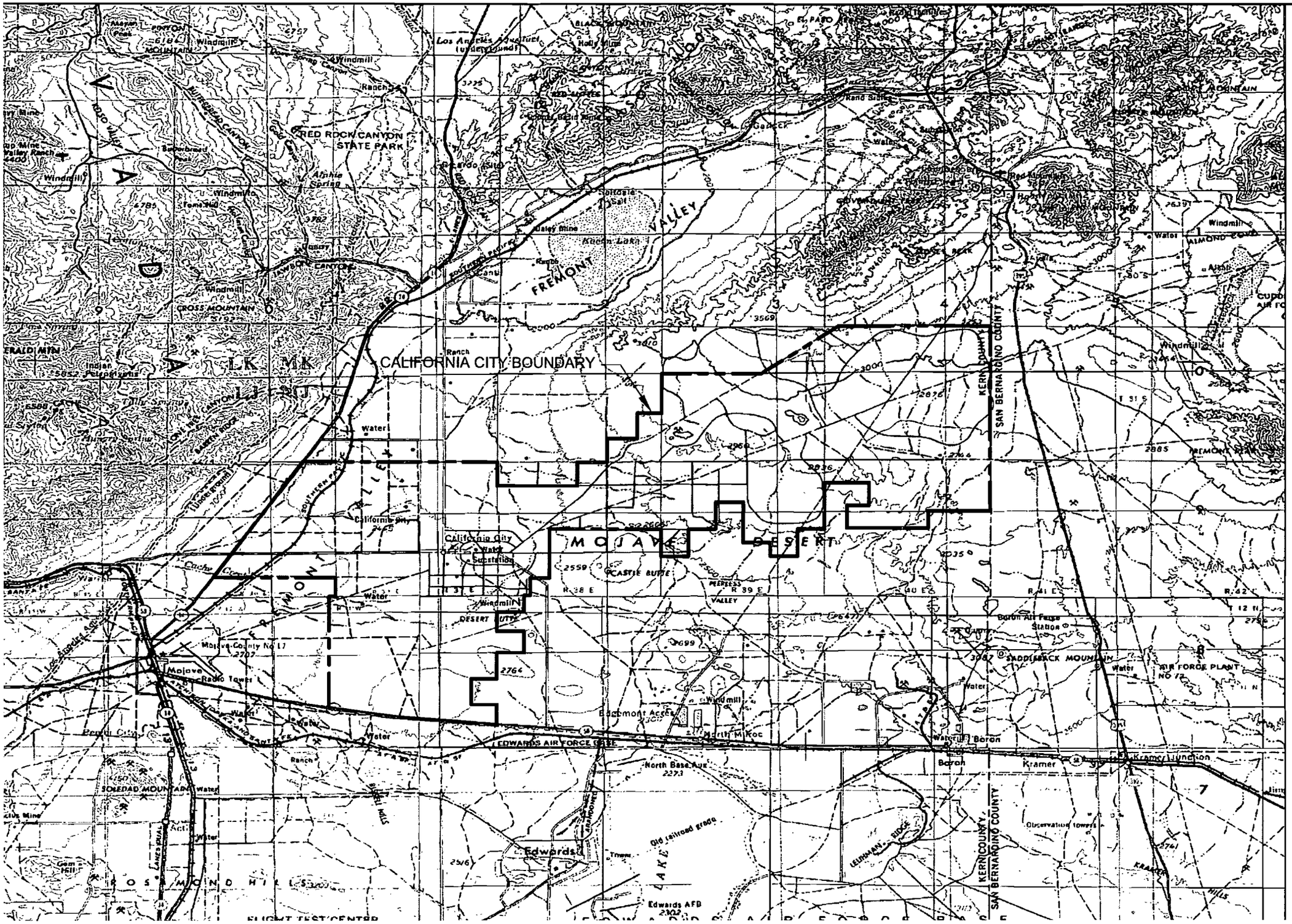
Precipitation Range	Precipitation (inches)	Recharge Coefficient
0	0	
		0
Average/2	3.02	
		0.003
Average	6.04	
		0.005
10	10	
		0.2

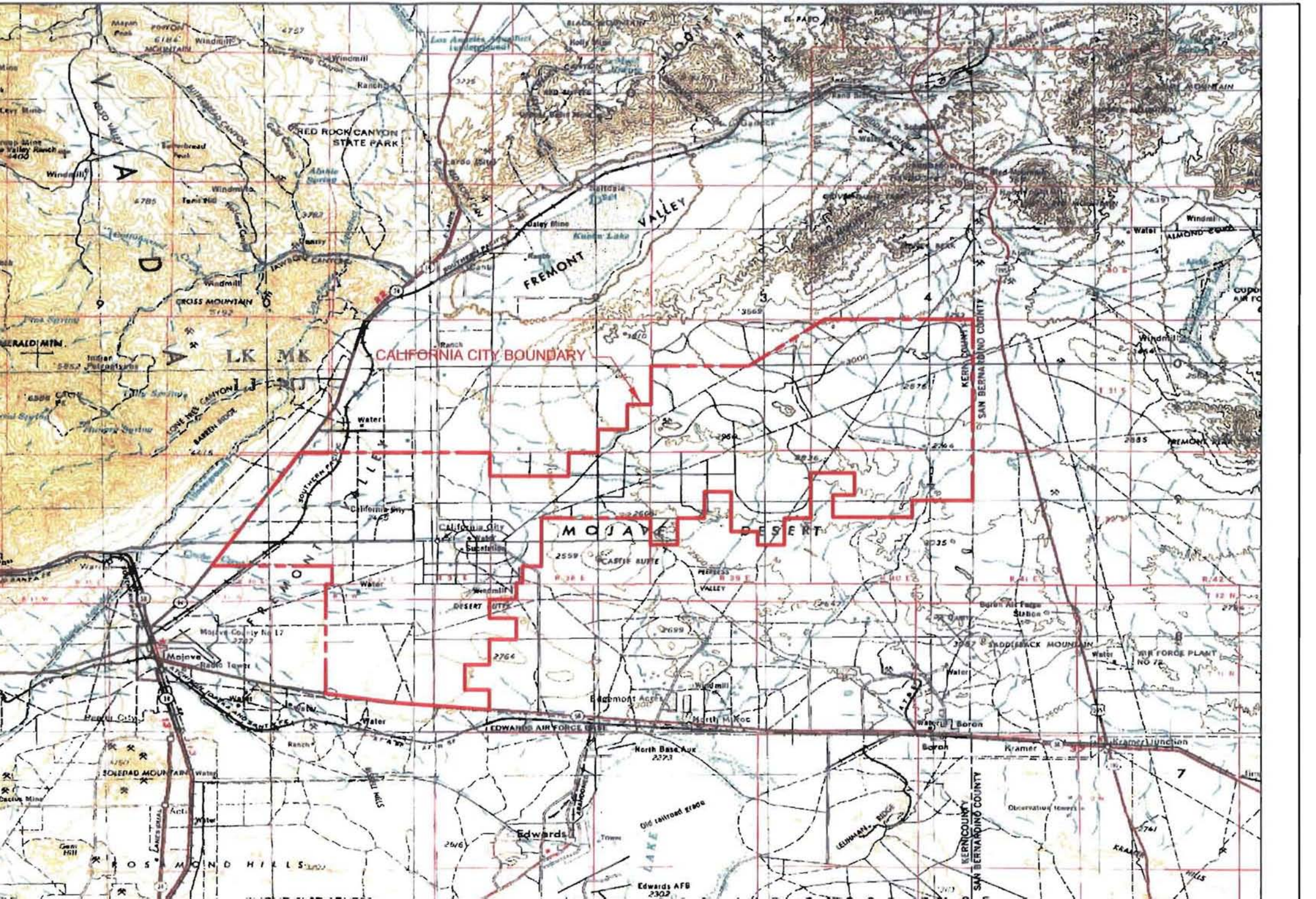
NOTES

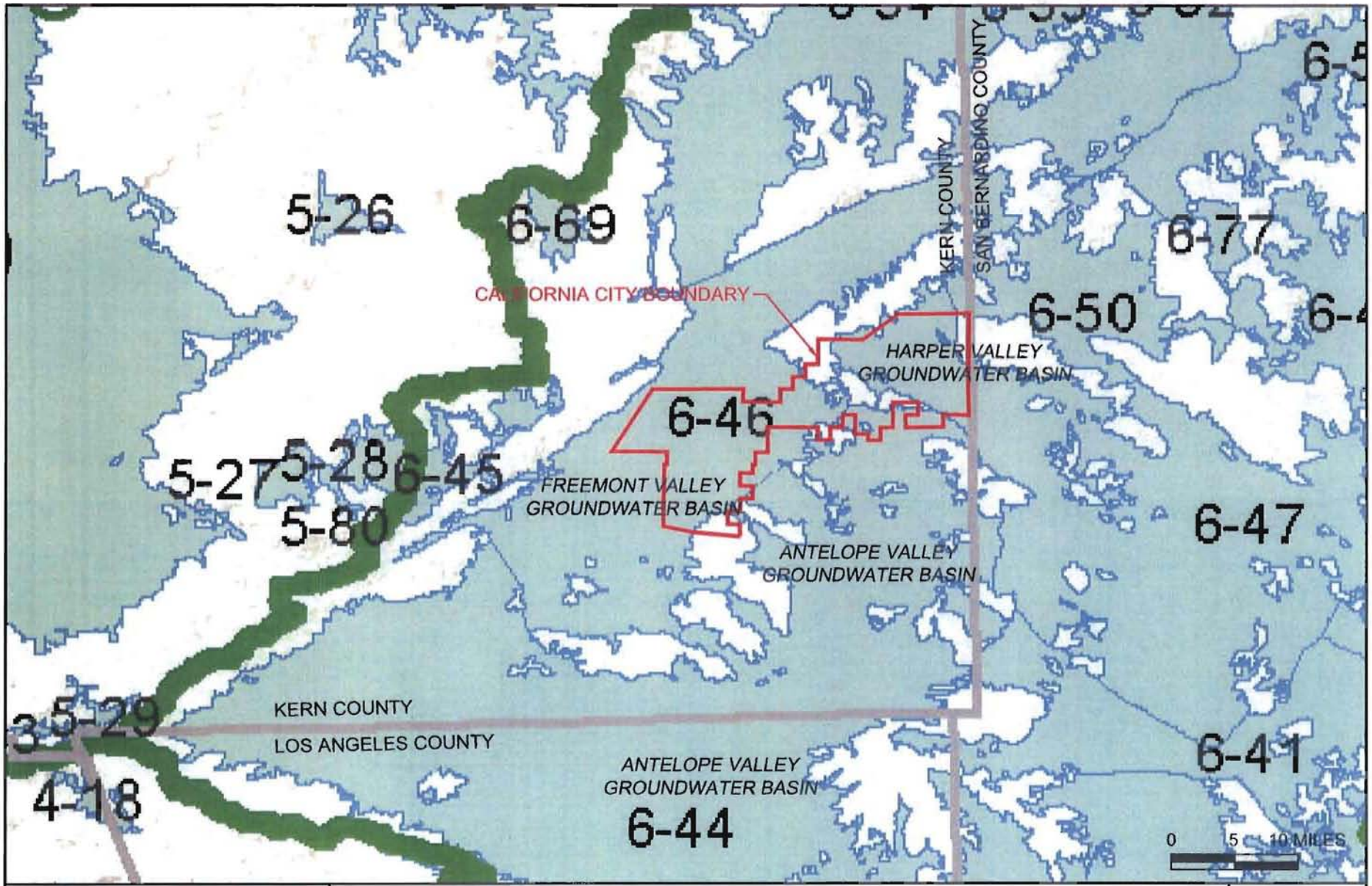
* THIS SPREADSHEET MODEL DOES NOT INCLUDE EXTRACTION FROM MOJAVE PUBLIC UTILITY DISTRICT BECAUSE THE EXTRACTION OCCURS SOUTH OF THE MUROCK FAULT

** CALIBRATED NET GROUNDWATER EXTRACTION INCLUDES ALL EXTRACTION IN THE CALIFORNIA CITY SUBBASIN; HOWEVER, EXTRACTION FROM SMALL PRODUCERS IS INSIGNIFICANT COMPARED TO MAJOR PRODUCERS

*** DEPTH TO WATER AT WELL 30S/37E-36G01 REFLECTS CHANGES IN GROUNDWATER STORAGE DUE TO GROUNDWATER EXTRACTION


CALIFORNIA CITY BOUNDARY
RED ROCK CANYON STATE PARK
FREMONT VALLEY
MOJAVE DESERT
California City
Mojave
Edwards
Kramer
Boron
Kramer Junction
EDWARDS AIR FORCE BASE
North Base Aux
Edgemont Acres
North Mirror
Edwards AFB
Mojave County No 17
Radio Tower
Boron Air Force Station
SADDLEBACK MOUNTAIN
AIR FORCE PLANT NO 72
CASTLE BUTTE
DESERT BUTTE
PEERLESS VALLEY
SOLEDAD MOUNTAIN
ROSAMOND HILLS
FLIGHT TEST CENTER
KERN COUNTY
SAN BERNARDINO COUNTY
Los Angeles Aqueduct
Windmill
Ranch
Water
Old railroad grade
Observation towers


CALIFORNIA CITY BOUNDARY
FREMONT VALLEY
MOJAVE DESERT
RED ROCK CANYON STATE PARK
CROSS MOUNTAIN
LK MK
LJ MJ
California City
Mojave
Edwards
Kramer
Kramer Junction
Boron
North Base Aux
Edgemont Acres
North Mirror
EDWARDS AIR FORCE BASE
Edwards AFB
SADDLEBACK MOUNTAIN
AIR FORCE PLANT NO 72
SOLEDAD MOUNTAIN
ROSAMOND HILLS
KERN COUNTY
SAN BERNARDINO COUNTY
Old railroad grade
Observation towers
Mojave County No 17
Radio Tower
Water
Windmill
Ranch
Dairy Mine
Kuhn Lake
Los Angeles Aqueduct
Holly Mine
Cactus Mine
Gem Hill
Indian Petroglyphs
Tilly Springs
Hungry Spring
Lone Tree Canyon
Barren Ridge
Jawbone Canyon
Butterbread Canyon
Rosamond Hills
Kramer Hills
Lehman Ridge
Castle Butte
Peerless Valley
Desert Butte
Southern Pacific
Santa Fe
Cross Mountain
Almond Gulch
Fremont Peak
Boron Air Force Station
Edwards Air Force Base
Lake



STETSON ENGINEERS INC.
861 VILLAGE OAKS DRIVE, SUITE 100
COVINA, CALIFORNIA 91724
TEL: (626) 967-6202
FAX: (626) 331-7065
2171 E Francisco Blvd., Suite K
San Rafael California 94901
2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

CALIFORNIA CITY

GROUNDWATER BASINS IN THE VICINITY OF CALIFORNIA CITY

PLATE II-2

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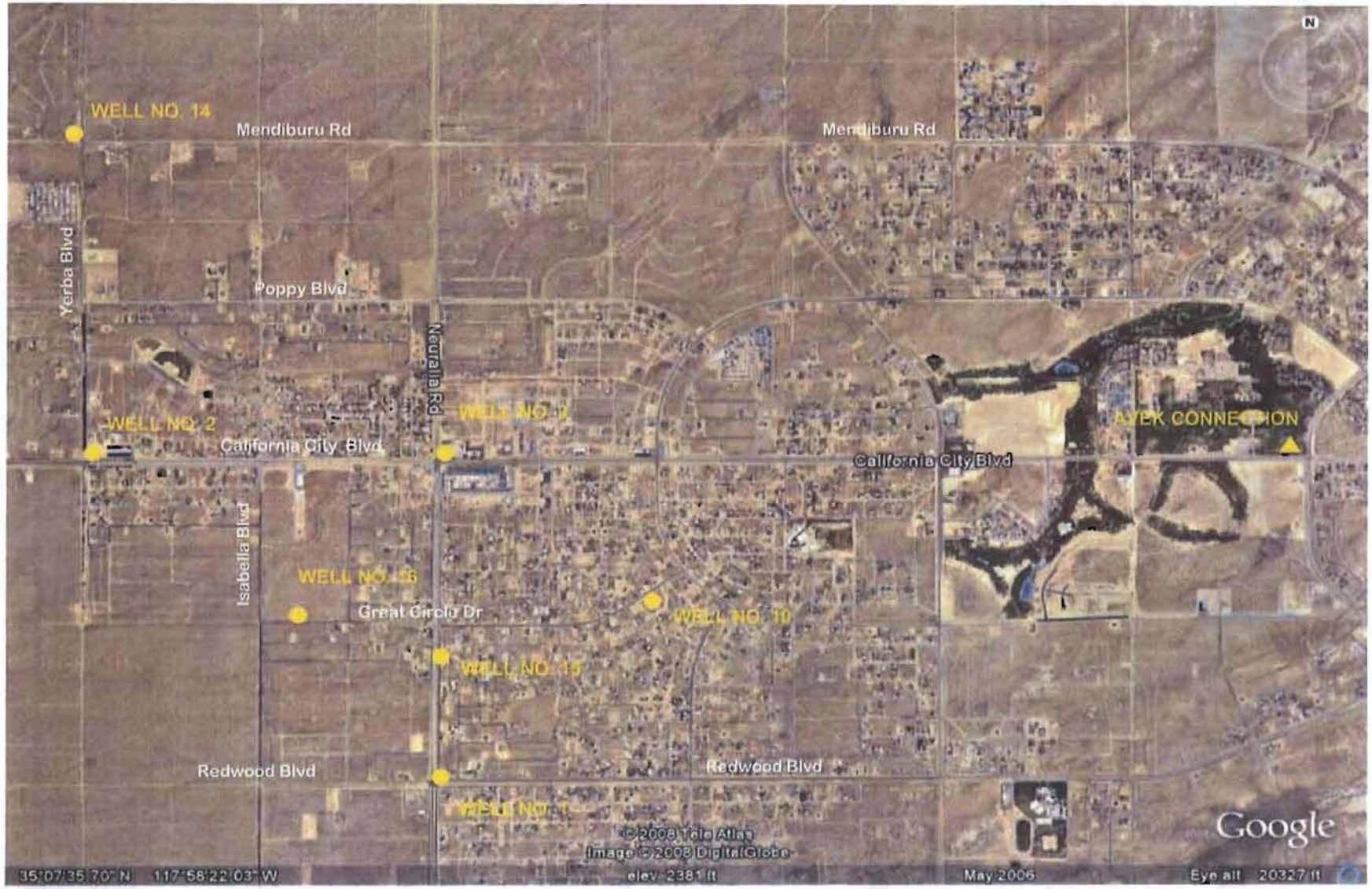

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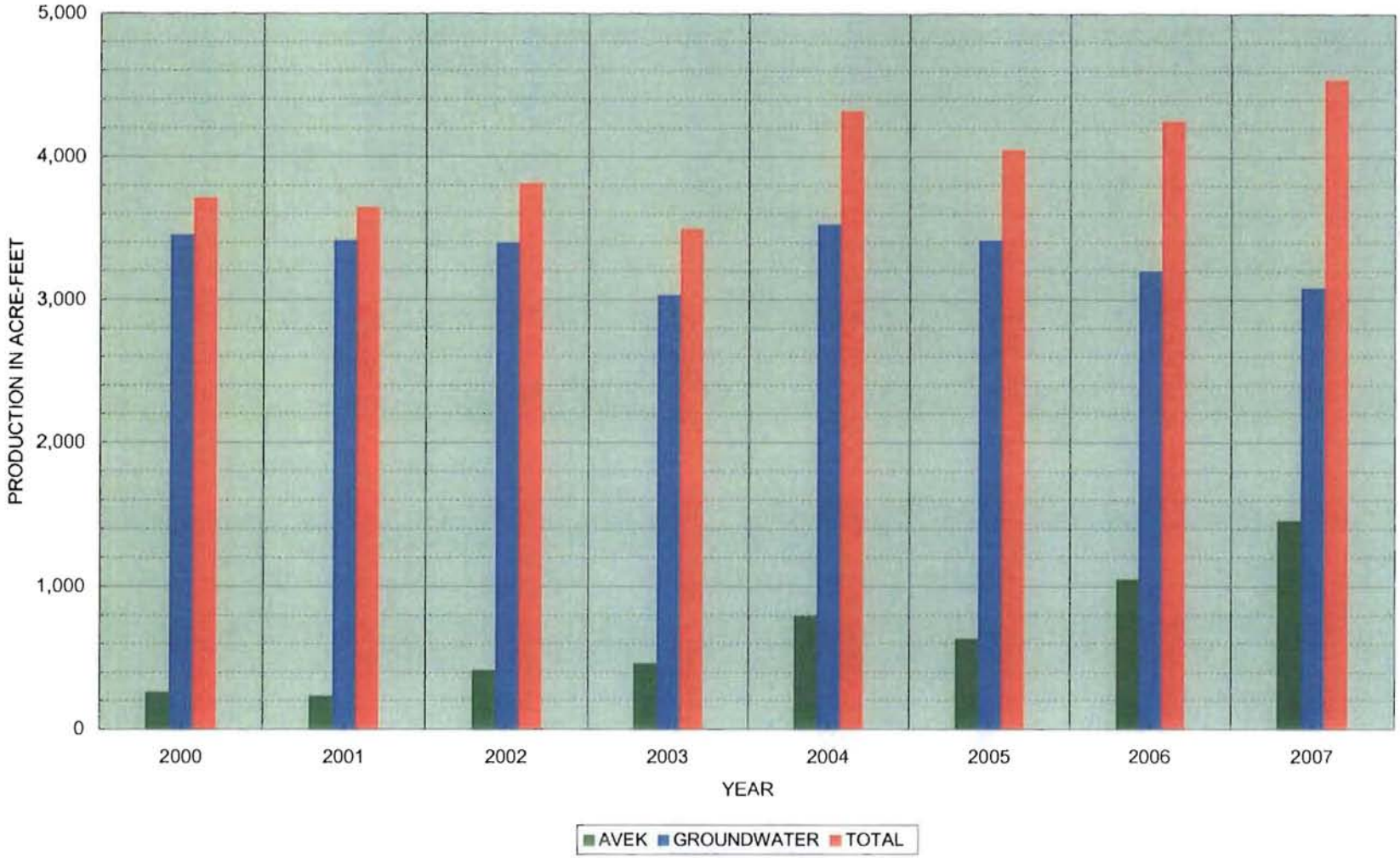
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

LOCATIONS OF CALIFORNIA CITY'S WELLS AND AVEK CONNECTION



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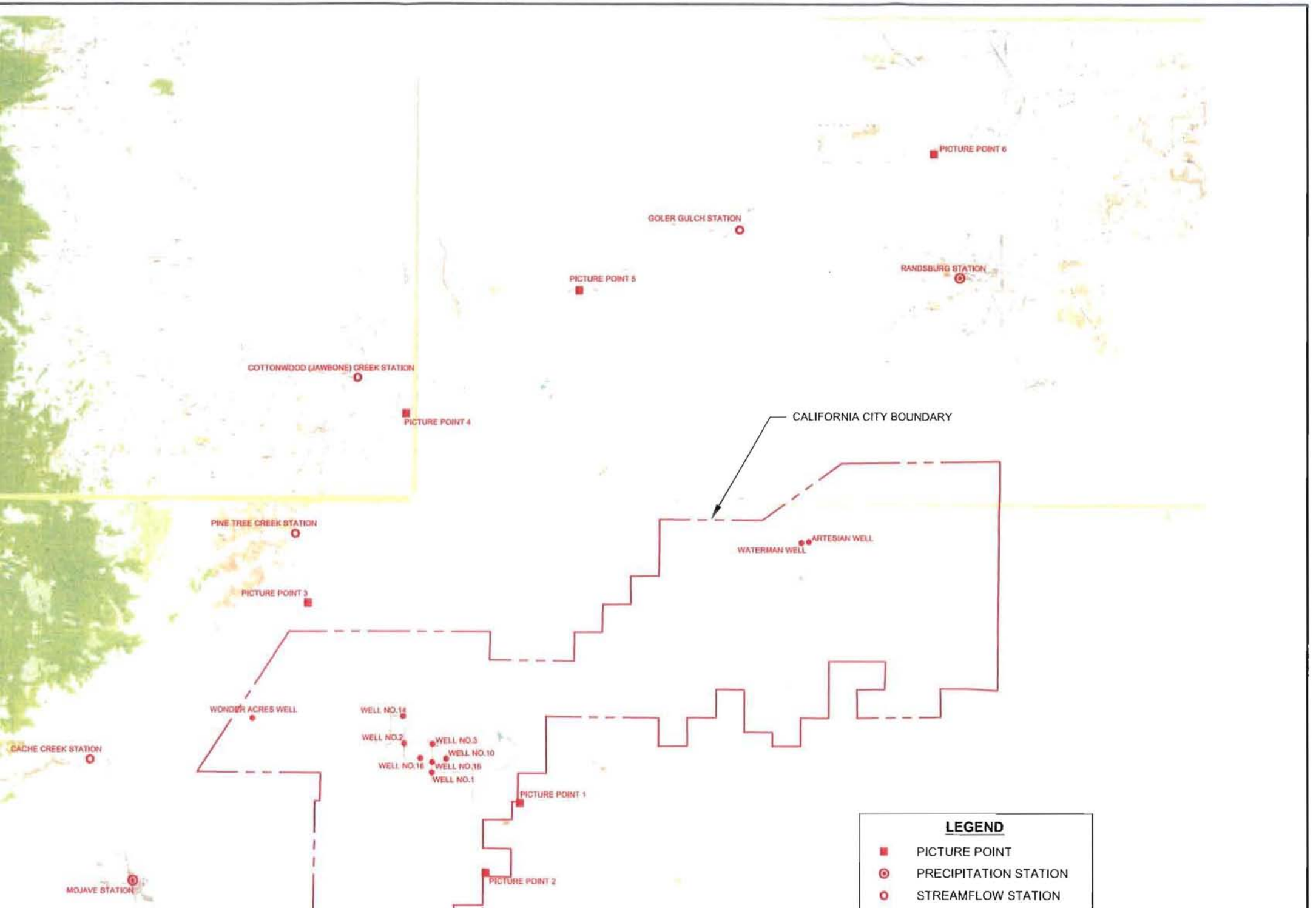
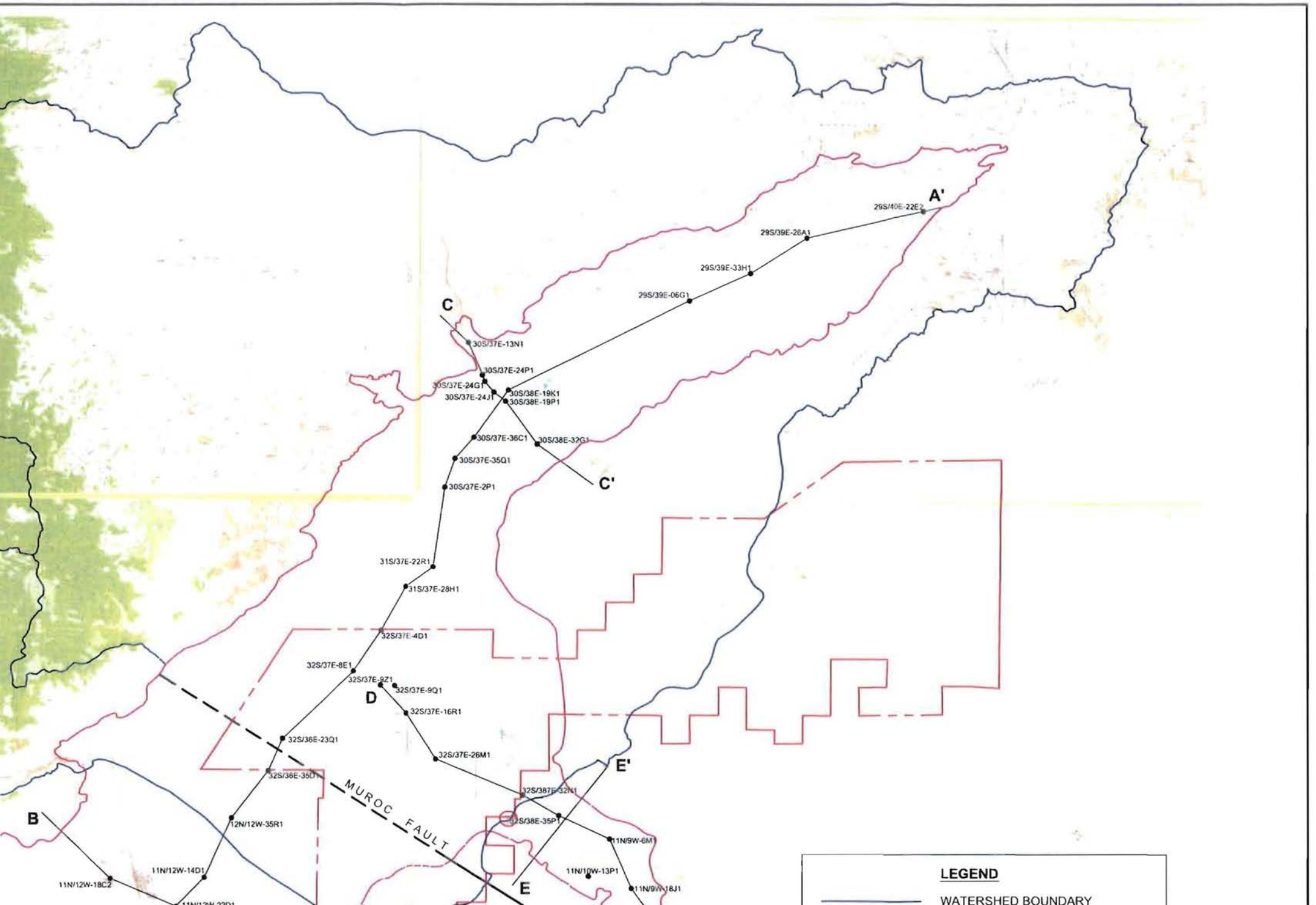
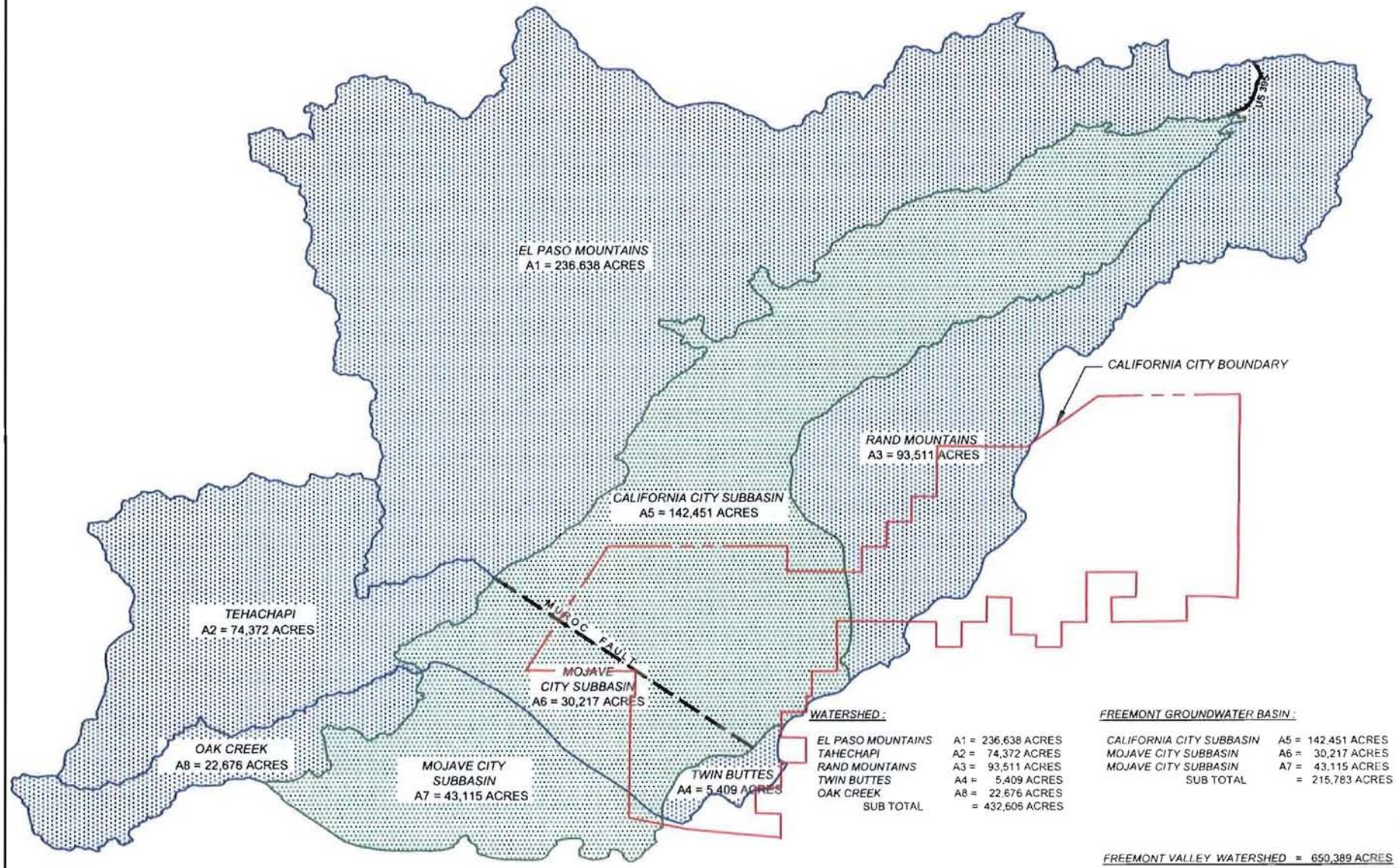
CALIFORNIA CITY'S WATER SUPPLIES FROM 2000 TO 2007


PICTURE POINT 6
GOLER GULCH STATION
RANDSBURG STATION
PICTURE POINT 5
COTTONWOOD (JAWBONE) CREEK STATION
PICTURE POINT 4
CALIFORNIA CITY BOUNDARY
PINE TREE CREEK STATION
ARTESIAN WELL
WATERMAN WELL
PICTURE POINT 3
WONDER ACRES WELL
WELL NO.14
WELL NO.2
WELL NO.3
WELL NO.10
WELL NO.16
WELL NO.15
WELL NO.1
CACHE CREEK STATION
PICTURE POINT 1
PICTURE POINT 2
MOJAVE STATION
LEGEND
PICTURE POINT
PRECIPITATION STATION
STREAMFLOW STATION


A'
29S/40E-22E2
29S/39E-26A1
29S/39E-33H1
29S/39E-06G1
C
30S/37E-13N1
30S/37E-24P1
30S/37E-24G1
30S/37E-24J1
30S/38E-19K1
30S/38E-19P1
30S/37E-36C1
30S/38E-32G1
30S/37E-35Q1
30S/37E-2P1
C'
31S/37E-22R1
31S/37E-28H1
32S/37E-4D1
32S/37E-8E1
32S/37E-9Z1
32S/37E-9Q1
D
32S/37E-16R1
32S/36E-23Q1
32S/37E-26M1
E'
32S/36E-35D1
MUROC FAULT
32S/38E-35P1
11N/9W-6M1
B
12N/12W-35R1
11N/12W-14D1
11N/12W-18C2
11N/10W-13P1
11N/9W-18J1
E
LEGEND
WATERSHED BOUNDARY



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COVINA, CALIFORNIA 91724
TEL: (626) 967-6202
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2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

CALIFORNIA CITY

AREAS OF FREEMONT VALLEY WATERSHED AND GROUNDWATER BASIN

PLATE V-2

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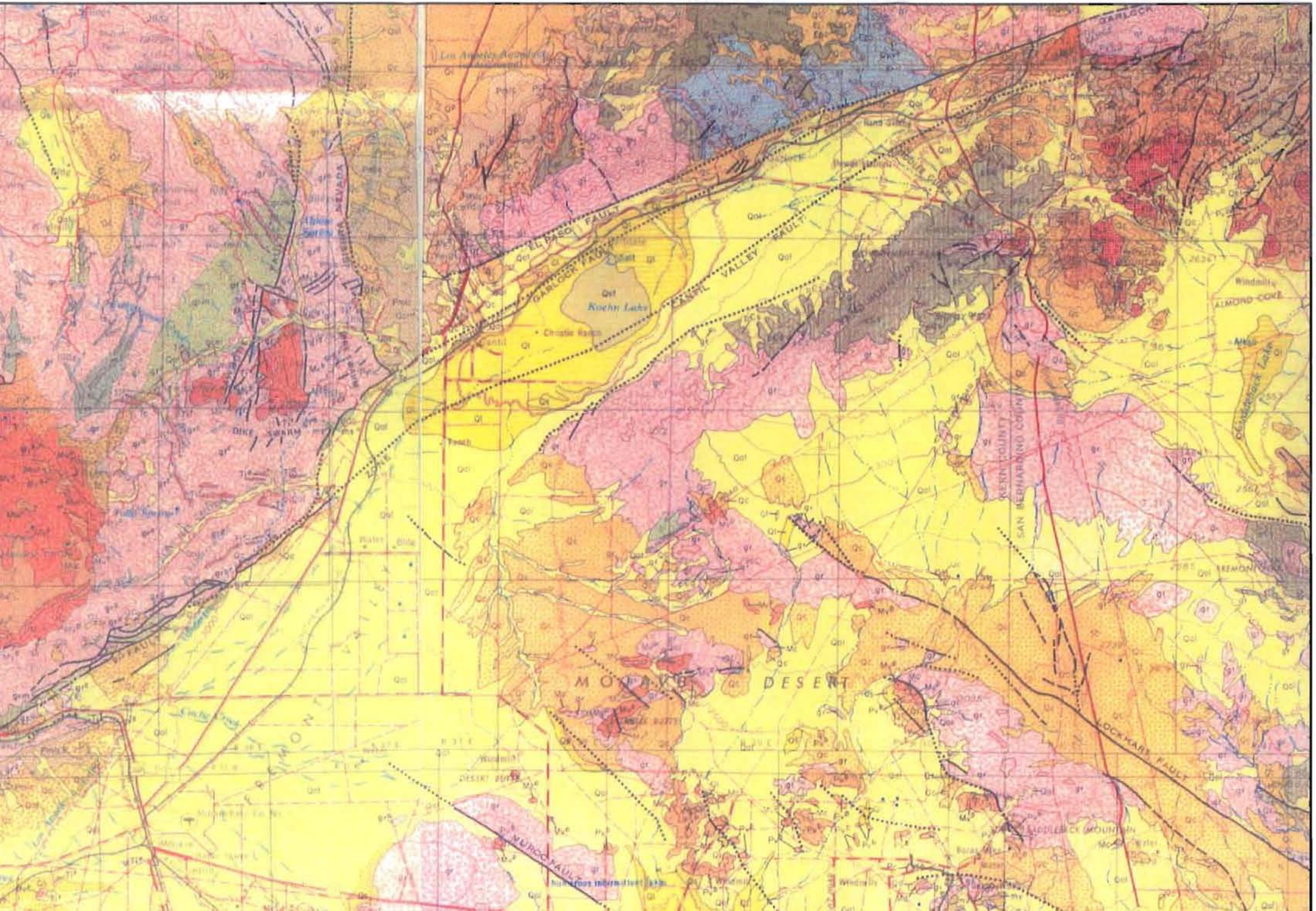
MOJAVE DESERT
EL PASO FAULT
GARLOCK FAULT
CANYON VALLEY FAULT
Koehn Lake
Christie Ranch
DIKE SWARM
NEVADA
KERN COUNTY
SAN BERNARDINO COUNTY
ALMOND COVE
Windmills
LOCKHART FAULT
NUROC FAULT
DESERT BUTTE
MIDDLEWICK MOUNTAIN
Qal
Qf
Qt
Qc
Qs
Pzs
Pzc
Pzm
Mzs
Mzc
Mzm
Mzv
Tmv
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Tmbq
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Tmbs
Tmbt
Tmbu
Tmbv
Tmbw
Tmbx
Tmby
Tmbz
Tmca
Tmcb
Tmcc
Tmcd
Tmce
Tmcf
Tmcg
Tmch
Tmci
Tmcj
Tmck
Tmcl
Tmcm
Tmcn
Tmco
Tmcp
Tmcq
Tmcr
Tmcs
Tmct
Tmcu
Tmcv
Tmcw
Tmcx
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Tmdk
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Tmdn
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Tmdq
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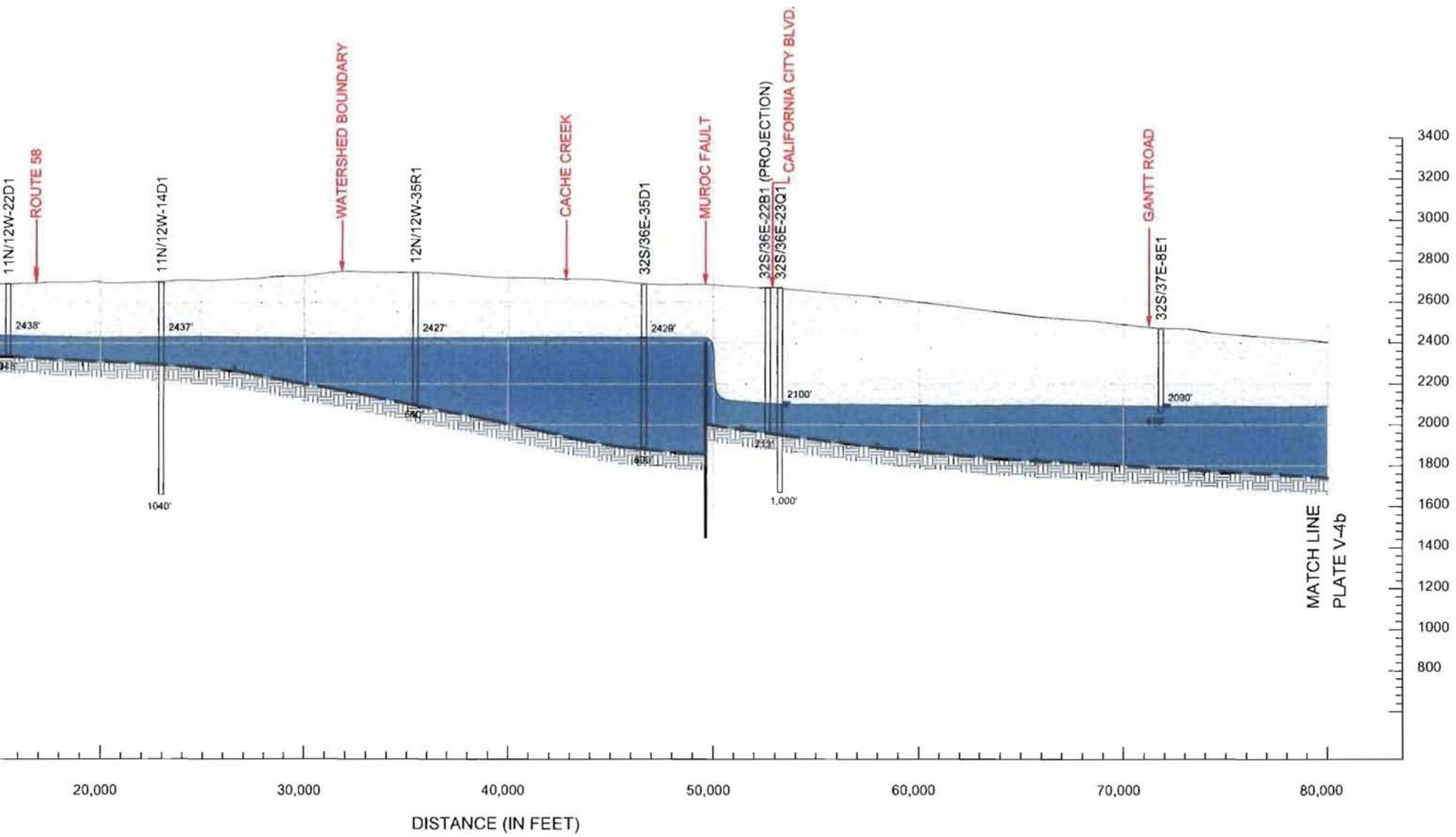

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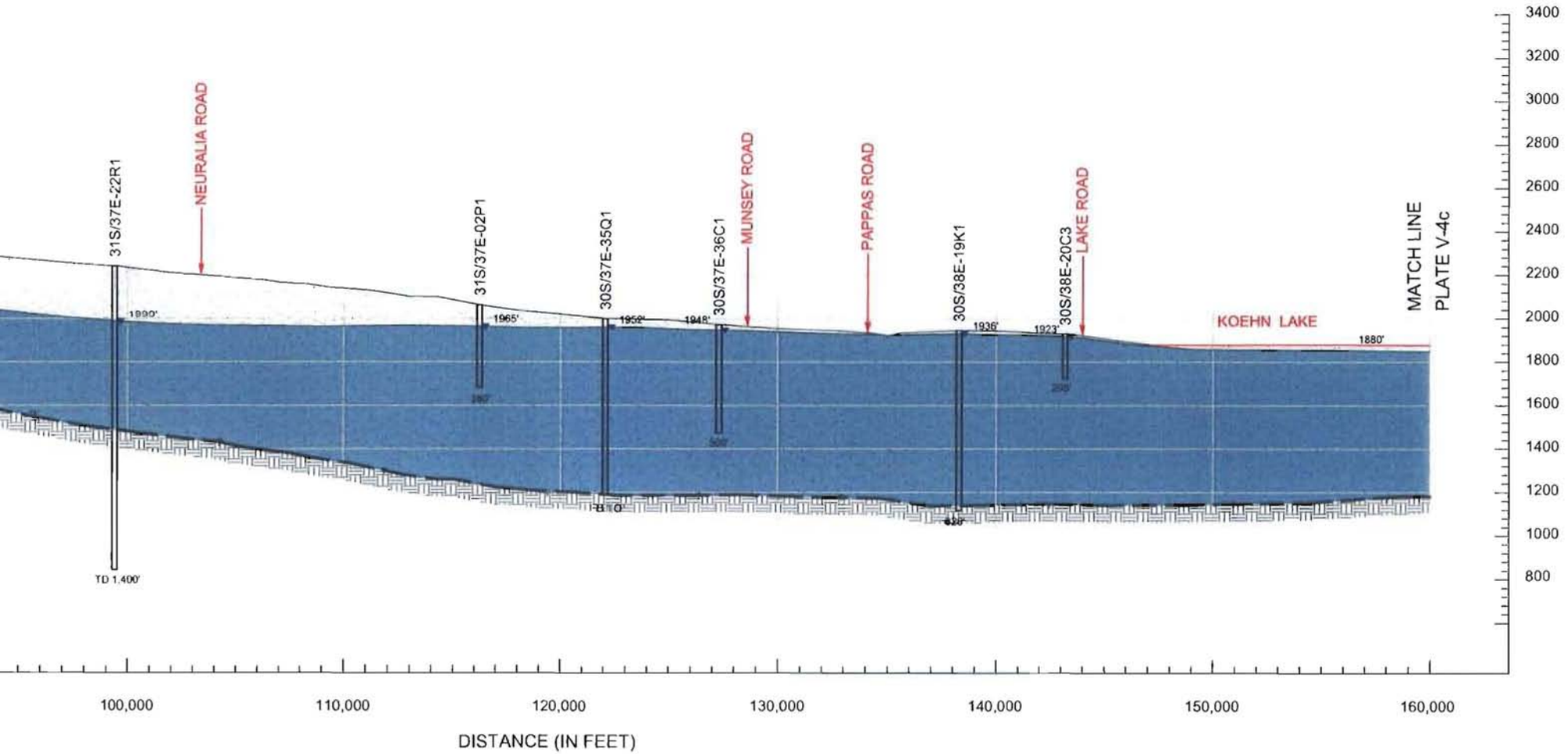

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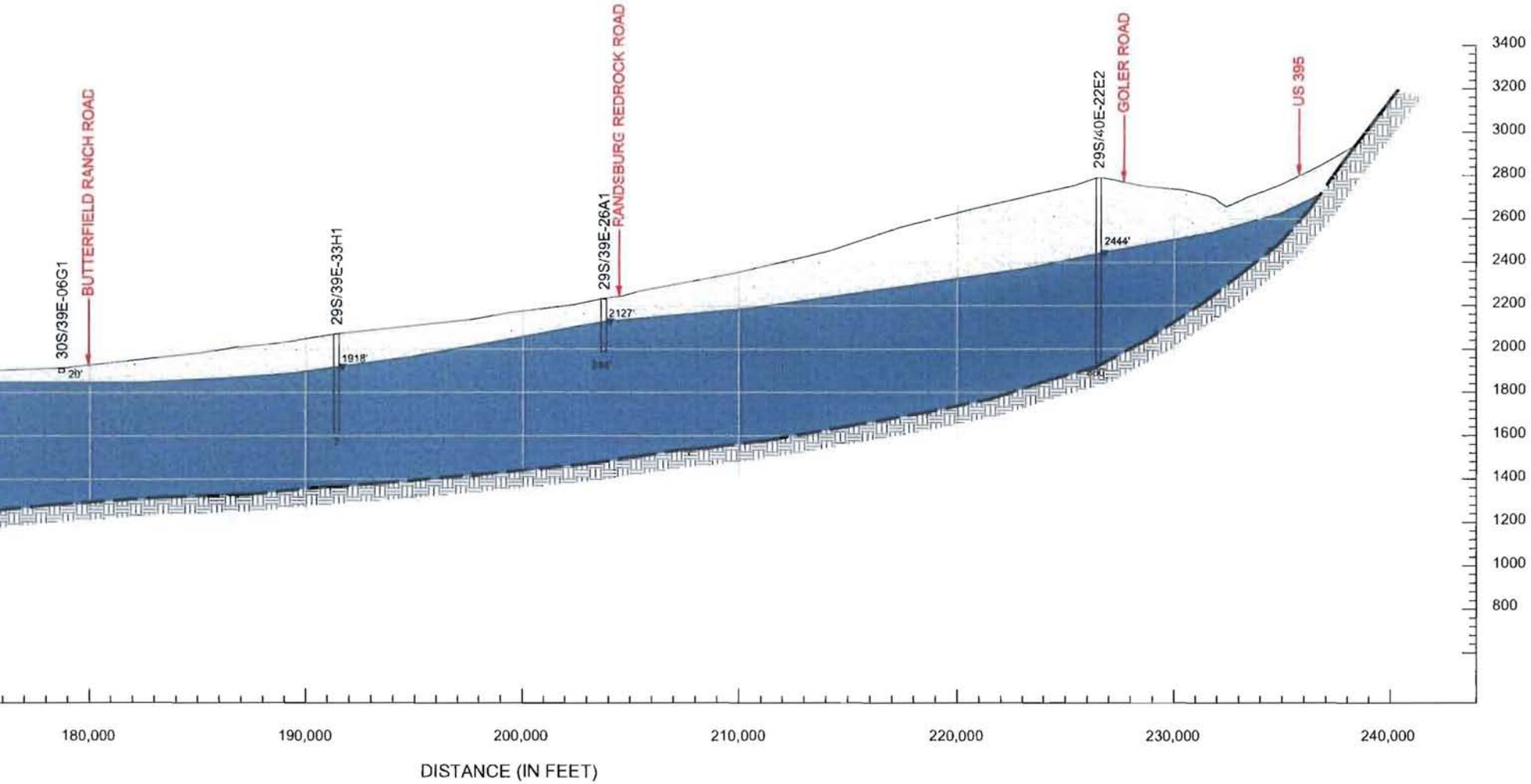

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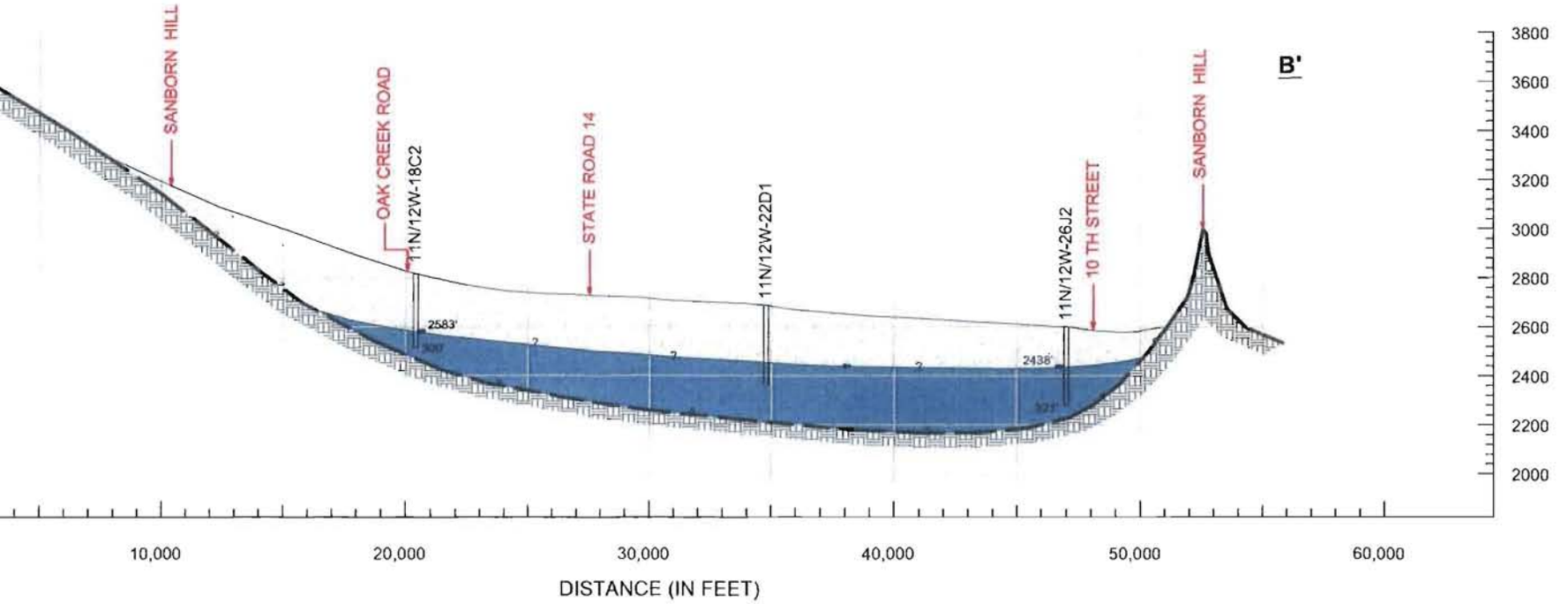

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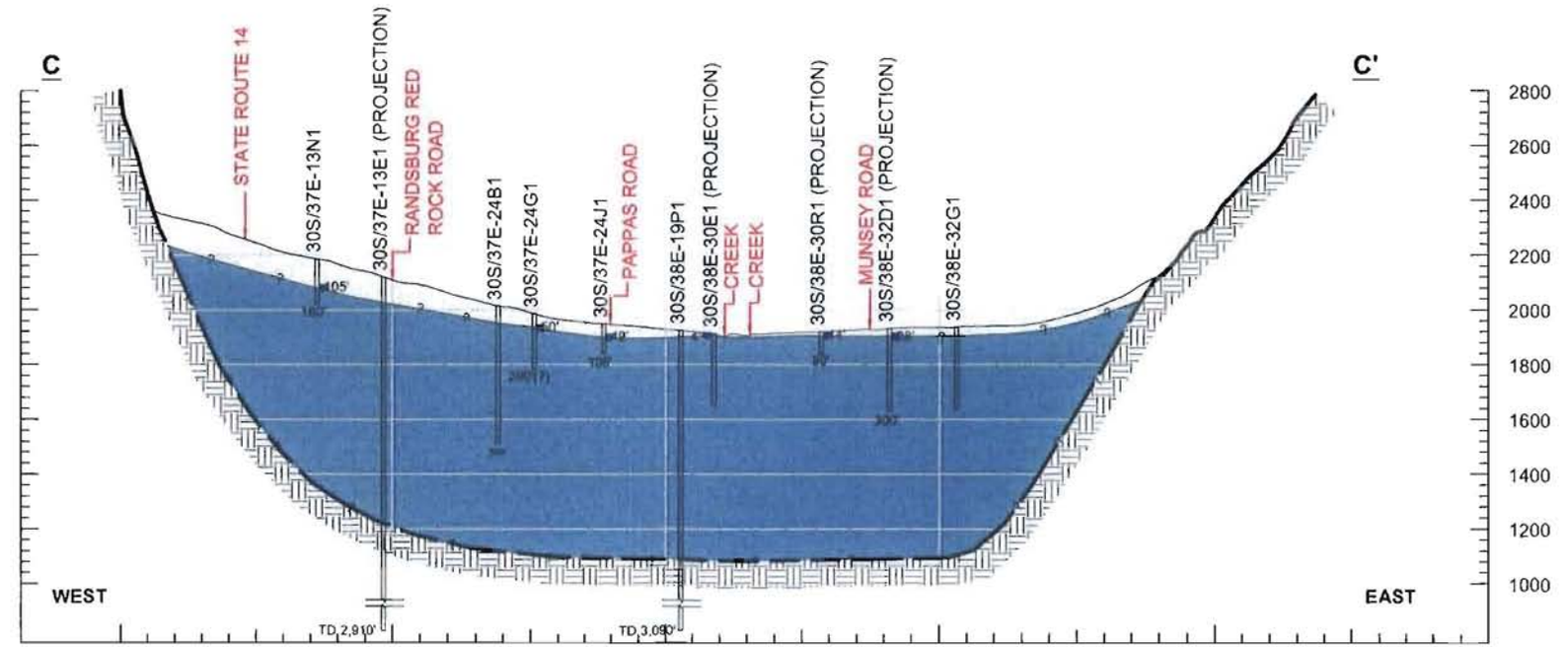

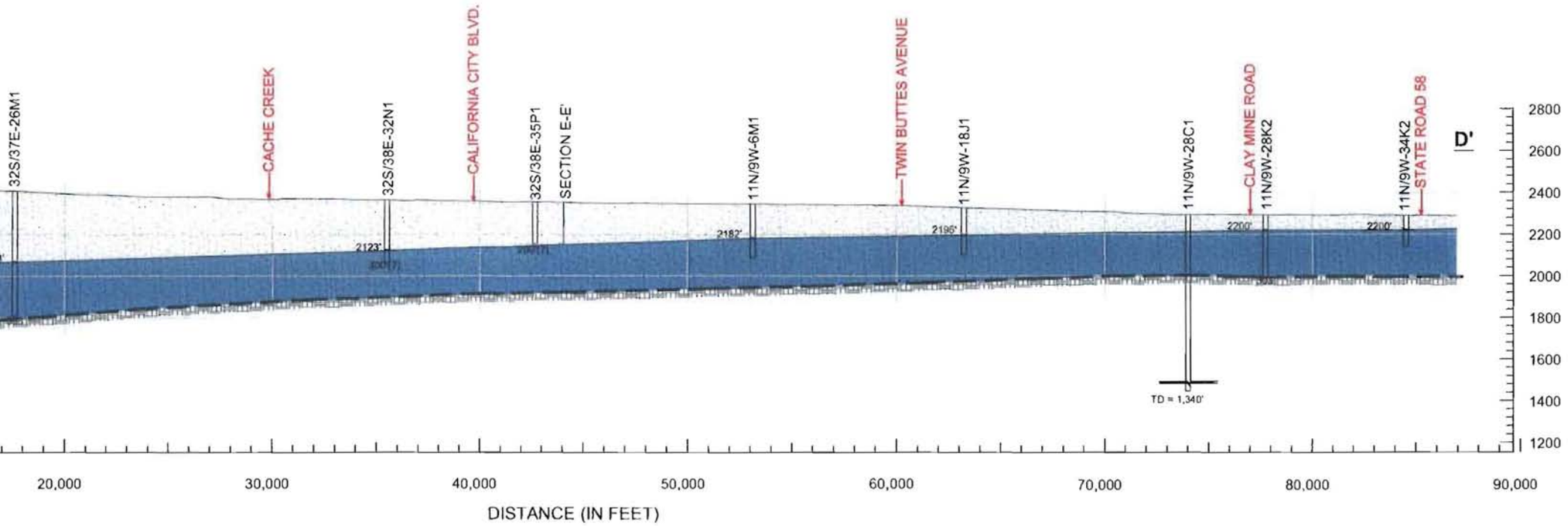

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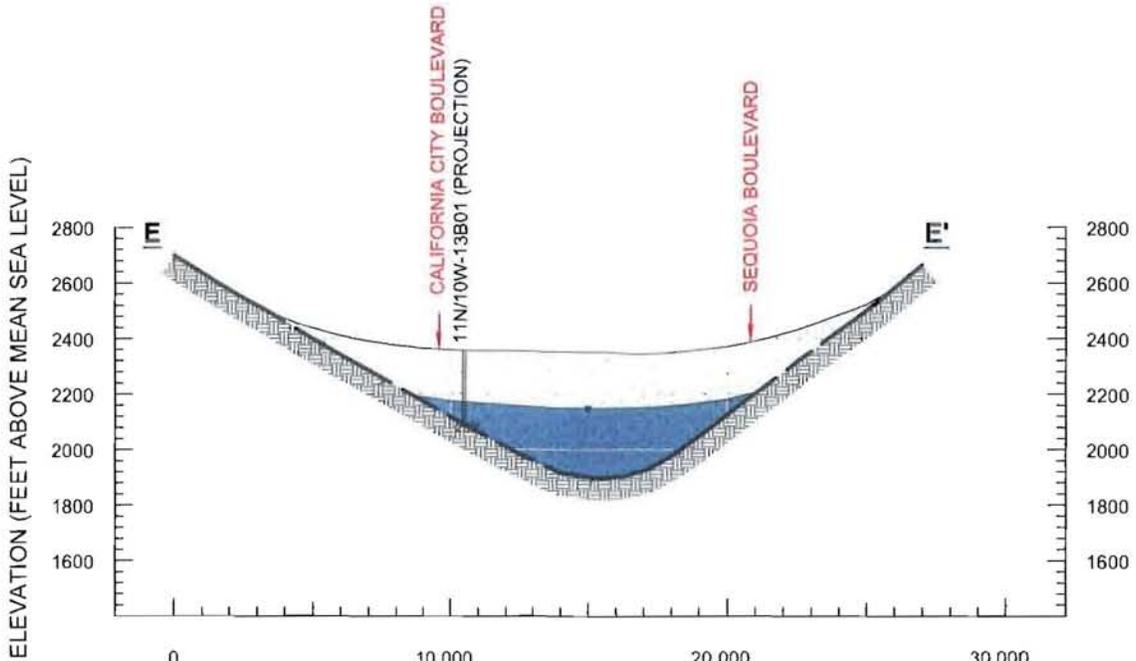
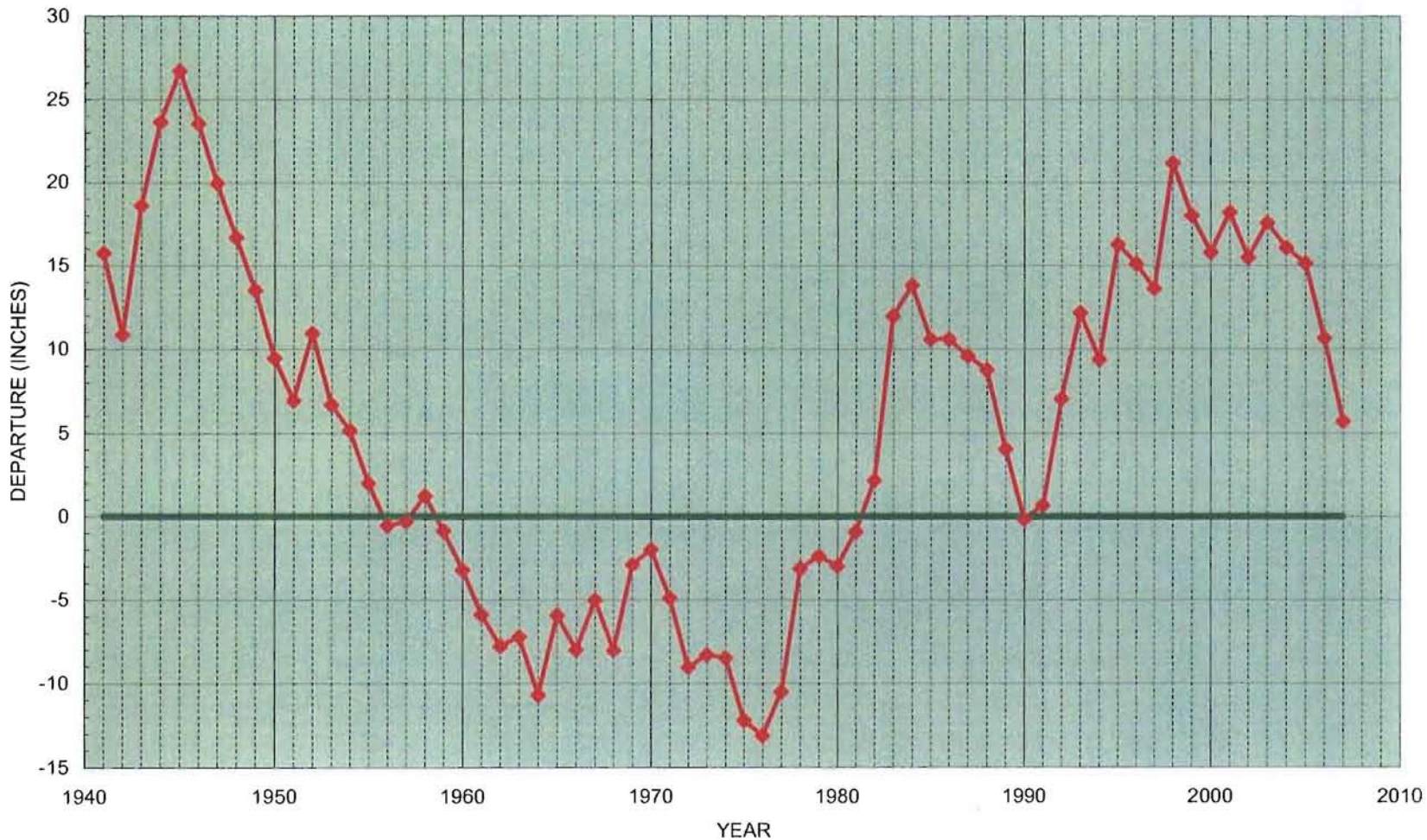
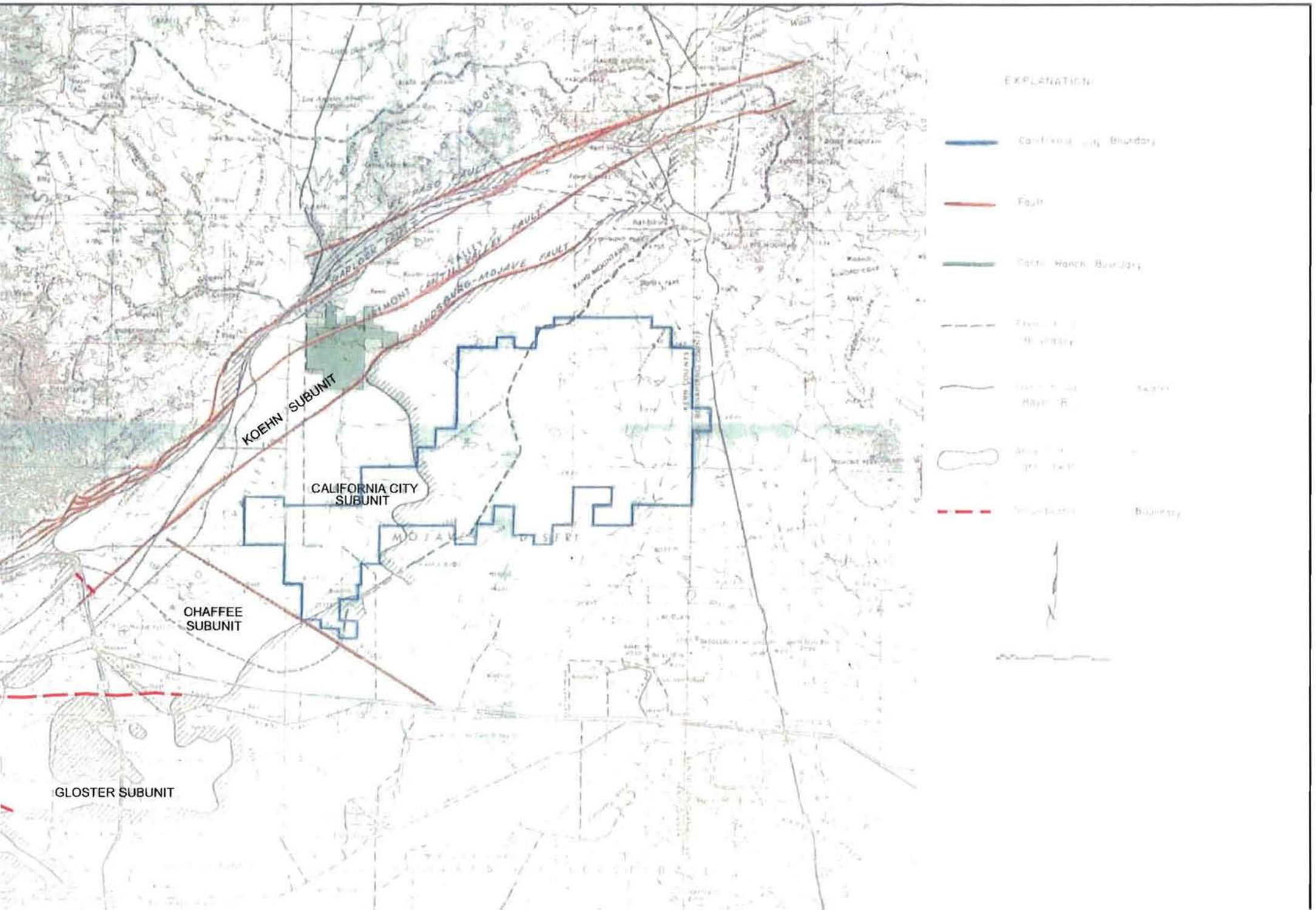




STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

CUMULATIVE PRECIPITATION DEPARTURE CURVE AT MOJAVE STATION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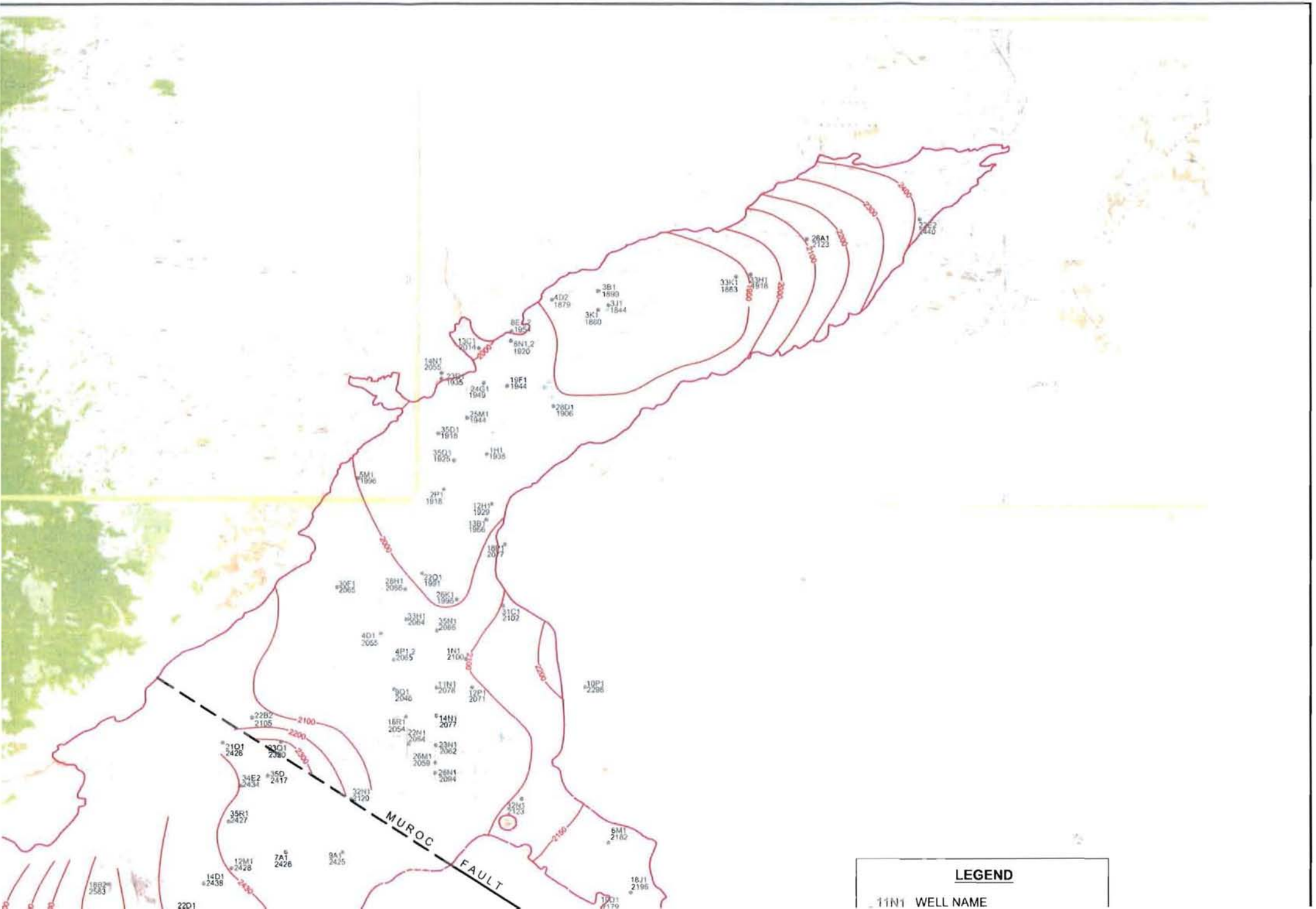
CALIFORNIA CITY SUBUNIT
OHAFFEE SUBUNIT
GLOSTER SUBUNIT
MOJAVE DESERT


MUROC FAULT
LEGEND
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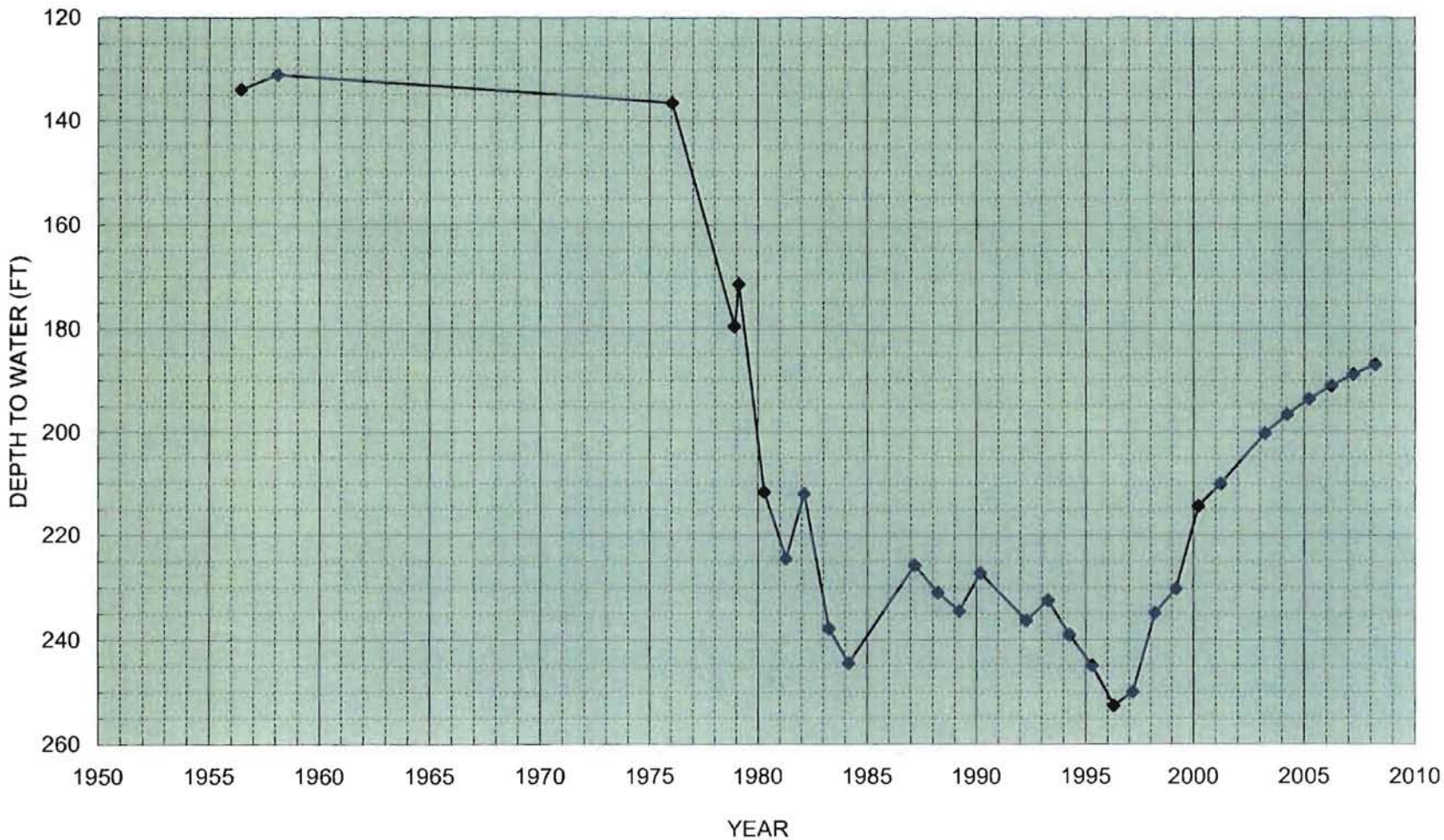

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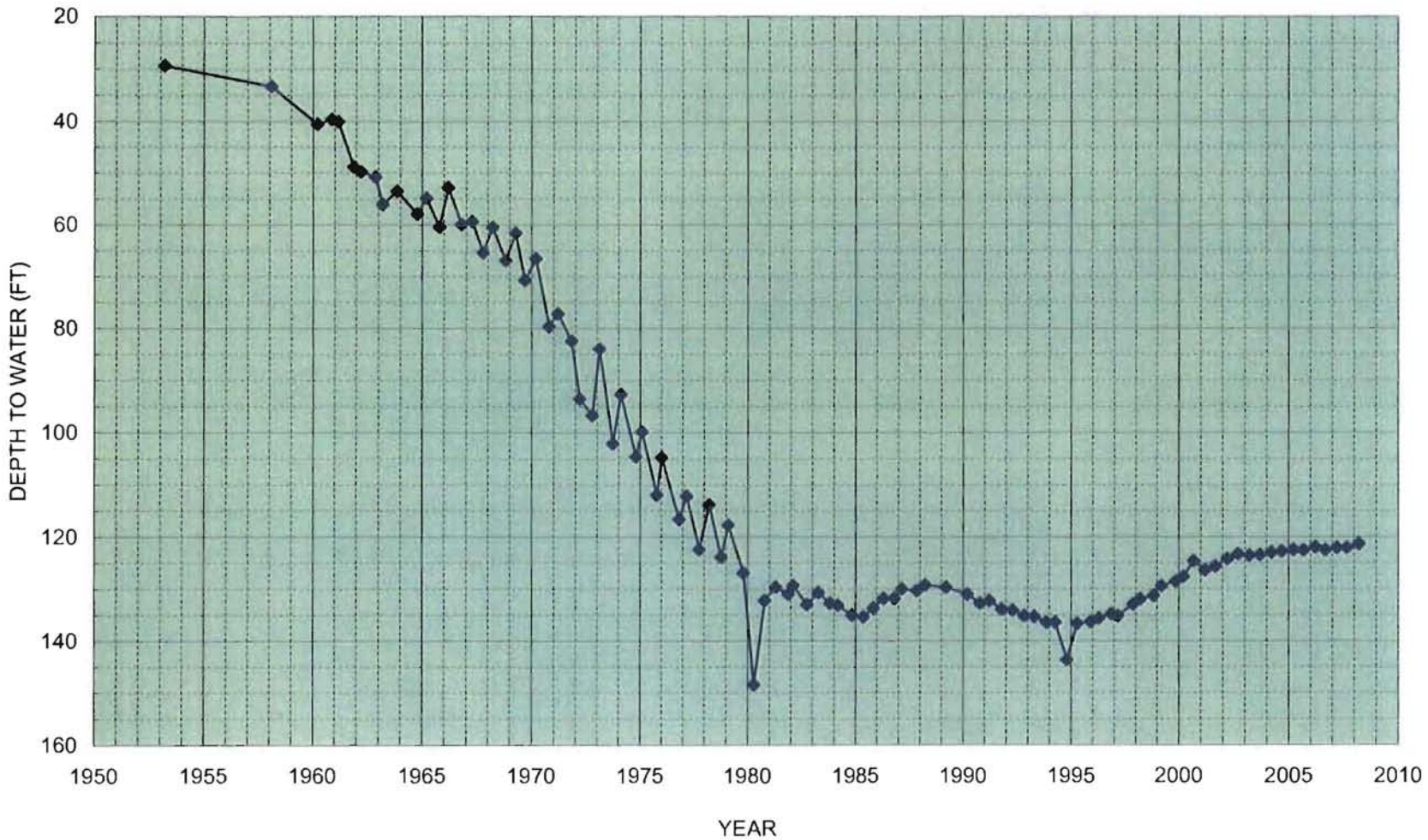
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

HYDROGRAPH OF WATER LEVEL AT WELL 29S/39E-33K01



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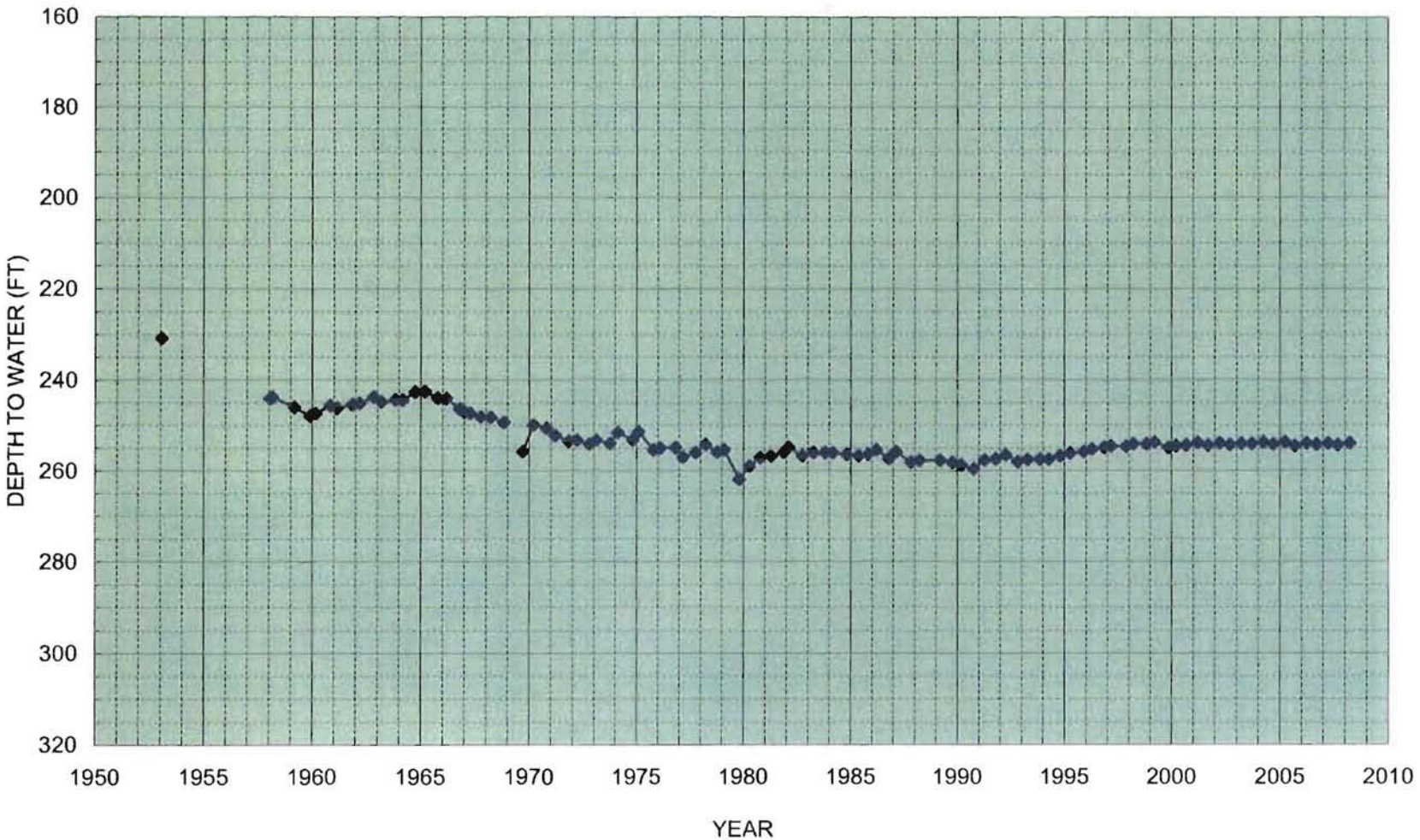
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

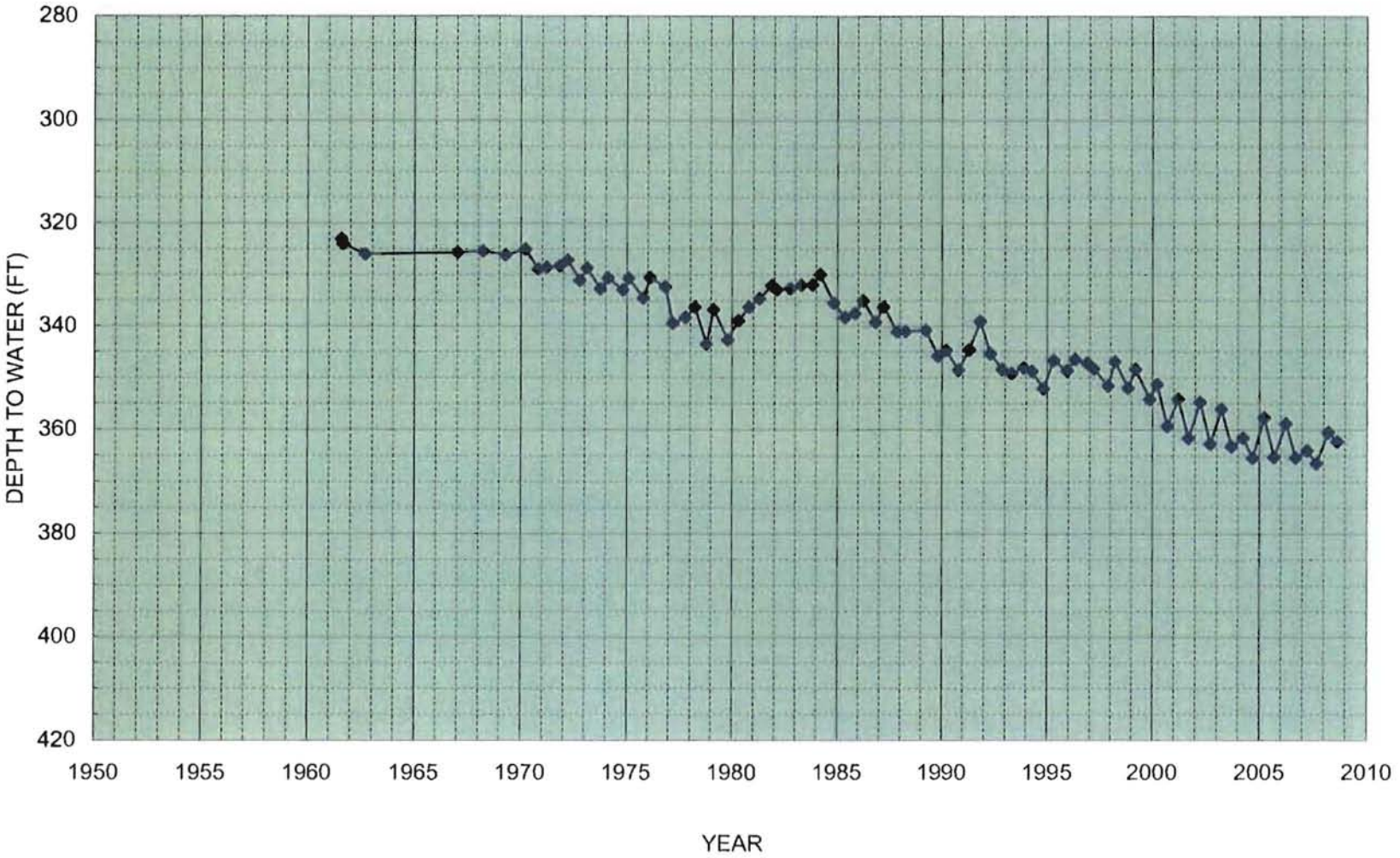
HYDROGRAPH OF WATER LEVEL AT WELL 30S/37E-36G01



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

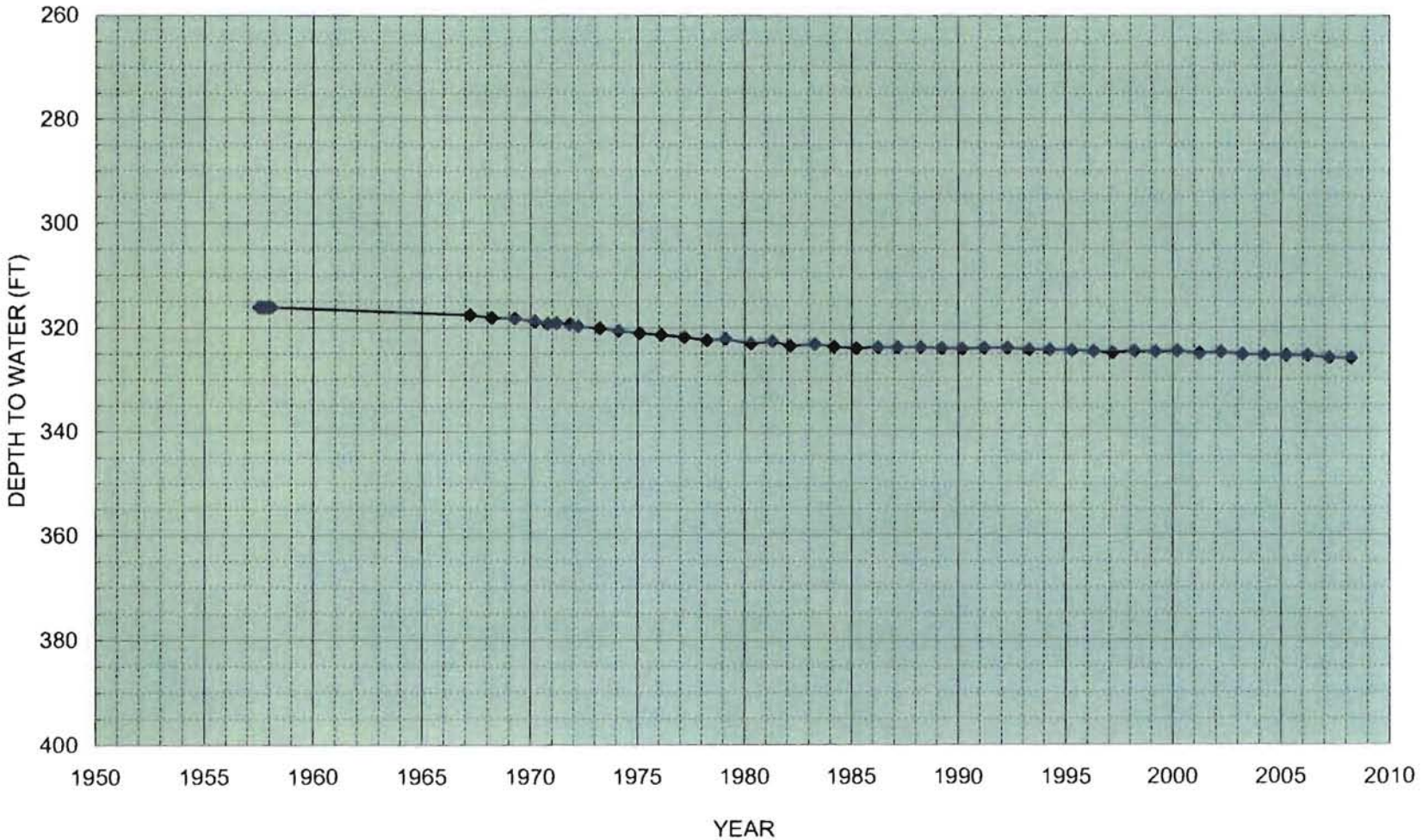
HYDROGRAPH OF WATER LEVEL AT WELL 31S/37E-35N01



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

HYDROGRAPH OF WATER LEVEL AT WELL 32S/37E-26N01



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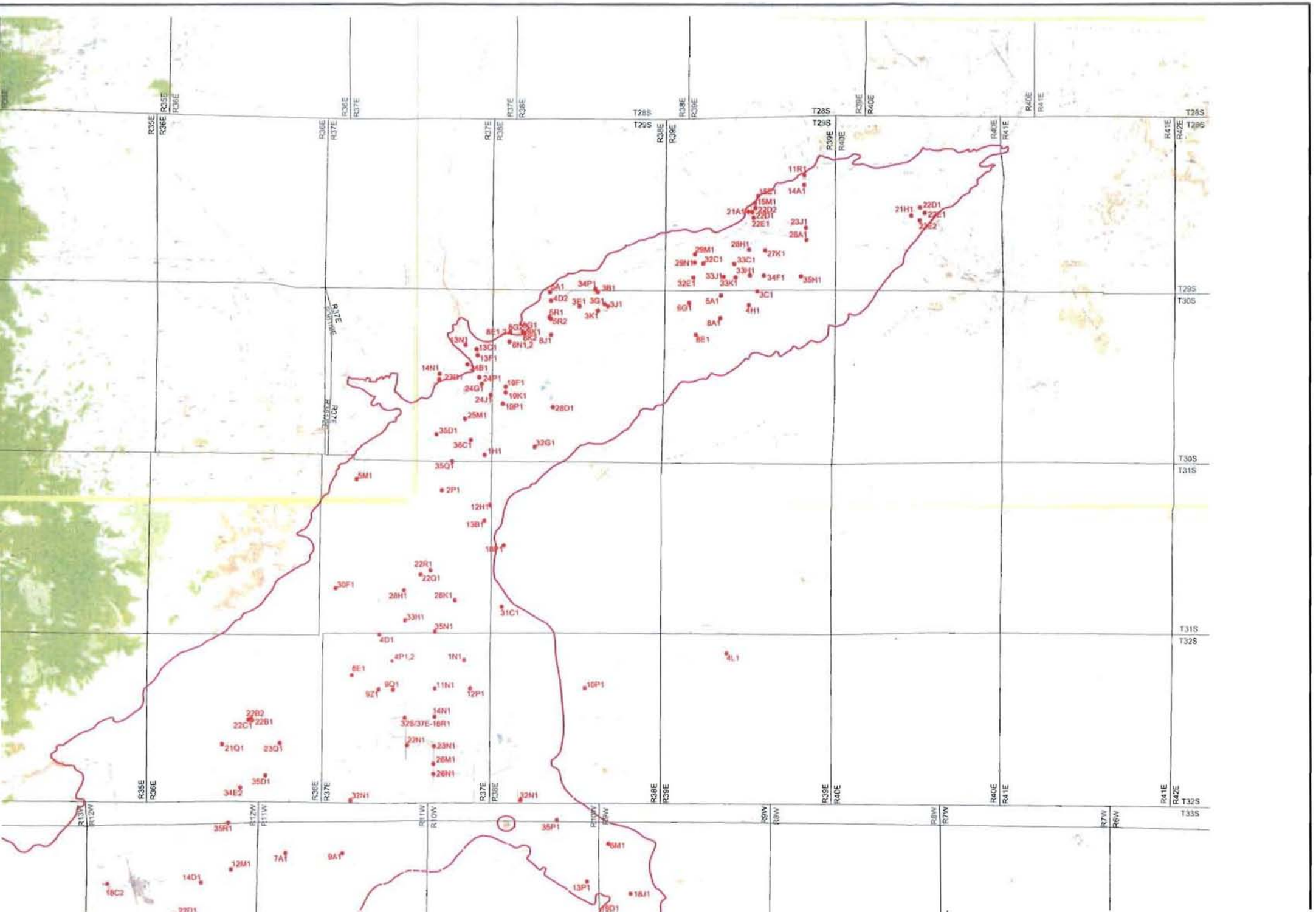
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

HYDROGRAPH OF WATER LEVEL AT WELL 12N/12W-35R01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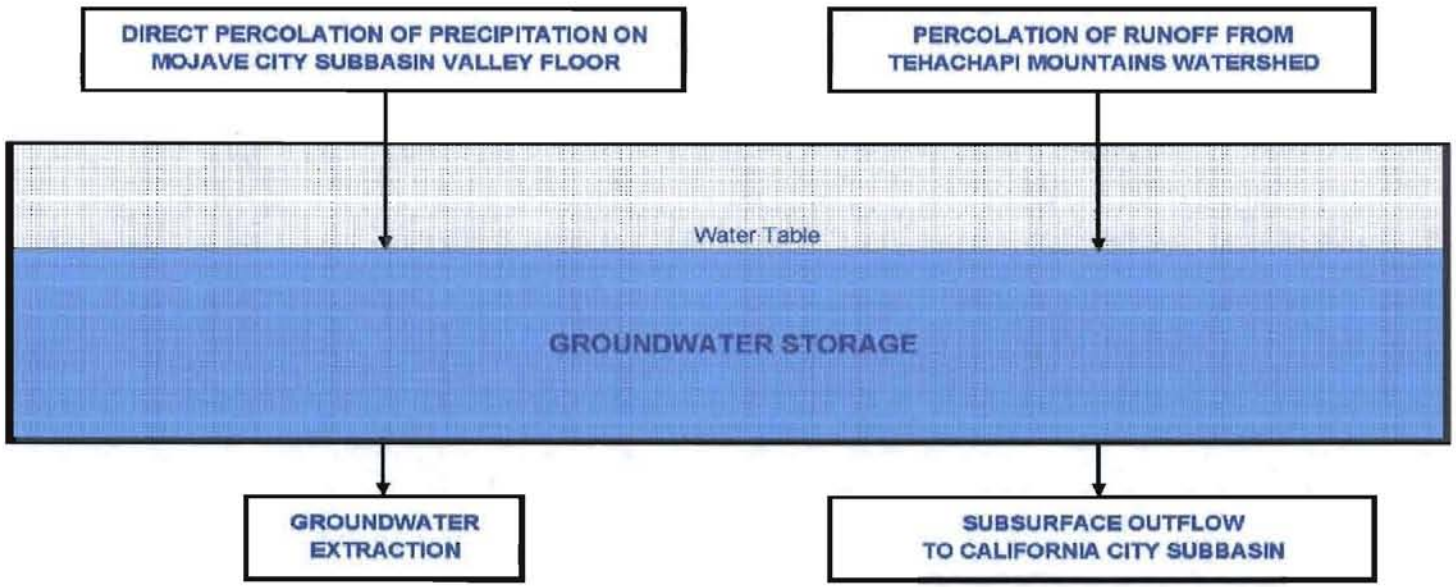
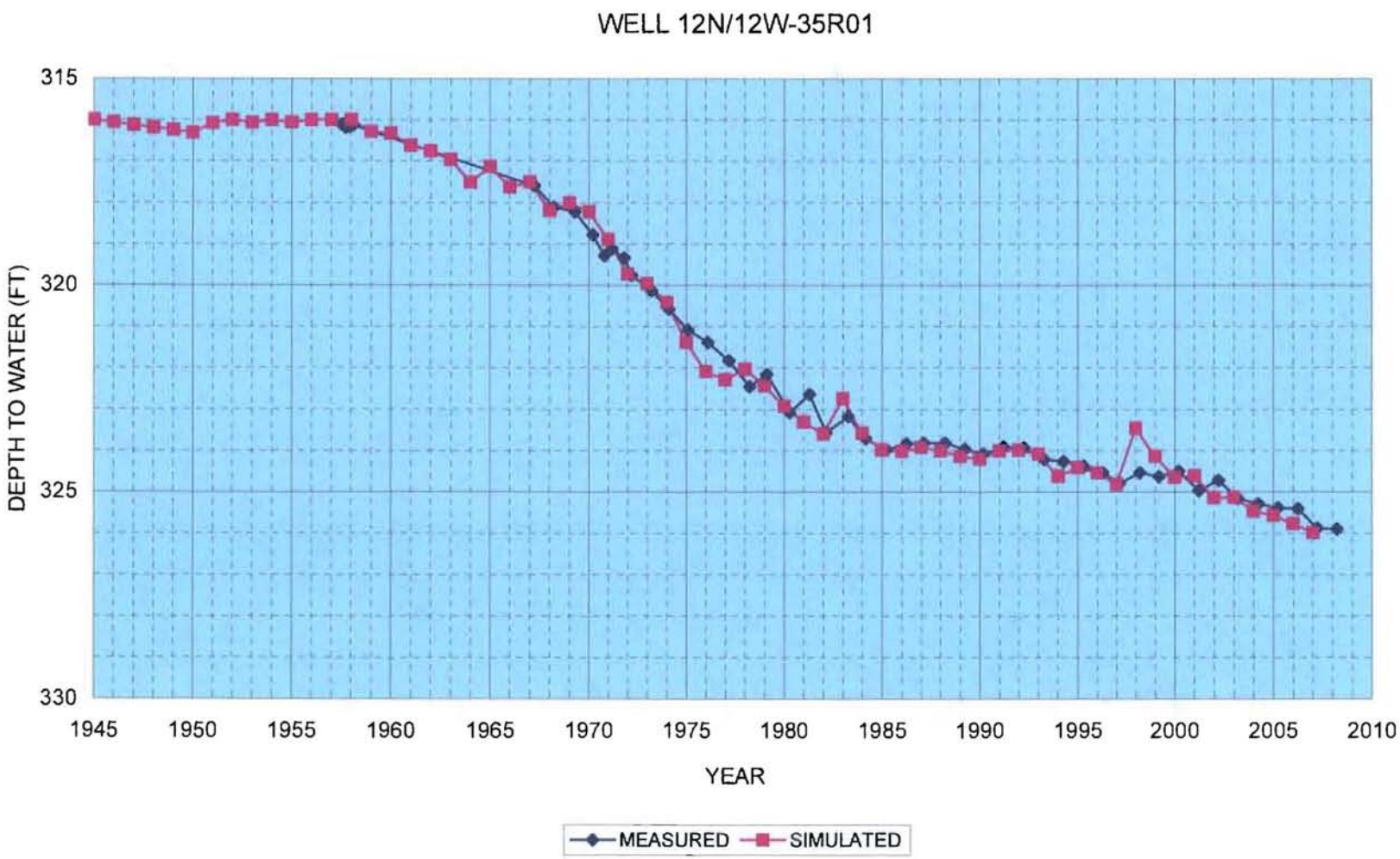


STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

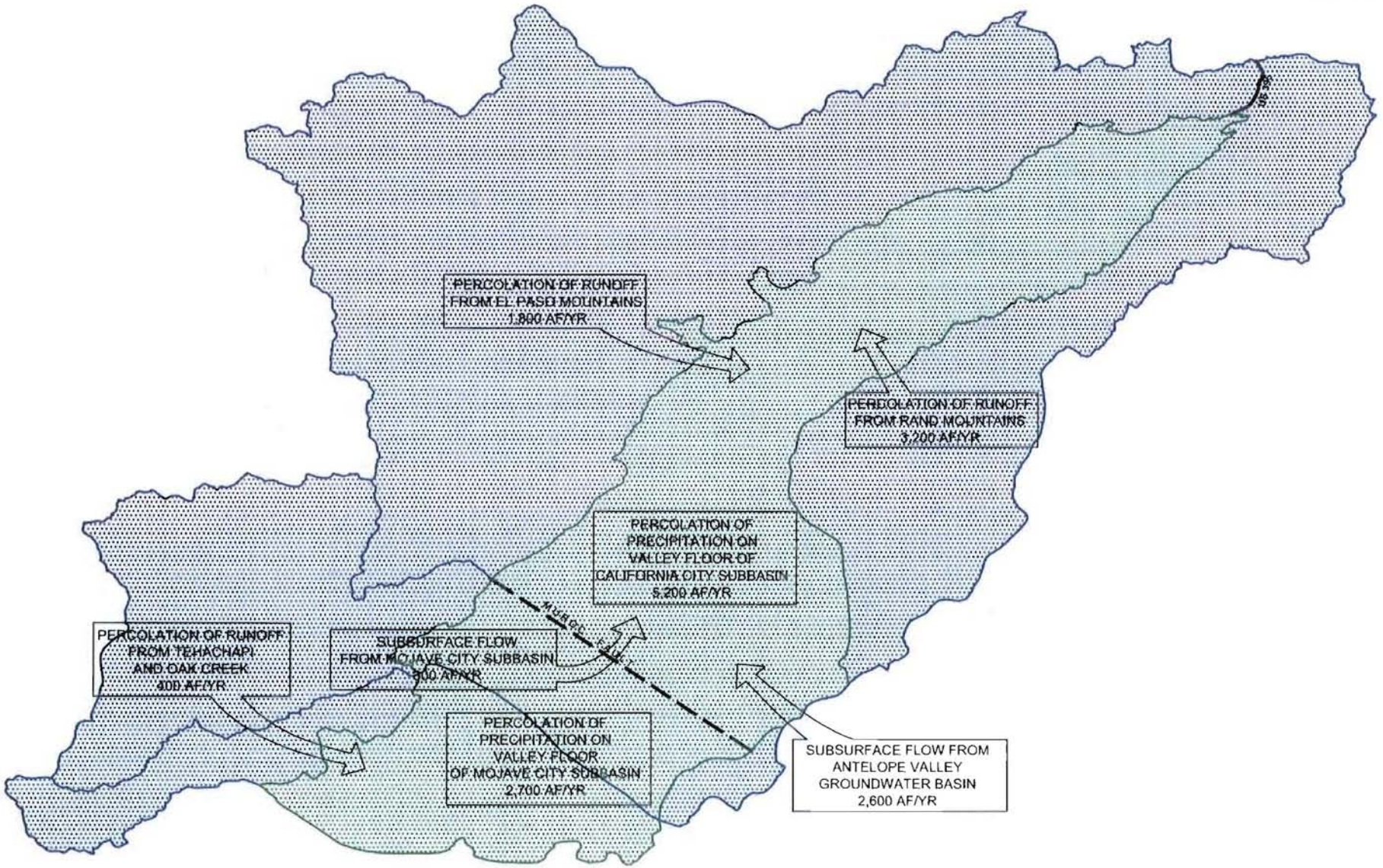
COMPONENTS OF THE MOJAVE CITY SUBBASIN
GROUNDWATER BALANCE SPREADSHEET



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

CALIBRARTION OF THE MOJAVE CITY SUBBASIN
GROUNDWATER BALANCE MODEL



STETSON ENGINEERS INC.
861 VILLAGE OAKS DRIVE, SUITE 100
COVINA, CALIFORNIA 91724
TEL: (626) 967-6202
FAX: (626) 331-7065
2171 E Francisco Blvd., Suite K
San Rafael California 94901
2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

CALIFORNIA CITY

GROUNDWATER RECHARGE IN THE FREEMONT VALLEY GROUNDWATER BASIN

PLATE V-18

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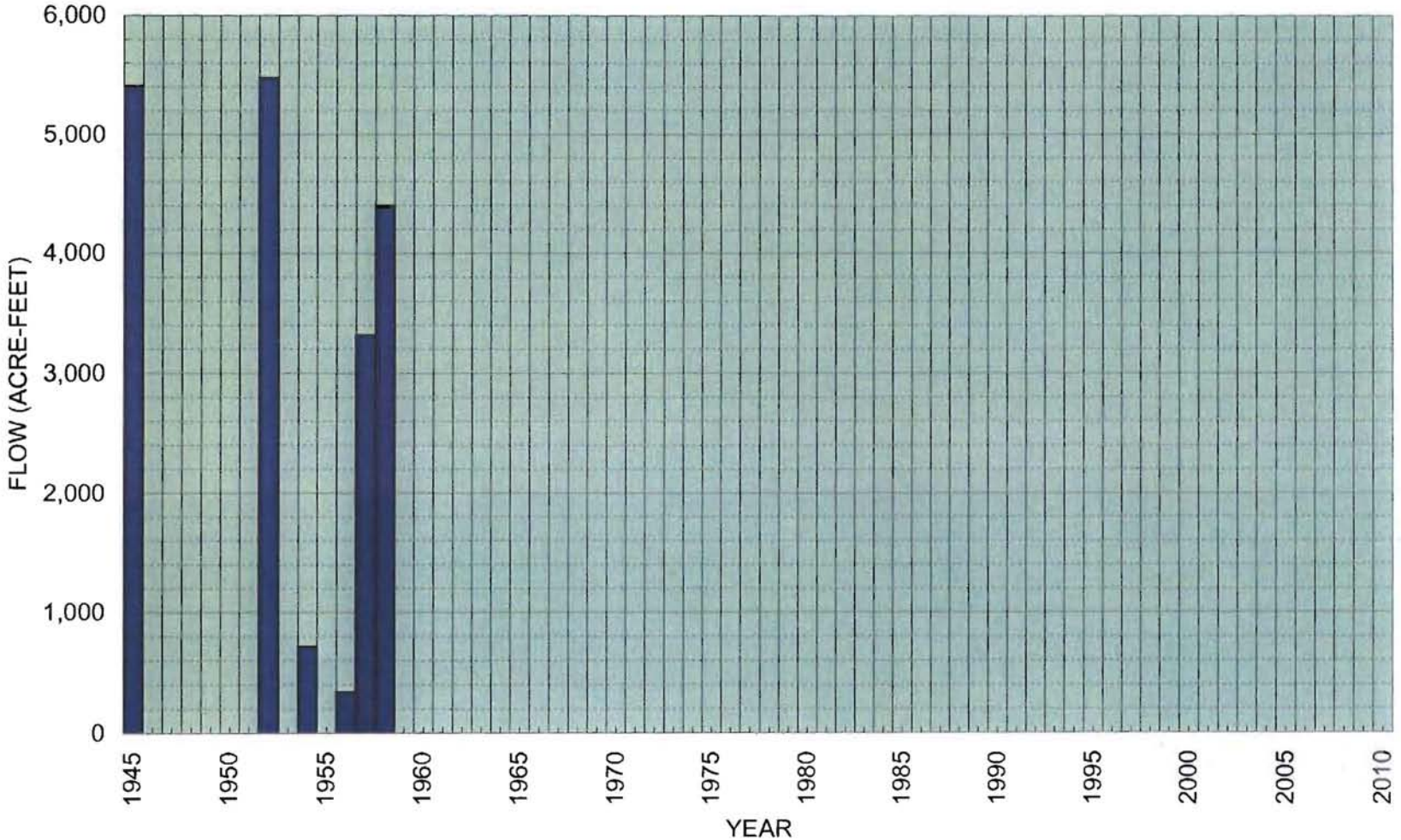

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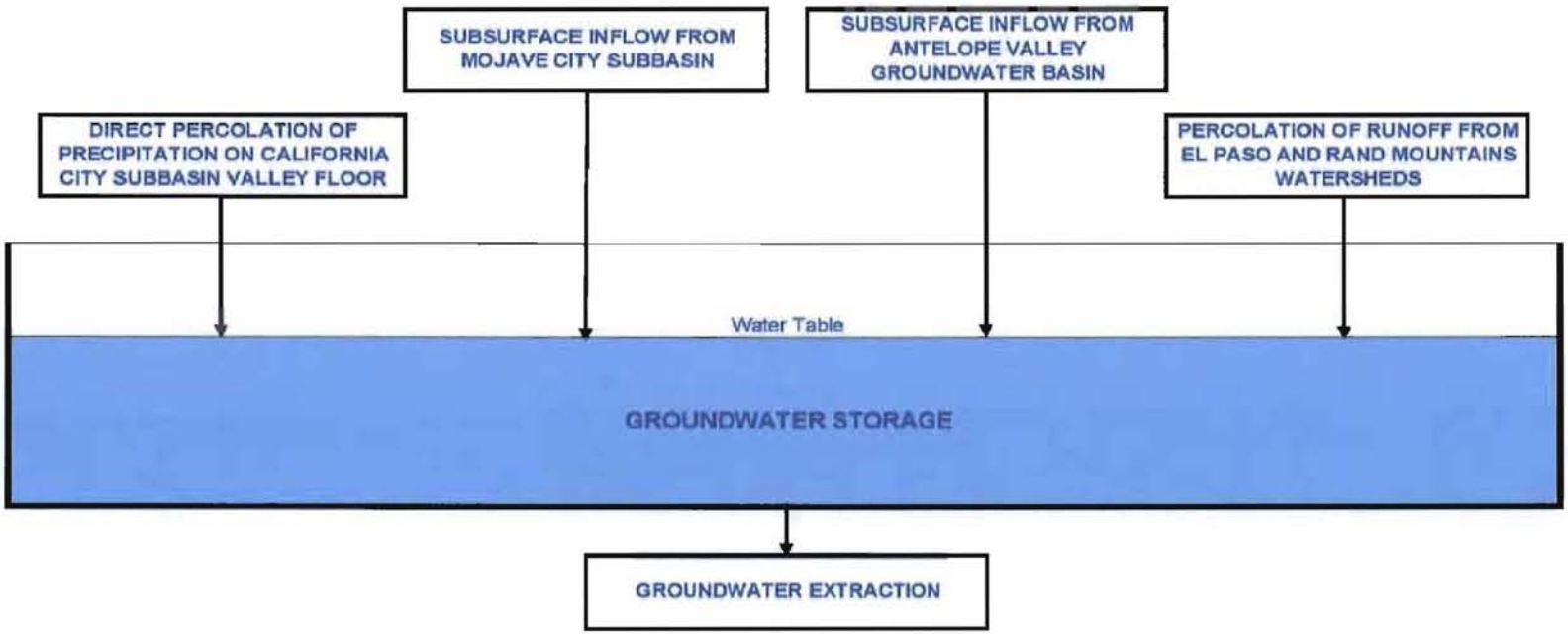
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

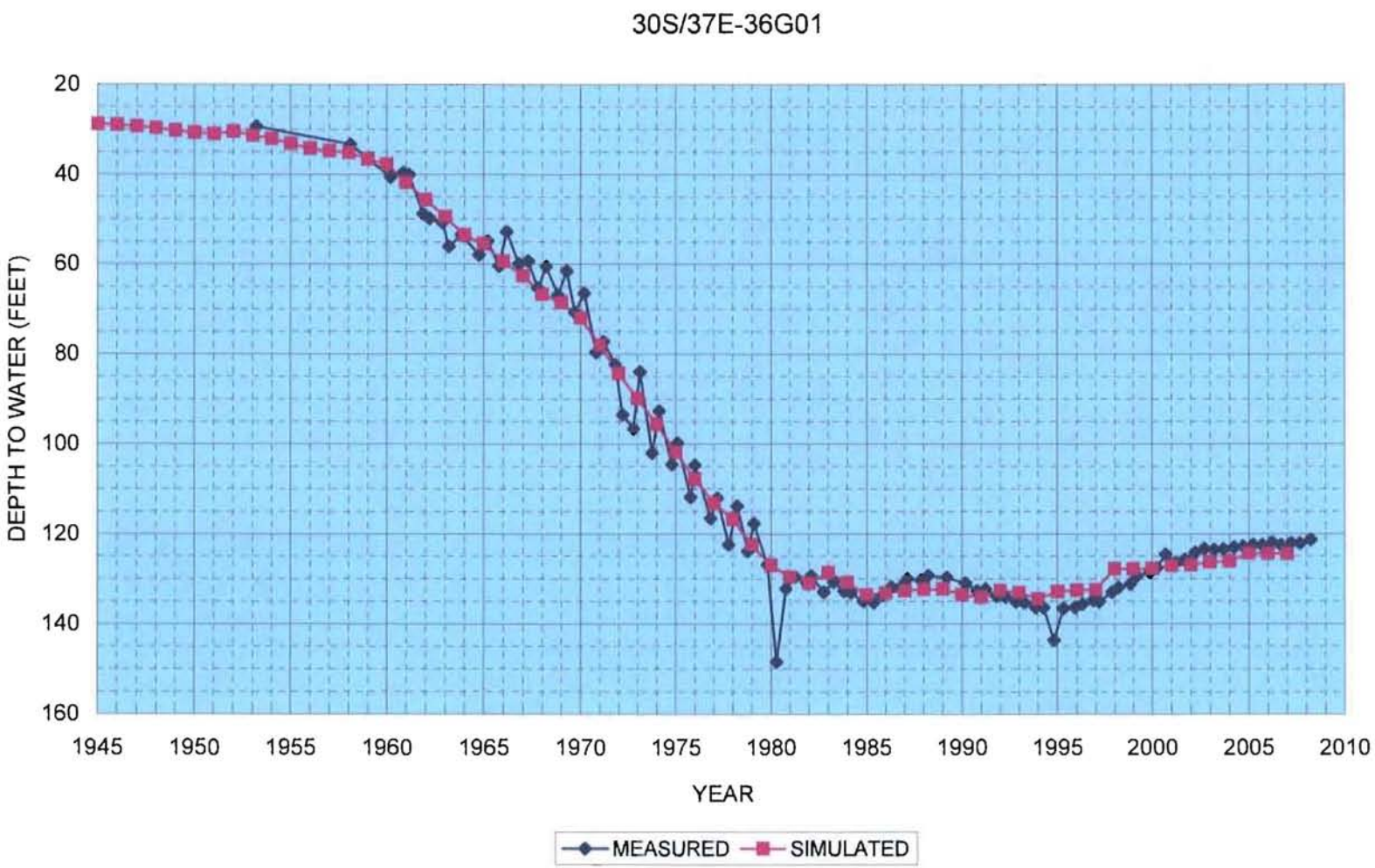
SIMULATED ANNUAL SUBSURFACE FLOW ACROSS THE MUROC FAULT



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

COMPONENTS OF THE CALIFORNIA CITY SUBBASIN GROUNDWATER BALANCE SPREADSHEET



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CALIFORNIA CITY

CALIBRARTION OF THE CALIFORNIA CITY SUBBASIN
GROUNDWATER BALANCE SPREADSHEET

APPENDIX A

LIST OF DOCUMENTS OBTAINED BY STETSON ENGINEERS INC.

DOCUMENTS PROVIDED BY CALIFORNIA CITY

1. Map showing the location of an artesian well on Bucknell Road near Piedmont Street. July 1, 1976.
2. U.S. Geological Survey (USGS). July 8, 2001. "Water Quality Data for 032S037E16R001M (Well # 1)". United States Department of Interior – Geological Survey.
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4. Hamilton E Robinson Consulting Engineer. November 1961. *Water Report – Findings on the Water Supply of the California City Community Services District.* Huntington Park, California.
5. Anchor Engineering, Inc. April 12, 1961. Letter to Mr. Hamilton E. Robinson. Los Angeles, California.
6. Unknow Author. September 8, 1961. California City Well Tests.
7. U.S. Pumps, Inc. September 25, 1961. Letter to Mr. Hamilton Robinson regarding the well test data. Los Angeles, California.
8. Scott, Jim. February 22, 1961. Letter to Mr. N. K. Mendelsohn regarding the water pumping system of California City.
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10. Hamilton E. Robinson Consulting Engineer. August 15, 1961. Letter to California City Community Services District regarding water wells in the vicinity of the California City Community Services District. Huntington Park, California.
11. John C. Luthin – Water Utility Engineering and Management. August 11, 1959. "Report – Basic Consideration Supporting Terms of Agreement between the Boron valley Community Services District and the Boron Valley Water Development Company." La Puente, California.
12. USGS. Unknown Date. Table 1 – Descriptions of wells in the Freemont Valley area, California.
13. Peerless Pump Division, Food Machinery and Chemistry Corporation. September 9, 1959. Letter to California City regarding the Goforth Ranch wells.
14. O. R. Angelillo Consulting Engineer. September 8, 1959. *California City Water.*
15. Fred H. Sperber Petroleum Engineer. August 16, 1956. *Study Water Supply and Proposed Development, Freemont Valley, Kern County, California.* Bakersfield, California.
16. Ralph Arnold Consulting Geologist and Petroleum Engineer. Unknown Date. "Deep-Seated Water of the Mojave Desert, California."
17. California Electric Power Company. July 14, 1959. Letter to California City Development Company regarding the water production of the Conklin Ranch wells. San Bernardino, California.
18. City of California City. 2000. *Urban Water Management Plan.* California City, California.

19. City of California City. September 13, 2002. *Water Master Plan for California City.* Prepared by Quad Knopf. Bakersfield, California.
20. California City. October 24, 2005. *Feasibility Study Evaluation of Groundwater Supply Development, California City, California.* Prepared by Layne GeoSciences/COLOG Group. Fontana, California.
21. Beacon Solar, LLC. March 2008. Beacon Solar Energy Project, Application for Certification. Volumes 1 and 2. Prepared by ENSR/AECOM. San Diego, California.
22. Utilities Department. *Monthly Staff Reports and Production Reports.* January 2002 through December 2007. City of California City, California.
23. City of California City. June 16, 2008. *2007 Consumer Confidence Report.* City of California City, California.

DOCUMENTS PROVIDED BY MOJAVE PUBLIC UTILITY DISTRICT

1. Mojave Public Utility District. Provided on February 13, 2009. "*Monthly Water Pumped in 1991 through 2009.*" Mojave Public Utility District. Mojave, California.
2. Mojave Public Utility District. September 2003. "Projected Supply/Demand Comparison." *Draft Urban Water Management Plan.* Mojave Public Utility District. Mojave, California.

DOCUMENTS COLLECTED BY STETSON ENGINEERS, INC.

1. USGS. 1973. *North Edwards Quadrangle, California-Kern Co., 7.5 Minute Series*
2. USGS. 1973. *California City North Quadrangle, California-Kern Co., 7.5 Minute Series (Topographic).* Denver, Colorado.
3. USGS. 1973. *Galileo Hill Quadrangle, California-Kern Co., 7.5 Minute Series (Topographic).* Denver, Colorado.
4. USGS. 1973. *California Boron NW Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.
5. USGS. 1973. *California Boron NW Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.
6. USGS. 1973. *Red Mountain Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.
7. USGS. 1967. *Johannesburg Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.
8. USGS. 1967. *Saltdale SE Quadrangle, California-Kern Co., 7.5 Minute Series (Topographic).* Denver, Colorado.
9. USGS. 1967, Photoinspected 1973. *Cantil Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.
10. USGS. 1972, Minor Revision 1994. *Cinco Quadrangle, California, 7.5 Minute Series (Topographic).* Denver, Colorado.

11. USGS. 1972, Minor Revision 1994. *Cross Mountain Quadrangle, California, 7.5 Minute Series (Topographic)*. Denver, Colorado.
12. USGS. 1972, Minor Revision 1994. *Emerald Mountain Quadrangle, California, 7.5 Minute Series (Topographic)*. Denver, Colorado.
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14. USGS. 1972, Minor Revision 1994. *Piute Peak Quadrangle, California, 7.5 Minute Series (Topographic)*. Denver, Colorado.
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18. USGS. 1967. *Saltdale NW Quadrangle, California, 7.5 Minute Series (Topographic)*. Denver, Colorado.
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22. California Department of Water Resources (DWR). October 2003. *California's Groundwater*. Bulletin 118 Update 2003. Sacramento, California.
23. DWR. *California's Groundwater*. Bulletin 118 Last update 2/27/04. Sacramento, California.
24. DWR. February 1969. *Water Wells and Springs in the Freemont Valley Area, Kern County, California*. Bulletin No. 91-16. Prepared for DWR by USGS. Sacramento, California.
25. DWR. September 1960. *Data on Water Wells in the Willow Springs, Gloster, and Chaffee Areas, Kern County, California*. Bulletin No. 91-4. Prepared for DWR by USGS. Sacramento, California.
26. DWR. May 1965. *Water Wells in the Western Part of the Antelope Valley Area, Los Angeles and Kern Counties, California*. Bulletin No. 91-11. Prepared for DWR by USGS. Sacramento, California.
27. Division of Mines and Geology. *Geologic Map of California, Bakersfield Sheet, Scale 1:250,000, 1965 (Fourth printing, 1992)*. California Department of Conservation. Sacramento, California.
28. Division of Mines and Geology. *Geologic Map of California, Los Angeles Sheet, Scale 1:250,000, 1969 (Seventh printing, 2000)*. California Department of Conservation. Sacramento, California.
29. Division of Mines and Geology. *Geologic Map of California, Trona Sheet, Scale 1:250,000, 1963*. California Department of Conservation. Sacramento, California.
30. Division of Mines and Geology. *Geologic Map of the San Bernardino Quadrangle, Scale 1:250,000, 1986 (Second printing, 1998)*. California Department of Conservation. Sacramento, California.

31. DWR. August 1965. *Southern Lahontan Area Land and Water Use Survey 1961*. Bulletin No. 121. Sacramento, California.
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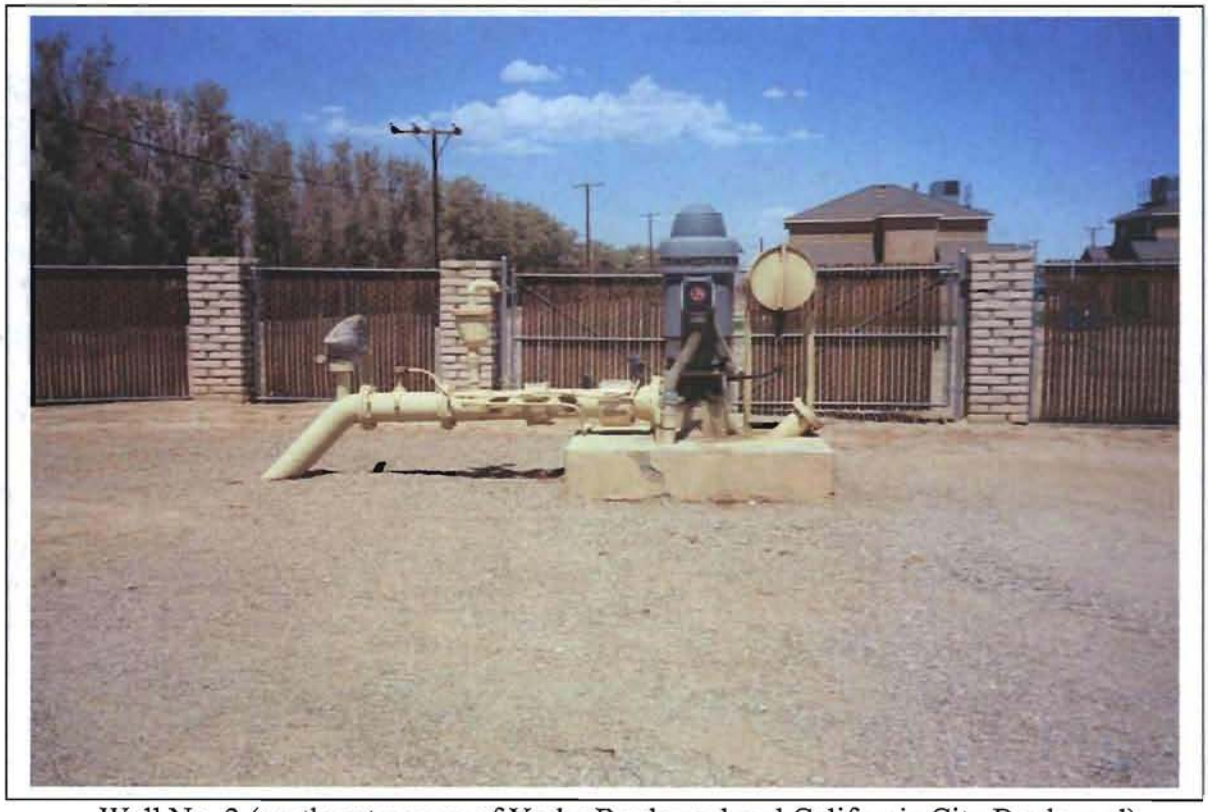
APPENDIX B

PICTURES TAKEN AT VISITED WELLS ON AUGUST 25, 2000

Artesian Well on Bucknell Road near Piedmont Street

Waterman Well on Waterman Street near Danis Avenue

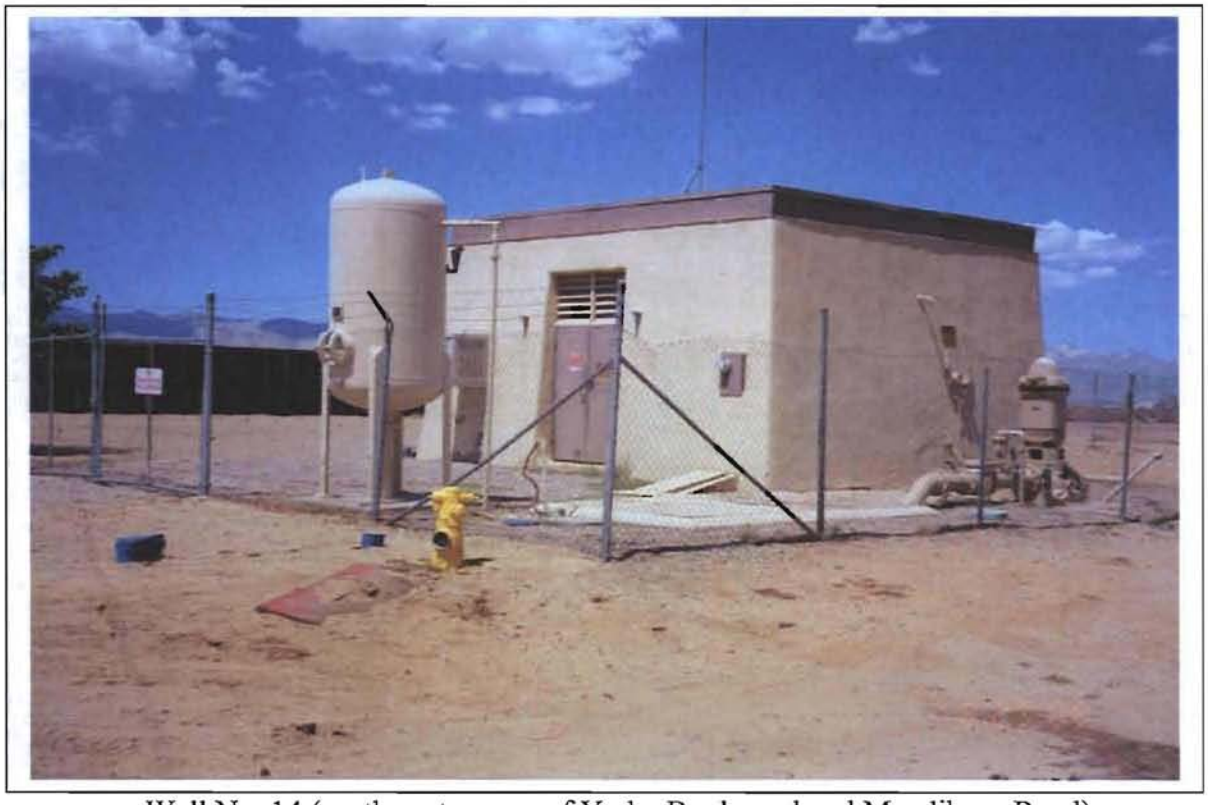
Well No. 1 (northeast corner of Neuralia Road and Redwood Boulevard)



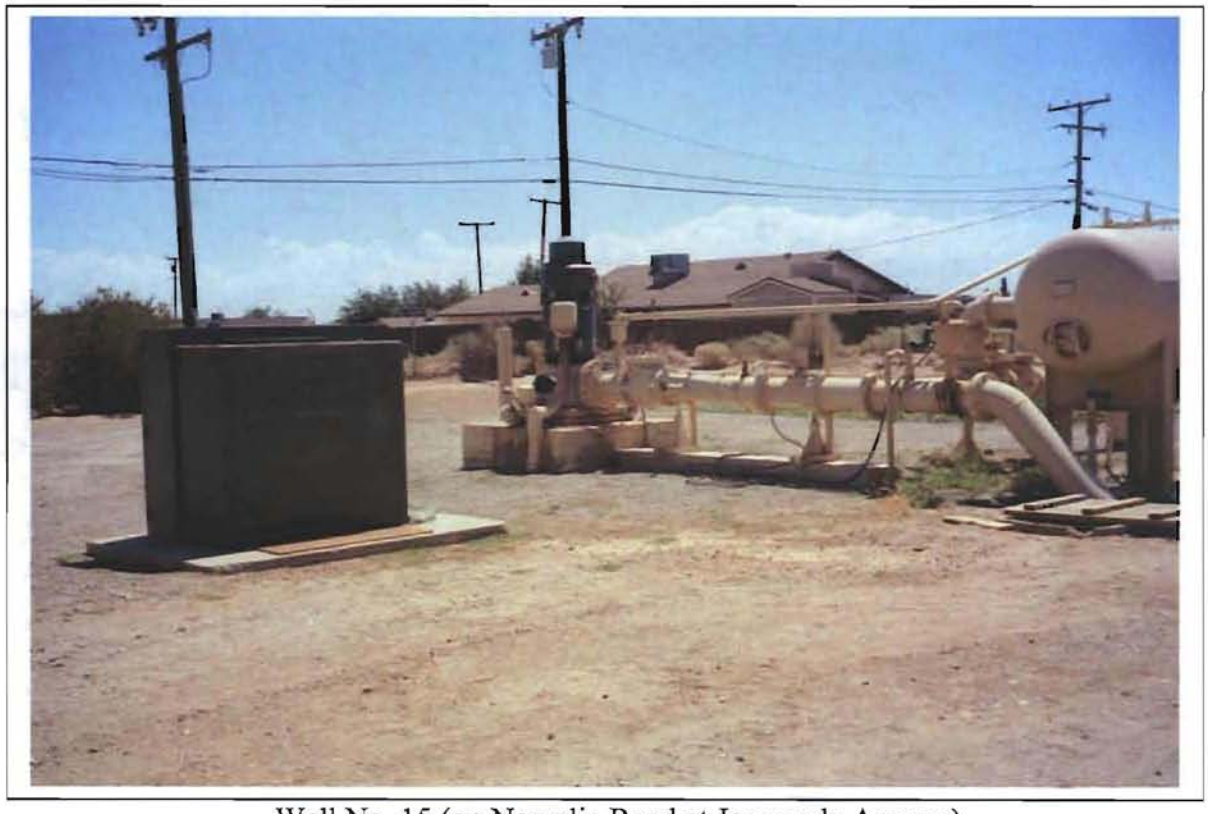
Well No. 2 (northeast corner of Yerba Boulevard and California City Boulevard)

Well No. 3 (northeast corner of Neuralia Road and California City Boulevard)

Well No. 10 (on Ironwood Avenue at 86th Street)



Well No. 14 (northwest corner of Yerba Boulevard and Mendiburu Road)



Well No. 15 (on Neuralia Road at Jacaranda Avenue)

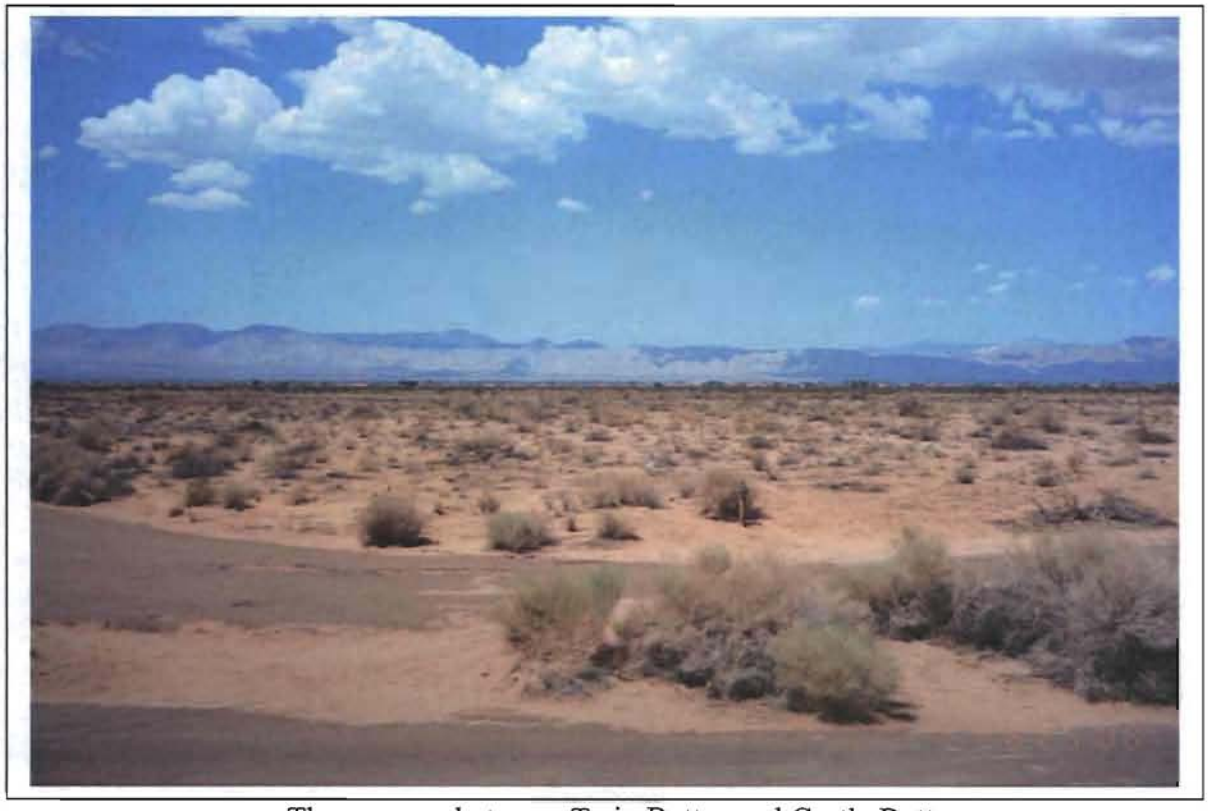
Well No. 16 (on Great Circle Drive between Isabella Boulevard and 77th Street)

Wonder Acres Well (end of Pesch Boulevard about ¾ miles esat of SR 14)

APPENDIX C

PICTURES TAKEN AT PRE-SELECTED POINTS ON AUGUST 25, 2008

The narrows between Twin Buttes and Castle Butte
(looking SE from Sequoia Boulevard and Carson Road)



The narrows between Twin Buttes and Castle Butte
(looking NW from Sequoia Boulevard and Carson Road)

Cross section across the narrows between Twin Buttes and Castle Butte
(looking NE from the water tank at Hacienda Boulevard and Wilson Road)

Potential alignment of the extended Moroc Fault
(looking NW from the water tank at Hacienda Boulevard and Wilson Road)

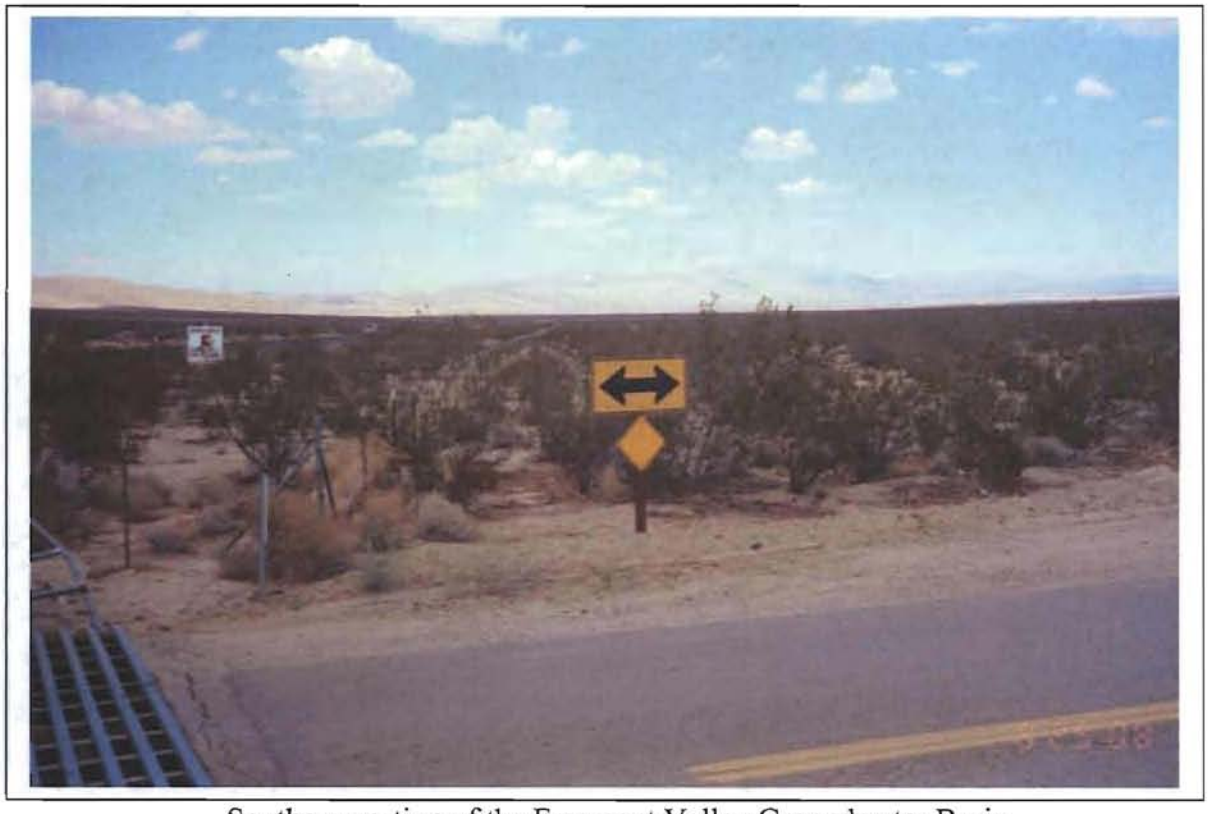
Southern portion of the Freemont Valley Groundwater Basin
(looking SW from SR 14 at Phillips Road)

Southern portion of the Freemont Valley Groundwater Basin
(looking S from SR 14 at Phillips Road)

Southern portion of the Freemont Valley Groundwater Basin
(looking SE from SR 14 at Phillips Road)

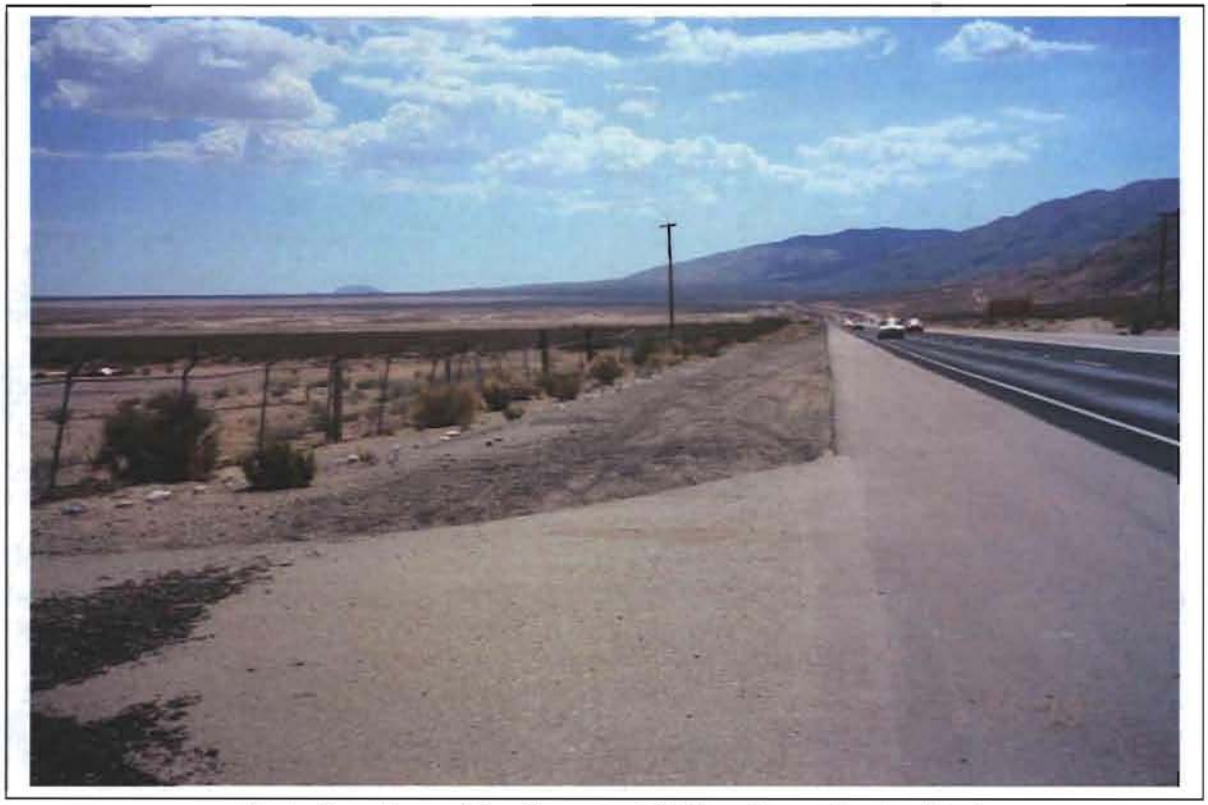
Southern portion of the Freemont Valley Groundwater Basin
(looking E from SR 14 at Phillips Road)

Southern portion of the Freemont Valley Groundwater Basin
(looking NE from SR 14 at Phillips Road)



Southern portion of the Freemont Valley Groundwater Basin
(looking N from SR 14 at Phillips Road)

Southern portion of the Freemont Valley Groundwater Basin
(looking NW from SR 14 at Phillips Road)



Central portion of the Freemont Valley Groundwater Basin
(looking S from SR 14 at Jawbone Gas Station)

Central portion of the Freemont Valley Groundwater Basin
(looking SE from SR 14 at Jawbone Gas Station)

Central portion of the Freemont Valley Groundwater Basin
(looking E from SR 14 at Jawbone Gas Station)

Central portion of the Freemont Valley Groundwater Basin
(looking NE from SR 14 at Jawbone Gas Station)

Central portion of the Freemont Valley Groundwater Basin
(looking N from SR 14 at Jawbone Gas Station)

Central portion of the Freemont Valley Groundwater Basin
(looking NNW from SR 14 at Jawbone Gas Station)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking SW from Randburg Red Rock Road at Last Chance Canyon)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking S from Randburg Red Rock Road at Last Chance Canyon)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking SE from Randburg Red Rock Road at Last Chance Canyon)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking E from Randburg Red Rock Road at Last Chance Canyon)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking NE from Randburg Red Rock Road at Last Chance Canyon)

Koehn Lake in the Freemont Valley Groundwater Basin
(looking N from Randburg Red Rock Road at Last Chance Canyon)

Northern portion of the Freemont Valley Groundwater Basin
(looking W from Garlock Road at US 395)

Northern portion of the Freemont Valley Groundwater Basin
(looking SW from Garlock Road at US 395)

Northern portion of the Freemont Valley Groundwater Basin
(looking S from Garlock Road at US 395)

Northern portion of the Freemont Valley Groundwater Basin
(looking SE from Garlock Road at US 395)

Northern portion of the Freemont Valley Groundwater Basin
(looking E from Garlock Road at US 395)

APPENDIX D

STREAMFLOW DATA IN THE FREEMONT VALLEY WATERSHED

DISCHARGES AT GAGING STATIONS IN THE FREEMONT VALLEY WATERSHED

YEAR	MONTHLY MEAN (IN CUBIC FEET PER SECOND (CFS))												ANNUAL	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CFS	ACREE-FEET
PINE TREE CREEK (STATION NO. 10264750 AT 35°13'50" N - 118°05'07" W, 34.2 SQUARE MILES)														
1958								0	0	0	0	0	0.000	0.00
1959	0.01	0	0	0	0	0	0.029	0	0	0	0	0.01	0.004	3.01
1960	0.081	0.272	0.006	0	0	0	0	0	0	0	0	0	0.029	21.00
1961	0	0	0	0	0	0	0	25	0	0	0	0.323	2.151	1,557.05
1962	0	0.371	0	0	0	0	0	0	0	0	0	0	0.028	20.60
1963	0	0	0	0	0	0	0	0.003	2.1	0.029	0.01	0	0.176	127.52
1964	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1965	0	0	0.006	0.027	0	0	0	0	0	0	0	5.16	0.441	319.25
1966	0	0	0	0	0	0	0	0	0	0	0	0.671	0.057	41.26
1967	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1968	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1969	0.121	0.894	0	0	0	0	0	0	0	0	0	0	0.079	57.09
1970	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1971	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1972	0	0	0	0	0	0.15	0	0	0	0	0.107	0	0.021	15.29
1973	0	0.06	0	0	0.003	0	0	0	0	0	0	0	0.005	3.52
1974	0	0	0	0	0	0	0	0	0	6.58	0	0.002	0.559	404.71
1975	0	0	0.003	0	0	0	0	0	0.002	0	0	0	0.000	0.30
1976	0	0.029	0	0	0	0	0	0	0.014	0	0.037	0	0.006	4.70
1977	0.352	0.121	0.442	0.005	3.21	0	0	0.032	0	0	0	0.005	0.353	255.49
1978	0.095	18.7	1.01	0.017	0	0	0	0	0	0	0	0.016	1.531	1,108.48
1979	0.029	0	0.044	0	0	0	0	0	0				0.006	4.49
AVERAGE	0.033	0.974	0.072	0.002	0.153	0.007	0.001	1.138	0.096	0.315	0.007	0.295	0.248	179.26
COTTONWOOD (JAWBONE) CREEK (STATION NO. 10264770 AT 35°18'60" N - 118°02'38" W, 163 SQUARE MILES)														
1966			0	0	0	0	0	0	0	0	0	1.52	0.129	93.46
1967	0	0	0	0	0	0	0	0.355	0	0	0	0	0.030	21.83
1968	0	0	0	0	0	0	0	1.58	0	0	0	0	0.134	97.42
1969	0.222	0.621	0	0	0	0	0	0	0	0	0	0	0.066	48.14
1970	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1971	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00

DISCHARGES AT GAGING STATIONS IN THE FREEMONT VALLEY WATERSHED

YEAR	MONTHLY MEAN (IN CUBIC FEET PER SECOND (CFS))												ANNUAL	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CFS	ACREE-FEET
1972	0	0	0	0	0	0.273	0	0	0				0.022	16.29
AVERAGE	0.037	0.104	0.000	0.000	0.000	0.039	0.000	0.276	0.000	0.000	0.000	0.253	0.055	39.59

OAK CREEK (STATION NO. 10264600 AT 35°03'00" N - 118°21'25" W, 15.8 SQUARE MILES)

1957								0	0	0	0	0.065	0.006	4.00
1958	0.194	0.479	0.881	10.5	7.26	3	1.75	0.79	0.83	0.835	0.997	1.05	2.380	1,723.20
1959	1.8	1.95	1.71	1.37	0.897	0.36	0.061	0	0	0	0	0	0.671	485.97
1960	0.045	0.683	0.403	0.37	0.361	0.117	0	0	0	0	0	0	0.161	116.97
1961	0.116	0.2	0.2	0.173	0.1	0.04	0	0.003	0	0	0	0.003	0.069	49.73
1962	0.006	2.5	1.45	5.4	3.25	1.64	0.142	0.061	0	0	0.09	0.252	1.216	880.44
1963	0.31	0.561	0.694	0.953	0.748	0.38	0.139	0.003	0	0.003	0.133	0.2	0.342	247.33
1964	0.2	0.2	0.2	0.307	0.297	0.163	0.035	0	0	0	0	0	0.116	84.31
1965	0	0	0.071	0.207	0.129	0.1	0.003	0.071	0	0	0.203	0.497	0.107	77.75
1966	0.677	0.8	1.13	1.02	0.832	0.31	0.013	0	0	0	0	0.013	0.397	287.43
1967	0.106	0.2	0.2	0.38	0.571	0.59	0.303	0.135	0.1	0.1	0.267	0.39	0.279	201.65
1968	0.4	0.476	0.874	0.983	0.8	0.18	0.1	0.09	0.05	0.039	0.03	0.03	0.337	244.52
1969	0.252	2.6	6.01	13.2	6.18	2.67	0.952	0.666	0.769	0.876	0.895	0.904	2.986	2,161.71
1970	1.8	3.07	2.25	1.23	1.07	0.71	0.402	0.064	0.03	0.083	0.849	0.73	1.011	731.70
1971	0.728	0.803	0.835	0.507	0.518	0.448	0.198	0.08	0.099	0.148	0.251	0.484	0.423	306.16
1972	0.421	0.397	0.285	0.34	0.299	0.732	0.066	0.035	0.031	0.065	0.083	0.061	0.233	168.83
1973	0.193	0.508	0.641	2.49	8.59	3.16	0.508	0.096	0.046	0.095	0.332	0.645	1.449	1,049.00
1974	0.91	0.875	0.881	0.907	0.569	0.239	0.085	0.035	0.024	0.032	0.173	0.188	0.407	294.53
1975	0.197	0.226	0.374	0.351	0.365	0.178	0.05	0.015	0.34	0.015	0.049	0.036	0.182	131.86
1976	0.026	0.058	0.101	0.119	0.099	0.038	0.03	0.025	0.021	0.02	0.013	0.016	0.047	34.17
1977	0.014	0.038	0.074	0.075	0.041	0.088	0.072	0.025	0.02	0.016	0.004	0.026	0.041	29.72
1978	0.053	5.32	42.9	12.3	7.93	3.87	2.11	1.13	1.05	1.21	1.55	1.68	6.793	4,917.94
1979	2.56	3.78	4.42	5.02	5.52	2.34	1.23	0.926	0.607	0.642	0.718	0.788	2.370	1,715.81
1980	1.23	2.84	4.1	3.08	2.29	1.45	0.899	0.206	0.119	0.194	0.544	0.532	1.447	1,050.72
1981	0.719	0.969	1.21	0.99	0.706	0.191	0.061	0.039	0.025	0.055	0.081	0.101	0.426	308.16
1982	0.255	0.286	0.511	0.591	0.845	0.968	0.457	0.171	0.148	0.232	0.378	0.587	0.453	327.98
1983	0.79	1.15	37.3	20.6	18.8	9.77	5.39	5.88	4.09	3.99	3.87	4.72	9.767	7,071.21
1984	4.35	3.57	3.3	2.45	1.74	1.13	1.22	1.37	0.72	0.732	0.879	0.938	1.859	1,349.43
1985	1.29	1.36	1.37	0.958	0.59	0.522	0.387	0.044	0.033	0.061	0.194	0.295	0.587	425.33

DISCHARGES AT GAGING STATIONS IN THE FREEMONT VALLEY WATERSHED

YEAR	MONTHLY MEAN (IN CUBIC FEET PER SECOND (CFS))												ANNUAL	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CFS	ACREE-FEET
1986	0.409	0.668	0.701	0.597	0.739	0.266	0.039	0.018	0.024				0.286	207.07
AVERAGE	0.691	1.261	3.968	3.016	2.487	1.229	0.576	0.399	0.306	0.326	0.434	0.525	1.228	889.49

CACHE CREEK (STATION NO. 10264740 AT 35°07'01" N - 118°12'05" W, 96.5 SQUARE MILES)

1965	0	0	0.245	0.58	0	0	0	0.032	0	0	0.033	0.552	0.121	87.45
1966	0	0	0	0	0	0	0	0	0	0	0	0.194	0.016	11.93
1967	0.032	0	0	0.017	0	0	0	0	0.023	0	0	0	0.006	4.35
1968	0	0	0	0	0	0	0.013	0	0	0	0	0	0.001	0.80
1969	1.31	1.38	1.84	0	0	0	0	0	0	0	0	0	0.373	270.33
1970	0	0	0	0	0	0	0	0	0	0	0.067	0.016	0.007	4.97
1971	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1972	0	0	0	0	0	4.33	0	0	0				0.356	258.36
AVERAGE	0.168	0.173	0.261	0.075	0.000	0.541	0.002	0.004	0.003	0.000	0.014	0.109	0.110	79.77

GOLER GULCH (STATION NO. 10264710 AT 35°23'34" N - 117°47'43" W, 41.3 SQUARE MILES)

1966			0	0	0	0	0	0	0	0	0	0	0.000	0.00
1967	0.006	0	0	0	0	0	0	0.355	0.033	0	0.367	0	0.064	46.00
1968	0	0.007	0	0	0	0	0	0	0	0	0	0	0.001	0.39
1969	0	0.536	0	0	0	0	0.048	0	0	0	0	0	0.045	32.72
1970	0	0.054	0	0	0	0	0	0	0	0	0	0	0.004	3.00
1971	0	0	0	0	0	0	0	0	0	0	0	0	0.000	0.00
1972	0	0	0	0	0	0	0	0	0				0.000	0.00
AVERAGE	0.001	0.100	0.000	0.000	0.000	0.000	0.007	0.051	0.005	0.000	0.061	0.000	0.016	11.73

PEAK DISCHARGES AT GAGING STATIONS IN THE FREEMONT VALLEY WATERSHED

YEAR	DATE	GAGE HEIGHT (FEET)	STREAMFLOW (CFS)	YEAR	DATE	GAGE HEIGHT (FEET)	STREAMFLOW (CFS)

PINE TREE CREEK (STATION NO. 10264750 AT 35°13'50" N - 118°05'07" W, 34.2 SQUARE MILES)

1959	Jul. 30, 1959	1.97	7.6	1969	Feb. 25, 1969	5.43	76
1960	Dec. 24, 1959	1.95	6.9	1970	1970		0
1961	Aug. 23, 1961	15	300,002	1971	1971		0
1962	Dec. 02, 1961	4.05	103	1972	Jun. 07, 1972		330
1963	Sep. 19, 1963	5.6	12,202	1973	Nov. 17, 1972		77.02
1964	Oct. 18, 1963	4.23	5	1975	Oct. 07, 1974		49,002
1965	Apr. 01, 1965		10	1976	Sep. 11, 1976	5.01	5.3
1966	Dec. 29, 1965	4.58	660	1977	9-May-77	5.13	130
1967	Dec. 06, 1966	4.53	60	1978	Feb. 10, 1978	7.42	7,700
1968	1968		0	1979	Jan. 16, 1979		11

COTTONWOOD (JAWBONE) CREEK (STATION NO. 10264770 AT 35°18'60" N - 118°02'38" W, 163 SQUARE MILES)

1963	Aug. 08, 1963		51,507	1970	1970		0
1967	Dec. 06, 1966	2.32	876	1971	1971		0
1968	Aug. 07, 1968	4.14	1,170	1972	Jun. 07, 1972	2.32	195
1969	Jan. 25, 1969	2.59	210				

OAK CREEK (STATION NO. 10264600 AT 35°03'00" N - 118°21'25" W, 15.8 SQUARE MILES)

1958	Apr. 18, 1958	1.51	22	1973	14-May-73	10.53	1,740
1959	Jan. 06, 1959	1.19	9	1974	Jan. 13, 1974	1.15	6.9
1960	Feb. 01, 1960	0.97	4	1975	Feb. 11, 1975	2.42	9.8
1961	Aug. 23, 1961	0.98	3	1976	Feb. 24, 1976	2.5	3.1
1962	Feb. 11, 1962	1.55	29	1977	Jun. 27, 1977	2.07	0.26
1963	Feb. 09, 1963	0.97	4	1978	Mar. 04, 1978	7.48	750
1964	Apr. 01, 1964	0.75	1	1979	Mar. 27, 1979	1.8	12
1965	Aug. 16, 1965	2.09	63	1980	Feb. 16, 1980	2.23	44
1966	Dec. 29, 1965	1.25	8	1981	Mar. 06, 1981	1.28	11
1967	Jun. 14, 1967	0.8	1	1982	Jun. 02, 1982	1.53	1.4
1968	Nov. 19, 1967	1.12	6.2	1983	Mar. 01, 1983	4.64	187
1969	Feb. 25, 1969	2.39	97	1984	Jul. 30, 1984	5.74	171

PEAK DISCHARGES AT GAGING STATIONS IN THE FREEMONT VALLEY WATERSHED

YEAR	DATE	GAGE HEIGHT (FEET)	STREAMFLOW (CFS)	YEAR	DATE	GAGE HEIGHT (FEET)	STREAMFLOW (CFS)
1970	Feb. 25, 1970	1.76	36	1985	Jul. 25, 1985	3	24
1971	Nov. 29, 1970	2.27	82	1986	Feb. 14, 1986	2.68	11
1972	Jun. 06, 1972	3.3		1989	Mar. 25, 1989	1.25	0.13

CACHE CREEK (STATION NO. 10264740 AT 35°07'01" N - 118°12'05" W, 96.5 SQUARE MILES)

1965	Mar. 31, 1965	8.51	25	1969	Jan. 25, 1969		65
1966	Dec. 29, 1965		50	1970	1970		0
1967	Dec. 06, 1966	9.16	75	1971	Nov. 29, 1970		48
1968	Jul. 28, 1968		10	1972	Jun. 07, 1972	11.8	2,100

GOLER GULCH (STATION NO. 10264710 AT 35°23'34" N - 117°47'43" W, 41.3 SQUARE MILES)

1967	Aug. 08, 1967	5.26	294	1970	Feb. 28, 1970	2.14	36
1968	Nov. 19, 1967	6.14	492	1971	1971		0
1969	Feb. 25, 1969	6.94	776	1972	1972		0

CFS: CUBIC FEET PER SECOND

APPENDIX E

GROUNDWATER LEVEL DATA
IN THE FREEMONT VALLEY GROUNDWATER BASIN

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/12/1959		26.9	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/9/1959		27.02	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/4/1960		29.29	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/1/1961		29.91	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/27/1962		31.83	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/15/1963		34.31	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/2/1964		31.43	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/18/1965		34.88	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/10/1966		35.44	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/15/1967		36.94	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/6/1968		36.33	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/18/1969		38.1	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/16/1970		36.77	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	10/20/1970		38.17	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/16/1971		37.65	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/16/1972		39.3	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/13/1973		42.4	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/12/1974		43.83	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/6/1975		43.29	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/11/1976		43.72	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/9/1977		43.18	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/28/1978		43.69	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/22/1979		44.89	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/11/1980		44.2	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/14/1981		45.07	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/9/1982		46.2	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/13/1983		47.3	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/7/1984		41.57	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/28/1985		39.5	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/1/1986		37.44	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/25/1987		37.99	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/28/1988		40.53	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/22/1989		40.35	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/14/1990		40.36	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/18/1991		40.59	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	1/9/1992		41.28	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	2/4/1992		41.38	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/10/1992		40.51	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/7/1992		40.37	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	5/9/1992		40.78	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	6/16/1992		41.16	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	7/8/1992		43.16	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	8/6/1992		42.99	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	9/9/1992		42.6	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	10/5/1992		42.8	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	11/7/1992		42.35	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	12/16/1992		41.77	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	1/27/1993		40.95	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/20/1993		41.02	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/12/1994		41.97	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/18/1995		41.91	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/17/1996		41.76	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/5/1997	14:23	43.3	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	9/16/1997	8:33	43.18	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/19/1998	9:00	43.13	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/2/1998	12:45	43.29	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/3/1998	6:47	43.25	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/4/1998	13:27	43.21	Z
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/17/1999		43.9	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	9/19/1999	11:23	44.15	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/23/2000		43.4	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/26/2001	15:57	43.67	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/26/2002		44.81	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/24/2003		45.09	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	10/8/2003	14:07	46.48	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/29/2004	13:06	46.35	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/23/2005	9:10	46.02	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	9/9/2005	13:07	47.21	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/27/2006	15:55	46.54	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	3/19/2007	15:58	46.66	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	9/26/2007	8:39	48.31	
08N/09W-06D01	34	49	11	117	52	40	2287.25	135.6	4/1/2008	15:50	47.36	
08N/09W-06F01	34	48	56	117	52	32	2293.5		3/1/1961		16.65	
08N/09W-06F01	34	48	56	117	52	32	2293.5		2/27/1962		15.66	
08N/09W-06F01	34	48	56	117	52	32	2293.5		3/11/1963		17.57	
08N/09W-06F01	34	48	56	117	52	32	2293.5		3/2/1964		16.43	
08N/09W-06F01	34	48	56	117	52	32	2293.5		4/18/1965		17.9	
08N/09W-06F01	34	48	56	117	52	32	2293.5		3/10/1966		12.15	
08N/09W-06F01	34	48	56	117	52	32	2293.5		3/15/1967		18.55	
08N/10W-02P01	34	48	34	117	54	35	2310		12/10/1945		12.68	
08N/10W-02P01	34	48	34	117	54	35	2310		11/26/1946		14.22	
08N/10W-02P01	34	48	34	117	54	35	2310		11/6/1947		17.2	
08N/10W-02P01	34	48	34	117	54	35	2310		11/9/1948		18.96	
08N/10W-02P01	34	48	34	117	54	35	2310		11/22/1949		21.25	
08N/10W-02P01	34	48	34	117	54	35	2310		11/14/1950		23.58	
08N/10W-02P01	34	48	34	117	54	35	2310		11/7/1951		26.6	
08N/10W-02P01	34	48	34	117	54	35	2310		12/2/1952		29.48	
08N/10W-02P01	34	48	34	117	54	35	2310		3/1/1961		51.65	
08N/10W-02P01	34	48	34	117	54	35	2310		10/26/1961		56.44	
08N/10W-02P01	34	48	34	117	54	35	2310		2/27/1962		53.08	
08N/10W-02P01	34	48	34	117	54	35	2310		11/6/1962		56.77	
08N/10W-02P01	34	48	34	117	54	35	2310		3/15/1963		57.13	
08N/10W-02P01	34	48	34	117	54	35	2310		11/5/1963		58.06	
08N/10W-02P01	34	48	34	117	54	35	2310		3/2/1964		56.52	
08N/10W-02P01	34	48	34	117	54	35	2310		9/17/1964		61.55	
08N/10W-02P01	34	48	34	117	54	35	2310		4/18/1965		60.53	
08N/10W-02P01	34	48	34	117	54	35	2310		10/21/1965		64.66	
08N/10W-02P01	34	48	34	117	54	35	2310		3/10/1966		64.9	
08N/10W-02P01	34	48	34	117	54	35	2310		10/25/1966		66.81	
08N/10W-02P01	34	48	34	117	54	35	2310		3/15/1967		65.78	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	1/18/1951		32.84	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/7/1951		35.45	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/16/1951		35.76	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/16/1951		35.32	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	12/19/1951		35.12	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	1/14/1952		34.97	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/4/1952		34.81	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	4/1/1952		34.79	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	5/5/1952		35.9	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	6/2/1952		36.04	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	7/2/1952		36.65	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	8/4/1952		37.16	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	9/2/1952		37.55	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/3/1952		37.82	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/6/1952		37.55	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	1/5/1953		37.1	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/13/1953		37.09	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	5/4/1953		38.85	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/28/1956		42.24	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/1/1957		43.42	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	4/30/1957		44.9	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	6/6/1957		44.1	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	7/16/1957		44.36	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	8/15/1957		44.56	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	9/25/1957		44.78	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/23/1957		44.76	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/13/1957		44.48	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	12/17/1957		44.86	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/11/1958		45.07	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	4/10/1958		45.21	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	5/15/1958		45.55	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/6/1958		46.47	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/12/1959		46.83	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	4/8/1959		47.09	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	12/8/1959		48.33	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/4/1960		48.65	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/16/1960		50.15	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/1/1961		50.6	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/26/1961		51.92	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	2/27/1962		52.33	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/6/1962		53.9	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/12/1963		54.46	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	6/17/1963		55.38	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	11/6/1963		58.92	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/3/1964		57.91	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	9/20/1964		62.32	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	4/14/1965		60.34	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/21/1965		60.67	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/10/1966		60.8	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	10/27/1966		61.92	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/14/1967		62.4	
08N/10W-09P01	34	47	36	117	56	47	2321	249.5	3/6/1968		63.84	
08N/10W-28B01	34	45	42	117	56	23	2358	215	1/23/1951		66.75	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/6/1951		68.78	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/10/1951		75.3	
08N/10W-28B01	34	45	42	117	56	23	2358	215	5/8/1951		77.32	
08N/10W-28B01	34	45	42	117	56	23	2358	215	6/28/1951		77.5	
08N/10W-28B01	34	45	42	117	56	23	2358	215	7/25/1951		79.35	
08N/10W-28B01	34	45	42	117	56	23	2358	215	8/22/1951		79.71	
08N/10W-28B01	34	45	42	117	56	23	2358	215	9/19/1951		77.6	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/15/1951		77.39	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/14/1951		72.95	
08N/10W-28B01	34	45	42	117	56	23	2358	215	12/19/1951		71.3	
08N/10W-28B01	34	45	42	117	56	23	2358	215	1/14/1952		70.74	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/14/1952		70.41	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/4/1952		71.23	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/1/1952		74.82	
08N/10W-28B01	34	45	42	117	56	23	2358	215	5/5/1952		76.29	
08N/10W-28B01	34	45	42	117	56	23	2358	215	6/2/1952		81.51	
08N/10W-28B01	34	45	42	117	56	23	2358	215	7/2/1952		85.98	
08N/10W-28B01	34	45	42	117	56	23	2358	215	8/4/1952		89.88	
08N/10W-28B01	34	45	42	117	56	23	2358	215	9/2/1952		93.06	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/3/1952		94.35	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/5/1952		83.1	
08N/10W-28B01	34	45	42	117	56	23	2358	215	1/5/1953		77.05	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/13/1953		82.13	
08N/10W-28B01	34	45	42	117	56	23	2358	215	5/4/1954		93.44	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/23/1956		95.72	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/28/1956		94.15	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/28/1957		92.64	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/30/1957		96.84	
08N/10W-28B01	34	45	42	117	56	23	2358	215	6/6/1957		97.3	
08N/10W-28B01	34	45	42	117	56	23	2358	215	7/16/1957		98.25	
08N/10W-28B01	34	45	42	117	56	23	2358	215	8/15/1957		98.54	
08N/10W-28B01	34	45	42	117	56	23	2358	215	9/25/1957		98.78	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/23/1957		97.5	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/14/1957		97.49	
08N/10W-28B01	34	45	42	117	56	23	2358	215	12/17/1957		96.2	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/11/1958		94.99	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/10/1958		95.79	
08N/10W-28B01	34	45	42	117	56	23	2358	215	5/15/1958		98.5	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/6/1958		99.83	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/12/1959		99.63	
08N/10W-28B01	34	45	42	117	56	23	2358	215	12/8/1959		102.86	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/4/1960		103.45	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/16/1960		106.77	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/28/1961		107.87	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/26/1961		113.73	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/27/1962		112.37	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/10/1962		123.98	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/12/1963		121.98	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/5/1963		127.44	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/3/1964		123.95	
08N/10W-28B01	34	45	42	117	56	23	2358	215	9/19/1964		129.74	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/14/1965		124.64	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/20/1965		129.03	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/10/1966		126.5	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/27/1966		130.82	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/16/1967		131.55	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/25/1967		134.44	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/12/1968		134.23	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/16/1969		135.8	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/17/1970		137.22	
08N/10W-28B01	34	45	42	117	56	23	2358	215	10/20/1970		139.13	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/16/1971		139.23	
08N/10W-28B01	34	45	42	117	56	23	2358	215	11/3/1971		140.15	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/16/1972		140.77	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/13/1973		141.69	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/14/1974		142.88	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/5/1975		144.13	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/13/1976		147.59	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/10/1977		147.38	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/30/1978		147.44	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/11/1982		149.39	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/14/1983		149.57	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/8/1984		150.02	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/4/1985		149.98	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/2/1986		150.22	
08N/10W-28B01	34	45	42	117	56	23	2358	215	2/26/1987		150.2	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/28/1988		152.33	R
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/25/1989		150.59	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/14/1990		150.82	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/18/1991		151.4	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/15/1992		151.12	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/19/1993		157.6	R
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/12/1994		151.28	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/18/1995		151.37	
08N/10W-28B01	34	45	42	117	56	23	2358	215	4/18/1996		152.26	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/4/1997		151.94	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/17/1998		151.83	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/31/1999		152.15	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/21/2000		152.38	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/13/2001		152.89	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/27/2002		153.04	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/24/2003		175.42	P
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/29/2004	13:00	173.1	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/29/2005	9:30	153.9	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/20/2006	12:50	154.15	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/19/2007	14:25	154.49	
08N/10W-28B01	34	45	42	117	56	23	2358	215	3/24/2008	11:15	154.94	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	5/5/1954		99.39	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	10/25/1956		90.52	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	11/29/1956		90.73	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	2/8/1957		90.19	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/8/1957		89.99	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	4/30/1957		89.97	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	6/5/1957		90.27	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	7/17/1957		90.66	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	8/15/1957		91	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/25/1957		91.23	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	10/16/1957		91.39	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	11/13/1957		91.44	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	12/16/1957		91.36	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/10/1958		90.69	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	4/10/1958		90.76	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	5/14/1958		90.39	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	11/6/1958		90.24	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/11/1959		90.13	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	12/3/1959		89.59	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/3/1960		89.39	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	11/17/1960		90.8	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	2/14/1961		90.74	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	8/18/1991		121.24	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	1/8/1992		122.04	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	2/4/1992		122.07	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/10/1992		122.07	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	4/5/1992		122.06	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	5/11/1992		122.11	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	6/16/1992		122.12	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	7/7/1992		122.22	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	8/10/1992		122.21	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/7/1992		122.29	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	10/6/1992		122.29	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	11/8/1992		122.25	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	12/15/1992		122.32	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	2/12/1993		122.24	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/4/1997	17:24	125.12	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/14/1997	14:01	125.33	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/17/1999	13:59	125.64	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/18/1999	15:51	125.76	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/27/2001	17:12	126.18	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	10/5/2001		126.3	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/22/2005	13:22	127.86	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/9/2005	13:59	128.55	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	3/20/2007	17:06	130.77	
09/10W-16N01	34	52	11	117	57	6	2325.8	376	9/25/2007	11:02	130.9	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/1/1961		25.35	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		10/26/1961		29.23	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/1/1962		27.43	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		11/6/1962		29.58	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/14/1963		29.87	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		11/5/1963		32.03	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/2/1964		32.39	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		9/17/1964		34.44	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		4/17/1965		35.35	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		10/21/1965		37.32	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/7/1966		37.87	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/15/1967		40.38	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/6/1968		42.7	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/13/1973		54.1	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/12/1974		55.32	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/7/1975		57.57	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/11/1976		59.77	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/10/1977		61.64	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/28/1978		63.38	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/22/1979		64.8	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/25/1980		66.77	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		4/15/1981		58.27	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/10/1982		61.6	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		4/14/1983		61.61	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/6/1984		62.26	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/29/1985			D
09N/09W-02Q01	34	53	48	117	47	58	2273.75		4/2/1986			N
09N/09W-02Q01	34	53	48	117	47	58	2273.75		1/8/1992		31.54	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		2/5/1992		32.16	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		3/11/1992		31.87	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		4/7/1992		31.61	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		5/11/1992		32.06	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		6/17/1992		32.17	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		7/9/1992		31.21	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		8/7/1992		32.25	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		9/9/1992		32.34	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		10/6/1992		32.39	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		11/7/1992		32.22	
09N/09W-02Q01	34	53	48	117	47	58	2273.75		12/16/1992		31.02	
09N/09W-03F01	34	54	37	117	49	10	2270.85		10/27/1965		48.26	
09N/09W-03F01	34	54	37	117	49	10	2270.85		3/5/1966		47.57	
09N/09W-03F01	34	54	37	117	49	10	2270.85		7/1/1967		48.84	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		8/1/1967		48.75	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		10/1/1967		49.13	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		11/1/1967		49.05	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		4/11/1968		49.32	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		5/6/1968		49.27	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		6/4/1968		49.44	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		7/24/1968		49.63	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		8/19/1968		49.62	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		9/4/1968		49.66	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		10/25/1968		49.95	Z
09N/09W-03F01	34	54	37	117	49	10	2270.85		11/21/1968		50	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		3/8/1966		32.46	
09N/09W-04E01	34	54	11	117	50	30	2272.61		10/1/1967		34.14	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		11/1/1967		34.07	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		4/11/1968		34.4	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		5/6/1968		34.56	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		6/4/1968		34.58	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		7/24/1968		34.72	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		8/19/1968		34.75	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		9/4/1968		34.85	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		10/25/1968		34.96	Z
09N/09W-04E01	34	54	11	117	50	30	2272.61		11/21/1968		35.01	Z

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	1/1/1942		36	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	1/22/1948		41.3	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	12/4/1951		41.8	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	12/19/1951		41.84	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	1/14/1952		41.83	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	1/25/1952		41.88	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/14/1952		41.87	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/6/1952		41.88	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/24/1952		41.87	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/31/1952		41.88	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	5/5/1952		41.92	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	9/3/1952		42.33	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/5/1952		42.45	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	1/5/1953		42.44	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/26/1956		43.1	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/29/1956		43.24	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/1/1957		42.89	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	5/1/1957		42.74	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	6/5/1957		42.71	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	7/16/1957		42.8	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	8/14/1957		42.95	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	9/25/1957		43.12	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/16/1957		43.14	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/13/1957		43.13	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	12/16/1957		43.09	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/11/1958		42.87	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/9/1958		42.9	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	5/15/1958		42.79	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/5/1958		43.1	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/11/1959		42.92	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/9/1959		42.87	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	12/3/1959		43.26	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/3/1960		43.03	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/17/1960		43.65	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/1/1961		43.52	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/24/1961		44.06	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/27/1962		44.02	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/9/1962		44.23	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/11/1963		44.03	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	11/6/1963		44.41	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/3/1964		44.46	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	9/20/1964		44.85	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/16/1965		44.95	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/19/1965		44.99	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/9/1966		44.99	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/26/1966		45.49	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/14/1967		45.69	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/5/1968		46.13	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/15/1968		46.46	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/18/1969		46.68	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/16/1970		47.09	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/20/1970		47.48	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/16/1971		47.79	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/16/1972		48.13	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/13/1973		48.5	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/13/1974		48.79	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/6/1975		49.12	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/12/1976		49.56	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/9/1977		50.04	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/29/1978		50.44	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/22/1979		50.73	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/12/1980		50.95	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/14/1981		51.17	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/10/1982		51.43	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/13/1983		51.65	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/7/1984		51.79	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/29/1985		52.06	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/2/1986		52.3	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	2/26/1987		52.48	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/29/1988		52.14	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/19/1991		49.46	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/14/1994		55.01	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/19/1995		55.33	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/17/1996		54.91	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/4/1997	14:42	55.13	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	9/15/1997	14:50	55.34	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/18/1998	11:45	55.5	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/15/1999		55.66	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/27/2001		56.39	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/26/2002		56.65	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/27/2003		56.84	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	10/8/2003	12:21	57.05	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/29/2004	13:34	57.13	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/23/2005	12:30	56.9	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/27/2006	9:49	57.08	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	3/21/2007	12:36	57.45	
09N/09W-06E01	34	54	20	117	52	48	2290	103.7	4/2/2008	9:33	57.38	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	7/12/1991		85.4	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	7/16/1991		85.36	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	2/5/1992		88.4	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/11/1992		86.38	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	4/5/1992		86.52	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	5/11/1992		86.36	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	6/17/1992		86.5	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	7/7/1992		86.3	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	8/6/1992		86.39	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/9/1992		86.46	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	10/6/1992		86.56	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	11/7/1992		86.41	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	12/16/1992		86.22	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	2/5/1993		86.09	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	10/18/1995		88.49	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	11/28/1995		88.45	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/6/1997	11:19	89.05	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/14/1997	7:05	89.91	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/16/1997	9:06	89.97	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/16/1997	11:35	89.98	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/15/1999	14:58	90.02	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/17/1999	16:08	90.92	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/27/2001	10:00	91.27	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	10/4/2001		92.08	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/24/2005	16:50	94.72	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/9/2005	12:20	94.29	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	3/21/2007	7:49	94.41	
09N/09W-09A01	34	53	42	117	49	51	2271.2	345	9/27/2007	6:30	95.22	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	7/12/1991		85.4	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	7/16/1991		84.76	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	2/5/1992		81.99	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/11/1992		82.41	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	4/5/1992		81.88	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	5/11/1992		82.19	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	6/17/1992		82.74	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	7/7/1992		83.63	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	8/6/1992		83.89	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/9/1992		83.98	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	10/6/1992		84.21	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	11/7/1992		84.22	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	12/16/1992		84.06	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	2/5/1993		83.68	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	10/19/1995		87.74	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	11/28/1995		87.78	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/6/1997		88.4	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/14/1997	7:14	89.15	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/16/1997	9:07	89.23	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/16/1997	11:38	89.21	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/15/1999	15:03	89.39	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/17/1999	16:12	90.2	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/27/2001	10:10	90.72	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	10/4/2001		91.43	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/24/2005	16:53	94.01	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/9/2005	12:24	93.59	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	3/21/2007	7:55	93.84	
09N/09W-09A02	34	53	42	117	49	51	2271.2	175	9/27/2007	6:33	94.59	
09N/09W-09A03	34	53	42	117	49	51	2271.05	396	7/12/1991		58.3	
09N/09W-09A03	34	53	42	117	49	51	2271.05	396	7/16/1991			D
09N/09W-09A03	34	53	42	117	49	51	2271.05	396	12/15/1992		102.94	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/17/1951		18.14	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/15/1951		17.94	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	5/6/1952		17.59	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/24/1953		19.26	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	5/15/1958		27.83	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/11/1959		29.21	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/9/1959		29.82	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/10/1960		31.58	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/28/1961		33.55	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/1/1962		35.83	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/13/1963		38.13	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/2/1964		41.11	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	9/17/1964		43.56	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/17/1965		44.13	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/7/1966		46.59	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/15/1967		49.36	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	5/8/1968		52.9	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/17/1970		56.58	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/19/1970		58.64	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/15/1971		58.93	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/14/1972		61.26	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/12/1972		63.04	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/3/1973		65.25	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/12/1974		65.48	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/7/1975		67.85	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/16/1975		69.77	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/11/1976		70.03	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/3/1976		71.79	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/10/1977		72.25	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/12/1977		73.84	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/28/1978		74.03	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/17/1978		75.28	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/22/1979		75.7	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/13/1980		77.6	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/16/1980		78.77	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/15/1981		79.53	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/18/1981		80.9	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/10/1982		81.02	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/7/1982		82.44	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/14/1983		83.08	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/27/1983		84.04	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/6/1984		84.54	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/31/1984		86.72	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/29/1985		86.15	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/31/1985		86.79	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/2/1986		87.19	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/23/1986		88.2	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/25/1987		88.3	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/4/1987		89.8	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/29/1988		89.79	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/29/1989		91.31	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/19/1989		92.18	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/12/1990		92.67	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/16/1990		93.27	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/19/1991		93.58	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/8/1991		94.51	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/5/1992		94.58	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	3/11/1992		94.75	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/5/1992		94.76	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	5/11/1992		94.98	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	6/17/1992		95.04	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	7/7/1992		95.15	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	8/6/1992		95.28	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	9/9/1992		95.52	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	10/6/1992		95.5	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/7/1992		95.49	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	12/16/1992		95.72	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	2/9/1993		95.49	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/20/1993		95.96	
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	11/19/1993			D
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/14/1994			D
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/19/1995			D
09N/09W-10R01	34	52	55	117	48	43	2281.5	97.9	4/20/1995			N
09N/09W-12F01	34	53	29	117	46	57	2288.8		2/28/1961		36.04	
09N/09W-12F01	34	53	29	117	46	57	2288.8		3/1/1962		38.14	
09N/09W-12F01	34	53	29	117	46	57	2288.8		2/13/1963		40.37	
09N/09W-12F01	34	53	29	117	46	57	2288.8		3/8/1963		40.16	
09N/09W-12F01	34	53	29	117	46	57	2288.8		3/2/1964		42.96	
09N/09W-12F01	34	53	29	117	46	57	2288.8		9/17/1964		44.43	
09N/09W-12F01	34	53	29	117	46	57	2288.8		4/17/1965		45.96	
09N/09W-12F01	34	53	29	117	46	57	2288.8		3/7/1966		48.41	
09N/09W-12F01	34	53	29	117	46	57	2288.8		3/15/1967		50.93	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	8/7/1962		104	R
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	1/14/1963		104.41	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	2/13/1963		104.72	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/23/1964		108.99	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/7/1966		116.1	P
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	10/26/1966		114.6	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/6/1968		118.02	R
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	7/19/1991		161.05	R
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	2/5/1992		161.39	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/13/1992		161.63	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	5/9/1992		161.54	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	6/17/1992		161.77	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	7/9/1992		162.1	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	8/8/1992		162.06	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/10/1992		162.35	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	10/8/1992		162.43	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	11/7/1992		162.33	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	12/17/1992		162.64	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	2/9/1993		162.59	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/6/1997	10:40	165.71	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/17/1997	7:42	166.41	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/18/1999	8:25	167.18	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/20/1999	8:37	167.62	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/29/2001	8:20	168.24	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/25/2005	8:48	170.95	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/23/2005	7:22	171.04	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	3/21/2007	7:28	171.6	
09N/09W-13N01	34	52	10	117	47	16	2350.2	533	9/27/2007	7:18	171.93	
09N/09W-14P02	34	52	4	117	48	12	2283.5		8/14/1962		53	Z
09N/09W-14P02	34	52	4	117	48	12	2283.5		1/14/1963		51.97	
09N/09W-14P02	34	52	4	117	48	12	2283.5		2/13/1963		51.99	
09N/09W-14P02	34	52	4	117	48	12	2283.5		3/14/1963		52.06	
09N/09W-14P02	34	52	4	117	48	12	2283.5		9/23/1964		58.15	R
09N/09W-14P02	34	52	4	117	48	12	2283.5		3/7/1966		64.54	P
09N/09W-14P02	34	52	4	117	48	12	2283.5		10/26/1966		63.9	R
09N/09W-14P02	34	52	4	117	48	12	2283.5		7/19/1991		108.65	R
09N/09W-14P02	34	52	4	117	48	12	2283.5		2/5/1992		109.17	
09N/09W-14Q01	34	52	0	117	47	57	2320		7/19/1991		131.74	R
09N/09W-14Q01	34	52	0	117	47	57	2320		2/5/1992		132.14	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	8/25/1962		42	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	1/14/1963		39.55	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	2/13/1963		39.53	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	3/14/1963		39.69	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	9/23/1964		46.16	R
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	3/7/1966		52.45	P
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	10/26/1966		51.7	R
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	3/6/1968		58.2	P
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	7/19/1991		97.44	R
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	2/6/1992		97.03	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	3/11/1992		96.07	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	4/7/1992		97.36	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	5/9/1992		97.11	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	6/17/1992		96.8	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	7/9/1992		97.84	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	8/8/1992		97.82	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	9/10/1992		98.1	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	10/8/1992		98.09	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	11/7/1992		98.2	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	12/17/1992		97.94	
09N/09W-15J01	34	52	14	117	48	43	2281.81	534	2/5/1993		97.89	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	1/22/1948		10.6	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	1/24/1952		16.11	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	1/25/1952		16.04	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	11/5/1952		21	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	11/29/1956		30.03	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	7/16/1957		41.48	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/25/1957		42.36	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	12/16/1957		37.75	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/12/1958		29.85	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/10/1958		31.23	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	5/15/1958		34.82	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	11/5/1958			P

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/22/1962		41.85	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/3/1964		50.52	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/20/1964		58.61	R
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/16/1965		154.62	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/19/1965		91.52	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/21/1965		90.22	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/9/1966		89.42	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/25/1966		89.62	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/14/1967		58.6	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/5/1968		193.6	P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/15/1968		65.68	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/18/1969		64.86	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/16/1970			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/20/1970			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/16/1971			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	11/3/1971		73.72	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/14/1972		72.13	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/13/1973		75.14	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/13/1974			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/6/1975		79.06	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/12/1976			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/9/1977			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/29/1978			P
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/4/1992		101.42	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/10/1992		101.28	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/5/1992		101.11	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	5/7/1992		101.29	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	6/16/1992		101.66	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	7/8/1992		101.75	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	8/10/1992		102.05	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/9/1992		102.22	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	10/7/1992		101.78	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	11/8/1992		102.08	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	12/15/1992		101.81	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	2/16/1993		101.47	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/4/1997	14:58	102.87	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/15/1997	11:06	104.42	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/3/1998	8:34	103.24	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/3/1998	12:31	103.21	S
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	4/4/1998	10:46	103.17	S
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/16/1999	15:36	103.49	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/19/1999	13:16	104.85	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/23/2005	10:56	106.18	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/22/2005	10:42	107.2	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	3/20/2007	8:58	106.5	
09N/09W-18C01	34	52	41	117	52	23	2280.06	221	9/26/2007	11:27	107.91	
09N/09W-20A01	34	51	57	117	50	47	2269		10/27/1965		43.37	
09N/09W-20A01	34	51	57	117	50	47	2269		10/1/1967		46.12	Z
09N/09W-20A01	34	51	57	117	50	47	2269		11/1/1967		46.1	Z
09N/09W-20A01	34	51	57	117	50	47	2269		4/10/1968		1	Z
09N/09W-20A01	34	51	57	117	50	47	2269		5/6/1968		1.73	Z
09N/09W-20A01	34	51	57	117	50	47	2269		6/3/1968		49.34	Z
09N/09W-20A01	34	51	57	117	50	47	2269		7/23/1968		50.51	Z
09N/09W-20A01	34	51	57	117	50	47	2269		8/19/1968		50.5	Z
09N/09W-20A01	34	51	57	117	50	47	2269		9/4/1968		50.75	Z
09N/09W-20A01	34	51	57	117	50	47	2269		10/25/1968		50.5	Z
09N/09W-20A01	34	51	57	117	50	47	2269		11/21/1968		50.13	Z
09N/09W-23B01	34	51	59	117	47	44	2319.9		7/14/1962		74	Z
09N/09W-23B01	34	51	59	117	47	44	2319.9		1/14/1963		74.33	
09N/09W-23B01	34	51	59	117	47	44	2319.9		2/13/1963		74.54	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-23B01	34	51	59	117	47	44	2319.9		3/14/1963		74.61	
09N/09W-23B01	34	51	59	117	47	44	2319.9		9/23/1964		80.81	R
09N/09W-23B01	34	51	59	117	47	44	2319.9		3/7/1966		87.45	P
09N/09W-23B01	34	51	59	117	47	44	2319.9		10/26/1966		86.7	R
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	7/16/1957		22.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	8/14/1957		22.71	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/24/1957			P
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/16/1957		23.49	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/13/1957			P
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	12/17/1957		23.3	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/11/1958		23.14	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/9/1958		23.32	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	5/15/1958		23.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/5/1958		25.51	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/11/1959		25.43	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	12/4/1959		27.9	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/3/1960		27.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/16/1960		30	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/1/1961		30.1	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/26/1961		32.34	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/1/1962		32.33	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/6/1962		33.84	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/14/1963		34.8	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/5/1963		37.09	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/2/1964		37.32	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/17/1964		39.46	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/17/1965		40.44	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/21/1965		42.58	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/7/1966		42.96	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/26/1966		45.34	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/15/1967		45.98	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/6/1968		48.37	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/18/1969		52.46	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/17/1970		53.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/19/1970		55.3	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/15/1971		56.4	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/12/1972		60.28	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/14/1972		58.89	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/13/1973		61.15	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/12/1974		62.85	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/7/1975		65.41	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/11/1976		67.72	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/10/1977		70.08	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/28/1978		72.03	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/22/1979		73.81	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/13/1980		75.74	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/15/1981		77.81	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/10/1982		79.48	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/14/1983		81.55	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/6/1984		83.2	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/29/1985		84.95	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/2/1986		86.02	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/25/1987		87.36	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/29/1988		86.31	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/29/1989		90.03	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/12/1990		90.38	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/19/1991		92.28	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/11/1992		93.5	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/5/1992		93.52	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	5/9/1992		93.55	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	6/17/1992		93.87	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	7/9/1992		94.06	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	8/8/1992		94.17	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/9/1992		94.21	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	10/6/1992		94.32	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	11/7/1992		94.39	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	12/16/1992		94.51	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	2/5/1993		94.17	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/20/1993		94.35	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/14/1994		94.97	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/19/1995		95.98	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/17/1996		96.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/6/1997		97.54	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/14/1997	7:45	98.22	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/18/1998	15:00	98.41	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/2/1998	13:36	98.55	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/15/1999		98.69	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/19/1999	8:04	99.21	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/23/2000		99.51	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/27/2001		100.13	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/26/2002		100.74	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/27/2003		101.19	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/30/2004	8:17	101.76	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/24/2005	16:29	102.51	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/9/2005	8:13	102.78	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/27/2006	16:33	102.94	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	3/21/2007	8:30	103.29	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	9/27/2007	6:06	103.74	
09N/09W-27H02	34	50	51	117	48	48	2279.77	170.76	4/3/2008	11:05	103.92	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/19/1991		95.09	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/12/1991		94.36	R
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/16/1991		94.44	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/10/1992		92.49	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/17/1992		92.39	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	2/5/1992		92.24	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/9/1992		92.01	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/11/1992		92.11	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/5/1992		92.18	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	5/5/1992		93.36	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/9/1992		94.44	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/7/1992		94.39	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/13/1992		94.57	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/29/1992		94.94	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/6/1992		94.98	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/9/1992		95.23	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/14/1992		95.03	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/6/1992		95.34	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/28/1992		94.81	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/17/1992		94.08	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	12/17/1992		93.02	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/22/1993		92.46	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/11/1993		92.15	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/22/1993		92.89	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/2/1993		94.19	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/15/1993		94.59	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/26/1993	8:08	95.3	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/6/1993		95.2	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/4/1993		94.71	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	12/14/1993	10:18	93.47	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/20/1994	14:36	92.82	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/1/1994	13:58	92.29	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/21/1994	6:46	93.64	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/9/1994	14:25	94.36	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/11/1994	13:55	95.31	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/1/1994	18:32	96.42	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/14/1994		95.26	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/28/1994	14:32	93.94	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/24/1995		93.09	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/16/1995		93.41	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/25/1995	13:30	94.21	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/13/1995	12:04	95.46	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/26/1995	6:56	96.85	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/7/1995	15:28	97.68	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/18/1995		96.75	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/28/1995		94.93	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/12/1996		94.27	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	2/27/1996		93.5	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/12/1996		94.52	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	5/17/1996		95.86	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/9/1996		98.51	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/18/1996		98.4	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/20/1996		96.43	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/8/1997		95.67	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	2/26/1997	13:41	95.17	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/23/1997	7:44	96.97	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/24/1997	15:20	98.39	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/5/1997	12:39	99.35	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/23/1997	11:12	99.1	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/18/1997	10:45	97.22	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/4/1998	10:20	95.21	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/2/1998	13:08	95.49	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	5/7/1998	17:23	95.99	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/28/1998	13:58	98.87	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/29/1998	11:45	98.67	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	12/15/1998	9:06	96.6	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	2/18/1999	9:54	95.88	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/17/1999	12:43	96.54	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/15/1999	12:15	97.23	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	6/29/1999	15:03	99.19	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/31/1999	9:11	100.05	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/19/1999	8:19	100.11	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/4/1999	15:24	98.67	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/6/2000	10:23	97.07	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/30/2000	11:31	96.48	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	11/14/2000	10:24	98.38	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/27/2001	14:15	96.83	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/20/2001	8:06	100.39	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/8/2002	9:18	97.78	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/20/2002	10:13	101.85	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	1/7/2003	14:46	98.52	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/27/2003	8:48	98.12	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/8/2003	10:38	101.34	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	8/27/2004	8:10	102.99	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	10/26/2004	9:01	101.9	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	12/17/2004	13:19	100.25	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	5/27/2005	8:45	100.61	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	7/20/2005	14:41	102.18	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/9/2005	8:27	102.54	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	5/25/2006	16:06	100.56	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/14/2006	11:00	101.98	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	12/13/2006	10:54	100.34	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	3/21/2007	8:46	99.77	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	9/27/2007	5:38	102.48	
09N/09W-28A01	34	50	56	117	50	14	2271.08	755	4/3/2008	10:36	100.99	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/19/1991		93.47	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/12/1991		92.7	R
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/16/1991		92.88	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/10/1992		91.32	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/17/1992		91.22	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	2/5/1992		91.08	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/9/1992		90.93	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/11/1992		91.01	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/5/1992		91.07	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	5/5/1992		92.14	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/9/1992		93.1	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/7/1992		93.02	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/13/1992		93.2	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/30/1992		93.49	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/6/1992		93.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/9/1992		93.81	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/14/1992		93.65	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/6/1992		93.89	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/28/1992		93.39	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/7/1992		93.02	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/17/1992		92.77	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	12/16/1992		92	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/22/1993		91.42	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	2/5/1993		91.32	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/11/1993		91.11	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/22/1993		91.79	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/2/1993		92.96	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/15/1993		93.35	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/26/1993	7:41	94.97	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/6/1993		93.88	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/4/1993		93.41	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	12/14/1993	10:23	92.31	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/20/1994	14:33	91.78	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/1/1994	14:01	91.33	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/21/1994	6:51	92.51	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/9/1994	14:36	93.17	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/11/1994	13:51	94.02	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/1/1994	18:30	94.99	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/14/1994		92.92	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/28/1994	14:13	92.68	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/24/1995		92.08	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/16/1995		93.37	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/25/1995	13:17	93.11	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/12/1995	12:01	94.22	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/26/1995	6:59	95.48	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/7/1995	15:22	96.18	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/18/1995		95.41	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/28/1995		93.8	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/12/1996		93.24	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	2/27/1996		92.56	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/12/1996		93.46	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	5/17/1996		94.69	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/9/1996		97.05	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/18/1996		96.97	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/20/1996		95.22	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/8/1997		94.58	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	2/26/1997	13:45	94.39	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/23/1997	7:46	95.75	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/24/1997	15:23	97.03	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/5/1997	12:42	97.91	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/23/1997	11:15	97.66	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/18/1997	10:47	96.02	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/4/1998	10:21	94.24	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/2/1998	13:13	94.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	5/7/1998	17:29	94.94	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/28/1998	14:03	97.52	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/29/1998	11:52	97.35	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	12/15/1998	9:15	95.55	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	2/18/1999	10:04	94.91	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/17/1999	12:22	95.51	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/15/1999	12:19	96.13	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	6/29/1999	15:07	97.88	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/31/1999	9:16	98.64	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/19/1999	8:25	98.69	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/4/1999	15:31	97.43	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/6/2000	10:26	96.06	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/30/2000	11:35	95.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	11/14/2000	10:30	97.25	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/27/2001	14:18	95.9	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/20/2001	8:12	99.08	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/8/2002	9:22	96.81	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/20/2002	10:19	100.47	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	1/7/2003	14:51	97.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/27/2003	8:56	97.23	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/8/2003	10:41	100.07	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	8/27/2004	8:17	101.61	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	10/26/2004	9:06	100.61	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	12/17/2004	13:26	99.23	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	5/27/2005	8:50	99.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	7/20/2005	14:46	100.94	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/9/2005	8:34	101.25	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	5/25/2006	16:11	99.54	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/14/2006	11:04	100.76	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	12/13/2006	10:58	99.39	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	3/21/2007	8:53	98.9	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	9/27/2007	5:43	101.34	
09N/09W-28A02	34	50	56	117	50	14	2271.08	524	4/3/2008	10:39	100.02	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/19/1991		89.87	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/12/1991		89.2	R
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/16/1991		89.26	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/17/1992		88.4	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	2/5/1992		88.35	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/9/1992		88.28	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/11/1992		88.32	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/5/1992		88.34	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	5/5/1992		88.86	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/9/1992		89.46	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/7/1992		89.5	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/13/1992		89.59	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/30/1992		89.84	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/6/1992		89.84	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/9/1992		90.07	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/14/1992		89.97	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/6/1992		90.16	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/28/1992		89.95	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/17/1992		89.62	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	12/17/1992		89.14	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/22/1993		88.95	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/11/1993		88.8	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/22/1993		89.09	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/2/1993		89.74	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/15/1993		90.14	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/26/1993	8:20	90.43	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/6/1993		90.46	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/4/1993		90.31	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	12/14/1993	10:29	89.74	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/20/1994	14:40	89.44	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/1/1994	14:03	89.24	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/21/1994	6:54	89.72	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/9/1994	14:44	90.14	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/11/1994	13:58	90.67	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/1/1994	18:20	91.23	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/14/1994		90.78	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/28/1994	14:37	90.32	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/24/1995		89.83	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/16/1995		89.97	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/25/1995	13:24	90.31	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/13/1995	12:07	91	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/26/1995	7:05	91.72	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/7/1995	15:32	92.22	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/18/1995		91.94	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/28/1995		91.19	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/12/1996		90.91	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	2/27/1996		90.47	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/12/1996		90.93	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	5/17/1996		91.57	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/9/1996		93.02	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/18/1996		93.07	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/20/1996		92.25	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/8/1997		92	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	2/26/1997	13:47	91.76	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/23/1997	7:49	92.53	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/24/1997	15:26	93.31	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/5/1997	12:46	93.83	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/23/1997	11:18	93.84	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/18/1997	10:50	93.16	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/4/1998	10:23	92.07	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/2/1998	13:10	92.26	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	5/7/1998	17:38	92.42	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/28/1998	14:06	93.79	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/29/1998	11:57	93.89	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	12/15/1998	9:21	93.02	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	2/18/1999	10:09	92.66	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/17/1999		92.9	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/15/1999	12:24	93.27	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	6/29/1999	15:13	94.26	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/31/1999	9:27	94.76	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/19/1999	8:27	94.82	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/4/1999	15:36	94.3	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/6/2000	10:35	93.71	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/30/2000	11:41	93.25	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	11/14/2000	10:33	94.46	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/27/2001	14:27	93.67	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/20/2001	8:21	95.41	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/8/2002	9:26	94.51	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/20/2002	10:25	96.61	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	1/7/2003	14:56	95.23	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/27/2003	9:08	94.95	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/8/2003	10:43	96.67	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	8/27/2004	8:25	97.66	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	10/26/2004	9:16	97.29	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	12/17/2004	13:33	96.73	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	5/27/2005	8:56	96.72	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	7/20/2005	14:50	97.5	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/9/2005	8:46	97.73	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	5/25/2006	16:16	96.9	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/14/2006	11:08	97.66	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	12/13/2006	11:03	97.13	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	3/21/2007	8:59	96.71	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	9/27/2007	5:46	98.21	
09N/09W-28A03	34	50	56	117	50	14	2271.08	350	4/3/2008	10:42	97.57	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/19/1991		87.8	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/12/1991		87.9	R
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/16/1991		87.89	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/17/1992		87.26	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	2/5/1992		87.5	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/9/1992		87.34	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/11/1992		87.46	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/5/1992		87.44	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	5/5/1992		87.84	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/9/1992		88.33	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/7/1992		88.42	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/13/1992		88.52	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/30/1992		88.72	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/6/1992		88.76	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/9/1992		88.96	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/14/1992		88.87	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/6/1992		89.07	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/28/1992		88.92	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/7/1992		88.86	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/17/1992		88.71	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	12/16/1992		88.37	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/22/1993		88.23	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	2/5/1993		88.14	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/11/1993		88.1	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/22/1993		88.32	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/2/1993		88.77	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/15/1993		89.06	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/26/1993	8:01	89.35	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/6/1993		89.46	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/4/1993		89.42	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	12/14/1993	10:36	88.99	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/20/1994	14:31	88.75	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/1/1994	14:05	88.63	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/21/1994	7:05	88.89	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/9/1994	14:50	89.27	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/11/1994	13:52	89.67	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/1/1994	18:15	90.11	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/14/1994		89.82	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/28/1994	14:25	89.65	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/24/1995		89.1	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/16/1995		89.22	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/25/1995	13:22	89.46	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/13/1995	11:58	90.01	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/25/1995	7:02	90.57	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/7/1995	15:24	91.03	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/18/1995		90.91	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/28/1995		90.43	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/12/1996		90.23	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	2/27/1996		89.78	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/12/1996		90.14	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	5/17/1996		90.59	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/9/1996		91.79	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/18/1996		91.9	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/20/1996		91.39	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/8/1997		91.26	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	2/26/1997	13:50	90.98	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/23/1997	7:50	91.59	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/24/1997	15:28	92.23	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/5/1997	12:49	92.67	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/23/1997	11:20	92.73	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/18/1997	10:51	92.38	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/4/1998	10:25	91.44	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/2/1998	13:12	91.58	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	5/7/1998	17:43	91.74	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/28/1998	14:10	92.72	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/29/1998	12:03	92.93	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	12/15/1998	9:29	92.36	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	2/18/1999	11:59	92.01	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/17/1999	12:28	92.16	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/15/1999	12:35	92.52	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	6/29/1999	15:17	93.22	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/31/1999	9:39	93.65	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/19/1999	8:30	93.72	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/4/1999	15:41	93.48	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/6/2000	10:38	93.01	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/30/2000	11:45	92.6	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	11/14/2000	10:37	93.78	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/27/2001	14:32	93.1	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/20/2001	8:27	94.35	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/8/2002	9:33	93.99	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/20/2002	10:30	95.56	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	1/7/2003	15:01	94.67	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/27/2003	9:14	94.41	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/8/2003	10:45	95.73	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	8/27/2004	8:29	96.57	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	10/26/2004	9:23	96.42	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	12/17/2004	13:40	96.17	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	5/27/2005	9:02	95.98	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	7/20/2005	14:55	96.56	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/9/2005	8:55	96.81	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	5/25/2006	16:19	96.26	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/14/2006	11:14	96.87	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	12/13/2006	11:05	96.64	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	3/21/2007	9:05	96.17	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	9/27/2007	5:48	97.48	
09N/09W-28A04	34	50	56	117	50	14	2271.08	220	4/3/2008	10:45	96.94	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/19/1991		40.3	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/12/1991		40.6	R
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/16/1991		40.38	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/10/1992		35.27	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/17/1992		37.65	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	2/5/1992		39.69	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	2/21/1992		40.24	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/9/1992		40.25	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/11/1992		40.35	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/2/1992		40.45	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	5/5/1992		40.43	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/9/1992		40.6	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/7/1992		40.69	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/13/1992		40.67	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/30/1992		40.69	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/11/1992		40.7	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/9/1992		40.74	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/14/1992		40.6	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/6/1992		40.84	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/28/1992		40.67	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/17/1992		40.73	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	12/17/1992		40.04	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/20/1993	14:43	41.24	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/22/1993		41.12	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/11/1993		41.08	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/22/1993		41.04	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/2/1993		41.04	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/15/1993		41.2	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/26/1993	8:25	41.24	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/6/1993		41.16	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/4/1993		41.16	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	12/14/1993	10:33	41.07	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/1/1994	14:07	41.41	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/21/1994	7:05	41.16	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/9/1994	14:54	41.28	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/11/1994	13:48	41.35	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/1/1994	18:07	41.39	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/14/1994		41.16	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/28/1994	14:41	41.69	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/24/1995		40.21	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/16/1995		40.15	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/25/1995	13:37	40.61	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/13/1995	12:12	41.13	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/25/1995	7:09	41.17	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/7/1995	15:36	41.33	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/18/1995		41.38	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/28/1995		41.6	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/12/1996		41.55	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	2/27/1996		41.42	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/12/1996		41.53	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	5/17/1996		41.6	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/9/1996		41.75	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/18/1996		41.79	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/20/1996		41.61	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/8/1997		42.01	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	2/26/1997	13:53	41.37	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/23/1997	7:52	41.63	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/24/1997	15:30	41.87	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/5/1997	12:51	42.03	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/23/1997	11:23	41.94	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/18/1997	10:55	42.63	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/4/1998	10:27	41.66	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/2/1998	13:06	42.25	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	5/7/1998	17:58	41.85	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/28/1998	14:13	42.04	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/29/1998	12:08	42.06	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	12/15/1998	9:42	42.12	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	2/18/1999	11:52	41.77	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/17/1999	12:50	42.05	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/15/1999	12:43	42.42	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	6/29/1999	15:22	42.37	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/31/1999	9:46	42.33	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/19/1999	8:34	42.2	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/4/1999	15:45	41.99	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/6/2000	10:44	42.41	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/30/2000	11:49	41.78	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	11/14/2000	10:41	42.18	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/27/2001	14:37	42.25	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/20/2001	8:32	42.35	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/8/2002	9:36	42.8	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/20/2002	10:35	42.66	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	1/7/2003	15:06	42.14	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/27/2003	9:21	42.62	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/8/2003	10:51	42.75	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	8/27/2004	8:34	43.26	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	10/26/2004	9:27	42.11	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	12/17/2004	13:47	48.56	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	5/27/2005	9:07	42.34	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	7/20/2005	14:58	42.62	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/9/2005	9:00	42.62	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	5/25/2006	16:25	47.19	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/14/2006	11:16	48.61	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	12/13/2006	11:14	53.94	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	3/21/2007	9:11	51.14	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	9/27/2007	5:52	54.75	
09N/09W-28A05	34	50	56	117	50	14	2271.08	54	4/3/2008	10:47	53.49	
09N/09W-29M01	34	50	35	114	51	30	2269.18		10/27/1965		40.72	
09N/09W-29M01	34	50	35	114	51	30	2269.18		10/1/1967		44.96	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		11/1/1967		45.03	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		4/10/1968		47.6	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		5/6/1968		48.82	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		6/3/1968		48.86	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		7/23/1968		49.08	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		8/19/1968		49.07	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		9/4/1968		49.22	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		10/25/1968		49.85	Z
09N/09W-29M01	34	50	35	114	51	30	2269.18		11/21/1968		49.31	Z
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/16/1951		82.45	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	11/15/1951		82.37	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/5/1952		82.28	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	6/2/1952		82.24	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/2/1952		82.24	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	11/5/1952		82.27	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	5/5/1954		82.31	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/14/1963		88.04	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/18/1964		86.55	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/16/1965		86.22	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/19/1965		85.14	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/9/1966		85.15	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/26/1966		84.95	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/14/1967		85.7	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/24/1967		84.37	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/5/1968		84.37	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/14/1968		84.44	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/14/1973		84.64	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/13/1974		84.45	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/6/1975		84.28	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/12/1976		84.17	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/9/1977		84.12	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/29/1978		85.57	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/23/1979		83.99	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/13/1980		83.65	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/14/1981		83.32	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/9/1982		83.2	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/13/1983		83.05	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/7/1984		82.81	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/28/1985		82.6	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/2/1986		82.35	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/26/1987		82.18	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/29/1988		81.45	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/22/1989		81.95	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/13/1990		81.66	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/19/1991		80.89	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	1/9/1992		81.58	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/4/1992		81.53	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/10/1992		81.56	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/5/1992		81.47	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	5/11/1992		81.53	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	6/17/1992		81.5	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	7/8/1992		81.54	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	8/10/1992		81.42	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/8/1992		81.5	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/6/1992		81.45	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	11/7/1992		81.46	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	12/15/1992		81.41	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	2/24/1993		81.11	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/20/1993		80.75	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/14/1994		80.34	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/24/1995	17:14	80.47	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/17/1996		80.09	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/4/1997	16:24	80.27	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/15/1997	11:57	80.14	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/18/1998	8:10	79.97	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/15/1999			P
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/16/1999		79.23	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/18/1999	13:42	78.87	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/23/2000		78.47	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/27/2001		78.75	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/29/2002		78.67	R
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/26/2003		78.65	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	10/8/2003	14:54	78.62	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/30/2004	9:46	78.58	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/22/2005	12:37	78.42	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/22/2005	12:09	78.35	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/27/2006	11:05	78.25	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	3/20/2007	11:03	77.82	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	9/25/2007	9:22	77.7	
09N/10W-08P01	34	53	2	117	57	40	2370.54	132.6	4/2/2008	12:49	77.37	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/22/1948		11.1	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/9/1951		14.07	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/9/1951		13.72	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/10/1951		14.84	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/8/1951		15.71	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/6/1951		16.71	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/29/1951		17.85	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/24/1951		17.63	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/21/1951		18.67	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/18/1951		19.32	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/9/1951		19.73	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/10/1951		19.9	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/12/1951		20.62	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/19/1951		19.75	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/16/1951		18.61	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/19/1951		17.08	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/14/1952		16.43	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/25/1952		16	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/14/1952		15.94	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/4/1952		15.57	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/24/1952		15.7	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/25/1952		16.78	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/5/1952		17.43	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/2/1952		19.18	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/2/1952		20.03	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/28/1952		20.75	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/3/1952		21.4	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/3/1952		21.36	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/5/1952		20.92	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/5/1953		18.6	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/10/1953		19.23	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/5/1954		22.4	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/13/1956		32.77	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/26/1956		31.96	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/29/1956		29.6	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/1/1957		27.52	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/1/1957		31.43	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/5/1957		32.97	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/16/1957		33.68	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/14/1957		34.97	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/25/1957		34.86	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/16/1957		33.66	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/13/1957		31.89	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/16/1957		30.67	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/12/1958		29.37	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/10/1958		29.58	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/15/1958		33.44	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/17/1958		34.26	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/17/1958		38.32	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/19/1958		39.48	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/19/1958		40.39	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/3/1958		37.73	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/9/1958		35.19	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/13/1959		33.05	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/10/1959		32.63	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/11/1959		34.46	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/9/1959		36.77	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/5/1959		37.66	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/9/1959		40.3	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/8/1959		40.7	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/4/1959		41.77	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/10/1959		41.91	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/7/1959		41.53	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/18/1959		40.26	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/15/1959		38.55	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/19/1960		36.28	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/26/1960		36.48	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/29/1960		39.41	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/3/1960		40.59	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/31/1960		42.94	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/5/1960		43.83	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/5/1960		44.2	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/8/1960		43.79	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/12/1960		42.87	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/8/1960		42	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/12/1960		39.18	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/9/1961		38.31	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/14/1961		38.45	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/13/1961		40.57	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/17/1961		42.71	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/19/1961		44.51	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/20/1961		45.12	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/20/1961		46.38	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/16/1961		46.41	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/21/1961		46.81	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/24/1961		47.26	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/24/1961		44.47	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/26/1961		42.66	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/26/1962		42.47	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/27/1962		41.27	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/2/1962		43.57	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/2/1962		46.06	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/1/1962		47.26	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/9/1962		48.43	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/8/1962		49.11	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/12/1962		48.75	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/11/1962		49.14	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/9/1962		48.09	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/20/1962		46.94	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/12/1962		46.67	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/14/1963		44.87	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/13/1963		44.15	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/11/1963		46.29	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/16/1963		48.64	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/16/1963		50.15	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/17/1963		51.15	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/17/1963		52.5	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/19/1963		52.61	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/18/1963		53.17	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/15/1963		52.88	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/16/1963		50.4	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/16/1963		49.33	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/16/1964		48.68	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/17/1964		48.9	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/13/1964		50.18	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/8/1964		50.58	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/13/1964		51.82	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/10/1964		52.52	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/13/1964		54.69	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/12/1964		55.25	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/16/1964		54.23	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/16/1964		54.63	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/30/1964		52.84	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/15/1965		51.59	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/14/1965		51.7	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/23/1965		53.18	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/16/1965		52.38	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/12/1965		54.48	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	6/15/1965		56.3	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/19/1965		57.2	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/12/1965		57.45	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	9/13/1965		58.62	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/18/1965		58.41	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/18/1965		56.99	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/17/1965		55.34	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/10/1966		54.93	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/16/1966		54.46	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/9/1966		55.45	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/25/1966		60.58	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/29/1966		57.59	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/14/1967		57.42	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	5/10/1967		60.29	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	7/31/1967		63.48	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/24/1967		63.67	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	12/8/1967		61.94	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	1/30/1968		60.62	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/5/1968		60.88	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/15/1968		64.81	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/18/1969		64.34	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/16/1970		66.93	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/20/1970		71.02	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/16/1971		69.12	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	11/3/1971		72.18	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/14/1972		71.17	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/13/1973		73.22	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/13/1974		75.55	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/6/1975		77.62	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/12/1976		80.55	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/9/1977		82.97	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	8/12/1977		86.15	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/29/1978		83.65	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/22/1979		85.06	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/12/1980		86.96	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/14/1981		89.65	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/10/1982		90.89	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/21/1982		93.62	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/13/1983		91.95	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/27/1983		94.75	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/7/1984		92.61	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/31/1984		95.54	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/28/1985		94.53	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/31/1985		95.67	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/2/1986		94.14	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/23/1986		96.6	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	2/26/1987		95.15	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/29/1989		97.7	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	3/13/1990		98.55	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/16/1990		100.63	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/8/1991		100.44	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	10/29/1992		100.48	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/22/1993		99.5	
09N/10W-12R01	34	52	52	117	52	52	2280.69	179.9	4/23/1993			N
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/1/1951		103	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/15/1951		103.26	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/16/1951		91.32	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/5/1952		82.39	
09N/10W-16C02	34	52	40	117	56	50	2380	217	6/2/1952		80.76	
09N/10W-16C02	34	52	40	117	56	50	2380	217	7/2/1952		80.4	
09N/10W-16C02	34	52	40	117	56	50	2380	217	8/4/1952		80.04	
09N/10W-16C02	34	52	40	117	56	50	2380	217	9/2/1952		79.82	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/3/1952		79.62	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/5/1952		79.38	
09N/10W-16C02	34	52	40	117	56	50	2380	217	12/8/1952		79.39	
09N/10W-16C02	34	52	40	117	56	50	2380	217	1/5/1953		79.06	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/10/1953		79.03	
09N/10W-16C02	34	52	40	117	56	50	2380	217	5/5/1954		79.38	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/26/1956		79.87	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/29/1956		79.95	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/8/1957		79.85	
09N/10W-16C02	34	52	40	117	56	50	2380	217	4/30/1957		79.89	
09N/10W-16C02	34	52	40	117	56	50	2380	217	6/6/1957		79.95	
09N/10W-16C02	34	52	40	117	56	50	2380	217	7/17/1957		80.05	
09N/10W-16C02	34	52	40	117	56	50	2380	217	8/15/1957		80.19	
09N/10W-16C02	34	52	40	117	56	50	2380	217	9/25/1957		80.2	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/16/1957		80.22	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/13/1957		80.25	
09N/10W-16C02	34	52	40	117	56	50	2380	217	12/16/1957		80.24	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/10/1958		80.27	
09N/10W-16C02	34	52	40	117	56	50	2380	217	4/10/1958		80.56	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/6/1958		80.78	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/11/1959		81.03	
09N/10W-16C02	34	52	40	117	56	50	2380	217	12/3/1959		81.72	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/3/1960		82.21	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/13/1960		82.05	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/17/1960		85.45	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/1/1961		82.55	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/25/1961		83.08	
09N/10W-16C02	34	52	40	117	56	50	2380	217	2/27/1962		83.6	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/14/1963		88.02	
09N/10W-16C02	34	52	40	117	56	50	2380	217	11/6/1963		92.51	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/3/1964		90.76	
09N/10W-16C02	34	52	40	117	56	50	2380	217	9/18/1964		107.24	
09N/10W-16C02	34	52	40	117	56	50	2380	217	4/16/1965		95.11	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/19/1965		99.37	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/9/1966		97.55	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/25/1966		96.15	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/14/1967		95.05	
09N/10W-16C02	34	52	40	117	56	50	2380	217	10/24/1967		100.15	
09N/10W-16C02	34	52	40	117	56	50	2380	217	3/5/1968		101.95	
09N/10W-16C02	34	52	40	117	56	50	2380	217	6/13/1969		101.6	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/8/1992		111.53	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/4/1992		111.49	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/10/1992		111.4	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/5/1992		111.33	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	5/11/1992		111.3	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/16/1992		111.16	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/7/1992		110.4	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	8/10/1992		110.98	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/7/1992		111.02	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/6/1992		110.92	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/8/1992		110.8	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	12/15/1992		110.74	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/12/1993		110.68	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/9/1993		110.7	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/19/1993		110.63	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/3/1993		110.59	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/13/1993		110.53	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	8/24/1993	14:40	110.4	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/5/1993		110.28	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/2/1993		110.32	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	12/15/1993	11:34	110.14	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/1/1994	10:34	110.23	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/6/1994	11:00	110.15	T
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/11/1994	8:30	110.13	S
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	8/31/1994	10:15	109.95	T
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/11/1994		110.02	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/28/1994	11:30	109.93	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/25/1995		109.76	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/13/1995		109.88	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/24/1995	15:09	109.95	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/15/1995	14:45	109.98	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/24/1995	14:21	109.92	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/6/1995	14:16	109.93	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/18/1995		109.78	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/27/1995		109.77	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/10/1996		109.81	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/28/1996		109.72	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/12/1996		109.86	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/16/1996		109.81	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/6/1997		109.75	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/25/1997	15:39	109.75	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/3/1997		109.66	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/21/1997	15:03	109.77	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/13/1997	15:20	109.72	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/14/1997	12:25	108.78	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/19/1997	15:39	109.78	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/3/1998	14:56	109.69	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	7/29/1998	10:17	109.68	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/29/1998	13:03	109.7	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	12/14/1998	15:31	109.6	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/17/1999	14:52	109.59	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/17/1999	15:27	109.57	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/15/1999	10:31	109.62	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/29/1999	11:43	109.59	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/1/1999	16:31	109.53	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/18/1999	14:08	109.54	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/5/1999	15:26	109.52	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/30/2000	15:22	109.52	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/15/2000	13:18	109.52	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	2/2/2001	9:22	109.55	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/26/2001	16:32	109.49	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/25/2001	15:41	109.44	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/26/2002	6:48	109.35	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	11/6/2002	16:07	109.41	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/7/2003	15:43	109.37	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/26/2003	9:14	109.35	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/8/2003	15:05	109.34	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	1/27/2004	15:20	109.28	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/19/2004	12:36	109.25	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	6/15/2004	12:01	109.23	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	8/27/2004	9:08	109.32	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	10/26/2004	7:23	109.04	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	12/17/2004	10:41	109.27	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/22/2005	12:53	109.1	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	5/27/2005	9:50	109.2	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/9/2005	13:37	109.19	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	5/25/2006	11:31	109.3	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	3/20/2007	15:14	109.09	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	9/25/2007	9:41	109.19	
09N/10W-16F01	34	52	25	117	56	40	2320.7	275	4/2/2008	12:07	109.15	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	10/16/1951		125.2	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	4/3/1952		99.48	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	11/5/1952		94.35	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/24/1960		88.78	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	10/10/1991		130.48	S
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	1/8/1992		117.66	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	2/4/1992		116.98	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/10/1992		116.61	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	4/5/1992		116.29	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	5/11/1992		121	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	6/17/1992		121.11	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	7/7/1992		118.49	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	8/10/1992		117.74	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	9/8/1992		117.7	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	10/6/1992		116.95	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	11/8/1992		116.37	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	12/14/1992		116.2	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	2/12/1993		116.2	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/3/1997	16:30	119.6	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	9/14/1997	13:37	119.93	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/17/1999	15:18	119.69	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	9/18/1999	14:31	119.77	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/26/2001	17:40	120.5	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	10/5/2001		120.62	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	3/20/2007	16:29	124.9	
09N/10W-16L01	34	52	14	117	56	46	2319.5	465	9/25/2007	10:36	125.05	
09N/10W-16L02	34	52	13	117	56	42	2319	732	10/16/1951		96.82	
09N/10W-16L02	34	52	13	117	56	42	2319	732	4/3/1952		88.87	
09N/10W-16L02	34	52	13	117	56	42	2319	732	11/5/1952		85.66	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/24/1960		83.69	
09N/10W-16L02	34	52	13	117	56	42	2319	732	10/9/1991		113.07	
09N/10W-16L02	34	52	13	117	56	42	2319	732	1/8/1992		113.4	
09N/10W-16L02	34	52	13	117	56	42	2319	732	2/4/1992		112.87	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/10/1992		112.42	
09N/10W-16L02	34	52	13	117	56	42	2319	732	4/5/1992		112.16	
09N/10W-16L02	34	52	13	117	56	42	2319	732	5/11/1992		112.43	
09N/10W-16L02	34	52	13	117	56	42	2319	732	6/16/1992		113.46	
09N/10W-16L02	34	52	13	117	56	42	2319	732	7/7/1992		113.65	
09N/10W-16L02	34	52	13	117	56	42	2319	732	8/10/1992		113.08	
09N/10W-16L02	34	52	13	117	56	42	2319	732	9/7/1992		113.06	
09N/10W-16L02	34	52	13	117	56	42	2319	732	10/6/1992		112.96	
09N/10W-16L02	34	52	13	117	56	42	2319	732	11/8/1992		112.9	
09N/10W-16L02	34	52	13	117	56	42	2319	732	12/14/1992		112.92	
09N/10W-16L02	34	52	13	117	56	42	2319	732	2/12/1993		113.07	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/3/1997	16:15	120.35	
09N/10W-16L02	34	52	13	117	56	42	2319	732	9/14/1997	13:25	120.65	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/17/1999	15:02	120.48	
09N/10W-16L02	34	52	13	117	56	42	2319	732	9/18/1999	14:41	120.61	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/26/2001	17:27	121.15	
09N/10W-16L02	34	52	13	117	56	42	2319	732	10/5/2001		121.26	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/22/2005	13:59	122.87	
09N/10W-16L02	34	52	13	117	56	42	2319	732	9/9/2005	14:12	136.85	
09N/10W-16L02	34	52	13	117	56	42	2319	732	3/20/2007	16:15	126.02	
09N/10W-16L02	34	52	13	117	56	42	2319	732	9/25/2007	10:27	126.01	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/13/1951		103.52	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/6/1951		106.03	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/15/1951		107.38	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/22/1951		107.63	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/9/1951		108.4	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/16/1951		108.86	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/23/1951		109.14	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/30/1951		108.89	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/8/1951		109.44	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/15/1951		109.24	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/21/1951		109.6	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/25/1951		109.87	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/29/1951		110.13	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	6/6/1951		110.56	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	6/29/1951		112.03	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	7/10/1951		112.62	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	7/24/1951		113.38	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	8/21/1951		114.38	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/18/1951		115.2	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/16/1951		114.82	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/16/1951		111.78	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	12/21/1951		110.69	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	1/14/1952		109.92	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/14/1952		109.05	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/5/1952		108.65	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/3/1952		108.96	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/5/1952		107.19	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	6/2/1952		106.74	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	7/2/1952		106.2	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	8/4/1952		105.52	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/2/1952		104.98	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/3/1952		105.32	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/5/1952		105.12	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	1/5/1953		103.86	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/10/1953		102.78	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/5/1954		97.42	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/25/1956		89.03	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/29/1956		88.88	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/8/1957		88.32	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/8/1957		89.23	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/30/1957		88.17	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	6/6/1957		88.49	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	7/17/1957		88.9	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	8/15/1957		89.27	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/16/1957		89.97	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/13/1957		90.05	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/10/1958		86.88	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/6/1958		88.48	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/11/1959		88.12	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	12/3/1959		87.76	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/3/1960		87.59	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/17/1960		89.05	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/1/1961		88.88	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/25/1961		89.84	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/27/1962		89.8	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/9/1962		89.91	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/14/1963		90	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/6/1963		92.58	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/3/1964		90.5	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/18/1964		95	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/16/1965		89.97	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/19/1965		89.93	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/9/1966		90.07	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/26/1966		90.22	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/24/1967		90.52	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/5/1968		90.42	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	8/15/1991		119.44	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	1/9/1992		120.25	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/4/1992		120.29	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/10/1992		120.33	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	4/5/1992		120.33	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	5/11/1992		120.35	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	6/16/1992		120.4	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	7/7/1992		120.45	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	8/10/1992		120.5	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/7/1992		120.58	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/6/1992		120.58	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	11/8/1992		120.58	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	12/15/1992		120.6	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	2/12/1993		120.55	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/4/1997	17:13	123.17	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/14/1997	13:53	123.46	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/17/1999	13:51	123.77	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/18/1999	15:41	123.89	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/27/2001	17:22	124.37	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	10/5/2001		125.34	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	3/22/2005	13:15	125.97	
09N/10W-16M01	34	52	14	117	56	58	2324	140.5	9/9/2005	13:49	126.38	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/3/1952		99.06	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	7/28/1952		96.7	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	8/4/1952		96.58	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/2/1952		96.17	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/3/1952		95.9	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/5/1952		95.67	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	12/8/1952		95.65	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	1/5/1953		95.03	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	2/9/1953		94.79	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/10/1953		94.4	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/6/1953		93.89	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	5/4/1953		93.93	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	5/22/1953		93.57	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	6/22/1953		93.37	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	5/4/1954		90	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/26/1956		82.26	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	2/8/1957		85.15	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/8/1957		82.71	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/30/1957			P
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	6/6/1957			P
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	7/17/1957		94.02	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	8/15/1957		88.31	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/25/1957		96.17	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/16/1957			P
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/13/1957		87.41	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	12/16/1957		86.52	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/10/1958		84.08	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/10/1958		82.64	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/6/1958		84.43	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/11/1959		82.39	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	12/3/1959		82.56	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/3/1960		87.35	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/19/1960		85.12	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/1/1961		83.18	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/25/1961		88.41	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	2/27/1962		84.9	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/9/1962		86.68	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/14/1963		86.67	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/6/1963		86.08	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/3/1964		85.53	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/18/1964		83.64	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/16/1965		83.53	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/19/1965		83.79	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/9/1966		83.98	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/14/1967		85.16	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/24/1967		85.67	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/5/1968		85.48	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/14/1968		85.82	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	8/15/1991		141.26	P
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	1/8/1992		118.07	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	2/4/1992		117.5	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/10/1992		117.16	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	4/5/1992		116.88	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	5/11/1992		121.33	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	6/16/1992		121	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	7/7/1992		118.75	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	8/10/1992		118.17	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/7/1992		118.11	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	10/6/1992		117.48	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	11/8/1992		116.96	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	12/15/1992		116.81	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	2/12/1993		116.93	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/3/1997	15:05	120.15	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/14/1997	12:35	120.53	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/17/1999	14:07	120.4	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/18/1999	14:20	120.42	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/27/2001	17:44	121.17	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/22/2005	13:40	122.67	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/22/2005	12:29	135.01	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	3/20/2007	16:42	125.55	
09N/10W-16P01	34	52	10	117	56	45	2320.2	532	9/25/2007	10:42	125.71	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/30/1991		100.01	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/12/1991		100.06	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	5/10/1991		100.7	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/25/1991		100.19	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/27/1991		100.19	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/26/1991		100.27	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	8/9/1991		100.31	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/10/1991		101.65	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/21/1991		100.32	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	12/19/1991		100.39	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/8/1992		100.45	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/28/1992		100.46	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/4/1992		100.48	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/10/1992		100.47	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/30/1992		100.4	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	5/5/1992		100.66	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/16/1992		100.69	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/7/1992		99.71	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/14/1992		100	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	8/10/1992		101.79	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/7/1992		103.55	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/15/1992		103.53	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/6/1992		103.73	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/29/1992		103.26	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/8/1992		103.11	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	12/15/1992		102.94	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/19/1993		102.72	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/12/1993	13:37	102.74	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/9/1993		102.8	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/19/1993		102.77	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/3/1993		104.73	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/13/1993		107.76	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	8/24/1993	15:10	110.98	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/7/1993		112.92	S
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/2/1993		112.49	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	12/15/1993	12:09	111.58	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/18/1994	12:00	111.22	Z
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/1/1994		111.27	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/20/1994	7:50	112.25	T
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/6/1994	9:55	115.92	T
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/11/1994		120.13	S
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	8/31/1994	9:15	124.97	S
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/11/1994		125.06	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/28/1994	11:10	124.84	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/25/1995		123.37	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/13/1995		123.2	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/24/1995	15:33	125	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/15/1995	14:21	129.45	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/24/1995	15:02	132.64	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/6/1995	15:09	137.34	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/18/1995		139.69	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/27/1995		139.34	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/10/1996		138.72	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/28/1996		137.88	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/12/1996		139.32	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/16/1996		153.09	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/6/1997		151.76	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/25/1997	16:04	150.25	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/3/1997	15:28	150.03	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/21/1997	15:13	149.3	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/13/1997	16:30	148.19	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/14/1997	13:12	147.47	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/19/1997	15:51	146.73	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/3/1998	15:04	145.52	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	7/29/1998	10:29	144.33	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/29/1998	13:10	143.8	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	12/14/1998	15:44	143.18	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/17/1999	15:02	142.69	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/17/1999	14:28	142.47	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/15/1999	10:41	142.43	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/29/1999	11:51	141.92	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/1/1999	16:40	141.44	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/18/1999	14:57	141.32	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/5/1999	15:34	141.06	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/30/2000	15:32	140.11	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/15/2000	13:27	139.63	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	2/2/2001	9:33	138.4	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/26/2001	16:55	137.97	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/5/2001		137.02	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/25/2001	15:55	136.92	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/26/2002	7:03	135.95	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	11/6/2002	16:17	135.41	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/7/2003	15:53	135.09	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/26/2003	9:35	134.74	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/8/2003	15:24	135.19	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	1/27/2004	15:34	134.69	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/19/2004	12:49	134.45	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	6/15/2004	12:18	134.82	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	8/27/2004	9:18	139.44	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	10/26/2004	7:34	140.82	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	12/17/2004	10:53	140.09	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/22/2005	14:33	139.05	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	5/27/2005	10:03	140.18	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/9/2005	14:29	150.42	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	5/25/2006	11:42	155.2	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	3/20/2007	15:28	155.58	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	9/25/2007	9:49	157.68	
09N/10W-16R01	34	52	11	117	56	20	2312.9	840	4/2/2008	12:19	158.33	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/30/1991		101	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/12/1991		101.1	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	5/10/1991		101.5	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/25/1991		101	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/27/1991		101.2	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/26/1991		101.24	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	8/9/1991		101.23	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/21/1991		101.28	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/19/1991		101.38	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/8/1992		101.41	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/28/1992		101.44	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	2/4/1992		101.48	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/10/1992		101.53	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/30/1992		101.48	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	5/5/1992		101.59	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/11/1992		101.62	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/16/1992		101.7	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/7/1992		101.46	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/14/1992		101.56	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	8/10/1992		103.45	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/7/1992		104.98	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/15/1992		104.74	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/6/1992		104.68	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/29/1992		104.19	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/15/1992		104.14	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/19/1993		103.99	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/9/1993		104.02	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/19/1993		104.01	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/3/1993		106.45	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/13/1993		109.19	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	8/24/1993	15:20	111.78	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/7/1993		113.78	S
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/2/1993		113.21	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/15/1993	11:57	112.75	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/18/1994	12:00	112.26	Z
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/1/1994	8:38	112.65	T
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/20/1994	7:43	114.01	T
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/6/1994	10:02	117.42	T
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/11/1994	7:37	121.18	S
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	8/31/1994	9:45	124.74	S
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/11/1994		126.11	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/28/1994	11:20	126.17	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/25/1995		125.34	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/13/1995		125.45	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/24/1995	15:52	127.67	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/15/1995	6:17	131.7	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/24/1995	15:47	134.32	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/6/1995	15:19	138.83	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/18/1995		141.1	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/20/1995		141.43	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/27/1995		141.41	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/1/1995		141.82	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/10/1996		141.63	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	2/28/1996		141.4	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/12/1996		143.17	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/16/1996		154.95	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/6/1997		155.5	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	2/25/1997	15:56	154.84	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/3/1997	15:41	154.71	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/21/1997	15:16	154.18	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/13/1997	15:28	153.1	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/14/1997	13:09	152.38	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/19/1997	15:55	151.55	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/3/1998	15:08	150.29	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	7/29/1998	10:32	148.78	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/29/1998	13:13	148.2	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/14/1998	15:51	147.44	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	2/17/1999	15:09	146.9	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/17/1999	14:39	146.69	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/15/1999	10:46	146.56	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/29/1999	11:55	145.97	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/1/1999	16:48	145.46	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/18/1999	15:06	145.33	S
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/5/1999	15:39	145.02	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/30/2000	15:38	143.92	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/15/2000	13:34	143.34	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	2/2/2001	9:38	141.82	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/26/2001	17:08	141.34	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/5/2001		140.29	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/25/2001	16:01	140.08	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/26/2002	7:12	139.03	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	11/6/2002	16:24	138.35	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/7/2003	16:01	138.04	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/26/2003	9:44	137.68	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/8/2003	15:28	138.09	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	1/27/2004	15:43	137.61	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/19/2004	12:54	137.35	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	6/15/2004	12:25	137.72	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	8/27/2004	9:23	142.16	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	10/26/2004	7:40	143.42	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	12/17/2004	11:01	143.22	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/22/2005	14:40	142.64	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	5/27/2005	10:09	143.97	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/9/2005	14:35	152.84	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	5/25/2006	11:48	159.63	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	3/20/2007	15:36	161.41	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	9/25/2007	9:54	163.35	
09N/10W-16R02	34	52	11	117	56	20	2312.8	584	4/2/2008	12:27	164.26	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/30/1991		101.25	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/12/1991		101.31	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	5/10/1991		101.8	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/25/1991		101.63	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/27/1991		101.43	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/26/1991		101.48	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	8/9/1991		101.48	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/21/1991		101.52	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	12/19/1991		101.65	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/8/1992		101.69	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/28/1992		101.68	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/4/1992		101.77	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/10/1992		101.77	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/30/1992		101.77	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	5/5/1992		101.84	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/16/1992		101.86	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/7/1992		102.27	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/14/1992		102.25	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	8/10/1992		103.28	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/7/1992		104.47	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/15/1992		104.53	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/6/1992		104.29	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/29/1992		104.19	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/8/1992		104.16	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	12/15/1992		104.32	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/19/1993		104.34	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/12/1993		104.24	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/9/1993		104.3	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/19/1993		104.23	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/3/1993		105.92	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/13/1993		108.09	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	8/24/1993	15:15	110.21	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/7/1993		112.34	S
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/2/1993		112.4	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	12/15/1993		112.62	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/18/1994	11:56	112.38	Z
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/1/1994		112.46	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/20/1994	7:39	113.46	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/6/1994	10:00	116.18	T
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/11/1994		118.83	S
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	8/31/1994	9:26	122.98	S
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/11/1994		124.47	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/28/1994	11:17	125.47	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/25/1995		125.41	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/13/1995		125.84	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/24/1995	15:48	127.27	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/15/1995	14:15	129.88	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/24/1995	15:50	132.51	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/6/1995	15:14	136.24	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/18/1995		139.27	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/27/1995		141.28	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/10/1996		143.03	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/28/1996		142.52	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/12/1996		143.44	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/16/1996		154.88	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/6/1997		159.82	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/25/1997	15:59	159.66	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/3/1997	15:54	159.53	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/21/1997	15:19	158.89	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/13/1997	15:25	157.28	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/14/1997	13:07	156.21	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/19/1997	15:58	154.98	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/3/1998	15:11	153.27	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	7/29/1998	10:34	151.14	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/29/1998	13:15	150.4	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	12/14/1998	15:59	149.37	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/17/1999	15:13	148.61	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/17/1999	14:46	148.38	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/15/1999	10:55	148.22	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/29/1999	11:59	147.46	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/1/1999	16:52	146.87	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/18/1999	15:13	146.74	S

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/5/1999	15:46	146.45	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/30/2000	15:43	145.2	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/15/2000	13:42	144.43	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	2/2/2001	9:44	142.96	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/26/2001	17:15	142.43	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/5/2001		141.3	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/25/2001	16:10	141.16	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/26/2002	7:25	140.02	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	11/6/2002	16:30	139.26	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/7/2003	16:08	138.93	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/26/2003	9:50	138.65	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/8/2003	15:31	139.06	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	1/27/2004	15:51	138.54	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/19/2004	13:00	138.29	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	6/15/2004	12:33	138.67	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	8/27/2004	9:27	142.22	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	10/26/2004	7:45	144.31	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	12/17/2004	11:08	144.5	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/22/2005	14:48	143.85	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	5/27/2005	10:14	144.88	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/9/2005	14:42	153.44	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	5/25/2006	11:53	163.07	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	3/20/2007	15:43	166.51	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	9/25/2007	9:57	167.53	
09N/10W-16R03	34	52	11	117	56	20	2312.8	360	4/2/2008	12:33	168.4	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	2/4/1992		99.74	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/10/1992		99.8	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	4/5/1992		99.85	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	5/11/1992		99.91	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	6/16/1992		99.91	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	7/7/1992		166.09	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	8/10/1992		136.69	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	9/7/1992		132.89	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	10/6/1992		102.79	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	11/8/1992		103.03	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	12/15/1992		103.1	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	2/12/1993		102.29	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/4/1997	16:47	162.22	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	9/14/1997	12:51	155.71	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/17/1999	14:19	148.79	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	9/18/1999	15:25	153.18	R
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/27/2001	17:50	141	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/22/2005	15:06	144.85	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	9/22/2005	12:55	215.96	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	3/20/2007	15:58	174.66	
09N/10W-16R04	34	52	11	117	56	20	2308.3	700	9/25/2007	10:13	214.42	
09N/10W-22J02	34	46	25	117	55	5	2285	109	12/9/1959		45.96	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/3/1960		44.15	
09N/10W-22J02	34	46	25	117	55	5	2285	109	11/17/1960		49.78	
09N/10W-22J02	34	46	25	117	55	5	2285	109	2/28/1961		48.35	
09N/10W-22J02	34	46	25	117	55	5	2285	109	10/25/1961		53.47	
09N/10W-22J02	34	46	25	117	55	5	2285	109	2/27/1962		51.73	
09N/10W-22J02	34	46	25	117	55	5	2285	109	11/9/1962		56.68	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/14/1963		56.02	
09N/10W-22J02	34	46	25	117	55	5	2285	109	11/6/1963		60.65	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/3/1964		60.06	
09N/10W-22J02	34	46	25	117	55	5	2285	109	9/20/1964		63.92	
09N/10W-22J02	34	46	25	117	55	5	2285	109	4/18/1965		64.83	
09N/10W-22J02	34	46	25	117	55	5	2285	109	10/21/1965		68.4	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/9/1966		67.66	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-22J02	34	46	25	117	55	5	2285	109	10/27/1966		71.8	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/14/1967		72.4	
09N/10W-22J02	34	46	25	117	55	5	2285	109	3/5/1968		76	
09N/10W-22J02	34	46	25	117	55	5	2285	109	2/1/1973		96	
09N/10W-22J02	34	46	25	117	55	5	2285	109	2/13/1973		96.3	
09N/10W-22J02	34	46	25	117	55	5	2285	109	2/12/1974		99.12	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/28/1952		24.65	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/29/1952		24.12	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	8/4/1952		25.3	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/3/1952		24.95	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/3/1952		24.47	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/5/1952		23.43	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	12/8/1952		20.29	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	1/5/1953		21.62	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/10/1953		21.63	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/26/1956			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/7/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	6/5/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/16/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	8/14/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/24/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/16/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/13/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	12/16/1957			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/12/1958		71.56	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/10/1958			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	5/15/1958		88.2	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/5/1958			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/11/1959			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	12/3/1959			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/3/1960			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/17/1960		69.88	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/11/1961			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/24/1961			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/26/1962		72.8	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/9/1962			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/11/1963		62.87	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/6/1963			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/3/1964		68.74	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/20/1964		90.75	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/16/1965		172.3	P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/19/1965			P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/9/1966		189.3	P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/25/1966		168.4	P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/14/1967		109.6	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/24/1967		202.8	P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/5/1968		181	P
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/15/1968		89.75	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/18/1969		88.48	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/17/1970		121.8	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/20/1970		108.45	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/16/1971		126.4	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/3/1971		92.08	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/16/1972		110.4	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/13/1973		81.67	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/13/1974		93.59	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/6/1975		95.5	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/12/1976		98.97	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/9/1977		110.58	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/29/1978		100.34	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/23/1979		106.88	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/13/1980		105.58	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/14/1981		144.5	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/13/1983		119.06	T
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/7/1984		115.2	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/28/1985		107.67	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/2/1986		108.18	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/26/1987		110.44	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/29/1988		111.99	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/29/1989		113.48	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/13/1990		112.39	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/19/1991		111.17	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/17/1991		115.49	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	1/10/1992		116.99	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/4/1992		116.41	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/10/1992		116.21	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/5/1992		115.87	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	5/7/1992		115.8	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	6/16/1992		117.25	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/8/1992		117.8	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	8/10/1992		118.49	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/9/1992		118.59	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/7/1992		118.94	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/8/1992		116.35	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	12/17/1992		116.62	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	2/16/1993		115.09	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/22/1993		119.76	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/19/1993		113.62	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/12/1994		110.22	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/27/1994	10:44	111.26	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/18/1995		108.8	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/17/1996		109.52	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/13/1996	11:35	112.29	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/4/1997	15:27	111.43	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/15/1997	10:05	115.23	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/17/1997	9:40	114.64	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/18/1998		111.83	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/3/1998	8:57	111.76	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/3/1998	12:35	111.93	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/4/1998	10:22	113.47	S
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	7/28/1998		112.29	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/4/1998		113.35	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/15/1999		111.8	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/19/1999	13:41	113.32	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	11/17/1999		113.47	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/21/2000		111.91	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/13/2000		112.98	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/14/2001		112.2	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/6/2001		113.04	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/26/2002		112.68	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/24/2002		119.09	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/25/2003		113.77	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/17/2003	13:05	115.35	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	10/8/2003	13:16	115.35	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/29/2004	15:04	113.84	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/15/2004	14:45	116.01	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/23/2005	11:34	114.13	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/14/2005	12:50	115.05	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/27/2006	9:13	113.62	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/12/2006	12:40	117.59	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	3/20/2007	10:07	114.33	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/6/2007	15:20	119.21	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	9/26/2007	12:00	119.08	
09N/10W-24C01	34	51	58	117	53	32	2283.02	750	4/2/2008	11:27	115.25	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/18/1969		82.23	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/17/1970		153	P
09N/10W-24C02	34	51	58	117	53	32	2280	700	2/13/1973		91.09	
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/8/1992		115.98	
09N/10W-24C02	34	51	58	117	53	32	2280	700	12/17/1992		116.3	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/22/1993		114.54	
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/19/1993		113.23	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/12/1994		110.18	
09N/10W-24C02	34	51	58	117	53	32	2280	700	10/27/1994	10:49	111.24	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/18/1995		108.42	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/17/1996		109.19	
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/13/1996	11:05	111.97	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/4/1997	15:16	110.99	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/15/1997	10:12	114.84	S
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/17/1997	9:50	114.19	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/18/1998		111.4	
09N/10W-24C02	34	51	58	117	53	32	2280	700	7/28/1998		111.85	
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/4/1998		112.92	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/15/1999		111.37	
09N/10W-24C02	34	51	58	117	53	32	2280	700	11/17/1999		113.07	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/21/2000		111.54	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/13/2000		112.55	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/14/2001		111.8	
09N/10W-24C02	34	51	58	117	53	32	2280	700	10/4/2001		113.67	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/26/2002		112.3	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/24/2002		118.83	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/25/2003		113.35	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/17/2003	13:10	115.22	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/29/2004	15:12	113.5	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/15/2004	14:55	115.57	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/23/2005	11:40	113.68	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/14/2005	13:00	114.6	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/27/2006	9:23	113.18	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/12/2006	12:50	117.29	
09N/10W-24C02	34	51	58	117	53	32	2280	700	3/20/2007	10:15	113.93	
09N/10W-24C02	34	51	58	117	53	32	2280	700	9/6/2007	15:40	118.89	
09N/10W-24C02	34	51	58	117	53	32	2280	700	4/2/2008	11:34	114.9	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/1/1958		29	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/12/1958		29.38	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	5/15/1958		80.68	R
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	11/5/1958		40.82	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	12/15/1959		50.25	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	11/17/1960		82.93	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/1/1961		56.78	S
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	2/26/1962		59.83	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	11/9/1962		53.81	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	11/6/1963		86.54	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/3/1964		74.12	R
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	7/17/1964		63.65	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/20/1964		66.99	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/16/1965		224	P
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	10/19/1965		69.27	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/9/1966		75.34	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	10/25/1966		212	P
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/14/1967		92.05	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	10/15/1968		86.79	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	7/17/1991		124.18	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	2/4/1992		109.37	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/10/1992		108.93	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/5/1992		111.26	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	5/7/1992		110.1	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	6/16/1992		133.6	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	7/8/1992		130.14	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	8/10/1992		135.44	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/9/1992		128.06	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	10/7/1992		126.28	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	11/8/1992		133.52	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	12/17/1992		110.32	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	2/16/1993		108.6	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/4/1997	15:44	106.72	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/15/1997	10:52	127.52	S
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/3/1998	9:06	106.99	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/3/1998	10:16	106.97	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/3/1998	12:48	106.97	S
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/3/1998	14:56	109.37	S
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	4/4/1998	10:04	134.51	S
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/16/1999	16:02	108.42	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/19/1999	13:49	109.1	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/26/2001	10:36	106.9	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	10/4/2001		109.61	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/23/2005	11:15	108.33	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/22/2005	11:10	109.43	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	3/20/2007	9:52	109.38	
09N/10W-24E01	34	51	40	117	53	42	2271.61	650	9/26/2007	11:50	122.18	
09N/10W-24N01	34	51	12	117	53	40	2273		3/1/1961		40.34	
09N/10W-24N01	34	51	12	117	53	40	2273		10/25/1961		48.76	
09N/10W-24N01	34	51	12	117	53	40	2273		2/26/1962		40.82	
09N/10W-24N01	34	51	12	117	53	40	2273		11/9/1962		49.23	
09N/10W-24N01	34	51	12	117	53	40	2273		3/11/1963		47.19	
09N/10W-24N01	34	51	12	117	53	40	2273		11/6/1963		53.87	
09N/10W-24N01	34	51	12	117	53	40	2273		3/3/1964		49.94	
09N/10W-24N01	34	51	12	117	53	40	2273		9/20/1964		58.16	
09N/10W-24N01	34	51	12	117	53	40	2273		4/16/1965		54.03	
09N/10W-24N01	34	51	12	117	53	40	2273		10/21/1965		61.91	
09N/10W-24N01	34	51	12	117	53	40	2273		3/9/1966		56.5	
09N/10W-24N01	34	51	12	117	53	40	2273		10/26/1966		65.2	
09N/10W-24N01	34	51	12	117	53	40	2273		3/14/1967		62.8	
09N/10W-24N01	34	51	12	117	53	40	2273		3/5/1968		65.1	
09N/10W-25M01	34	50	39	117	53	44	2269.41		10/27/1965		15.09	
09N/10W-25M01	34	50	39	117	53	44	2269.41		10/1/1967		15.4	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		4/10/1968		12.07	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		5/6/1968		12.33	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		6/3/1968		12.47	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		7/23/1968		12.87	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		8/19/1968		13.2	Z
09N/10W-25M01	34	50	39	117	53	44	2269.41		9/4/1968		13	Z
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/8/1991		110.72	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/9/1992		106.07	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	2/3/1992		105.47	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/7/1992		105.62	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/9/1992		109.07	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/16/1992		114.28	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/8/1992		114.45	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/6/1992		114.77	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/9/1992		115.11	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/18/1992		113.29	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/7/1992		114.91	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/30/1992		111.61	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/15/1992		106.67	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/22/1993		105.21	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/10/1993		105.94	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/21/1993		107.87	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/2/1993		110.74	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/14/1993		110.74	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/25/1993	12:50	115.16	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/26/1993	12:50	115.2	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/5/1993		113.48	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/3/1993		111.41	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/14/1993	12:54	106.27	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/18/1994	14:33	105.7	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/14/1994	8:38	103.93	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/20/1994	11:50	107.97	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/7/1994	11:07	110.02	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/12/1994	11:37	113.41	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/31/1994	15:26	113.26	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/12/1994		110.01	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/30/1994	10:36	106.89	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/26/1995		105.26	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/15/1995		106.74	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/26/1995	13:24	109.83	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/16/1995	11:42	112.55	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/27/1995	11:08	116.12	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/7/1995	9:58	116.07	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/17/1995		114.68	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/28/1995		107.04	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/12/1996		105.84	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	2/28/1996		103.94	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/11/1996		106.78	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/16/1996		112.66	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/8/1996		117.53	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/19/1996		115.49	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/21/1996		111.97	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/8/1997		109.43	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	2/25/1997	12:52	109.66	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/23/1997	14:22	113.32	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/25/1997	7:25	118.1	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/6/1997	9:29	119.64	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/23/1997	13:56	118.39	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/19/1997	14:58	110.89	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/6/1998	9:19	106.41	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/31/1998	9:34	107.14	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/5/1998	12:31	108.64	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/29/1998	12:57	116.44	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/28/1998	15:03	114.51	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/14/1998	14:57	108.81	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	2/18/1999	14:43	106.94	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/18/1999	10:00	109.33	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/16/1999	11:08	111.59	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/30/1999	8:57	117.46	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/31/1999	12:46	115.48	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/19/1999	11:37	119.09	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/4/1999	12:25	112.9	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/5/2000	14:14	108.74	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/29/2000	13:51	106.6	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/15/2000	10:34	113.53	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/14/2000	15:52	116.29	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/13/2000	11:56	110.1	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	2/1/2001	15:36	107.39	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/27/2001	9:24	108.13	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/16/2001	14:58	110.71	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/19/2001	11:46	115.58	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/25/2001	12:20	116.86	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/7/2002	11:15	108.39	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/7/2002	12:27	108.03	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/25/2002	11:22	112.76	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/11/2002	12:11	117.25	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/29/2002	12:35	117.82	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/19/2002	8:42	118.49	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	11/6/2002	12:21	113.93	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/7/2003	8:39	109.25	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/5/2003	15:32	107.79	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/24/2003	13:14	107.66	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/22/2003	11:36	107.68	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	6/10/2003	10:45	112.98	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/4/2003	12:44	114.03	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/7/2003	9:51	114.35	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/10/2003	15:36	109.25	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/26/2004	13:55	108.66	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/17/2004	13:41	108.39	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/13/2004	12:18	114.21	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/13/2004	12:53	117.63	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	8/26/2004	10:17	119.22	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	10/25/2004	12:16	115.23	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/16/2004	14:55	111.46	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/21/2005	13:23	113.88	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/26/2005	11:18	115.09	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	7/19/2005	10:27	116.79	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/8/2005	12:28	119.34	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	1/30/2006	12:55	111.45	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	5/24/2006	15:18	114.4	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/12/2006	14:22	116.58	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	12/12/2006	14:23	111.91	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	3/19/2007	14:21	110.37	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	9/24/2007	14:51	115.15	
09N/10W-25P01	34	50	16	117	53	23	2269.49	480	4/1/2008	15:16	111.11	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/8/1991		71.6	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/9/1992		69.91	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	2/3/1992		70.07	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/7/1992		70.06	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/9/1992		70.79	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/16/1992		71.97	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/8/1992		71.32	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/6/1992		71.77	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/9/1992		72.11	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/18/1992		72.28	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/7/1992		72.26	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/30/1992		72.02	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/15/1992		71.57	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/22/1993		70.49	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/10/1993		70.2	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/21/1993		71.25	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/2/1993		72.36	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/14/1993		72.71	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/25/1993	12:55	73.06	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/5/1993		72.94	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/3/1993		73.09	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/14/1993	12:59	72.24	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/18/1994	14:29	71.98	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/14/1994	8:50	71.66	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/20/1994	12:01	72.14	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/7/1994	11:23	72.6	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/12/1994		73.39	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/31/1994	15:30	73.55	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/12/1994		73.56	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/30/1994	10:47	73.13	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/26/1995		72.62	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/15/1995		72.58	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/26/1995	13:27	73.18	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/16/1995	11:44	73.84	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/27/1995	11:11	74.65	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/7/1995	10:08	74.71	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/17/1995		74.86	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/28/1995		73.87	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/12/1996		73.63	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	2/28/1996		73.11	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/11/1996		73.5	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/16/1996		74.31	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/8/1996		75.22	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/19/1996		75.2	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/21/1996		74.7	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/8/1997		74.62	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	2/25/1997	12:55	74.61	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/23/1997	14:24	75.18	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/25/1997	7:28	75.79	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/6/1997	9:27	76.12	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/23/1997	13:58	76.11	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/19/1997	15:01	75.29	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/6/1998	9:21	74.28	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/31/1998	9:38	74.26	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/5/1998	12:32	74.43	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/29/1998	13:02	75.81	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/28/1998	15:09	76.02	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/14/1998	15:04	75.21	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	2/18/1999	14:46	74.76	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/18/1999	10:03	74.85	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/16/1999	11:14	75.17	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/30/1999	9:05	76.27	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/31/1999	13:12	76.48	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/19/1999	11:39	76.79	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/4/1999	12:34	76.18	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/5/2000	14:24	75.54	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/29/2000	14:03	74.98	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/15/2000	10:40	76.05	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/14/2000	16:02	76.82	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/13/2000	12:12	76.16	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	2/1/2001	15:46	75.61	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/27/2001	9:34	75.51	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/16/2001	15:13	75.74	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/19/2001	11:54	76.43	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/25/2001	12:33	77.3	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/7/2002	11:26	76.17	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/7/2002	12:37	75.93	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/25/2002	11:29	76.65	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/11/2002	12:17	77.33	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/29/2002	12:43	77.84	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/19/2002	8:53	78.04	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	11/6/2002	12:32	77.6	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/7/2003	8:45	76.78	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/5/2003	15:43	76.38	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/24/2003	13:16	76.32	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/22/2003	11:42	76.27	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	6/10/2003	10:53	77.05	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/4/2003	12:52	77.34	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/7/2003	10:01	77.37	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/10/2003	15:44	76.9	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/26/2004	14:07	76.73	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/17/2004	13:51	76.64	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/13/2004	12:21	77.31	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/13/2004	13:02	78.02	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	8/26/2004	10:25	78.45	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	10/25/2004	12:23	78.26	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/16/2004	15:01	77.74	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/21/2005	13:33	76.58	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/26/2005	11:25	77.46	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	7/19/2005	10:36	77.9	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/8/2005	12:36	78.27	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	1/30/2006	13:02	77.23	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	5/24/2006	16:04	77.43	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/12/2006	14:33	77.93	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	12/12/2006	14:33	77.59	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	3/19/2007	14:32	77.16	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	9/24/2007	14:58	78.09	
09N/10W-25P02	34	50	16	117	53	23	2269.49	130	4/1/2008	15:24	77.6	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	9/7/1992		127.65	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	10/5/1992		127.99	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	11/9/1992		128.17	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	12/16/1992		128.23	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	3/4/1997		124.38	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	9/15/1997	8:17	124.4	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	4/1/1998	10:30	124.23	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	4/4/1998	17:53	124.3	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	3/16/1999	13:38	123.96	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	9/18/1999	12:31	123.9	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	3/26/2001	15:11	123.79	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	5/26/2005	12:58	123.8	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	9/9/2005	11:30	123.81	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	3/19/2007	16:41	123.71	
09N/10W-27P01	34	50	24	117	55	38	2278.6	560	9/25/2007	7:20	123.67	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	9/7/1992		130.09	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	10/5/1992		130.12	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	11/9/1992		129.67	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	12/16/1992		128.1	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	3/4/1997		124.35	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	9/15/1997	8:20	124.78	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	4/1/1998	10:37	124.65	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	4/4/1998	17:51	124.69	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	3/16/1999	13:43	124.57	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	9/18/1999	12:36	124.68	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	3/26/2001	15:20	124.67	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	5/26/2005	13:02	124.9	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	9/9/2005	11:34	124.97	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	3/19/2007	16:48	124.9	
09N/10W-27P02	34	50	24	117	55	38	2278.6	400	9/25/2007	7:25	124.87	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	9/7/1992		121.55	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	10/5/1992		121.83	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	11/9/1992		121.31	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	12/16/1992		120.22	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	3/4/1997		120.87	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	9/15/1997	8:28	125.95	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	4/1/1998	10:47	120.45	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	4/4/1998	17:49	120.44	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	3/16/1999	13:49	121.13	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	9/18/1999	12:44	125.98	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	3/26/2001	15:29	121.12	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	5/26/2005	13:08	123.82	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	9/9/2005	11:42	126.91	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	3/19/2007	16:55	121.93	
09N/10W-27P03	34	50	24	117	55	38	2278.6	220	9/25/2007	7:28	124.8	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	9/7/1992		125.94	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	10/5/1992		128.15	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	11/8/1992		127.78	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	12/16/1992		127.32	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	3/4/1997	10:44	122.46	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	9/15/1997	8:45	122.78	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	4/1/1998	10:11	122.97	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	4/4/1998	17:41	123.04	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	3/16/1999	13:19	123.11	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	9/18/1999	13:07	123.17	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	3/26/2001	14:49	123.66	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	5/26/2005	12:39	124.62	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	9/9/2005	11:08	124.69	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	3/19/2007	16:24	124.95	
09N/10W-28H01	34	50	52	117	56	2	2288.6	500	9/25/2007	7:04	124.95	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	9/7/1992		132.29	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	10/5/1992		133.1	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	11/9/1992		133.25	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	12/16/1992		133.23	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	3/4/1997	10:55	131.98	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	9/15/1997	8:49	131.12	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	4/1/1998	10:17	131.28	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	4/4/1998	17:43	131.36	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	3/16/1999	13:25	131.47	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	9/18/1999	13:15	131.65	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	3/26/2001	14:56	132.12	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	5/26/2005	12:46	133.16	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	9/9/2005	11:16	133.24	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	3/19/2007	16:28	133.37	
09N/10W-28H02	34	50	52	117	56	2	2288.6	305	9/25/2007	7:07	133.35	
09N/10W-34D01	34	50	10	117	56	2	2285		2/28/1961		48.38	
09N/10W-34D01	34	50	10	117	56	2	2285		10/25/1961		56.71	
09N/10W-34D01	34	50	10	117	56	2	2285		2/27/1962		51.21	
09N/10W-34D01	34	50	10	117	56	2	2285		11/7/1962		60.13	
09N/10W-34D01	34	50	10	117	56	2	2285		3/14/1963		60.57	
09N/10W-34D01	34	50	10	117	56	2	2285		11/5/1963		64.84	
09N/10W-34D01	34	50	10	117	56	2	2285		3/3/1964		61.5	
09N/10W-34D01	34	50	10	117	56	2	2285		9/20/1964		68.97	
09N/10W-34D01	34	50	10	117	56	2	2285		4/18/1965		66.91	
09N/10W-34D01	34	50	10	117	56	2	2285		10/21/1965		74.01	
09N/10W-34D01	34	50	10	117	56	2	2285		3/10/1966		68.49	
09N/10W-34D01	34	50	10	117	56	2	2285		3/14/1967		75.05	
09N/10W-34D01	34	50	10	117	56	2	2285		3/5/1968		77.76	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/30/1991		133.81	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/15/1991		136.37	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/3/1992		132	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/9/1992		130.9	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/5/1992		130.86	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/8/1992		132.36	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/16/1992		134.92	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/8/1992		134.98	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/11/1992		136.22	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/7/1992		137.02	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/17/1992		136.93	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/5/1992		137.2	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/29/1992		136.84	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/8/1992		136.11	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/14/1992		133.4	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/20/1993		131.29	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/27/1993		131.09	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/10/1993		129.05	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/19/1993		130.92	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/3/1993		132.36	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/13/1993		135.74	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/24/1993	13:20	135.9	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/7/1993		135.89	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/3/1993		134.67	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/15/1993	13:45	131.33	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/19/1994	15:09	129.52	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/14/1994	13:11	128.12	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/20/1994	10:29	130.63	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/7/1994	8:40	131.42	T
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/11/1994	11:07	132.74	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/31/1994	13:20	136.87	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/12/1994		134.9	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/29/1994	8:44	131.07	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/25/1995		128.51	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/15/1995		128.39	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/26/1995	14:32	130.15	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/12/1995	14:08	132.98	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/27/1995	9:57	136.63	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/6/1995	9:45	138.7	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/17/1995		136.96	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/30/1995		133.16	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/10/1996		130.94	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/28/1996		129.07	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/11/1996		130.47	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/16/1996		133.82	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/6/1996		140.76	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/20/1996		141.3	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/18/1996		136.12	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/6/1997		133	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/24/1997	11:25	131.79	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/21/1997	11:19	142.59	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/23/1997	11:47	155.8	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/4/1997	12:31	152.62	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/24/1997	10:40	146.79	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/17/1997	11:30	137.4	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/3/1998	13:32	132.9	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/1/1998	11:42	131.5	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/5/1998	10:24	146.1	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/27/1998	10:45	159.02	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/28/1998	11:38	146.79	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/14/1998	12:27	134.18	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/17/1999	11:01	135.15	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/16/1999	12:33	135.37	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/14/1999	10:03	149.81	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/28/1999	13:46	142.8	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/30/1999	14:23	171.26	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/18/1999	11:26	145.64	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/4/1999	13:51	139.48	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/5/2000	12:46	136.35	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/29/2000	12:32	133.21	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/15/2000	15:29	147.9	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/14/2000	12:06	148.97	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/13/2000	14:20	140.68	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/1/2001	16:20	133.71	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/26/2001	13:18	131.98	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/16/2001	10:29	143.31	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/19/2001	8:26	166.86	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/25/2001	10:23	144.44	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/7/2002	15:29	135.11	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/7/2002	13:32	134.1	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/25/2002	10:01	135.85	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/11/2002	8:14	142.21	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/29/2002	8:58	159.28	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/18/2002	10:44	151.46	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	11/6/2002	8:54	140.93	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/6/2003	11:22	135.35	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/5/2003	12:30	133.36	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/24/2003	14:17	133.38	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/24/2003	6:16	134.96	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	6/10/2003	13:19	136.28	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/4/2003	11:09	148.8	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/6/2003	14:54	145.15	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/10/2003	12:06	136.14	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/27/2004	8:45	134.28	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/17/2004	11:51	133.19	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/13/2004	9:02	137.02	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/14/2004	7:15	159.31	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	8/26/2004	9:20	163.81	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	10/25/2004	9:39	150.78	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/16/2004	12:49	138.87	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	2/7/2005	9:47	135.99	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/21/2005	9:01	134.12	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/25/2005	14:17	161.52	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	7/19/2005	7:59	169.84	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/8/2005	11:23	152.47	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	1/30/2006	10:59	134.75	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	5/24/2006	9:57	136.14	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/12/2006	12:52	145.25	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	12/12/2006	12:17	135.91	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	3/19/2007	12:26	134.29	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	9/24/2007	15:40	140.4	
09N/10W-34R02	34	49	22	117	55	6	2290.4	838	4/1/2008	12:25	135.39	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/30/1991		132.8	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/15/1991		136.72	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/10/1992		132.14	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/3/1992		131.03	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/9/1992		130.36	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/5/1992		130.66	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/8/1992		134.1	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/16/1992		134.82	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/8/1992		135.25	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/11/1992		136.31	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/7/1992		136.77	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/17/1992		136.42	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/5/1992		136.98	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/29/1992		135.78	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/15/1992		132.05	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/20/1993		130.97	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/10/1993		129.2	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/19/1993		130.69	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/3/1993		132.9	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/13/1993		134.07	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/24/1993	13:26	135.71	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/7/1993		135.57	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/3/1993		134.6	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/15/1993	13:50	131.46	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/19/1994	15:15	129.96	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/14/1994	15:15	129.3	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/20/1994	10:32	131.16	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/7/1994	9:30	133.11	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/11/1994	11:12	134.99	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/31/1994	15:57	137.33	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/12/1994		135.31	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/29/1994	8:49	131.85	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/25/1995		129.66	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/15/1995		130.06	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/26/1995	14:43	132.11	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/12/1995	14:20	134.56	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/27/1995	9:48	137.37	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/6/1995	9:35	139.39	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/17/1995		137.65	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/30/1995		133.93	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/10/1996		131.76	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/28/1996		129.83	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/11/1996		131.92	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/16/1996		134.56	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/6/1996		140.06	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/20/1996		140.25	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/18/1996		136.44	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/6/1997		133.99	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/24/1997	11:29	133.44	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/21/1997	11:22	136.4	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/23/1997	11:51	140.46	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/4/1997	12:35	143.73	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/24/1997	10:44	141.77	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/17/1997	11:33	137.35	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/3/1998	13:36	132.56	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/1/1998	11:50	132.67	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/5/1998	10:36	134.61	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/27/1998	10:56	141.47	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/28/1998	11:46	140.03	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/14/1998	12:42	134.55	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/17/1999	11:08	132.99	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/16/1999	12:54	133.26	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/14/1999	10:22	136.38	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/28/1999	13:51	140.8	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/30/1999	14:27	144.47	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/18/1999	11:45	142.12	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/4/1999	13:56	139.15	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/5/2000	12:54	135.15	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/29/2000	12:41	133.65	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/15/2000	15:37	138.6	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/14/2000	12:14	141.23	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/13/2000	14:34	137.82	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/1/2001	16:52	134.16	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/26/2001	13:25	133.39	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/16/2001	10:43	137.47	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/19/2001	8:38	143.58	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/25/2001	10:34	142.46	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/7/2002	15:52	135.35	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/7/2002	13:51	134.18	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/25/2002	10:35	137.18	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/11/2002	8:47	140.62	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/29/2002	9:17	145.44	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/18/2002	15:51	144.42	
09N/10W-34R03	34	49	22	117	55	6	2290	520	11/6/2002	9:18	140.27	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/6/2003	11:37	135.82	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/5/2003	12:36	134.08	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/24/2003	14:22	134.61	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/24/2003	6:51	134.73	
09N/10W-34R03	34	49	22	117	55	6	2290	520	6/10/2003	13:27	137.32	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/4/2003	11:43	141.33	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/6/2003	15:23	141.11	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/10/2003	13:02	136.53	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/27/2004	9:01	135.13	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/17/2004	12:17	134.52	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/13/2004	9:16	138.02	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/14/2004	6:55	142.7	
09N/10W-34R03	34	49	22	117	55	6	2290	520	8/26/2004	9:26	145	
09N/10W-34R03	34	49	22	117	55	6	2290	520	10/25/2004	9:52	142.32	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/16/2004	13:02	138.26	
09N/10W-34R03	34	49	22	117	55	6	2290	520	2/7/2005	9:53	136.17	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/21/2005	9:23	135.46	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/25/2005	13:57	139.04	
09N/10W-34R03	34	49	22	117	55	6	2290	520	7/19/2005	8:06	144.2	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/8/2005	11:35	143.13	
09N/10W-34R03	34	49	22	117	55	6	2290	520	1/30/2006	11:17	135.45	
09N/10W-34R03	34	49	22	117	55	6	2290	520	5/24/2006	10:17	137.07	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/12/2006	13:06	140.64	
09N/10W-34R03	34	49	22	117	55	6	2290	520	12/12/2006	12:25	136.33	
09N/10W-34R03	34	49	22	117	55	6	2290	520	3/19/2007	12:46	135.01	
09N/10W-34R03	34	49	22	117	55	6	2290	520	9/24/2007	15:47	139.93	
09N/10W-34R03	34	49	22	117	55	6	2290	520	4/1/2008	12:33	135.85	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/30/1991		132.08	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/15/1991		136.49	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/3/1992		130.43	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/9/1992		129.73	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/5/1992		130.42	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/8/1992		132.63	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/16/1992		134.2	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/8/1992		134.66	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/11/1992		135.99	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/7/1992		136.46	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/17/1992		136.21	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/5/1992		136.69	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/29/1992		135.47	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/8/1992		134.76	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/14/1992		131.62	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/20/1993		130.82	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/27/1993		130.56	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/10/1993		128.71	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/19/1993		130.41	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/3/1993		132.61	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/13/1993		133.8	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/24/1993	13:31	135.51	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/7/1993		135.41	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/3/1993		134.67	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/15/1993	13:58	131.34	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/19/1994	15:26	129.53	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/14/1994		129.17	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/20/1994	10:39	130.45	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/7/1994	9:42	132.81	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/11/1994	11:22	134.82	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/31/1994	14:05	136.89	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/12/1994		135.13	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/25/1995		129.13	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/15/1995		129.46	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/26/1995	14:40	132.12	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/12/1995	14:14	134.29	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/27/1995	9:53	136.55	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/6/1995	9:39	139.07	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/17/1995		137.67	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/30/1995		133.97	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/10/1996		131.28	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/28/1996		129.24	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/11/1996		131.69	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/16/1996		134.43	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/6/1996		140.46	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/20/1996		139.74	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/18/1996		136.38	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/6/1997		133.7	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/24/1997	11:32	133.01	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/21/1997	11:25	135.65	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/23/1997	11:54	139.86	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/4/1997	12:39	142.17	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/24/1997	10:48	141.39	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/17/1997	11:36	137.32	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/3/1998	13:39	132.43	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/1/1998	12:00	132.5	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/5/1998	10:31	134.3	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/27/1998	11:01	140.28	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/28/1998	11:54	139.72	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/14/1998	12:49	134.19	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/17/1999	11:15	132.49	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/16/1999	12:45	133.27	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/14/1999	10:29	135.88	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/28/1999	14:01	139.99	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/30/1999	14:39	142.29	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/18/1999	11:52	141.82	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/4/1999	14:10	139.01	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/5/2000	13:03	134.73	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/29/2000	12:47	133.3	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/15/2000	15:45	137.71	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/14/2000	12:19	140.31	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/13/2000	14:45	137.61	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/1/2001	16:31	134.1	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/26/2001	13:33	133.35	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/16/2001	10:53	136.48	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/19/2001	8:45	141.9	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/25/2001	10:40	142.23	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/7/2002	16:03	134.7	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/7/2002	13:40	133.45	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/25/2002	10:20	136.88	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/11/2002	8:38	140.09	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/29/2002	9:26	143.67	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/18/2002	10:55	143.92	
09N/10W-34R04	34	49	22	117	55	6	2290	250	11/6/2002	9:25	139.85	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/6/2003	11:44	135.41	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/5/2003	12:45	133.66	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/24/2003	14:26	134.36	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/24/2003	6:29	133.97	
09N/10W-34R04	34	49	22	117	55	6	2290	250	6/10/2003	13:37	137.1	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/4/2003	11:53	140.34	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/6/2003	15:29	140.03	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/10/2003	12:44	136.49	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/27/2004	9:10	135.13	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/17/2004	12:26	134.41	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/13/2004	9:22	137.11	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/14/2004	7:03	141.82	
09N/10W-34R04	34	49	22	117	55	6	2290	250	8/26/2004	9:35	143.9	
09N/10W-34R04	34	49	22	117	55	6	2290	250	10/25/2004	10:05	141.53	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/16/2004	12:56	137.81	
09N/10W-34R04	34	49	22	117	55	6	2290	250	2/7/2005	10:11	136.16	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/21/2005	9:32	135.58	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/25/2005	14:09	137.73	
09N/10W-34R04	34	49	22	117	55	6	2290	250	7/19/2005	8:19	142.61	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/8/2005	11:29	142.56	
09N/10W-34R04	34	49	22	117	55	6	2290	250	1/30/2006	11:26	135.11	
09N/10W-34R04	34	49	22	117	55	6	2290	250	5/24/2006	10:27	136.28	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/12/2006	13:18	140.03	
09N/10W-34R04	34	49	22	117	55	6	2290	250	12/12/2006	12:32	135.98	
09N/10W-34R04	34	49	22	117	55	6	2290	250	3/19/2007	12:40	134.66	
09N/10W-34R04	34	49	22	117	55	6	2290	250	9/24/2007	15:53	139.46	
09N/10W-34R04	34	49	22	117	55	6	2290	250	4/1/2008	12:41	134.92	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/9/1991		17.9	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/10/1992		17.45	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/3/1992		17.41	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/9/1992		17.49	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/5/1992		17.7	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/8/1992		17.92	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/16/1992		17.85	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/8/1992		17.99	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/11/1992		18.21	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/7/1992		18.33	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/17/1992		18.26	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/5/1992		18.28	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/29/1992		18.04	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/15/1992		17.58	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/20/1993		17.63	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/10/1993		17.27	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/19/1993		17.21	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/3/1993		17.04	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/13/1993		16.87	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/24/1993	13:35	16.67	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/7/1993		16.48	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/3/1993	11:28	16.43	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/15/1993	14:01	16.31	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/19/1994	15:41	16.33	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/14/1994	13:30	16.6	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/20/1994	10:44	16.74	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/7/1994	9:45	17.14	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/11/1994	11:26	17.14	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/31/1994	14:11	16.91	S
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/12/1994		16.68	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/29/1994	9:06	16.74	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/25/1995		17.45	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/15/1995		18.14	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/26/1995	14:35	18.62	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/12/1995	14:25	18.61	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/27/1995	10:00	18.4	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/6/1995	9:49	18.13	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/17/1995		17.82	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/30/1995		17.46	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/10/1996		17.45	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/28/1996		17.99	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/11/1996		18.52	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/16/1996		18.6	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/6/1996		18.47	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/20/1996		18.23	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/18/1996		17.78	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/6/1997		17.43	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/24/1997	11:35	17.6	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/21/1997	11:28	18.38	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/23/1997	11:57	19.35	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/4/1997	12:42	19.45	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/24/1997	10:50	19.2	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/17/1997	11:38	18.7	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/3/1998	13:41	18.73	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/1/1998	12:06	18.81	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/5/1998	10:33	18.5	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/27/1998	11:07	18.14	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/28/1998	11:58	17.96	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/14/1998	12:56	17.51	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/17/1999	11:20	17.72	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/16/1999	12:38	17.76	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/14/1999	10:39	17.98	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/28/1999	14:07	17.76	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/30/1999	14:44	17.64	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/18/1999	12:00	17.79	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/4/1999	14:17	18.16	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/5/2000	13:10	17.9	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/29/2000	12:52	18.53	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/15/2000	15:49	18.85	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/14/2000	12:27	18.88	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/13/2000	14:29	19.15	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/1/2001	16:40	19.05	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/26/2001	13:41	18.86	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/16/2001	10:36	18.67	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/19/2001	8:53	18.69	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/25/2001	10:48	18.25	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/7/2002	15:40	18.53	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/7/2002	13:58	19.44	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/25/2002	10:28	20.15	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/11/2002	8:50	20.46	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/29/2002	9:33	20.4	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/18/2002	10:51	19.63	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	11/6/2002	9:37	19.66	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/6/2003	11:28	19.25	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/5/2003	12:50	19.13	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/24/2003	14:08	19.06	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/24/2003	6:47	19	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	6/10/2003	13:44	18.93	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/4/2003	11:19	18.83	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/6/2003	15:00	18.7	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/10/2003	12:55	18.88	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/27/2004	9:17	18.85	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/17/2004	12:38	18.74	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/13/2004	9:27	18.62	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/14/2004	7:24	18.73	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	8/26/2004	9:41	18.63	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	10/25/2004	10:11	18.39	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/16/2004	13:10	18.28	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	2/7/2005	10:15	18.2	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/21/2005	9:10	18.13	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/25/2005	14:23	18.09	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	7/19/2005	8:24	18.36	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/8/2005	11:43	18.28	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	1/30/2006	11:35	18.33	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	5/24/2006	10:37	18.65	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/12/2006	12:58	18.68	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	12/12/2006	12:41	18.68	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	3/19/2007	12:52	18.95	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	9/24/2007	15:58	19	
09N/10W-34R05	34	49	22	117	55	6	2290.2	90	4/1/2008	12:46	19.26	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/11/1991		127.52	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/16/1991		127.7	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/9/1992		122.28	
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/4/1992		121.3	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/10/1992		120.57	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/7/1992		120.64	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/9/1992		122.72	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/16/1992		126.48	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/8/1992		127.17	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/16/1992		127.32	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/31/1992		128.3	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/6/1992		128.65	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/9/1992		129.6	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/16/1992		129.35	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/5/1992		128.74	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/30/1992		128.4	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/15/1992		123.52	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/21/1993		121.01	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/10/1993		119.68	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/21/1993		120.3	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/3/1993		123.27	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/14/1993		124.72	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/26/1993	9:35	127.12	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/5/1993		127.76	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/3/1993		126.1	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/15/1993	15:18	122.74	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/18/1994	15:37	120.07	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/14/1994	10:02	118.58	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/20/1994	12:33	120.26	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/7/1994	12:34	123.06	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/12/1994	12:44	125.98	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/1/1994	15:55	128.14	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/13/1994		126.61	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/29/1994	14:54	122.82	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/25/1995		120.43	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/14/1995		121.13	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/26/1995	11:33	121.79	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/14/1995	6:32	125.84	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/25/1995	12:17	129.12	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/6/1995	13:14	131.05	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/17/1995		130.39	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/29/1995		124.94	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/12/1996		122.93	
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/29/1996		120.18	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/11/1996		121.37	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/16/1996		124.15	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/8/1996		131.08	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/19/1996		131.37	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/21/1996		126.56	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/7/1997		124.61	
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/24/1997	12:49	123.8	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/23/1997	9:24	126.63	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/24/1997	11:34	130.46	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/6/1997	7:48	132.74	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/22/1997	15:15	133.35	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/19/1997	11:14	128.09	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/5/1998	14:37	122	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/31/1998		122.39	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/6/1998	9:46	121.57	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/27/1998	13:41	129.35	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/29/1998	14:56	129.55	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/15/1998	12:22	124.48	
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/18/1999	13:26	122.42	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/18/1999	9:10	123.4	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/16/1999	8:21	123.09	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/30/1999	15:24	129.51	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/2/1999	8:28	129.15	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/19/1999	10:52	131.05	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/5/1999	12:47	129.94	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/6/2000	13:47	125.13	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/30/2000	12:43	121.89	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/15/2000	11:35	126.51	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/14/2000	13:22	130.42	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/13/2000	12:42	127.35	
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/1/2001	14:18	122.98	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/27/2001	11:46	122.23	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/16/2001	12:13	124.66	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/19/2001	9:42	129.38	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/25/2001	13:33	131.89	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/7/2002	12:34	124.47	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/7/2002	14:44	122.96	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/25/2002	12:24	124.88	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/12/2002	11:34	128.52	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/29/2002	13:25	132.18	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/19/2002	9:42	132.49	
09N/10W-36J01	34	49	32	117	57	54	2283	900	11/6/2002	10:31	129.54	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/6/2003	15:03	125.05	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/6/2003	12:01	123.12	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/24/2003	12:49	122.88	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/22/2003	12:30	122.64	
09N/10W-36J01	34	49	32	117	57	54	2283	900	6/10/2003	11:43	124.76	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/5/2003	6:57	129.51	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/7/2003	7:55	129.6	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/12/2003	8:55	125.06	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/26/2004	12:35	123.69	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/18/2004	12:48	122.84	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/13/2004	10:42	125.68	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/13/2004	11:34	130.5	
09N/10W-36J01	34	49	32	117	57	54	2283	900	8/26/2004	12:02	132.97	
09N/10W-36J01	34	49	32	117	57	54	2283	900	10/25/2004	10:52	132.16	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/16/2004	13:51	126.99	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36J01	34	49	32	117	57	54	2283	900	2/7/2005	11:15	124.69	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/21/2005	10:24	123.66	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/26/2005	9:41	125.48	
09N/10W-36J01	34	49	32	117	57	54	2283	900	7/19/2005	9:21	127.36	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/8/2005	13:12	129.94	
09N/10W-36J01	34	49	32	117	57	54	2283	900	1/30/2006	13:46	123.94	
09N/10W-36J01	34	49	32	117	57	54	2283	900	5/25/2006	12:44	125.07	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/13/2006	14:22	128.79	
09N/10W-36J01	34	49	32	117	57	54	2283	900	12/12/2006	13:23	125.2	
09N/10W-36J01	34	49	32	117	57	54	2283	900	3/19/2007	15:16	122.8	
09N/10W-36J01	34	49	32	117	57	54	2283	900	9/24/2007	13:55	128	
09N/10W-36J01	34	49	32	117	57	54	2283	900	4/1/2008	13:41	123.8	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/16/1991		21.9	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/9/1992		22.09	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/4/1992		21.84	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/10/1992		21.77	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/7/1992		21.7	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/9/1992		21.8	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/16/1992		21.7	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/8/1992		21.57	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/31/1992		21.47	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/6/1992		21.46	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/9/1992		21.53	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/16/1992		21.53	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/7/1992		21.57	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/7/1992		21.63	
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/16/1992		21.81	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/21/1993		21.77	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/27/1993		22.42	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/10/1993		21.82	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/21/1993		21.87	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/3/1993		21.89	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/14/1993		21.88	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/26/1993	9:27	21.83	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/5/1993		21.87	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/3/1993		21.95	
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/15/1993	15:21	22.1	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/18/1994	15:34	22.25	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/14/1994	10:30	22.32	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/20/1994	12:56	22.36	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/7/1994	13:10	22.36	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/12/1994	12:53	22.31	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/1/1994	16:15	22.37	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/13/1994		22.48	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/29/1994	14:18	22.67	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/25/1995		22.73	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/14/1995		22.78	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/26/1995	11:43	22.83	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/14/1995	6:43	22.9	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/25/1995	12:30	22.84	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/6/1995	13:24	22.9	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/17/1995		23.04	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/29/1995		23.22	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/12/1996		23.31	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/29/1996		23.34	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/11/1996		23.4	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/16/1996		23.45	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/8/1996		23.43	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/19/1996		23.56	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/21/1996		23.79	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/7/1997		23.88	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/24/1997	12:59	23.9	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/23/1997	9:31	23.93	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/24/1997	11:42	23.89	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/6/1997	7:58	23.92	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/22/1997	15:23	24.04	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/19/1997	11:21	24.26	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/5/1998	14:45	24.32	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/31/1998		24.28	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/6/1998	10:14	24.38	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/27/1998	14:02	24.35	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/29/1998	15:18	24.39	
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/15/1998	12:45	24.71	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/18/1999	13:51	24.82	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/18/1999	8:52	24.84	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/16/1999	8:46	24.84	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/30/1999	15:41	24.82	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/2/1999	8:56	24.84	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/19/1999	11:02	24.88	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/5/1999	13:11	25.01	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/6/2000	14:15	25.19	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/30/2000	13:13	25.34	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/15/2000	12:00	25.35	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/14/2000	13:48	25.5	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/13/2000	13:08	25.75	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/1/2001	14:51	25.88	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/27/2001	12:17	25.82	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/16/2001	12:40	25.9	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/19/2001	10:09	25.81	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/25/2001	13:58	26.09	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/7/2002	13:09	26.38	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/7/2002	15:11	26.48	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/25/2002	12:51	26.5	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/12/2002	12:07	26.4	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/29/2002	14:03	26.29	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/19/2002	9:56	26.4	
09N/10W-36J04	34	49	32	117	1	54	2283	95	11/6/2002	10:50	26.65	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/6/2003	15:25	26.83	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/6/2003	12:20	26.88	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/24/2003	13:04	27.06	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/22/2003	12:51	26.95	
09N/10W-36J04	34	49	32	117	1	54	2283	95	6/10/2003	12:06	26.94	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/5/2003	7:29	26.83	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/7/2003	8:45	26.91	
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/12/2003	9:24	27.23	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/26/2004	13:03	27.34	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/18/2004	13:03	27.4	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/13/2004	11:07	27.39	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/13/2004	12:13	27.34	
09N/10W-36J04	34	49	32	117	1	54	2283	95	8/26/2004	12:28	27.37	
09N/10W-36J04	34	49	32	117	1	54	2283	95	10/25/2004	11:09	27.58	
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/16/2004	14:10	27.78	
09N/10W-36J04	34	49	32	117	1	54	2283	95	2/7/2005	10:57	27.73	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/21/2005	10:09	27.75	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/26/2005	10:03	27.85	
09N/10W-36J04	34	49	32	117	1	54	2283	95	7/19/2005	9:49	27.73	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/8/2005	13:33	27.67	
09N/10W-36J04	34	49	32	117	1	54	2283	95	1/30/2006	14:09	28.19	
09N/10W-36J04	34	49	32	117	1	54	2283	95	5/25/2006	13:02	28.29	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/13/2006	13:58	28.23	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36J04	34	49	32	117	1	54	2283	95	12/12/2006	13:45	28.65	
09N/10W-36J04	34	49	32	117	1	54	2283	95	3/19/2007	15:38	28.85	
09N/10W-36J04	34	49	32	117	1	54	2283	95	9/24/2007	14:17	28.93	
09N/10W-36J04	34	49	32	117	1	54	2283	95	4/1/2008	13:55	29.44	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	1/9/1992		126.41	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	2/3/1992		125.32	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	4/7/1992		125.47	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	5/9/1992		134.05	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	6/16/1992		167.9	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	7/8/1992		137.27	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	8/6/1992		167.73	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	9/9/1992		170.35	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	10/7/1992		169.82	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	11/7/1992		130.16	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	12/17/1992		127.51	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	1/27/1993		124.45	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	3/5/1997	13:58	132.62	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	4/2/1998	9:00	126.12	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	4/2/1998	10:02	126.14	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	3/26/2001	9:45	131.52	R
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	3/23/2005	8:35	130.94	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	9/22/2005	14:15	137.86	
09N/10W-36P01	34	49	27	117	53	34	2288.27	667	3/21/2007	15:51	130.89	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/8/1991		135.35	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/9/1992		128.34	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/3/1992		127.22	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/10/1992		132.42	S
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/7/1992		127.48	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/9/1992		136.92	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/16/1992		142.81	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/8/1992		138.1	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/15/1992		138.63	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/29/1992		143.5	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/6/1992		142.21	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/9/1992		141.8	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/15/1992		142.17	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/7/1992		139.42	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/30/1992		133.37	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/15/1992		128.16	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/20/1993		126.67	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/10/1993		125.08	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/21/1993		129.72	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/3/1993		135.88	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/13/1993		132.87	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/25/1993	10:50	140.27	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/5/1993		141.43	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/3/1993		133.69	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/14/1993	14:04	127.45	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/18/1994		127.83	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/14/1994	11:30	125.81	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/21/1994	11:05	132.2	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/8/1994	14:00	131.7	T
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/12/1994	14:01	142.24	S
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/31/1994	16:41	142.68	S
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/13/1994		134.11	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/30/1994	13:55	130.33	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/26/1995		126.39	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/15/1995		128.56	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/26/1995	8:37	134.45	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/16/1995	9:45	142.17	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/25/1995	7:14	151.16	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/6/1995	11:48	151.15	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/17/1995		144.39	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/28/1995		129.19	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/12/1996		127.38	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/24/1996		126.62	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/29/1996		125.53	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/11/1996		130.21	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/16/1996		144.96	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/7/1996		150.9	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/19/1996		144.19	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/22/1996		135.5	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/10/1997		131.99	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/25/1997	14:21	133.17	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/22/1997	15:31	143.12	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/23/1997	15:34	148.41	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/13/1997	9:25	149.91	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/7/1997	8:18	150.71	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/16/1997	8:07	147.21	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/23/1997	16:22	148.94	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/17/1997	14:20	133.11	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/4/1998	13:26	127.68	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/30/1998	11:25	129.01	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/6/1998	12:29	130.67	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/29/1998	12:16	143.49	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/28/1998	14:32	140.08	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/14/1998	14:22	131.09	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/18/1999	15:23	129.17	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/18/1999	9:43	131.45	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/15/1999	9:27	134.94	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/28/1999	15:25	148.43	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/30/1999	13:28	142.63	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/19/1999	10:16	148.61	S
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/5/1999	9:29	135.75	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/6/2000	15:15	130.85	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/29/2000	14:54	128.92	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/15/2000	9:41	144.92	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/14/2000	15:13	143.25	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/14/2000	9:43	132.69	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/1/2001	13:21	129.15	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/27/2001	10:33	130.47	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/16/2001	13:58	139.46	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/19/2001	10:51	144.87	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/25/2001	14:46	143.81	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/7/2002	14:47	133	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/7/2002	11:32	130.26	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/25/2002	14:19	140.74	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/12/2002	10:37	141.5	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/30/2002	6:47	148.89	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/19/2002	11:15	143.82	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	11/6/2002	13:18	138.1	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/7/2003	9:44	130.97	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/5/2003	14:34	129.34	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/24/2003	13:30	129.81	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/22/2003	13:54	130.29	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	6/10/2003	9:51	138.42	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/4/2003	13:56	140.53	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/7/2003	11:40	139.6	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/10/2003	14:43	131.47	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/27/2004	13:56	130.44	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/18/2004	15:42	130.63	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/13/2004	15:36	141.45	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/14/2004	8:53	145.67	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	8/26/2004	13:20	150.83	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	10/25/2004	14:48	139.43	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/16/2004	15:41	134.74	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	2/7/2005	15:23	131.87	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/21/2005	11:24	134.03	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/26/2005	13:55	137.14	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	7/19/2005	12:28	141.94	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/8/2005	16:04	143.99	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	1/30/2006	15:06	130.62	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	5/24/2006	14:15	139.22	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/13/2006	12:22	137.93	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	12/12/2006	16:38	132.67	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	3/21/2007	16:31	132.16	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	9/25/2007	14:21	142.31	
09N/10W-36P02	34	49	22	117	53	34	2290.9	465	4/3/2008	14:20	138.02	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/8/1991		27.88	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/9/1992		27.53	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/3/1992		27.55	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/10/1992		27.06	S
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/7/1992		27	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/9/1992		27.01	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/16/1992		27.14	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/8/1992		27.36	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/15/1992		27.35	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/29/1992		27.37	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/6/1992		27.37	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/9/1992		27.31	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/15/1992		27.3	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/7/1992		27.27	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/30/1992		27.31	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/15/1992		27.19	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/20/1993		26.89	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/10/1993		26.9	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/21/1993		27.14	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/3/1993		27.25	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/13/1993		27.32	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/25/1993	10:40	27.37	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/5/1993		27.43	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/3/1993		27.52	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/14/1993	14:18	27.57	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/18/1994	16:28	27.71	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/14/1994	11:42	27.72	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/21/1994	11:07	27.73	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/8/1994	14:12	27.81	T
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/12/1994	14:13	27.81	S
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/31/1994	16:51	27.85	S
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/13/1994		28.01	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/30/1994	9:30	28.04	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/26/1995		27.85	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/15/1995		27.9	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/26/1995	8:32	28.02	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/16/1995	6:14	28.08	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/25/1995	7:20	28.1	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/6/1995	11:54	28.17	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/8/1995	9:31	28.15	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/17/1995		28.32	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/28/1995		28.43	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/12/1996		28.41	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/24/1996		28.4	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/29/1996		28.3	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/11/1996		28.41	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/16/1996		28.41	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/7/1996		28.48	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/19/1996		28.61	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/22/1996		28.66	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/10/1997		28.63	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/25/1997	14:24	28.65	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/22/1997	15:33	28.66	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/23/1997	15:37	28.72	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/13/1997	9:32	28.75	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/7/1997	8:21	28.78	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/16/1997	8:14	28.85	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/23/1997	16:23	28.84	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/17/1997	14:23	28.93	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/4/1998	13:29	28.72	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/28/1998	13:07	28.71	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/30/1998	9:53	28.82	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/6/1998	13:13	28.85	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/29/1998	11:56	28.99	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/28/1998	14:39	29.09	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/14/1998	14:31	29.19	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/18/1999	15:33	29.22	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/18/1999	9:46	29.24	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/15/1999	9:34	29.22	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/28/1999	14:51	29.27	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/30/1999	13:35	29.42	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/19/1999	10:19	29.36	S
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/5/1999	9:00	29.53	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/6/2000	14:58	29.62	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/29/2000	14:49	29.63	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/15/2000	9:57	29.68	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/14/2000	14:53	29.82	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/14/2000	9:50	29.94	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/1/2001	13:30	29.93	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/27/2001	10:41	29.89	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/16/2001	14:04	29.98	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/19/2001	11:01	30.06	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/25/2001	14:52	30.23	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/7/2002	14:43	30.26	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/7/2002	10:59	30.3	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/25/2002	14:27	30.32	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/12/2002	10:30	30.31	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/30/2002	6:39	30.39	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/19/2002	10:54	30.49	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	11/6/2002	13:25	30.59	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/7/2003	9:52	30.54	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/5/2003	13:51	30.47	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/24/2003	13:34	30.51	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/22/2003	13:58	30.56	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	6/10/2003	10:01	30.61	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/4/2003	13:59	30.65	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/7/2003	11:29	30.72	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/10/2003	14:48	30.82	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/27/2004	14:08	30.85	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/18/2004	15:50	30.84	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/13/2004	15:45	30.89	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/14/2004	8:47	30.99	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	8/26/2004	13:29	31.03	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	10/25/2004	14:53	31.1	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/16/2004	15:49	31.12	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	2/7/2005	15:32	30.84	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/21/2005	11:31	30.84	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/26/2005	13:50	31.05	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	7/19/2005	12:37	31.15	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/8/2005	15:59	31.18	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	1/30/2006	14:58	31.28	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	5/24/2006	13:56	31.33	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/13/2006	12:29	31.55	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	12/12/2006	16:45	31.65	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	3/21/2007	16:19	31.7	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	9/25/2007	14:47	31.9	
09N/10W-36P03	34	49	22	117	53	34	2291.21	120	4/3/2008	13:58	32.02	
10N/08W-01Z01	34	59	54	117	41	30	2440	435	4/1/1966		219	
10N/08W-02M01	34	59	19	117	42	2	2410	510	1/1/1958		206	
10N/08W-04A01	34	59	54	117	43	15	2355	123	1/31/1951		141.29	
10N/08W-04A01	34	59	54	117	43	15	2355	123	2/28/1951		141.67	
10N/08W-04A01	34	59	54	117	43	15	2355	123	4/10/1951		141.89	
10N/08W-04A01	34	59	54	117	43	15	2355	123	5/7/1951		142.74	R
10N/08W-04A01	34	59	54	117	43	15	2355	123	6/28/1951		143.95	R
10N/08W-04A01	34	59	54	117	43	15	2355	123	7/25/1951		141.6	
10N/08W-04A01	34	59	54	117	43	15	2355	123	8/21/1951		141.56	R
10N/08W-04A01	34	59	54	117	43	15	2355	123	9/18/1951		141.48	
10N/08W-04A01	34	59	54	117	43	15	2355	123	11/15/1951		141.4	
10N/08W-04A01	34	59	54	117	43	15	2355	123	12/21/1951		141.44	
10N/08W-04A01	34	59	54	117	43	15	2355	123	1/16/1952		141.35	
10N/08W-04A01	34	59	54	117	43	15	2355	123	3/8/1952		141.26	
10N/08W-04A01	34	59	54	117	43	15	2355	123	4/2/1952		143.34	
10N/08W-04A01	34	59	54	117	43	15	2355	123	5/6/1952		141	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/7/1957		95.02	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/1/1957		95.07	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/5/1957		95.01	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/14/1957		95.04	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/24/1957		95.08	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/16/1957		95.07	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/13/1957		95.1	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/17/1957		95.11	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/11/1958		95.1	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/9/1958		95.17	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/14/1958		95.12	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/7/1958		97.31	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/5/1958		95.16	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/6/1958		95.2	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/9/1958		95.22	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/13/1959		95.23	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/10/1959		95.23	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/11/1959		95.21	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/9/1959		95.24	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/5/1959		95.25	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/15/1959		95.27	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/8/1959		94.21	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/4/1959		96.32	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/18/1959		95.42	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/15/1959		95.37	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/19/1960		95.43	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/26/1960		95.44	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/29/1960		95.47	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/5/1960		96.05	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/31/1960		98.39	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/5/1960		97.3	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/5/1960		100.62	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/8/1960		101.33	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/12/1960		101.51	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/8/1960		99.03	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/12/1960		100.57	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/9/1961		98.37	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/14/1961		98.48	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/13/1961		100.17	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/17/1961		100.66	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/19/1961		100.78	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/20/1961		102.05	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/20/1961		103.68	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/16/1961		103.53	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/21/1961		102.33	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/25/1961		99.59	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/24/1961		101.81	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/26/1961		98.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/26/1962		98.11	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/26/1962		97.8	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/2/1962		99.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/2/1962		100.75	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/1/1962		101.11	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/9/1962		103.57	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/8/1962		103.44	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/12/1962		104.28	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/11/1962		101.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/6/1962		100.83	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/12/1962		101.15	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/14/1963		101.89	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/13/1963		99.62	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/14/1963		100.12	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/16/1963		101.88	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/15/1963		101.98	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/17/1963		103.08	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/17/1963		103.17	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/19/1963		104.96	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/15/1963		100.59	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/5/1963		100.42	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/16/1963		100.15	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/16/1963		100.06	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/16/1964		101.84	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/17/1964		99.61	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/2/1964		99.33	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/13/1964		99.34	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/8/1964		102.36	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/13/1964		102.96	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/10/1964		104.04	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/13/1964		105.78	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/17/1964		105.93	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/12/1964		105.9	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/16/1964		104.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/16/1964		106.34	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/30/1964		103.86	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/15/1965		102.44	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/14/1965		102.62	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/23/1965		102.8	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/17/1965		103.07	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/12/1965		104.65	S

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/15/1965		105.77	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/19/1965		107.66	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/12/1965		106.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/13/1965		105.14	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/18/1965		105.64	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/18/1965		104.85	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/17/1965		106.06	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/10/1966		105.99	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/16/1966		105.61	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/8/1966		105.64	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/10/1966		105.89	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/26/1966		107.85	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/24/1966		107.9	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/25/1966		108.04	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/29/1966		106.53	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/13/1967		104.7	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/10/1967		107.33	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/31/1967		110.97	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/23/1967		110.19	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/7/1967		106.94	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	1/29/1968		106.62	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/4/1968		108.73	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/18/1968		107.12	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/14/1968		114.33	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/18/1969		110.42	S
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/16/1970		109.99	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/19/1970		112.84	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/15/1971		110.49	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/3/1971		112.39	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/14/1972		110.84	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/12/1972		113.24	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/13/1973		114.96	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/1/1973		114.25	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/12/1974		112.14	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/23/1974		114.86	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/7/1975		114.52	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/16/1975		115.59	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/11/1976		112.81	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/3/1976		114.36	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/8/1977		113.72	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/12/1977		115.86	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/30/1978		114.6	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/17/1978		116.32	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/16/1979		115.84	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/24/1979		117.6	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/11/1980		116.84	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/15/1980		118.79	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/14/1981		117.63	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/19/1981		119.44	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/9/1982		118.72	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/7/1982		120.34	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/12/1983		119.42	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/27/1983		122.54	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/6/1984		120.44	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/31/1984		122.24	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/25/1985		121.68	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/31/1985		123.64	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/31/1986		123.27	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/23/1986		124.99	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/24/1987		124.09	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/4/1987		126.13	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/29/1988		125.23	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/29/1989		124.52	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/19/1989		125.69	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/13/1990		124.62	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/16/1990		127.78	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/19/1991		126.72	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/23/1991		129.67	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/6/1992		127.11	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/11/1992		126.88	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/5/1992		127.2	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	5/9/1992		127.66	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	6/17/1992		128.2	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	7/9/1992		128.75	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	8/7/1992		129.12	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/10/1992		129.54	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/6/1992		129.43	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/7/1992		128.61	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/16/1992		128.19	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	2/12/1993		127.82	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/20/1993		127.2	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/18/1993		126.75	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/13/1994		126.17	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/27/1994	11:28	126.07	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/18/1995		125.79	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	12/5/1995	15:00	125.83	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/16/1996		125.73	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/13/1996	13:10	126.24	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/3/1997	12:44	126.03	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/14/1997	9:50	126.36	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/17/1997	8:55	126.34	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/18/1998	14:15	126.28	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/4/1998		126.48	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/15/1999		126.45	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	11/17/1999		126.73	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/21/2000		126.76	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/13/2000		126.87	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/14/2001		127.21	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/6/2001		127.24	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/26/2002		127.36	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/18/2002	11:30	127.56	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/24/2002		127.46	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/26/2003		127.7	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/17/2003	12:10	127.93	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	10/7/2003	14:18	127.86	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/30/2004	13:10	128.17	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/15/2004	13:55	128.31	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/23/2005	16:07	128.53	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/14/2005	11:30	128.71	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/27/2006	12:52	128.81	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/12/2006	11:50	128.99	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	3/20/2007	11:54	129.1	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	9/6/2007	14:20	129.27	
10N/09W-04D01	34	59	51	117	50	35	2304.22	456.22	4/2/2008	15:03	129.41	
10N/09W-04D02	34	59	54	117	50	31	2306.9		10/16/1957		98.13	
10N/09W-04D02	34	59	54	117	50	31	2306.9		3/29/1960		99.5	
10N/09W-04D02	34	59	54	117	50	31	2306.9		3/8/1966		107.9	
10N/09W-04D02	34	59	54	117	50	31	2306.9		10/23/1967		123.7	P
10N/09W-04D02	34	59	54	117	50	31	2306.9		3/6/1968		110.72	
10N/09W-04D02	34	59	54	117	50	31	2306.9		4/15/1968		118.2	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-04D02	34	59	54	117	50	31	2306.9		10/14/1968		127.82	P
10N/09W-04D02	34	59	54	117	50	31	2306.9		1/7/1992		130.27	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	6/10/1964		75.99	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	8/12/1965		84.5	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	3/8/1966		107	P
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	3/13/1966		79.71	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	10/23/1967		84.63	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	3/4/1968		111.8	P
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	10/14/1968		91.23	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	1/7/1992		102.64	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	2/6/1992		103.39	
10N/09W-05B01	34	59	49.5	117	51	10.6	2290	500	7/13/1997	10:35	100.62	
10N/09W-05R01	34	59	16	117	50	42	2272.65		10/27/1965		69.5	
10N/09W-05R01	34	59	16	117	50	42	2272.65		3/8/1966		68.9	
10N/09W-05R01	34	59	16	117	50	42	2272.65		7/1/1967		70.74	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		8/1/1967		70.56	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		10/1/1967		72.3	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		11/1/1967		72.03	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		4/11/1968		71.74	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		5/8/1968		71.91	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		6/4/1968		72.39	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		7/24/1968		73.12	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		8/19/1968		73.62	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		9/4/1968		73.84	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		10/25/1968		74.44	Z
10N/09W-05R01	34	59	16	117	50	42	2272.65		11/21/1968		74.41	Z
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	1/31/1951			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/6/1951			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/10/1951			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	5/7/1951		66.38	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	6/29/1951			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	7/25/1951		72	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	8/21/1951			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	1/16/1952		66.29	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/5/1952		66.38	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	8/10/1956		70.59	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/29/1956		66.53	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/7/1957		66.36	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	5/1/1957			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	6/5/1957		66.87	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	7/17/1957		66.53	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	8/14/1957		66.53	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	9/24/1957		67.59	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	10/16/1957		67.04	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/13/1957		66.4	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	12/17/1957		66.41	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/11/1958			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/9/1958			P
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	5/14/1958		65.94	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/5/1958		65.95	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/11/1959		66.02	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	12/4/1959		67.13	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/3/1960		66.2	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/17/1960		66.69	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/1/1961		66.95	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/26/1961		67.02	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	10/25/1961		67.62	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	2/26/1962		67.71	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/6/1962		68.2	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/14/1963		68.41	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	11/5/1963		68.86	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/2/1964		68.82	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	9/18/1964		69.4	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/17/1965		70.08	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	10/18/1965		70.83	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/8/1966		71.13	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	10/24/1966		72.19	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/13/1967		72.32	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	10/23/1967		73.24	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/4/1968		73.46	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/15/1968		73.43	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	4/16/1996		94.49	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/3/1997	14:07	94.66	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	9/14/1997	9:14	94.92	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/18/1998	14:00	94.91	
10N/09W-07A02	34	59	2	117	51	51	2276.9	200	3/15/1999		95.54	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/10/1991		95.42	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	1/8/1992		95.7	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	2/5/1992		95.69	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/11/1992		95.72	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	4/5/1992		95.8	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	5/9/1992		95.8	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	6/17/1992		95.88	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	7/9/1992		95.91	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	8/7/1992		95.95	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/10/1992		96.06	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/6/1992		96.06	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	11/7/1992		96.11	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	12/17/1992		96.18	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	1/20/1993		96.35	S
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/9/1993		96.43	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	4/22/1993		96.46	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	6/2/1993		96.57	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	7/13/1993		96.63	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	8/25/1993	8:40	96.73	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/6/1993		96.75	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	11/2/1993		96.81	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	12/15/1993	10:21	96.9	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	1/19/1994	12:31	96.86	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/1/1994	11:31	96.94	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	4/20/1994	9:22	96.97	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	6/6/1994	15:13	96.96	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	7/11/1994	9:34	97.04	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	8/31/1994	11:45	97.06	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/11/1994		97.08	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	1/23/1995		97.08	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/13/1995		97.09	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	4/24/1995	13:08	97.05	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	6/12/1995	12:12	97.11	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	7/24/1995	13:05	97.13	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/6/1995	7:33	97.22	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/17/1995		97.23	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	11/27/1995		97.2	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	1/10/1996		97.24	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	2/27/1996		97.25	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	4/12/1996		97.26	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	5/17/1996		97.35	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	8/6/1996	7:43	97.52	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	8/6/1996	11:23	97.49	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/3/1997	12:59	97.66	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/14/1997	10:04	98.01	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/17/1999	10:32	98.56	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/17/1999	14:09	98.73	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/27/2001	11:12	99.48	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	10/4/2001		99.72	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/23/2005	16:22	101.36	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/9/2005	9:52	101.52	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	3/20/2007	12:19	102.11	
10N/09W-10B01	34	58	56	117	48	55	2278.57	312	9/25/2007	8:29	102.36	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/10/1991		95.1	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	1/8/1992		95.52	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	2/5/1992		95.48	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/11/1992		95.51	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	4/5/1992		95.61	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	5/9/1992		95.6	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	6/17/1992		95.67	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	7/9/1992		95.72	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	8/7/1992		95.77	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/10/1992		95.88	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/6/1992		95.88	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	11/7/1992		95.91	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	12/17/1992		96.01	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	1/20/1993		96.28	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/9/1993		96.36	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	4/22/1993		96.38	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	6/2/1993		96.49	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	7/13/1993		96.57	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	8/25/1993	8:36	96.64	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/6/1993		96.68	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	11/2/1993		96.73	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	12/15/1993	10:28	96.85	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	1/19/1994	12:50	96.81	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/1/1994	11:36	96.87	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	4/20/1994	9:19	96.92	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	6/6/1994	15:13	96.91	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	7/11/1994	9:31	96.98	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	8/31/1994	11:40	97	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/11/1994		97.01	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	11/28/1994	12:52	97.03	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	1/23/1995		97.05	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/13/1995		97.05	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	4/24/1995	13:05	97.02	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	6/12/1995	12:16	97.08	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	7/24/1995	13:07	97.09	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/6/1995	7:30	97.18	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/17/1995		97.21	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	11/27/1995		97.17	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	1/10/1996		97.23	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	2/27/1996		97.22	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	4/12/1996		97.21	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	5/17/1996		97.3	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	8/6/1996	7:46	97.47	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	8/6/1996	11:25	97.44	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/3/1997	13:05	97.6	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/14/1997	10:07	97.96	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/17/1999	10:36	98.37	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/17/1999	14:14	98.54	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/27/2001	11:21	99.31	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	10/4/2001		99.54	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/23/2005	16:26	101.3	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/9/2005	10:00	101.46	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	3/20/2007	12:24	102.04	
10N/09W-10B02	34	58	56	117	48	53	2278.57	150	9/25/2007	8:31	102.3	
10N/09W-16P01	34	57	23	117	50	12	2270.6		10/27/1965		56.91	
10N/09W-16P01	34	57	23	117	50	12	2270.6		3/8/1966		57.12	
10N/09W-20E01	34	56	48	117	51	38	2271.28		10/27/1965		41.72	
10N/09W-20E01	34	56	48	117	51	38	2271.28		3/8/1966		46.77	
10N/09W-20E01	34	56	48	117	51	38	2271.28		7/1/1967		48.25	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		8/1/1967		47.17	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		10/1/1967		47.28	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		11/1/1967		48.16	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		4/11/1968		47.33	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		5/8/1968		47.36	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		6/4/1968		47.36	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		7/24/1968		47.45	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		8/19/1968		47.99	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		9/4/1968		47.48	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		10/25/1968		47.56	Z
10N/09W-20E01	34	56	48	117	51	38	2271.28		11/21/1968		47.55	Z
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	5/4/1954		72.56	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/29/1956		72.25	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/7/1957		72.25	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	5/1/1957		72.33	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	6/5/1957		72.25	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	7/16/1957		72.28	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	8/14/1957		72.35	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/24/1957		72.32	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/11/1958		72.37	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/9/1958		72.45	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	5/15/1958		72.41	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/5/1958		72.48	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/11/1959		72.58	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	12/4/1959		72.74	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/3/1960		72.74	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/16/1960		72.82	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/1/1961		72.9	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/25/1961		72.86	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/26/1962		73.14	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/6/1962		73.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/14/1963		73.34	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/5/1963		73.6	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/2/1964		73.69	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/17/1964		73.95	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/17/1965		74.13	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/18/1965		74.3	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/8/1966		74.54	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/24/1966		74.78	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/13/1967		74.95	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/23/1967		75.3	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/4/1968		75.46	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/18/1969		76.1	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/16/1970		76.65	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/19/1970		77	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/15/1971		77.28	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/14/1972		78.01	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/12/1972		78.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/13/1973		78.73	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/12/1974		79.37	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/7/1975		80.12	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/11/1976		80.84	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/8/1977		81.72	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/28/1978		82.58	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/22/1979		83.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/25/1980		84.25	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/15/1981		85.12	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/9/1982		85.8	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/12/1983		86.86	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/6/1984		87.58	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/25/1985		88.53	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/31/1986		89.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/24/1987		90.16	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/29/1988		91.01	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/29/1989		91.95	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/12/1990		92.79	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/19/1991		93.82	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	1/8/1992		94.51	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/5/1992		94.49	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/11/1992		94.54	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/5/1992		94.63	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	5/9/1992		94.65	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	6/17/1992		94.73	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	7/9/1992		94.78	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	8/7/1992		94.85	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/10/1992		94.99	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/6/1992		95.04	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	11/7/1992		94.98	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	12/16/1992		95.24	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	2/9/1993		95.35	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/20/1993		95.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/14/1994		96.13	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/18/1995		96.85	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/16/1996		97.64	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/3/1997	13:24	98.2	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/14/1997	9:27	98.73	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/18/1998	14:40	98.94	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/15/1999		100.46	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/17/1999	14:30	99.78	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/21/2000		100.22	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/14/2001		100.82	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/6/2001		101.06	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/26/2002		101.27	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/26/2003		101.85	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	10/7/2003	14:55	102.13	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/30/2004	13:35	102.39	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/23/2005	14:52	103.05	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/9/2005	9:34	103.26	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/27/2006	13:18	103.53	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	3/20/2007	12:40	104.07	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	9/25/2007	8:47	104.43	
10N/09W-24A02	34	57	12	117	46	36	2290.6	278.7	4/2/2008	15:22	104.57	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	7/16/1991		79.59	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	2/5/1992		79.03	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	3/11/1992		80.18	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	4/5/1992		79.14	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	5/11/1992		79.3	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	6/17/1992		79.42	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	7/7/1992		79.35	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	8/7/1992		79.5	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	9/9/1992		79.6	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	10/6/1992		79.69	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	11/7/1992		79.76	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	12/16/1992		79.89	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	3/4/1997	13:29	82.96	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	9/15/1997	12:42	83.33	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	3/17/1999	11:52	84.2	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	9/17/1999	12:20	84.49	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	3/27/2001	13:40	85.43	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	10/4/2001		85.73	
10N/09W-27C01	34	56	18	117	49	5	2272.4	222	3/20/2007	14:40	88.58	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	7/16/1991		78.39	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	2/5/1992		78.9	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	3/11/1992		79.07	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	4/5/1992		79.11	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	5/11/1992		79.18	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	6/17/1992		79.28	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	7/7/1992		79.23	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	8/6/1992		79.36	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	9/9/1992		79.45	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	10/6/1992		79.61	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	11/7/1992		79.61	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	12/16/1992		79.78	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	3/4/1997	13:36	82.88	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	9/15/1997	12:44	83.22	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	3/17/1999	11:57	84.08	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	9/17/1999	12:26	84.38	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	3/27/2001	13:45	85.31	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	10/4/2001		85.62	
10N/09W-27C02	34	56	18	117	49	5	2272.4	160	3/20/2007	14:36	88.46	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	7/16/1991		70.29	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	2/5/1992		74.38	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	3/11/1992		75.39	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	4/5/1992		74.44	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	5/11/1992		74.42	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	6/17/1992		74.42	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	7/7/1992		74.44	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	8/7/1992		74.45	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	9/9/1992		74.51	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	10/6/1992		74.49	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	11/7/1992		74.4	
10N/09W-27C03	34	56	18	117	49	5	2272.4	80	12/16/1992		74.41	
10N/09W-28K01	34	55	53	117	50	7	2271.82		10/27/1965		49.55	
10N/09W-28K01	34	55	53	117	50	7	2271.82		3/8/1966		49.31	
10N/09W-31C01	34	55	31	117	52	24	2280		3/1/1961		39.93	
10N/09W-31C01	34	55	31	117	52	24	2280		10/25/1961		39.92	
10N/09W-31C01	34	55	31	117	52	24	2280		2/26/1962		39.84	
10N/09W-31C01	34	55	31	117	52	24	2280		11/6/1962		39.9	
10N/09W-31C01	34	55	31	117	52	24	2280		3/11/1963		39.7	
10N/09W-31C01	34	55	31	117	52	24	2280		11/6/1963		39.58	
10N/09W-31C01	34	55	31	117	52	24	2280		3/3/1964		39.54	
10N/09W-31C01	34	55	31	117	52	24	2280		9/17/1964		39.41	
10N/09W-31C01	34	55	31	117	52	24	2280		6/15/1965		39.11	
10N/09W-31C01	34	55	31	117	52	24	2280		10/19/1965		39.09	
10N/09W-31C01	34	55	31	117	52	24	2280		3/8/1966		38.9	
10N/09W-31C01	34	55	31	117	52	24	2280		10/24/1966		38.75	
10N/09W-31C01	34	55	31	117	52	24	2280		3/14/1967		38.6	
10N/09W-31C01	34	55	31	117	52	24	2280		10/24/1967		38.46	
10N/09W-31C01	34	55	31	117	52	24	2280		3/5/1968		38.16	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/1/1961		39.63	
10N/09W-36G01	34	55	19	117	46	47	2282.4		10/25/1961		40.48	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/1/1962		40.99	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
10N/09W-36G01	34	55	19	117	46	47	2282.4		11/6/1962		41.95	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/14/1963		42.44	
10N/09W-36G01	34	55	19	117	46	47	2282.4		11/5/1963		43.43	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/2/1964		43.95	
10N/09W-36G01	34	55	19	117	46	47	2282.4		9/17/1964		44.82	
10N/09W-36G01	34	55	19	117	46	47	2282.4		4/17/1965		45.69	
10N/09W-36G01	34	55	19	117	46	47	2282.4		10/21/1965		46.48	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/7/1966		47.03	
10N/09W-36G01	34	55	19	117	46	47	2282.4		10/26/1966		47.96	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/15/1967		48.45	
10N/09W-36G01	34	55	19	117	46	47	2282.4		3/6/1968		49.83	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/1/1974		57	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/12/1974		57.45	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/4/1975		53.9	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/11/1976		54.55	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/9/1977		53	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/30/1978		54.39	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/28/1979		54.74	
10N/11W-08P01	34	58	9	117	4	9	2504	280	4/24/1981		54.86	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/18/1982		55.12	
10N/11W-08P01	34	58	9	117	4	9	2504	280	4/14/1983		54.7	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/6/1984		54.69	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/25/1985		55.5	R
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/25/1986		56.01	
10N/11W-08P01	34	58	9	117	4	9	2504	280	2/22/1987		57.24	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/28/1988		57.76	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/24/1989		55.87	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/15/1990		56.81	
10N/11W-08P01	34	58	9	117	4	9	2504	280	3/21/1991		60.41	
11N/07W-36B01	35	0	35	117	34	10	2477	330	11/19/1992		169.66	
11N/07W-36B01	35	0	35	117	34	10	2477	330	4/18/1996		169.12	
11N/07W-36B01	35	0	35	117	34	10	2477	330	3/20/1998		170.24	
11N/07W-36B01	35	0	35	117	34	10	2477	330	3/24/2000		168.93	
11N/07W-36B01	35	0	35	117	34	10	2477	330	3/12/2002		169	
11N/07W-36B01	35	0	35	117	34	10	2477	330	3/11/2004	9:44	168.95	
11N/07W-36B01	35	0	35	117	34	10	2477	330	3/24/2006		168.89	
11N/07W-36B01	35	0	35	117	34	10	2477	330	4/23/2008	14:25	168.86	
11N/08W-02N01	35	4	24	117	42	1	2480	336	9/13/1947		172	Z
11N/08W-02N01	35	4	24	117	42	1	2480	336	12/10/1948		168	Z
11N/08W-02N01	35	4	24	117	42	1	2480	336	6/6/1952		177	R
11N/08W-02N01	35	4	24	117	42	1	2480	336	7/30/1952		142.4	R
11N/08W-02N01	35	4	24	117	42	1	2480	336	12/26/1952		175	Z
11N/08W-02N01	35	4	24	117	42	1	2480	336	7/18/1955		178	Z
11N/08W-10P01	35	3	29	117	42	44	2435		6/1/1948		142	Z
11N/08W-10P01	35	3	29	117	42	44	2435		4/19/1952		140.22	
11N/08W-10P01	35	3	29	117	42	44	2435		2/25/1953		140	
11N/08W-10P01	35	3	29	117	42	44	2435		1/1/1958		140	
11N/08W-10P01	35	3	29	117	42	44	2435		1/15/1958		140.46	
11N/08W-12R01	35	4	32	117	40	7	2535		2/25/1953		224.1	
11N/08W-12R01	35	4	32	117	40	7	2535		1/1/1958		226	
11N/08W-12R01	35	4	32	117	40	7	2535		1/15/1958		225.58	
11N/09W-13D01	35	3	23	117	47	19	2375	312	12/26/1956		157.47	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/25/1957		157.51	
11N/09W-13D01	35	3	23	117	47	19	2375	312	7/9/1957		157.74	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/1/1958		158	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/16/1958		158.34	
11N/09W-13D01	35	3	23	117	47	19	2375	312	7/7/1958		158.56	
11N/09W-13D01	35	3	23	117	47	19	2375	312	7/8/1958		159.59	
11N/09W-13D01	35	3	23	117	47	19	2375	312	12/9/1958		160.87	
11N/09W-13D01	35	3	23	117	47	19	2375	312	10/6/1959		163.35	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/23/1960		164.65	
11N/09W-13D01	35	3	23	117	47	19	2375	312	9/21/1960		165.3	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/14/1961		167.98	
11N/09W-13D01	35	3	23	117	47	19	2375	312	7/26/1961		167.96	
11N/09W-13D01	35	3	23	117	47	19	2375	312	5/16/1962		169.92	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/17/1963		171.32	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/8/1964		172.68	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/5/1965		173.15	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/13/1966		174.86	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/6/1967		175.76	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/2/1968		177.14	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/14/1969		178.44	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/6/1970		179.6	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/5/1971		181.6	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/4/1972		183.2	
11N/09W-13D01	35	3	23	117	47	19	2375	312	1/9/1973		184.3	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/13/1973		184.4	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/11/1974		185.17	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/7/1975		186.9	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/11/1976		189.05	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/8/1977		191.53	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/28/1978		192.8	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/21/1979		195.04	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/11/1980		197.61	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/13/1981		198.45	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/9/1982		200.2	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/12/1983		200.66	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/5/1984		200.63	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/26/1985		201.83	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/1/1986		199.83	
11N/09W-13D01	35	3	23	117	47	19	2375	312	2/24/1987		200.45	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/30/1988		200.61	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/30/1989		201.68	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/12/1990		202.51	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/19/1991		202.65	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/14/1992		201.75	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/21/1993		202.11	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/13/1994		200.9	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/17/1995		199.48	
11N/09W-13D01	35	3	23	117	47	19	2375	312	4/16/1996		198.4	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/5/1997		199.45	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/18/1998	16:25	200.43	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/16/1999		201.73	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/23/2000		202.73	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/20/2001		204.85	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/26/2002		205	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/26/2003		203.88	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/31/2004	17:30	205.24	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/30/2005	11:40	204.83	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/28/2006	12:40	204.55	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/28/2007	9:50	206.41	
11N/09W-13D01	35	3	23	117	47	19	2375	312	3/25/2008	16:00	205.97	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/11/1951		129.56	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/15/1951		129.58	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/8/1952		129.58	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/3/1952		129.53	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/13/1953		129.6	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/16/1953		129.55	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	5/5/1954		129.67	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/2/1955		129.82	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/14/1955		130.76	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/22/1956		130.05	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/27/1956		130.21	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/6/1957		129.7	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/19/1957		130.58	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/1/1958		131	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/4/1958		130.67	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/5/1958		130.9	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/10/1959		131.16	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	12/4/1959		131.58	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/2/1960		131.6	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	9/2/1960		131.86	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/16/1960		131.92	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/1/1961		132.08	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	7/26/1961		132.38	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	10/25/1961		132.52	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/1/1962		133.26	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	5/16/1962		132.98	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/5/1962		133.23	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/16/1963		133.31	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/13/1963		133.41	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	11/7/1963		134.06	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/7/1964		134.22	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/3/1964		134.5	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	9/18/1964		134.55	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/5/1965		134.75	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/17/1965		134.95	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	10/19/1965		135.28	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/13/1966		135.5	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/8/1966		135.6	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	10/25/1966		136.06	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/4/1967		136.23	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/13/1967		136.4	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	10/23/1967		136.85	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/2/1968		136.95	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/4/1968		137.19	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	10/14/1968		137.65	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/19/1969		137.98	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/6/1970		138.8	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/6/1971		139.6	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/4/1972		140.6	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	1/9/1973		141.2	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/14/1973		141.18	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/12/1974		141.98	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/7/1975		142.71	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/11/1976		142.48	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/8/1977		144.22	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/28/1978		145	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/12/1979		145.66	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/11/1980		146.5	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/13/1981		147.33	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/10/1982		148.09	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/12/1983		149.1	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/5/1984		149.65	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/25/1985		150.46	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/1/1986		151.2	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	2/25/1987		151.93	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/30/1988		152.76	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/23/1989		154.48	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/13/1990		155.08	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/20/1991		155.79	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/14/1992		156.57	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/21/1993		157.22	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/13/1994		157.7	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/17/1995		158.35	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	4/16/1996		158.69	
11N/09W-17N01	35	2	49	117	51	43	2319.93	181.9	3/3/1997	11:09	159.04	
11N/09W-24A01	35	2	32	117	46	32	2349	888	1/1/1958		136	
11N/09W-24A01	35	2	32	117	46	32	2349	888	1/16/1958		136.28	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/8/1966		145.93	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/18/1967		147.2	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/4/1968		148.5	
11N/09W-24A01	35	2	32	117	46	32	2349	888	10/14/1968		149.22	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/13/1973		154.37	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/11/1974		156.23	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/7/1975		157.48	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/11/1976		158.96	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/8/1977		160.53	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/28/1978		161.86	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/21/1979		163.2	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/11/1980		164.9	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/13/1981		166.5	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/9/1982		167.62	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/12/1983		168.76	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/5/1984		169.73	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/26/1985		170.54	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/31/1986		170.99	
11N/09W-24A01	35	2	32	117	46	32	2349	888	2/24/1987		171.45	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/30/1988		172.3	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/23/1989		171.1	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/11/1990		173.55	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/19/1991		174.2	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/14/1992		174.62	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/21/1993		174.99	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/13/1994		179.39	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/17/1995		176.38	
11N/09W-24A01	35	2	32	117	46	32	2349	888	4/16/1996		175.08	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/5/1997		175.37	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/18/1998	16:05	175.52	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/19/1998	10:35	175.5	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/16/1999		175.94	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/23/2000		176.5	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/20/2001		177.09	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/26/2002		177.68	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/26/2003		177.96	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/31/2004	17:15	178.27	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/30/2005	11:20	178.72	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/28/2006	12:15	179.06	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/28/2007	9:20	179.6	
11N/09W-24A01	35	2	32	117	46	32	2349	888	3/25/2008	15:20	179.66	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/1/1958		93	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/28/1958		93.2	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/10/1959		93.28	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/2/1960		93.48	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	9/21/1960		93.62	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/14/1961		94	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/1/1961		94.08	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	7/26/1961		94.36	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/1/1962		94.83	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	5/16/1962		95	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/16/1963		95.56	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/13/1963		95.73	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/7/1964		96.35	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/3/1964		96.48	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	9/18/1964		96.75	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/4/1965		97.05	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/17/1965		97.3	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/13/1966		98.15	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/8/1966		98.25	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/4/1967		99.21	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/13/1967		99.34	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/3/1968		100.15	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/4/1968		100.28	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/19/1969		101.53	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/6/1970		102.4	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/6/1971		103.6	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	1/9/1973		105.5	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/14/1973		105.47	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/12/1974		106.23	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/7/1975		106.94	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/11/1976		107.61	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/8/1977		108.19	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/28/1978		108.91	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/12/1979		109.5	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/11/1980		110.42	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/13/1981		111.29	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/10/1982		112	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/12/1983		112.94	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/5/1984		113.53	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/25/1985		114.27	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/1/1986		115.01	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	2/25/1987		115.67	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/29/1988		116.37	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/23/1989		117.12	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/13/1990		117.53	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	3/20/1991		118.08	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/14/1992		118.74	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/21/1993		119.3	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/13/1994		119.71	
11N/09W-30H01	35	1	14	117	51	49	2298.31	248.6	4/17/1995		120.29	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/30/1953		95	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	5/5/1954		98.25	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	7/27/1956		98.45	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/1/1958		98	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/16/1958		98.49	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/11/1959		98.68	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/2/1960		98.87	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	9/21/1960		99	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/14/1961		99.12	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/1/1961		99.13	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	7/26/1961		99.27	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/26/1962		99.51	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	5/16/1962		99.58	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/16/1963		99.79	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/14/1963		99.87	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/8/1964		100.3	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/3/1964		100.39	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/4/1965		100.9	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/17/1965		101.04	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/8/1966		101.63	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/4/1967		102.56	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/13/1967		102.28	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/2/1968		103.25	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/4/1968		103.03	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/19/1969		105.39	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/7/1970		106.1	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/8/1971		106.85	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/3/1972		108.9	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	1/11/1973		108.7	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/13/1973		107.15	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/12/1974		107.96	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/7/1975		108.85	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/11/1976		109.74	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/8/1977		110.67	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/28/1978		111.62	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/21/1979		112.42	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/11/1980		113.35	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/14/1981		114.25	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/9/1982		114.86	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/12/1983		115.8	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/5/1984		116.4	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/25/1985		117.22	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/31/1986		117.91	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/24/1987		118.45	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/30/1988		118.57	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/23/1989		118.45	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/12/1990		120.46	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/19/1991		121.4	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/6/1992		121.8	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/11/1992		121.82	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/4/1992		121.98	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	5/9/1992		121.98	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	6/17/1992		121.98	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	7/9/1992		122.06	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	8/7/1992		122.05	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	9/10/1992		122.19	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	10/6/1992		122.18	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	11/7/1992		122.2	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	12/17/1992		122.27	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	2/9/1993		122.45	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/20/1993		122.44	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/13/1994		123	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/17/1995		123.49	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/16/1996		125.45	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/5/1997	10:41	124.38	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	9/14/1997	8:40	124.66	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/18/1998		124.75	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/15/1999		125.13	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/23/2000		125.49	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/20/2001		124.28	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/26/2003		126.63	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	10/8/2003	8:05	128.37	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/30/2004	14:22	125.29	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/23/2005	15:25	124.99	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/27/2006	14:20	124.95	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	3/20/2007	13:26	125.16	
11N/09W-36R01	35	0	2	117	46	33	2311.95	254.1	4/2/2008	14:24	125.31	
11N/10W-04J01	35	4	38	117	56	18	2403	233	7/23/1956		205.32	
11N/10W-12F01	35	4	5	117	53	22	2350		4/25/1967		170.9	
11N/10W-12F01	35	4	5	117	53	22	2350		2/14/1973		173.97	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/10W-12F01	35	4	5	117	53	22	2350		2/12/1974		174.62	
11N/10W-12F01	35	4	5	117	53	22	2350		2/7/1975		175.3	
11N/10W-12F01	35	4	5	117	53	22	2350		2/11/1976		176.07	
11N/10W-12F01	35	4	5	117	53	22	2350		3/8/1977		176.77	
11N/10W-12F01	35	4	5	117	53	22	2350		3/28/1978		177.52	
11N/10W-12F01	35	4	5	117	53	22	2350		2/12/1979		178.02	
11N/10W-12F01	35	4	5	117	53	22	2350		3/11/1980		178.9	
11N/10W-12F01	35	4	5	117	53	22	2350		4/13/1981		179.64	
11N/10W-12F01	35	4	5	117	53	22	2350		2/10/1982		180.3	
11N/10W-12F01	35	4	5	117	53	22	2350		4/12/1983		181.1	
11N/10W-12F01	35	4	5	117	53	22	2350		3/5/1984		181.57	
11N/10W-12F01	35	4	5	117	53	22	2350		3/25/1985		182.27	
11N/10W-12F01	35	4	5	117	53	22	2350		4/1/1986		182.86	
11N/10W-12F01	35	4	5	117	53	22	2350		2/25/1987		183.55	
11N/10W-12F01	35	4	5	117	53	22	2350		3/30/1988		187.74	
11N/10W-12F01	35	4	5	117	53	22	2350		3/23/1989		184.78	
11N/10W-12F01	35	4	5	117	53	22	2350		3/13/1990		184.84	
11N/10W-12F01	35	4	5	117	53	22	2350		3/20/1991		186.24	
11N/10W-12F01	35	4	5	117	53	22	2350		4/14/1992		187.91	
11N/10W-12F01	35	4	5	117	53	22	2350		4/21/1993		187.75	
11N/10W-12F01	35	4	5	117	53	22	2350		4/13/1994		188.26	
11N/10W-12F01	35	4	5	117	53	22	2350		4/19/1995		189.1	
11N/10W-12F01	35	4	5	117	53	22	2350		4/18/1996		189.75	
11N/10W-12F01	35	4	5	117	53	22	2350		3/6/1997	13:45	189.98	
11N/10W-12F01	35	4	5	117	53	22	2350		3/19/1998	11:25	190.8	
11N/10W-12F01	35	4	5	117	53	22	2350		3/16/1999		191.15	
11N/10W-12F01	35	4	5	117	53	22	2350		3/21/2000		196.84	
11N/10W-12F01	35	4	5	117	53	22	2350		3/23/2001		192.02	
11N/10W-12F01	35	4	5	117	53	22	2350		3/26/2002		192.67	
11N/10W-13B01	35	3	25	117	53	19	2350	252	4/24/1967		176.49	
11N/10W-19D01	35	2	29	117	52	52	2400	151	11/21/1962		118	Z
11N/10W-19D01	35	2	29	117	52	52	2400	151	4/24/1967		120.88	
11N/10W-19D01	35	2	29	117	52	52	2400	151	8/23/2004		113.01	
11N/10W-19D01	35	2	29	117	52	52	2400	151	3/30/2005	12:55	112.95	
11N/10W-19D01	35	2	29	117	52	52	2400	151	3/28/2006	9:35	112.78	
11N/10W-19D01	35	2	29	117	52	52	2400	151	3/28/2007	11:10	112.76	
11N/10W-19D01	35	2	29	117	52	52	2400	151	3/25/2008	14:05	112.58	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	8/23/2004		182.56	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	3/30/2005	13:25	182.78	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	5/23/2005	14:00	182.68	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	3/28/2006	11:15	182.83	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	3/28/2007	17:10	183.01	
11N/10W-27R01	35	0	55	117	55	5	2392	287.4	3/25/2008	13:25	183.08	
11N/10W-36A01	35	0	38	117	53	1	2340	300	1/28/1958		121.8	
11N/10W-36B01	35	0	40	117	53	18	2345	238	4/25/1958		127.82	
11N/10W-36H01	35	0	25	117	53	0	2337	320	4/13/1953		181	P
11N/10W-36H01	35	0	25	117	53	0	2337	320	5/5/1954		118.49	
11N/10W-36H01	35	0	25	117	53	0	2337	320	1/28/1958		118.68	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	7/17/1957		201.66	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	8/14/1957		201.65	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/24/1957		201.69	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/15/1957		201.65	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/19/1957		201.66	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	12/20/1957		201.67	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/3/1958		201.63	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/23/1967		202.69	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/21/1968		203.03	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/15/1969		203.29	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/21/1970		204.15	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/16/1971		203.98	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/27/1971		204.25	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/24/1973		204.99	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/11/1974		205.25	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/4/1975		205.82	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/11/1976		206	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/9/1977		206.57	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/30/1978		206.93	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/14/1979		207.3	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/16/1980		207.66	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/17/1981		207.92	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/19/1982		208.15	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/21/1982		208.33	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/15/1983		208.35	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/27/1983		208.52	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/6/1984		208.5	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/30/1984		208.7	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/26/1985		208.68	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/31/1985		208.83	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/1/1986		208.74	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/23/1986		208.95	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	2/24/1987		208.82	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/4/1987		208.95	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/30/1988		208.79	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/30/1989		208.94	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/18/1989		209.05	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/13/1990		209	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/15/1990		209	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/20/1991		209.09	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/1/1991		209.07	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/14/1992		209.01	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/2/1992		209.16	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/21/1993		209.11	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/17/1993		209.27	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/13/1994		209.22	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	10/27/1994	15:57	209.22	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/17/1995		209.76	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	12/6/1995	10:50	209.55	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	4/18/1996		209.49	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/14/1996	12:50	209.43	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/4/1997	13:45	209.67	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/17/1997		209.67	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/17/1998		209.71	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/19/1998	12:05	209.78	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/4/1998		209.86	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/17/1999		209.92	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	11/17/1999		209.8	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/21/2000		209.99	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/14/2000		209.98	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/29/2001		209.99	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/11/2001		210	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/26/2002		210.07	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/17/2002	14:20	210.17	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/24/2003		210.27	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/19/2003		210	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/29/2004	16:25	210.31	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/15/2004	10:50	210.46	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/30/2005	14:15	210.45	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/13/2005	13:15	210.43	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/28/2006	13:50	210.4	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/12/2006	15:25	210.55	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/28/2007	13:05	210.65	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	9/6/2007	12:45	210.78	
11N/11W-07A01	35	4	11	118	4	41	2627.9	414	3/25/2008	11:55	210.79	
11N/11W-08D01	35	4	12	118	4	36	2624		9/28/1929		218.6	
11N/11W-08D01	35	4	12	118	4	36	2624		2/27/1961		197.95	
11N/11W-08D01	35	4	12	118	4	36	2624		11/8/1961		198.14	
11N/11W-08D01	35	4	12	118	4	36	2624		3/1/1962		198.28	
11N/11W-08D01	35	4	12	118	4	36	2624		11/7/1962		198.27	
11N/11W-08D01	35	4	12	118	4	36	2624		3/13/1963		198.33	
11N/11W-08D01	35	4	12	118	4	36	2624		11/16/1963		198.41	
11N/11W-08D01	35	4	12	118	4	36	2624		3/4/1964		198.55	
11N/11W-08D01	35	4	12	118	4	36	2624		10/7/1964		198.52	
11N/11W-08D01	35	4	12	118	4	36	2624		3/15/1965		198.98	
11N/11W-08D01	35	4	12	118	4	36	2624		10/18/1965		203.24	
11N/11W-08D01	35	4	12	118	4	36	2624		3/8/1966		198.83	
11N/11W-08D01	35	4	12	118	4	36	2624		10/17/1966		199.09	
11N/11W-08D01	35	4	12	118	4	36	2624		3/23/1967		199.05	
11N/11W-08D01	35	4	12	118	4	36	2624		10/10/1967		199.44	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/17/1956		124.59	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	7/17/1957		124.75	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	8/14/1957		124.75	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/24/1957		124.75	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/15/1957		124.73	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/19/1957		124.74	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	12/20/1957		124.77	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/3/1958		124.73	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/23/1967		125.63	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/21/1968		125.95	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/15/1969		126.22	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/16/1970		126.43	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/21/1970		126.7	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/16/1971		126.62	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/27/1971		126.97	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/15/1972		127.12	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/11/1972		127.41	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/24/1973		127.57	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/4/1973		127.75	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/11/1974		127.88	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/22/1974		128.14	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/4/1975		128.15	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/15/1975		128.44	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/11/1976		128.6	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/4/1976		128.87	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/9/1977		128.88	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/12/1977		129.17	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/30/1978		129.35	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/16/1978		129.24	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/14/1979		129.67	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/24/1979		129.76	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/16/1980		130.04	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/15/1980		129.96	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/17/1981		130.3	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/19/1981		130.41	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/18/1982		130.64	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/7/1982		130.58	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/15/1983		130.8	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/27/1983		130.84	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/6/1984		130.86	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/30/1984		131.02	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/26/1985		130.95	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/31/1985		131.17	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/1/1986		131.3	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/23/1986		131.44	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	2/24/1987		131.4	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/4/1987		131.7	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/30/1988		131.24	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/24/1989		131.63	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/18/1989		131.65	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/13/1990		131.69	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/15/1990		131.69	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/20/1991		131.77	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/1/1991		131.83	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/14/1992		131.82	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/2/1992		131.68	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/21/1993		131.88	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/17/1993		131.94	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/13/1994		131.96	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	10/27/1994	16:30	131.92	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/17/1995		132.38	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	12/6/1995	11:15	132.21	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	4/18/1996		132.21	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/14/1996	13:00	132.13	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/4/1997	14:15	132.31	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/17/1997	14:45	132.35	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/19/1998	12:25	132.48	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/4/1998		132.47	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/17/1999		132.48	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	11/17/1999		132.52	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/21/2000		132.55	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/14/2000		132.68	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/29/2001		132.6	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/11/2001		132.47	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/26/2002		132.77	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/17/2002	14:50	132.84	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/24/2003		132.88	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/19/2003		132.9	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/31/2004	10:05	133	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/15/2004	11:55	133.08	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/30/2005	14:40	133.13	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/13/2005	12:00	133.14	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/28/2006	10:35	133.23	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/12/2006	14:30	133.36	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/28/2007	12:10	133.37	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	9/6/2007	11:40	133.41	
11N/11W-09A01	35	4	11	118	2	36	2549.6	422	3/25/2008	10:50	133.43	
11N/12W-12M01	35	3	44	118	6	45	2695		1/1/1929		270.3	
11N/12W-12M01	35	3	44	118	6	45	2695		2/27/1930		270	
11N/12W-12M01	35	3	44	118	6	45	2695		10/20/1955		267.39	
11N/12W-12M01	35	3	44	118	6	45	2695		10/21/1955		270.18	
11N/12W-12M01	35	3	44	118	6	45	2695		11/1/1955		267.57	
11N/12W-12M01	35	3	44	118	6	45	2695		3/23/1967		268.88	
11N/12W-12M01	35	3	44	118	6	45	2695		3/21/1968		269.24	
11N/12W-12M01	35	3	44	118	6	45	2695		4/15/1969		269.55	
11N/12W-12M01	35	3	44	118	6	45	2695		10/29/1969		272	
11N/12W-12M01	35	3	44	118	6	45	2695		3/16/1970		270	
11N/12W-12M01	35	3	44	118	6	45	2695		10/20/1970		270.34	
11N/12W-12M01	35	3	44	118	6	45	2695		3/16/1971		270.34	
11N/12W-12M01	35	3	44	118	6	45	2695		10/27/1971		270.7	
11N/12W-12M01	35	3	44	118	6	45	2695		3/14/1972		270.87	
11N/12W-12M01	35	3	44	118	6	45	2695		10/11/1972		271.27	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/12W-12M01	35	3	44	118	6	45	2695		3/24/1973		271.45	
11N/12W-12M01	35	3	44	118	6	45	2695		10/4/1973		271.42	
11N/12W-12M01	35	3	44	118	6	45	2695		2/11/1974		271.75	
11N/12W-12M01	35	3	44	118	6	45	2695		10/23/1974		272.1	
11N/12W-12M01	35	3	44	118	6	45	2695		2/4/1975		272.07	
11N/12W-12M01	35	3	44	118	6	45	2695		10/15/1975		272.42	
11N/12W-12M01	35	3	44	118	6	45	2695		2/11/1976		272.57	
11N/12W-12M01	35	3	44	118	6	45	2695		11/4/1976		272.61	
11N/12W-12M01	35	3	44	118	6	45	2695		3/9/1977		272.91	
11N/12W-12M01	35	3	44	118	6	45	2695		10/12/1977		273.17	
11N/12W-12M01	35	3	44	118	6	45	2695		3/30/1978		273.28	
11N/12W-12M01	35	3	44	118	6	45	2695		11/6/1978		273.5	
11N/12W-12M01	35	3	44	118	6	45	2695		2/14/1979		273.92	
11N/12W-12M01	35	3	44	118	6	45	2695		10/24/1979		273.81	
11N/12W-12M01	35	3	44	118	6	45	2695		3/26/1980		273.85	
11N/12W-12M01	35	3	44	118	6	45	2695		10/15/1980		274.06	
11N/12W-12M01	35	3	44	118	6	45	2695		4/17/1981		274.21	
11N/12W-12M01	35	3	44	118	6	45	2695		11/19/1981		274.34	
11N/12W-12M01	35	3	44	118	6	45	2695		2/19/1982		274.47	
11N/12W-14D01	35	3	14	118	7	46	2705.4	263	12/12/1929		267.5	
11N/12W-14D01	35	3	14	118	7	46	2705.4	263	2/28/1930		268.2	
11N/12W-18B02	35	3	12	118	11	35	2825	300	9/28/1955		241.82	
11N/12W-22D01	35	2	20	118	8	53	2687.4	206	12/10/1929		250	
11N/12W-22D01	35	2	20	118	8	53	2687.4	206	2/19/1930		249.9	
11N/12W-22F01	35	2	6	118	8	24	2660	381	12/14/1968		223	
11N/12W-22F01	35	2	6	118	8	24	2660	381	6/3/1974		255	
11N/12W-22F02	35	2	12	118	8	37	2663	346	12/8/1968		258.5	
11N/12W-22F02	35	2	12	118	8	37	2663	346	6/3/1974		260.5	
11N/12W-22F02	35	2	12	118	8	37	2663	346	2/11/1976		255.1	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/9/1977		253.13	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/30/1978		252.48	
11N/12W-22F02	35	2	12	118	8	37	2663	346	2/14/1979		251.9	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/26/1980		251.52	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/17/1981		250.74	
11N/12W-22F02	35	2	12	118	8	37	2663	346	2/18/1982		250.1	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/14/1983		250	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/6/1984		248.81	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/26/1985		248.29	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/26/1986		248.07	
11N/12W-22F02	35	2	12	118	8	37	2663	346	2/22/1987		247.02	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/28/1988		246.82	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/22/1989		245.92	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/14/1990		245.81	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/22/1991		245.64	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/16/1992		244.84	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/19/1993		244.41	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/13/1994		244.04	
11N/12W-22F02	35	2	12	118	8	37	2663	346	6/16/1995		243.39	
11N/12W-22F02	35	2	12	118	8	37	2663	346	4/18/1996		243.39	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/4/1997	12:45	243.38	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/17/1998		242.73	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/17/1999		242.53	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/21/2000		242.28	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/29/2001		241.96	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/26/2002		243.51	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/24/2003		242.32	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/29/2004	15:30	241.66	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/28/2005	14:30	241.16	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/27/2006	16:00	240.7	
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/26/2007	15:35	240.52	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/12W-22F02	35	2	12	118	8	37	2663	346	3/24/2008	15:45	240.29	
11N/12W-26J01	35	2	6	118	6	58	2594		1/1/1918		155	
11N/12W-26J01	35	2	6	118	6	58	2594		9/26/1929		161.2	
11N/12W-26J01	35	2	6	118	6	58	2594		3/1/1930		158.2	
11N/12W-26J01	35	2	6	118	6	58	2594		9/15/1952		156.46	
11N/12W-26J01	35	2	6	118	6	58	2594		12/4/1952		156.4	
11N/12W-26J01	35	2	6	118	6	58	2594		3/15/1954		156.6	
11N/12W-26J01	35	2	6	118	6	58	2594		11/29/1954		156.49	
11N/12W-26J01	35	2	6	118	6	58	2594		3/2/1955		156.46	
11N/12W-26J01	35	2	6	118	6	58	2594		9/27/1955		156.37	
11N/12W-26J01	35	2	6	118	6	58	2594		3/21/1956		156.24	
11N/12W-26J01	35	2	6	118	6	58	2594		10/19/1956		156.22	
11N/12W-26J01	35	2	6	118	6	58	2594		3/5/1957		156.25	
11N/12W-26J01	35	2	6	118	6	58	2594		7/17/1957		156.16	
11N/12W-26J01	35	2	6	118	6	58	2594		8/14/1957		156.23	
11N/12W-26J01	35	2	6	118	6	58	2594		9/24/1957		156.23	
11N/12W-26J01	35	2	6	118	6	58	2594		10/15/1957		156.19	
11N/12W-26J01	35	2	6	118	6	58	2594		11/15/1957		156.19	
11N/12W-26J01	35	2	6	118	6	58	2594		12/20/1957		156.2	
11N/12W-26J01	35	2	6	118	6	58	2594		2/3/1958		156.16	
11N/12W-26J01	35	2	6	118	6	58	2594		3/12/1958		156.15	
11N/12W-26J01	35	2	6	118	6	58	2594		11/4/1958		156.06	
11N/12W-26J01	35	2	6	118	6	58	2594		3/10/1959		156.1	
11N/12W-26J01	35	2	6	118	6	58	2594		3/2/1960		160.63	
11N/12W-26J01	35	2	6	118	6	58	2594		11/10/1960		169.24	
11N/12W-26J01	35	2	6	118	6	58	2594		2/27/1961		171.56	S
11N/12W-26J01	35	2	6	118	6	58	2594		11/8/1961		173.07	
11N/12W-26J01	35	2	6	118	6	58	2594		3/1/1962		169.29	
11N/12W-26J01	35	2	6	118	6	58	2594		11/7/1962		189.31	S
11N/12W-26J01	35	2	6	118	6	58	2594		3/13/1963		189.73	S
11N/12W-26J01	35	2	6	118	6	58	2594		11/6/1963		181.01	
11N/12W-26J01	35	2	6	118	6	58	2594		3/4/1964		196.07	S
11N/12W-26J01	35	2	6	118	6	58	2594		10/7/1964		198.67	S
11N/12W-26J01	35	2	6	118	6	58	2594		3/15/1965		198.7	
11N/12W-26J01	35	2	6	118	6	58	2594		10/18/1965		201.34	S
11N/12W-26J01	35	2	6	118	6	58	2594		3/8/1966		192.6	S
11N/12W-26J01	35	2	6	118	6	58	2594		10/17/1966		194.87	
11N/12W-26J01	35	2	6	118	6	58	2594		3/23/1967		202.6	
11N/12W-26J01	35	2	6	118	6	58	2594		10/10/1967		193.3	
11N/12W-26J01	35	2	6	118	6	58	2594		3/21/1968		203.68	S
11N/12W-26J01	35	2	6	118	6	58	2594		10/31/1968		206.3	S
11N/12W-26J01	35	2	6	118	6	58	2594		9/18/1969		209.67	S
11N/12W-26J01	35	2	6	118	6	58	2594		3/16/1970		198.04	
11N/12W-26J01	35	2	6	118	6	58	2594		10/20/1970		211.33	
11N/12W-26J01	35	2	6	118	6	58	2594		3/16/1971		193.5	
11N/12W-26J01	35	2	6	118	6	58	2594		10/26/1971			O
11N/12W-26J01	35	2	6	118	6	58	2594		3/25/1973		183.7	
11N/12W-26J01	35	2	6	118	6	58	2594		2/11/1974		181.5	
11N/12W-26J01	35	2	6	118	6	58	2594		2/4/1975		179.85	
11N/12W-26J01	35	2	6	118	6	58	2594		2/11/1976		178.78	
11N/12W-26J01	35	2	6	118	6	58	2594		3/9/1977			O
11N/12W-26J01	35	2	6	118	6	58	2594		3/30/1978		176.74	
11N/12W-26J01	35	2	6	118	6	58	2594		2/14/1979		175.99	
11N/12W-26J01	35	2	6	118	6	58	2594		3/26/1980		165.27	
11N/12W-26J01	35	2	6	118	6	58	2594		4/17/1981		174.76	
11N/12W-26J01	35	2	6	118	6	58	2594		2/18/1982		174.29	
11N/12W-26J01	35	2	6	118	6	58	2594		4/14/1983		173.8	
11N/12W-26J01	35	2	6	118	6	58	2594		3/6/1984		173.32	
11N/12W-26J01	35	2	6	118	6	58	2594		3/26/1985		172.8	
11N/12W-26J01	35	2	6	118	6	58	2594		3/26/1986		172.54	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
11N/12W-26J01	35	2	6	118	6	58	2594		2/22/1987		171.04	
11N/12W-29D01	35	1	21	118	11	5	2765	283	11/25/1952		176.95	
11N/12W-32E02	35	0	9	118	11	5	2765	265	12/4/1952		179.95	
11N/12W-32E03	35	0	13	118	11	4	2765		10/4/1955		176.43	
12N/09W-35L01	35	5	32	117	48	3	2450		12/12/1956		234	Z
12N/09W-35L01	35	5	32	117	48	3	2450		11/1/1957		256	
12N/09W-35L01	35	5	32	117	48	3	2450		11/22/1957		255.64	
12N/09W-35L01	35	5	32	117	48	3	2450		1/18/1963		417	
12N/09W-35L01	35	5	32	117	48	3	2450		1/3/1967		527.32	
12N/09W-36N01	35	5	17.8	117	47	33	2435		11/1/1957		222	
12N/10W-31Z01	35	5	16	117	58	36	2420	380	1/1/1917		156	
12N/10W-35P01	35	5	17	117	54	24	2365	378	2/5/1918		199	R
12N/10W-35P01	35	5	17	117	54	24	2365	378	4/11/1951		193.53	
12N/10W-35P01	35	5	17	117	54	24	2365	378	11/15/1951		193.48	
12N/10W-35P01	35	5	17	117	54	24	2365	378	3/8/1952		193.47	
12N/10W-35P01	35	5	17	117	54	24	2365	378	9/10/1952		193.5	
12N/10W-35P01	35	5	17	117	54	24	2365	378	2/9/1953		193.6	
12N/10W-35P01	35	5	17	117	54	24	2365	378	4/16/1953		197.3	
12N/10W-35P01	35	5	17	117	54	24	2365	378	4/21/1953		195.47	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	7/17/1957		316.11	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	8/14/1957		316.11	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	9/24/1957		316.18	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	10/15/1957		316.13	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	11/19/1957		316.16	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	12/20/1957		316.14	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/3/1958		316.12	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/23/1967		317.59	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/21/1968		318.11	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/15/1969		318.22	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/16/1970		318.78	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	10/20/1970		319.28	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/16/1971		319.12	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	10/27/1971		319.34	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/15/1972		319.76	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/24/1973		320.13	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/12/1974		320.58	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/4/1975		321.08	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/11/1976		321.38	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/8/1977		321.82	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/30/1978		322.45	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/14/1979		322.15	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/16/1980		323.08	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/17/1981		322.64	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/19/1982		323.56	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/14/1983		323.17	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/6/1984		323.71	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/26/1985		323.98	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/1/1986		323.83	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	2/24/1987		323.82	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/30/1988		323.82	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/30/1989		323.96	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/13/1990		324.08	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/20/1991		323.91	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/14/1992		323.93	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/21/1993		324.21	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/13/1994		324.26	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/19/1995		324.38	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	4/18/1996		324.53	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/4/1997	15:10	324.79	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/17/1998		324.53	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/17/1999		324.63	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/21/2000		324.5	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/29/2001		324.97	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/26/2002		324.72	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/24/2003		325.16	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/31/2004	9:00	325.29	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/30/2005	15:10	325.39	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/28/2006	14:15	325.41	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/28/2007	13:35	325.88	
12N/12W-35R01	35	5	5	118	6	50	2743.3	590	3/25/2008	12:35	325.9	
29S/39E-33K01	35	22	9	117	47	52	2050	381	6/12/1956		134	
29S/39E-33K01	35	22	9	117	47	52	2050	381	2/13/1958		131.16	
29S/39E-33K01	35	22	9	117	47	52	2050	381	1/16/1976		136.57	
29S/39E-33K01	35	22	9	117	47	52	2050	381	12/5/1978		179.5	
29S/39E-33K01	35	22	9	117	47	52	2050	381	2/13/1979		171.43	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/17/1980		211.66	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/16/1981		224.42	
29S/39E-33K01	35	22	9	117	47	52	2050	381	2/17/1982		211.99	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/15/1983		237.84	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/6/1984		244.46	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/11/1987		225.7	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/29/1988		230.94	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/22/1989		234.51	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/12/1990		227.21	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/16/1992		236.27	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/20/1993		232.44	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/12/1994		239.07	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/19/1995		244.88	
29S/39E-33K01	35	22	9	117	47	52	2050	381	4/18/1996		252.52	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/5/1997	12:40	249.9	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/19/1998	14:15	234.83	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/15/1999		230.15	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/22/2000		214.36	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/22/2001		210.04	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/25/2003		200.25	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/30/2004	12:05	196.59	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/29/2005	8:30	193.58	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/29/2006	12:25	191.04	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/27/2007	13:45	188.86	
29S/39E-33K01	35	22	9	117	47	52	2050	381	3/26/2008	12:05	186.99	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/29/1929		18	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/12/1953		29.32	
30S/37E-36G01	35	16	59	117	57	10	1968	919	1/31/1958		33.31	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/10/1960		40.62	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/10/1960		39.68	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/27/1961		40.05	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/14/1961		48.84	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/14/1962		49.78	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/9/1962		50.77	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/13/1963		56.07	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/7/1963		53.48	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/7/1964		57.92	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/16/1965		54.87	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/18/1965		60.39	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/9/1966		52.81	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/17/1966		59.9	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/12/1967		59.31	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/11/1967		65.32	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/20/1968		60.49	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/31/1968		66.84	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/14/1969		61.57	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/18/1969		70.7	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/17/1970		66.49	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/21/1970		79.61	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/17/1971		77.21	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/28/1971		82.37	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/15/1972		93.48	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/12/1972		96.65	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/15/1973		83.95	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/2/1973		102.02	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/13/1974		92.65	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/23/1974		104.53	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/6/1975		99.76	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/16/1975		111.84	
30S/37E-36G01	35	16	59	117	57	10	1968	919	1/7/1976		104.71	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/3/1976		116.55	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/8/1977		112.08	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/12/1977		122.35	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/28/1978		113.79	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/16/1978		123.84	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/12/1979		117.66	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/24/1979		126.86	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/17/1980		148.4	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/15/1980		132.15	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/16/1981		129.58	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/19/1981		130.96	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/12/1982		129.3	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/7/1982		132.94	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/14/1983		130.65	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/27/1983		132.69	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/7/1984		133.05	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/30/1984		134.99	
30S/37E-36G01	35	16	59	117	57	10	1968	919	5/16/1985		135.3	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/31/1985		133.63	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/23/1986		131.8	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/23/1986		131.76	
30S/37E-36G01	35	16	59	117	57	10	1968	919	2/23/1987		129.97	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/4/1987		130.3	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/29/1988		129.23	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/20/1989		129.66	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/13/1990		130.96	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/15/1990		132.69	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/22/1991		132.21	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/22/1991		133.82	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/17/1992		133.99	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/4/1992		135.09	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/21/1993		135.25	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/18/1993		136.38	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/14/1994		136.34	
30S/37E-36G01	35	16	59	117	57	10	1968	919	10/27/1994	14:00	143.6	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/19/1995		136.56	
30S/37E-36G01	35	16	59	117	57	10	1968	919	12/6/1995	12:55	136.28	
30S/37E-36G01	35	16	59	117	57	10	1968	919	4/15/1996		135.58	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/14/1996	14:15	134.71	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/5/1997	9:15	135.11	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/17/1997		132.91	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/19/1998		131.92	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/4/1998		131.21	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/18/1999		129.37	
30S/37E-36G01	35	16	59	117	57	10	1968	919	11/17/1999		128.52	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/24/2000		127.59	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/13/2000		124.57	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/22/2001		126.34	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/11/2001	12:20	125.61	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/27/2002		124.2	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/17/2002	12:20	123.26	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/25/2003		123.53	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/16/2003		123.43	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/30/2004	8:50	122.96	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/15/2004	9:05	122.72	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/30/2005	9:15	122.42	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/13/2005	8:50	122.5	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/29/2006	8:45	121.9	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/12/2006	9:10	122.48	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/27/2007	9:15	122.03	
30S/37E-36G01	35	16	59	117	57	10	1968	919	9/6/2007	9:05	122.06	
30S/37E-36G01	35	16	59	117	57	10	1968	919	3/26/2008	9:20	121.31	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	5/7/1953		12.19	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/12/1958		13.02	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/12/1967		18.8	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/20/1968		19.79	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/15/1969		20.8	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/17/1970		21.63	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	10/22/1970		22.31	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/17/1971		22.51	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	10/28/1971		23.3	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/15/1972		23.78	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/15/1973		24.72	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/13/1974		25.6	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/6/1975		26.98	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	10/16/1975		27.72	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	1/6/1976		27.9	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/8/1977		29.11	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/29/1978		30.13	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/13/1979		31.16	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/17/1980		32.55	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/16/1981		33.74	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/17/1982		34.74	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/14/1983		35.98	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/6/1984		36.84	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/25/1985		37.82	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/27/1986		38.8	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	2/23/1987		38.99	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/30/1988		39.96	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/20/1989		40.87	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/13/1990		40.66	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/18/1991		41.13	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/17/1992		41.69	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/21/1993		42.02	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/14/1994		42.39	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/17/1995		42.86	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	4/15/1996		43.2	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/5/1997	11:30	43.72	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/19/1998	13:10	43.96	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/15/1999		44.18	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/22/2000		44.69	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/22/2001		45.06	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/27/2002		45.39	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/25/2003		45.7	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/30/2004	10:40	46.07	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/29/2005	10:55	46.12	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/29/2006	11:35	46.26	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/27/2007	12:10	46.45	
30S/38E-24F01	35	18	38	117	51	16	1940	445.9	3/26/2008	11:15	46.56	
31S/37E-01H01	35	16	7	117	57	10	2015	504	3/11/1953		61.6	
31S/37E-01H01	35	16	7	117	57	10	2015	504	1/30/1958		81.28	
31S/37E-01H01	35	16	7	117	57	10	2015	504	1/7/1976		256.72	
31S/37E-01H01	35	16	7	117	57	10	2015	504	2/13/1979		275.93	
31S/37E-01M02	35	15	40	117	58	0	2042	566	1/8/1976		313.16	
31S/37E-01M02	35	15	40	117	58	0	2042	566	3/29/1978		307.03	
31S/37E-01M02	35	15	40	117	58	0	2042	566	2/13/1979		302.58	
31S/37E-01R01	35	15	29	117	57	0	2050	468	1/30/1958		125.73	
31S/37E-01R01	35	15	29	117	57	0	2050	468	1/7/1976		323.42	
31S/37E-01R01	35	15	29	117	57	0	2050	468	6/9/1993		259.82	
31S/37E-01R02	35	15	34	117	57	0	2045	580	9/23/1986		292.4	
31S/37E-01R02	35	15	34	117	57	0	2045	580	1/29/1991		273	
31S/37E-01R02	35	15	34	117	57	0	2045	580	6/9/1993		250.91	
31S/37E-02D01	35	16	8	117	58	54	2030		1/31/1958		105.15	
31S/37E-02D01	35	16	8	117	58	54	2030		1/8/1976		351.5	
31S/37E-02D02	35	16	9	117	59	4	2035	638	7/23/1986		300.42	
31S/37E-02D02	35	16	9	117	59	4	2035	638	1/29/1991		275	
31S/37E-02D02	35	16	9	117	59	4	2035	638	6/9/1993		251.11	
31S/37E-02P01	35	15	32	117	58	48	2065	380	1/30/1958		147.32	
31S/37E-02P02	35	15	27	117	58	48	2080	453	3/10/1969		260	
31S/37E-02P02	35	15	27	117	58	48	2080	453	1/8/1976		301.35	
31S/37E-02P02	35	15	27	117	58	48	2080	453	3/29/1978		302.9	
31S/37E-02P02	35	15	27	117	58	48	2080	453	2/13/1979		303.18	
31S/37E-02Z01	35	15	32	117	58	48	2065	300	1/1/1917		100	
31S/37E-04J01	35	15	48	118	0	16	2050	806	2/1/1974		130	
31S/37E-04J01	35	15	48	118	0	16	2050	806	2/15/1974		130.48	
31S/37E-04J01	35	15	48	118	0	16	2050	806	1/8/1976		191.22	
31S/37E-04J01	35	15	48	118	0	16	2050	806	2/13/1979		270.7	
31S/37E-04J01	35	15	48	118	0	16	2050	806	2/12/1982		330.89	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/23/1986		350.2	
31S/37E-04J01	35	15	48	118	0	16	2050	806	2/23/1987		346.7	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/29/1988		330.6	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/20/1989		319.37	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/13/1990		315.64	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/16/1992		307.81	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/21/1993		306.34	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/13/1994		304.43	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/17/1995		299.03	
31S/37E-04J01	35	15	48	118	0	16	2050	806	4/15/1996		291.35	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/5/1997	16:00	285.09	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/19/1998		276.7	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/15/1999		270.85	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/20/2000		266.42	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/22/2001		260.52	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/27/2002		256.09	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/25/2003		253.54	
31S/37E-04J01	35	15	48	118	0	16	2050	806	3/30/2004	13:35	250.02	
31S/37E-04Q01	35	15	28	118	0	32	2100		2/1/1974		152	
31S/37E-04Q01	35	15	28	118	0	32	2100		2/15/1974		152	
31S/37E-04Q01	35	15	28	118	0	32	2100		2/6/1975		197.03	
31S/37E-04Q01	35	15	28	118	0	32	2100		1/8/1976		213.15	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/28/1978		281.64	S
31S/37E-04Q01	35	15	28	118	0	32	2100		2/13/1979		299.69	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/17/1980		360.98	S
31S/37E-04Q01	35	15	28	118	0	32	2100		4/16/1981		376.43	
31S/37E-04Q01	35	15	28	118	0	32	2100		2/12/1982		363.2	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-04Q01	35	15	28	118	0	32	2100		4/14/1983		402.97	S
31S/37E-04Q01	35	15	28	118	0	32	2100		3/7/1984		411.27	S
31S/37E-04Q01	35	15	28	118	0	32	2100		5/16/1985		415.45	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/23/1986		401.5	
31S/37E-04Q01	35	15	28	118	0	32	2100		2/23/1987		397.6	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/29/1988		381.5	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/21/1989		379.05	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/13/1990		368.25	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/18/1991		355.74	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/16/1992		351.4	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/21/1993		351.23	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/13/1994		347.49	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/17/1995		340.47	
31S/37E-04Q01	35	15	28	118	0	32	2100		4/15/1996		331.7	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/5/1997	16:30	325.31	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/19/1998	16:45	319.32	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/15/1999		313.23	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/22/2000		309.62	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/22/2001		304	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/27/2002		299.65	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/25/2003		296.6	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/30/2004	14:05	293.09	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/29/2005	11:55	290.4	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/29/2006	14:05	287.69	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/27/2007	15:35	284.44	
31S/37E-04Q01	35	15	28	118	0	32	2100		3/26/2008	15:00	280.75	
31S/37E-05M01	35	15	49	118	2	20	2150	205	1/1/1946		150	
31S/37E-05M01	35	15	49	118	2	20	2150	205	1/1/1958		156	
31S/37E-05M01	35	15	49	118	2	20	2150	205	1/28/1958		155.78	
31S/37E-07J01	35	14	49	118	2	23	2260	810	7/26/1974		290	
31S/37E-08A01	35	15	23	118	1	23	2145	1730	9/23/1986		424.94	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/17/1954		149.3	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/30/1954		170.66	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/2/1955		170.7	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/15/1955		171.49	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/19/1956		171.81	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/28/1956		173.04	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/6/1957		174.68	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/20/1957		174.14	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/1/1958		174	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/4/1958		174.3	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/4/1958		175.31	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/10/1959		176.86	
31S/37E-08C01	35	15	14	118	1	58	2190	650	2/26/1960		177.16	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/10/1960		178.15	
31S/37E-08C01	35	15	14	118	1	58	2190	650	2/27/1961		178.44	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/14/1961		179.55	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/14/1962		180.04	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/9/1962		181.13	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/13/1963		181.71	
31S/37E-08C01	35	15	14	118	1	58	2190	650	11/6/1963		182.82	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/4/1964		183.37	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/7/1964		184.15	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/16/1965		184.91	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/18/1965		185.64	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/9/1966		183.27	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/17/1966		187.12	
31S/37E-08C01	35	15	14	118	1	58	2190	650	4/12/1967		187.98	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/10/1967		188.64	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/20/1968		189.4	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-08C01	35	15	14	118	1	58	2190	650	4/2/1968		189.36	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/31/1968		190.2	
31S/37E-08C01	35	15	14	118	1	58	2190	650	4/15/1969		190.84	
31S/37E-08C01	35	15	14	118	1	58	2190	650	9/18/1969		191.44	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/17/1970		192.2	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/21/1970		193.52	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/17/1971		194.23	
31S/37E-08C01	35	15	14	118	1	58	2190	650	10/27/1971		196.17	
31S/37E-08C01	35	15	14	118	1	58	2190	650	3/15/1972		197.37	
31S/37E-08C01	35	15	14	118	1	58	2190	650	2/15/1973		201.72	
31S/37E-08C01	35	15	14	118	1	58	2190	650	2/15/1974		213.4	
31S/37E-08C01	35	15	14	118	1	58	2190	650	2/6/1975		245.5	
31S/37E-08C01	35	15	14	118	1	58	2190	650	1/7/1976		275.5	
31S/37E-08N01	35	14	44	118	2	0	2225	813	12/20/1973		260	
31S/37E-10A01	35	15	15	117	59	20	2105	320	3/10/1953		120	
31S/37E-10A01	35	15	15	117	59	20	2105	320	3/20/1968		239.09	
31S/37E-10A01	35	15	15	117	59	20	2105	320	4/15/1969		246.99	
31S/37E-10A01	35	15	15	117	59	20	2105	320	3/17/1970		246.05	
31S/37E-10A01	35	15	15	117	59	20	2105	320	10/21/1970		285.2	
31S/37E-10A01	35	15	15	117	59	20	2105	320	3/17/1971		253.07	
31S/37E-10A01	35	15	15	117	59	20	2105	320	3/15/1972		277.4	
31S/37E-10A01	35	15	15	117	59	20	2105	320	2/15/1973		246.65	
31S/37E-10A01	35	15	15	117	59	20	2105	320	2/13/1974		264.65	
31S/37E-10A01	35	15	15	117	59	20	2105	320	2/5/1975		258.3	
31S/37E-10Z01	35	15	15	117	59	20	2105		1/1/1917		124	
31S/37E-11A01	35	15	25	117	58	4	2070	470	7/29/1967		228	
31S/37E-11Z01	35	15	3	117	58	35	2100	360	3/19/1969		256	
31S/37E-11Z02	35	15	20	117	58	48	2085	331	2/24/1969		260	
31S/37E-12H01	35	15	1	117	57	0	2085	342	1/30/1958		155.54	
31S/37E-12H01	35	15	1	117	57	0	2085	342	3/10/1959		164	
31S/37E-12H01	35	15	1	117	57	0	2085	342	9/30/1959		197	P
31S/37E-12H01	35	15	1	117	57	0	2085	342	10/28/1960		207	P
31S/37E-12H01	35	15	1	117	57	0	2085	342	10/6/1961		212	P
31S/37E-12H01	35	15	1	117	57	0	2085	342	9/25/1962		231	P
31S/37E-12H01	35	15	1	117	57	0	2085	342	2/15/1974		326.44	
31S/37E-12H01	35	15	1	117	57	0	2085	342	2/5/1975		327.26	
31S/37E-12H01	35	15	1	117	57	0	2085	342	1/8/1976		330.3	
31S/37E-12H01	35	15	1	117	57	0	2085	342	3/8/1977		329.66	
31S/37E-12N01	35	14	34	117	57	58	2135		2/9/1953		79.86	
31S/37E-12Z01	35	15	23	117	57	29	2050		1/1/1917		96	
31S/37E-13A01	35	14	28	117	57	0	2135	400	1/1/1958		184	
31S/37E-13A01	35	14	28	117	57	0	2135	400	1/30/1958		184.12	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/5/1958		187.7	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/10/1959		187.55	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/2/1960		196.05	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/10/1960		204.67	
31S/37E-13A01	35	14	28	117	57	0	2135	400	2/27/1961		204.55	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/14/1961		215.13	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/14/1962		213.65	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/9/1962		224.81	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/13/1963		224.54	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/8/1963		232.3	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/4/1964		229.37	
31S/37E-13A01	35	14	28	117	57	0	2135	400	7/12/1964		235.93	
31S/37E-13A01	35	14	28	117	57	0	2135	400	8/12/1964		237.59	
31S/37E-13A01	35	14	28	117	57	0	2135	400	9/11/1964		239.51	
31S/37E-13A01	35	14	28	117	57	0	2135	400	10/13/1964		241.15	
31S/37E-13A01	35	14	28	117	57	0	2135	400	11/11/1964		242.39	
31S/37E-13A01	35	14	28	117	57	0	2135	400	12/14/1964		241.05	
31S/37E-13A01	35	14	28	117	57	0	2135	400	1/14/1965		241.35	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-13A01	35	14	28	117	57	0	2135	400	2/14/1965		241.49	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/16/1965		242.25	
31S/37E-13A01	35	14	28	117	57	0	2135	400	4/1/1965		242.47	
31S/37E-13A01	35	14	28	117	57	0	2135	400	5/5/1965		243.5	
31S/37E-13A01	35	14	28	117	57	0	2135	400	6/3/1965		244.78	
31S/37E-13A01	35	14	28	117	57	0	2135	400	7/1/1965		246.14	
31S/37E-13A01	35	14	28	117	57	0	2135	400	10/18/1965		250.83	
31S/37E-13A01	35	14	28	117	57	0	2135	400	3/9/1966		248.86	
31S/37E-13A01	35	14	28	117	57	0	2135	400	10/17/1966		260.3	
31S/37E-13A01	35	14	28	117	57	0	2135	400	4/12/1967		265.22	
31S/37E-13B01	35	14	27	117	57	18	2140		1/1/1917		130	
31S/37E-13B01	35	14	27	117	57	18	2140		1/22/1953		155.84	
31S/37E-13B01	35	14	27	117	57	18	2140		3/15/1954		163.6	
31S/37E-13B01	35	14	27	117	57	18	2140		12/3/1954		167.74	
31S/37E-13B01	35	14	27	117	57	18	2140		3/2/1955		167.13	
31S/37E-13B01	35	14	27	117	57	18	2140		11/15/1955		169.78	
31S/37E-13B01	35	14	27	117	57	18	2140		3/22/1956		170.3	
31S/37E-13B01	35	14	27	117	57	18	2140		11/27/1956		173.41	
31S/37E-13B01	35	14	27	117	57	18	2140		3/1/1957		174	
31S/37E-13B01	35	14	27	117	57	18	2140		3/6/1957		174.28	
31S/37E-13B01	35	14	27	117	57	18	2140		3/4/1958		177.8	
31S/37E-14L01	35	13	54	117	58	44	2179		10/1/1929		184.5	
31S/37E-14L01	35	13	54	117	58	44	2179		1/22/1953		196.6	
31S/37E-15L01	35	14	4	117	59	48	2189	350	5/8/1980		237	
31S/37E-22Q01	35	12	49	117	59	33	2260		9/30/1929		253	
31S/37E-22Q01	35	12	49	117	59	33	2260		1/22/1953		257.77	
31S/37E-22Q01	35	12	49	117	59	33	2260		3/15/1954		260.15	
31S/37E-22Q01	35	12	49	117	59	33	2260		12/3/1954		262.14	
31S/37E-22Q01	35	12	49	117	59	33	2260		3/2/1955		262.93	
31S/37E-22Q01	35	12	49	117	59	33	2260		11/15/1955		265.09	
31S/37E-22Q01	35	12	49	117	59	33	2260		3/22/1956		265.99	
31S/37E-22Q01	35	12	49	117	59	33	2260		11/27/1956		267.91	
31S/37E-22Q01	35	12	49	117	59	33	2260		3/6/1957		268.97	
31S/37E-22Q01	35	12	49	117	59	33	2260		11/1/1957		269	
31S/37E-22Q01	35	12	49	117	59	33	2260		11/22/1957		269.32	
31S/37E-22Q01	35	12	49	117	59	33	2260		11/5/1958		273.73	
31S/37E-22Q01	35	12	49	117	59	33	2260		3/10/1959		274.83	
31S/37E-22Q01	35	12	49	117	59	33	2260		12/2/1959		298.21	
31S/37E-26K01	35	12	12	117	57	23	2240		2/6/1918		233	
31S/37E-26K01	35	12	12	117	57	23	2240		9/30/1929		231	
31S/37E-26K01	35	12	12	117	57	23	2240		3/5/1930		231.4	
31S/37E-26K01	35	12	12	117	57	23	2240		8/16/1956		237.75	
31S/37E-26K01	35	12	12	117	57	23	2240		1/1/1958		244	
31S/37E-26K01	35	12	12	117	57	23	2240		1/30/1958		244.36	
31S/37E-28H01	35	12	24	117	0	15	2300	585	6/11/1964		233.87	
31S/37E-28H01	35	12	24	117	0	15	2300	585	8/12/1964		235.61	
31S/37E-28H01	35	12	24	117	0	15	2300	585	9/11/1964		233.67	
31S/37E-28H01	35	12	24	117	0	15	2300	585	10/13/1964		234.5	
31S/37E-28H01	35	12	24	117	0	15	2300	585	11/11/1964		232.96	
31S/37E-28H01	35	12	24	117	0	15	2300	585	12/15/1964		233.08	
31S/37E-28H01	35	12	24	117	0	15	2300	585	1/14/1965		233.4	
31S/37E-28H01	35	12	24	117	0	15	2300	585	2/14/1965		233.37	
31S/37E-28H01	35	12	24	117	0	15	2300	585	4/1/1965		234.95	
31S/37E-28H01	35	12	24	117	0	15	2300	585	5/5/1965		237.01	
31S/37E-28H01	35	12	24	117	0	15	2300	585	6/3/1965		239.29	
31S/37E-28H01	35	12	24	117	0	15	2300	585	7/26/1965		239.4	
31S/37E-28P01	35	11	57	118	0	47	2340		1/28/1958		266.33	
31S/37E-28Q01	35	11	58	118	0	30	2330	600	1/28/1958		243.43	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/3/1917		304	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/3/1929		300.8	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/5/1930		300.5	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	1/28/1958		307.2	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	1/4/1967		313.64	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/20/1968		327.82	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	4/15/1969		321.5	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/17/1970		318.86	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/21/1970		318.82	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/17/1971		318.87	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/27/1971		319.58	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/15/1972		319.99	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/12/1972		327.4	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	2/15/1973		325.65	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/2/1973		324.25	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	2/12/1974		320.95	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/23/1974		321.79	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	2/6/1975		321.42	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	10/16/1975		322.12	
31S/37E-30F01	35	12	25	118	2	56	2371.7	331	3/8/1976		322.9	
31S/37E-32A01	35	11	53	118	1	19	2348	349	1/1/1917		274	
31S/37E-32A01	35	11	53	118	1	19	2348	349	10/1/1929		276.2	
31S/37E-32A01	35	11	53	118	1	19	2348	349	3/5/1930		276.4	
31S/37E-32A01	35	11	53	118	1	19	2348	349	3/5/1960		276.4	
31S/37E-32Z01	35	11	54	118	2	15	2380	349	10/3/1917		307	
31S/37E-33H01	35	11	31	118	0	12	2340	535	6/19/1956		230	
31S/37E-33H01	35	11	31	118	0	12	2340	535	1/28/1958		274.48	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/4/1959		270	
31S/37E-33H01	35	11	31	118	0	12	2340	535	7/26/1961		274.75	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/11/1964		268.17	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/13/1964		268.23	
31S/37E-33H01	35	11	31	118	0	12	2340	535	12/15/1964		267.52	
31S/37E-33H01	35	11	31	118	0	12	2340	535	1/14/1965		267.61	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/1/1965		268.5	
31S/37E-33H01	35	11	31	118	0	12	2340	535	1/4/1967		269.34	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/21/1968		277.83	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/15/1969		277.59	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/17/1970		279.1	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/22/1970		278.79	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/17/1971		279.3	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/28/1971		277.25	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/15/1972		280.31	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/15/1973		272.73	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/12/1974		275.16	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/5/1975		273.7	
31S/37E-33H01	35	11	31	118	0	12	2340	535	1/6/1976		275.19	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/12/1976		276.78	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/8/1977		279.05	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/28/1978		277.4	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/13/1979		275.26	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/24/1979		279.39	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/16/1980		279.91	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/15/1980		281.05	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/16/1981		278.85	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/19/1981		279.4	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/11/1982		274.14	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/7/1982		279.13	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/14/1983		277.28	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/27/1983		278.19	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/7/1984		276.17	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/30/1984		278.5	
31S/37E-33H01	35	11	31	118	0	12	2340	535	5/16/1985		278.19	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/31/1985		278.42	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/26/1986		277.74	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/23/1986		280.15	
31S/37E-33H01	35	11	31	118	0	12	2340	535	2/23/1987		276.82	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/4/1987		280.2	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/29/1988		280.3	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/21/1989		278.24	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/18/1989		280.77	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/14/1990		278.98	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/15/1990		282.18	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/22/1991		278.5	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/22/1991		278.27	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/16/1992		277.09	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/4/1992		278.61	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/21/1993		277.04	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/18/1993		277.8	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/13/1994		276.97	
31S/37E-33H01	35	11	31	118	0	12	2340	535	10/27/1994		276.69	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/17/1995		275.88	
31S/37E-33H01	35	11	31	118	0	12	2340	535	12/6/1995	12:25	275.97	
31S/37E-33H01	35	11	31	118	0	12	2340	535	4/15/1996		275.59	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/14/1996	15:00	275.64	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/5/1997	17:25	275.3	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/17/1997	12:35	275.69	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/18/1998	13:35	274.86	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/4/1998		275.36	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/17/1999		274.96	
31S/37E-33H01	35	11	31	118	0	12	2340	535	11/17/1999		275.87	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/22/2000		275.35	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/13/2000		275.72	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/22/2001		275.1	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/11/2001		275.75	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/27/2002		275.09	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/17/2002	11:50	275.62	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/25/2003		275.24	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/16/2003		275.61	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/30/2004	15:20	275.28	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/15/2004	9:40	276.04	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/29/2005	13:25	275.44	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/13/2005	9:25	276.26	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/29/2006	14:45	275.43	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/12/2006	10:05	275.94	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/27/2007	17:10	275.56	
31S/37E-33H01	35	11	31	118	0	12	2340	535	9/6/2007	10:15	276.09	
31S/37E-33H01	35	11	31	118	0	12	2340	535	3/26/2008	15:30	275.51	
31S/37E-33Z01	35	11	53	118	0	29	2324		9/30/1929		255.78	
31S/37E-33Z01	35	11	53	118	0	29	2324		3/5/1930		256.18	
31S/37E-34A01	35	11	12	117	59	53	2271	205	10/1/1929		200.61	
31S/37E-34A01	35	11	12	117	59	53	2271	205	3/5/1930		201.11	
31S/37E-34A01	35	11	12	117	59	53	2271	205	1/22/1953		200.95	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	1/22/1953		230.79	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/14/1953		292.5	P
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	1/30/1958		244.08	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/1/1958		244	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/4/1958		243.72	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/10/1959		246.04	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	12/2/1959		247.92	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/2/1960		247.38	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/10/1960		245.6	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/27/1961		246.2	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/14/1961		245.49	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/15/1962		245.18	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/9/1962		243.73	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/13/1963		244.82	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/7/1963		244.41	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/4/1964		244.49	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/7/1964		242.68	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/16/1965		242.54	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/18/1965		244	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/9/1966		244.09	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/17/1966		246.37	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	1/4/1967		247	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/12/1967		247.33	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/11/1967		248.12	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/21/1968		248.17	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/31/1968		249.3	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/15/1969		267.04	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/18/1969		255.8	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/17/1970		249.9	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/22/1970		250.65	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/17/1971		252.25	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/28/1971		253.48	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/15/1972		253.28	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/12/1972		254.09	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/14/1973		253.25	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/2/1973		254.01	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/12/1974		251.6	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/23/1974		253.18	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/5/1975		251.4	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/16/1975		255.45	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/12/1976		254.98	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/3/1976		254.89	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/8/1977		256.98	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/12/1977		256	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/28/1978		254.2	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/16/1978		255.89	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/13/1979		255.37	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/24/1979		261.91	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/16/1980		258.98	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/15/1980		257.13	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/16/1981		256.72	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/19/1981		255.9	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/11/1982		254.84	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/7/1982		256.66	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/14/1983		256.03	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/27/1983		256.04	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/7/1984		256.04	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/30/1984		256.39	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	5/16/1985		256.7	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/31/1985		256.36	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/26/1986		255.35	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/23/1986		257.32	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	2/23/1987		255.76	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/4/1987		258.13	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/29/1988		257.74	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/21/1989		257.72	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/18/1989		258.19	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/14/1990		258.69	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/15/1990		259.6	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/18/1991		257.64	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/22/1991		257.39	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/16/1992		256.53	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/4/1992		258.09	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/21/1993		257.54	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/18/1993		257.46	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/13/1994		257.44	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	10/27/1994	13:45	256.75	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/17/1995		256.16	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	12/6/1995	12:15	255.85	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	4/15/1996		255.24	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/14/1996	14:45	254.86	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/5/1997		254.6	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/17/1997	12:20	254.66	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/18/1998	13:05	254.11	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/4/1998		254.1	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/17/1999		253.76	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	11/17/1999		254.95	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/22/2000		254.52	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/13/2000		254.32	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/22/2001		253.81	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/11/2001		254.39	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/27/2002		253.94	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/17/2002	11:40	254.31	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/25/2003		254.06	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/16/2003		254.02	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/30/2004	8:15	253.75	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/15/2004	9:55	254.16	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/29/2005	14:00	253.71	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/13/2005	9:50	254.54	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/29/2006	15:10	253.92	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/12/2006	10:20	254.15	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/28/2007	14:55	254.01	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	9/6/2007	10:35	254.37	
31S/37E-35N01	35	11	4	117	59	4	2320	405.25	3/26/2008	15:50	253.91	
31S/38E-06E01	35	16	7	117	56	56	2015	700	1/7/1976		262.33	
31S/38E-06E01	35	16	7	117	56	56	2015	700	12/7/1978		285.69	
31S/38E-06E01	35	16	7	117	56	56	2015	700	2/14/1979		280.16	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/17/1980		299.06	R
31S/38E-06E01	35	16	7	117	56	56	2015	700	2/18/1982		299.5	
31S/38E-06E01	35	16	7	117	56	56	2015	700	3/7/1984		291.1	
31S/38E-06E01	35	16	7	117	56	56	2015	700	3/26/1985		279.49	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/23/1986		269	
31S/38E-06E01	35	16	7	117	56	56	2015	700	2/23/1987		261.61	
31S/38E-06E01	35	16	7	117	56	56	2015	700	3/22/1989		246.51	
31S/38E-06E01	35	16	7	117	56	56	2015	700	3/22/1991		234.03	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/21/1993		223.25	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/14/1994		228.59	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/19/1995		230.86	
31S/38E-06E01	35	16	7	117	56	56	2015	700	4/15/1996		211.21	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	1/1/1917		140	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/9/1953		147.42	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	1/30/1958		147.22	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	5/13/1964		147.07	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	9/11/1964		147.18	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	10/13/1964		147.07	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	1/14/1965		147.24	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/1/1965		147.23	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	7/26/1965		147.21	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/1/1974		147	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/15/1974		147.32	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/5/1975		147.32	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	1/8/1976			
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/8/1977		147.3	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/13/1979		142.08	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/17/1980		147.38	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/16/1981		147.6	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/14/1983		149.17	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/7/1984		147.59	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/29/1984		147.58	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/26/1985		147.62	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/26/1986		132.74	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	2/23/1987		132.39	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/29/1988		147.26	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/21/1989		147.33	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/13/1990		147.35	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/18/1991		147.33	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/16/1992		147.04	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/22/1993		147.33	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/13/1994		147.25	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	4/17/1995		147.34	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/5/1997	8:15	147.46	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/18/1998		147.55	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/16/1999		147.3	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/22/2000		147.35	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/23/2001		147.51	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/27/2002		147.2	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/25/2003		147.52	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/30/2004	14:45	147.44	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/29/2005	12:40	147.31	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/29/2006	10:45	147.57	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/27/2007	16:35	147.55	
31S/38E-18P01	35	13	47	117	56	26	2225	151.5	3/26/2008	16:15	147.53	
31S/38E-31C01	35	11	49	117	56	29	2300	202	2/9/1953		199.9	
31S/38E-31C01	35	11	49	117	56	29	2300	202	1/1/1958		198	
31S/38E-31C01	35	11	49	117	56	29	2300	202	1/30/1958		197.66	
31S/39E-24M01	35	13	9	117	45	11	2930		10/14/1957		364	
31S/39E-24M01	35	13	9	117	45	11	2930		11/1/1957		369	
31S/39E-24M01	35	13	9	117	45	11	2930		11/19/1957		369.3	
31S/39E-24M01	35	13	9	117	45	11	2930		3/23/1960		399	
31S/39E-24M01	35	13	9	117	45	11	2930		7/21/1961		379.33	
31S/39E-24M01	35	13	9	117	45	11	2930		8/1/1961		379.25	
31S/39E-24P01	35	12	56	117	44	54	2925	793	6/4/1957		418	
31S/39E-24P01	35	12	56	117	44	54	2925	793	11/1/1957		384	
31S/39E-24P01	35	12	56	117	44	54	2925	793	11/9/1957		384	
31S/39E-24P01	35	12	56	117	44	54	2925	793	7/26/1961		420	
31S/39E-24P01	35	12	56	117	44	54	2925	793	7/27/1961		410	
31S/39E-24P01	35	12	56	117	44	54	2925	793	7/29/1961		410.5	
31S/39E-24P01	35	12	56	117	44	54	2925	793	8/31/1961		414.7	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/13/1974		422.2	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/4/1975		422	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/11/1976		422.6	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/8/1977		422.04	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/28/1978		421.95	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/12/1979		421.95	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/30/1980		426.5	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/16/1981		422.07	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/11/1982		421.88	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/14/1983		421.7	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/7/1984		422.14	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/26/1985		421.53	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/26/1986		421.73	
31S/39E-24P01	35	12	56	117	44	54	2925	793	2/23/1987		421.84	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/30/1988		422.16	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/21/1989		421.63	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/14/1990		422.52	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/19/1991		421.5	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/15/1992		421.3	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/22/1993		423.78	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/13/1994		424.08	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/18/1995		421.5	
31S/39E-24P01	35	12	56	117	44	54	2925	793	4/18/1996		421.66	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/6/1997	14:30	421.33	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/18/1998		420.88	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/16/1999		420.58	
31S/39E-24P01	35	12	56	117	44	54	2925	793	9/13/2000		422.15	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/22/2001		421.49	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/27/2002		420.23	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/26/2003		420.79	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/31/2004		420.65	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/29/2005	15:50	419.6	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/28/2006	15:20	419.51	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/28/2007	16:20	419.34	
31S/39E-24P01	35	12	56	117	44	54	2925	793	3/26/2008	17:40	419.21	
31S/39E-26C01	35	12	42	117	46	6	2900	1040	4/1/1967		280	
31S/39E-35C01	35	11	58	117	45	49	2845		1/1/1958		289	
31S/39E-35F01	35	11	48	117	46	1	2825	344	1/1/1958		330	
31S/40E-32F01	35	11	40	117	42	43	2800	251	10/15/1952		253.8	?
31S/40E-32F01	35	11	40	117	42	43	2800	251	2/17/1953		253.2	?
31S/40E-35N01	35	11	15	117	44	44	2744	217	4/22/1953		195.45	
31S/40E-35N01	35	11	15	117	44	44	2744	217	11/1/1957		195	
31S/40E-35N01	35	11	15	117	44	44	2744	217	11/19/1957		195.38	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	12/3/1950		371.2	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	3/2/1955		370.88	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	11/3/1955		372.88	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	3/21/1956		370.89	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	3/7/1957		371.26	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	11/19/1957		372.9	
32S/36E-21Q01	35	7	33	118	7	8	2798.89	805	3/12/1958		372.29	
32S/36E-22B01	35	8	17	118	5	56	2710	829	1/27/1958		605	
32S/36E-22C01	35	8	19	118	6	6	2720	640	1/27/1958		612.4	
32S/36E-22C01	35	8	19	118	6	6	2720	640	1/3/1967		619.81	
32S/36E-22C01	35	8	19	118	6	6	2720	640	4/15/1969		620.51	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/17/1970		619.65	
32S/36E-22C01	35	8	19	118	6	6	2720	640	10/21/1970		621.3	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/16/1971		621.6	
32S/36E-22C01	35	8	19	118	6	6	2720	640	10/27/1971		621	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/15/1972		622.4	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/25/1973		621.75	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/8/1974		622.7	
32S/36E-22C01	35	8	19	118	6	6	2720	640	2/5/1975		623.8	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/8/1976		623.9	
32S/36E-22C01	35	8	19	118	6	6	2720	640	3/8/1977		624	
32S/36E-22C01	35	8	19	118	6	6	2720	640	4/16/1980		626.5	
32S/36E-23Q01	35	7	33	118	4	57	2670	1000	12/3/1952		569.6	
32S/36E-23Q01	35	7	33	118	4	57	2670	1000	1/27/1958		350	
32S/36E-23Q01	35	7	33	118	4	57	2670	1000	1/3/1967		579.57	
32S/36E-23Q01	35	7	33	118	4	57	2670	1000	10/21/1970		581.8	
32S/36E-34E01	35	6	18	118	6	35	2760	800	9/20/1957		330	
32S/36E-34E01	35	6	18	118	6	35	2760	800	10/18/1957		325.53	
32S/36E-34E01	35	6	18	118	6	35	2760	800	6/3/1974		331	

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WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/36E-34E03	35	6	18	118	6	20	2745	700	6/10/1965		300	
32S/36E-34E03	35	6	18	118	6	20	2745	700	6/3/1974		321	
32S/36E-35D01	35	6	37	118	5	29	2692	800	7/17/1957		263.93	
32S/36E-35D01	35	6	37	118	5	29	2692	800	8/14/1957		263.93	
32S/36E-35D01	35	6	37	118	5	29	2692	800	9/24/1957		264.96	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/15/1957		264.98	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/19/1957		264.96	
32S/36E-35D01	35	6	37	118	5	29	2692	800	12/20/1957		264.96	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/3/1958		264.87	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/4/1958		264.94	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/10/1959		265.01	
32S/36E-35D01	35	6	37	118	5	29	2692	800	12/1/1959		265.05	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/2/1960		265.25	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/10/1960		265.28	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/27/1961		265.19	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/8/1961		265.39	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/1/1962		265.35	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/7/1962		265.68	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/13/1963		265.76	
32S/36E-35D01	35	6	37	118	5	29	2692	800	11/6/1963		265.68	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/4/1964		265.89	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/7/1964		265.94	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/15/1965		265.89	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/18/1965		266.29	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/8/1966		266.14	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/17/1966		266.53	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/23/1967		266.39	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/10/1967		266.85	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/21/1968		266.95	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/31/1968		267.36	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/15/1969		267.51	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/16/1970		267.74	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/20/1970		269.46	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/16/1971		268.27	
32S/36E-35D01	35	6	37	118	5	29	2692	800	10/27/1971		268.54	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/15/1972		268.98	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/24/1973		269.07	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/12/1974		269.53	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/4/1975		269.99	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/11/1976		270.43	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/7/1977		270.89	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/28/1978		271.44	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/14/1979		271.78	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/16/1980		272.14	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/16/1981		272.37	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/11/1982		272.53	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/14/1983		272.5	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/8/1984		272.54	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/26/1985		272.73	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/26/1986		272.01	
32S/36E-35D01	35	6	37	118	5	29	2692	800	2/23/1987		272.8	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/30/1988		272.36	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/22/1989		272.42	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/14/1990		272.63	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/19/1991		272.65	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/15/1992		272.49	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/22/1993		272.89	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/13/1994		272.92	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/18/1995		272.98	
32S/36E-35D01	35	6	37	118	5	29	2692	800	4/19/1996		273.53	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/4/1997	16:15	273.65	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/17/1998	15:50	273.24	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/17/1999		272.8	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/21/2000		273.25	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/23/2001		273.37	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/26/2002		274.03	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/25/2003		274.1	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/30/2004	17:35	274.11	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/29/2005	16:40	274.09	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/27/2006	16:35	274.12	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/28/2007	14:20	274.61	
32S/36E-35D01	35	6	37	118	5	29	2692	800	3/24/2008	16:30	274.62	
32S/37E-01N01	35	10	12	118	58	58	2330		2/9/1953		223.59	
32S/37E-01N01	35	10	12	118	58	58	2330		3/15/1954		226.48	
32S/37E-01N01	35	10	12	118	58	58	2330		12/3/1954		226.03	
32S/37E-01N01	35	10	12	118	58	58	2330		3/2/1955		225.16	
32S/37E-01N01	35	10	12	118	58	58	2330		11/15/1955		225.43	
32S/37E-01N01	35	10	12	118	58	58	2330		3/22/1956		225.28	
32S/37E-01N01	35	10	12	118	58	58	2330		11/27/1956		227.72	
32S/37E-01N01	35	10	12	118	58	58	2330		3/6/1957		229.98	
32S/37E-01N01	35	10	12	118	58	58	2330		11/22/1957		230.11	
32S/37E-01N01	35	10	12	118	58	58	2330		2/1/1958		230	
32S/37E-01N01	35	10	12	118	58	58	2330		2/3/1958		229.71	
32S/37E-01N01	35	10	12	118	58	58	2330		11/5/1958		231.2	
32S/37E-01N01	35	10	12	118	58	58	2330		3/10/1959		230.49	
32S/37E-01N01	35	10	12	118	58	58	2330		12/2/1959		231.14	
32S/37E-01N01	35	10	12	118	58	58	2330		3/2/1960		230.83	
32S/37E-01N01	35	10	12	118	58	58	2330		11/10/1960		230.3	
32S/37E-02E01	35	10	39	117	59	4	2317	600	1/1/1917		244	
32S/37E-02E01	35	10	39	117	59	4	2317	600	9/30/1929		251.4	R
32S/37E-02E01	35	10	39	117	59	4	2317	600	2/25/1930		242.63	
32S/37E-02F01	35	10	37	117	58	41	2320	206	2/9/1953		232.41	?
32S/37E-02N01	35	10	5	117	59	3	2330	90	9/30/1929		251.82	?
32S/37E-02N01	35	10	5	117	59	3	2330	90	2/25/1930		252.32	?
32S/37E-04D01	35	11	0	118	1	10	2390	650	1/23/1953		301.06	
32S/37E-04D01	35	11	0	118	1	10	2390	650	4/17/1953		365	P
32S/37E-04D01	35	11	0	118	1	10	2390	650	1/28/1958		335.19	
32S/37E-04D01	35	11	0	118	1	10	2390	650	2/4/1959		323	
32S/37E-04D01	35	11	0	118	1	10	2390	650	7/26/1961		312.16	
32S/37E-04P01	35	10	12	118	0	32	2405	800	1/1/1952		265	
32S/37E-04P01	35	10	12	118	0	32	2405	800	1/28/1958		339.9	
32S/37E-04P01	35	10	12	118	0	32	2405	800	7/26/1961		318.58	
32S/37E-04P01	35	10	12	118	0	32	2405	800	9/6/1976		326.24	
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	9/30/1929		303.2	
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	2/25/1930		304.3	
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	1/23/1953		302.98	
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	3/15/1954		315.55	S
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	3/2/1955		310.64	
32S/37E-04Q01	35	10	13	118	0	33	2388.7	427	3/22/1956		317.87	
32S/37E-08E01	35	9	44	118	2	15	2470	410	1/1/1917		370	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/15/1953		275	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	6/19/1956		275	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	1/28/1958		364.67	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	7/26/1961		327.91	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	1/3/1967		328.81	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/21/1968		327.9	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/15/1969		328.72	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/17/1970		328.96	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	10/22/1970		330.76	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/18/1971		332.1	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-09Q01	35	9	19	118	0	37	2410	711	10/28/1971		332.44	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/16/1972		331.59	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/14/1973		331.45	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/12/1974		332.95	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/5/1975		333.25	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/12/1976		333.65	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/8/1977		334.45	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/28/1978		335.3	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/14/1979		335.87	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/16/1980		337.8	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/16/1981		336.07	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/11/1982		335.7	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/14/1983		335.45	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/7/1984		335.79	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	4/23/1986		341	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	2/23/1987		337.9	
32S/37E-09Q01	35	9	19	118	0	37	2410	711	3/29/1988		341.69	
32S/37E-11N01	35	9	19	117	59	3	2375	600	1/22/1953		268.09	
32S/37E-11N01	35	9	19	117	59	3	2375	600	5/1/1953		389	P
32S/37E-11N01	35	9	19	117	59	3	2375	600	1/30/1958		280.18	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/1/1958		279	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/4/1958		279.08	
32S/37E-11N01	35	9	19	117	59	3	2375	600	11/5/1958		280.77	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/10/1959		281.91	
32S/37E-11N01	35	9	19	117	59	3	2375	600	12/2/1959		281.63	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/2/1960		281.29	
32S/37E-11N01	35	9	19	117	59	3	2375	600	11/10/1960		280.74	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/27/1961		280.51	
32S/37E-11N01	35	9	19	117	59	3	2375	600	7/26/1961		275.58	
32S/37E-11N01	35	9	19	117	59	3	2375	600	11/14/1961		280.32	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/15/1962		280.02	
32S/37E-11N01	35	9	19	117	59	3	2375	600	11/9/1962		279.88	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/13/1963		280.96	
32S/37E-11N01	35	9	19	117	59	3	2375	600	11/8/1963		279.97	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/4/1964		279.67	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/7/1964		279.79	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/16/1965		279.47	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/18/1965		279.61	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/9/1966		279.32	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/17/1966		279.66	
32S/37E-11N01	35	9	19	117	59	3	2375	600	1/4/1967		279.48	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/12/1967		279.48	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/11/1967		279.7	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/21/1968		279.86	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/31/1968		280.27	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/15/1969		279.95	
32S/37E-11N01	35	9	19	117	59	3	2375	600	9/18/1969		280.88	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/17/1970		280.19	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/22/1970		281.06	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/17/1971		280.68	
32S/37E-11N01	35	9	19	117	59	3	2375	600	10/28/1971		281.54	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/15/1972		281.38	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/14/1973		281.79	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/12/1974		282.26	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/5/1975		283.17	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/12/1976		283.9	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/7/1977		284.15	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/28/1978		287.19	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/16/1980		289.4	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/16/1981		285.78	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/11/1982		285.91	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/14/1983		286.16	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/7/1984		286.31	
32S/37E-11N01	35	9	19	117	59	3	2375	600	5/16/1985		287.26	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/26/1986		291.68	
32S/37E-11N01	35	9	19	117	59	3	2375	600	2/23/1987		292.38	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/30/1988		293.24	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/21/1989		292.96	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/14/1990		293.86	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/19/1991		286.28	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/16/1992		297.36	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/21/1993		291.27	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/13/1994		291.66	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/18/1995		291.88	
32S/37E-11N01	35	9	19	117	59	3	2375	600	4/15/1996		292.4	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/7/1997	10:50	292.79	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/18/1998	12:30	292.91	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/17/1999		293.54	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/22/2000		293.86	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/23/2001		294.2	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/27/2002		294.52	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/26/2003		295.14	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/30/2004	7:55	295.48	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/29/2005	14:20	295.77	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/28/2006	16:00	295.68	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/28/2007	15:15	296.42	
32S/37E-11N01	35	9	19	117	59	3	2375	600	3/26/2008	17:00	296.57	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	1/1/1967		243	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	1/4/1967		243.22	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/20/1968		242.72	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/15/1969		242.13	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/17/1970		242	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	10/22/1970		242.3	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/18/1971		242.28	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	10/28/1971		244.33	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/16/1972		242.4	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/14/1973		242.45	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/12/1974		242.35	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/5/1975		242.82	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/12/1976		243.05	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/7/1977		243.29	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/28/1978		243.33	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/13/1979		244.06	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/16/1980		244.17	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/16/1981		244.32	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/11/1982		244.37	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/14/1983		244.5	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/7/1984		244.76	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	5/16/1985		245.01	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/26/1986		245.31	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	2/23/1987		244.87	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/30/1988		245.74	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/24/1989		245.87	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/14/1990		246.6	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/19/1991		246.7	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/16/1992		247.1	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/22/1993		247.35	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/13/1994		247.72	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/18/1995		247.53	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	4/15/1996		247.85	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/7/1997	11:12	248.07	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/18/1998		248.22	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/22/2000		248.64	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/23/2001		249	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/27/2002		249.04	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/26/2003		249.52	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/30/2004	15:45	249.36	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/29/2005	14:35	249.86	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/28/2006	16:25	249.9	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/27/2007	8:35	250.12	
32S/37E-12M01	35	9	33	117	57	50	2350	430.82	3/26/2008	8:40	250.26	
32S/37E-12P01	35	9	22	117	57	41	2350		4/1/1967		279	
32S/37E-14N01	35	8	29	117	59	2	2400		1/1/1958		323	
32S/37E-14N01	35	8	29	117	59	2	2400		1/30/1958		323.39	
32S/37E-14N01	35	8	29	117	59	2	2400		7/26/1961		292.5	
32S/37E-14N01	35	8	29	117	59	2	2400		1/8/1965		295.65	
32S/37E-14N01	35	8	29	117	59	2	2400		1/16/1965		296.33	
32S/37E-14N01	35	8	29	117	59	2	2400		1/22/1965		295.5	
32S/37E-14N01	35	8	29	117	59	2	2400		2/8/1965		294.85	
32S/37E-14N01	35	8	29	117	59	2	2400		2/13/1965		295.3	
32S/37E-14N01	35	8	29	117	59	2	2400		2/20/1965		295.38	
32S/37E-14N01	35	8	29	117	59	2	2400		3/3/1965		294.1	
32S/37E-14N01	35	8	29	117	59	2	2400		3/6/1965		294.06	
32S/37E-14N01	35	8	29	117	59	2	2400		3/13/1965		293.9	
32S/37E-14N01	35	8	29	117	59	2	2400		3/20/1965		293.88	
32S/37E-14N01	35	8	29	117	59	2	2400		4/3/1965		293.56	
32S/37E-14N01	35	8	29	117	59	2	2400		4/10/1965		293.4	
32S/37E-14N01	35	8	29	117	59	2	2400		4/17/1965		293.5	
32S/37E-14N01	35	8	29	117	59	2	2400		4/24/1965		293.6	
32S/37E-14N01	35	8	29	117	59	2	2400		4/26/1965		294.35	S
32S/37E-14N01	35	8	29	117	59	2	2400		4/27/1965		295.21	S
32S/37E-14N01	35	8	29	117	59	2	2400		4/28/1965		295.86	S
32S/37E-14N01	35	8	29	117	59	2	2400		4/30/1965		296.5	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/1/1965		296.78	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/2/1965		296.88	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/3/1965		296.98	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/4/1965		297.34	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/8/1965		297.97	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/13/1965		298.3	S
32S/37E-14N01	35	8	29	117	59	2	2400		5/20/1965		298.5	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/2/1965		298.39	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/7/1965		298.44	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/8/1965		297.62	
32S/37E-14N01	35	8	29	117	59	2	2400		6/12/1965		296.1	
32S/37E-14N01	35	8	29	117	59	2	2400		6/14/1965		295.89	
32S/37E-14N01	35	8	29	117	59	2	2400		6/15/1965		296.47	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/16/1965		296.78	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/17/1965		297.22	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/18/1965		297.46	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/19/1965		297.76	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/24/1965		298.53	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/28/1965		298.63	S
32S/37E-14N01	35	8	29	117	59	2	2400		6/30/1965		298.7	S
32S/37E-14N01	35	8	29	117	59	2	2400		7/3/1965		298.75	S
32S/37E-14N01	35	8	29	117	59	2	2400		7/10/1965		298.78	S
32S/37E-14N01	35	8	29	117	59	2	2400		7/11/1965		298.94	S
32S/37E-14N01	35	8	29	117	59	2	2400		7/13/1965		297.7	
32S/37E-14N01	35	8	29	117	59	2	2400		7/14/1965		297.1	
32S/37E-14N01	35	8	29	117	59	2	2400		7/17/1965		296.36	
32S/37E-14N01	35	8	29	117	59	2	2400		7/21/1965		296	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-14N01	35	8	29	117	59	2	2400		7/28/1965		295.98	
32S/37E-14N01	35	8	29	117	59	2	2400		8/6/1965		296.05	
32S/37E-16R01	35	8	28	118	0	9	2440	686	4/30/1953		390	
32S/37E-16R01	35	8	28	118	0	9	2440	686	6/19/1956		390	
32S/37E-16R01	35	8	28	118	0	9	2440	686	1/28/1958		385.59	
32S/37E-16R01	35	8	28	118	0	9	2440	686	2/4/1959		358	
32S/37E-16R01	35	8	28	118	0	9	2440	686	7/26/1961		347.12	
32S/37E-16R01	35	8	28	118	0	9	2440	686	6/3/1963		339	
32S/37E-16R01	35	8	28	118	0	9	2440	686	10/28/1965		345.7	
32S/37E-16R01	35	8	28	118	0	9	2440	686	8/16/2005	13:20	380.69	
32S/37E-22N01	35	7	37	118	0	3	2460	730	1/21/1953		353	
32S/37E-22N01	35	7	37	118	0	3	2460	730	8/25/1954		478	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/4/1955		459	
32S/37E-22N01	35	7	37	118	0	3	2460	730	6/19/1956		472	
32S/37E-22N01	35	7	37	118	0	3	2460	730	1/28/1958		394.25	
32S/37E-22N01	35	7	37	118	0	3	2460	730	1/26/1959		376	
32S/37E-22N01	35	7	37	118	0	3	2460	730	6/22/1959		380.5	
32S/37E-22N01	35	7	37	118	0	3	2460	730	7/26/1961		357.5	
32S/37E-22N01	35	7	37	118	0	3	2460	730	7/1/1962		353.5	
32S/37E-22N01	35	7	37	118	0	3	2460	730	9/11/1964		363.88	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/13/1964		359.74	
32S/37E-22N01	35	7	37	118	0	3	2460	730	1/14/1965		359.79	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/16/1965		356.34	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/1/1965		356.11	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/18/1965		358.17	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/9/1966		355.43	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/17/1966		358.43	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/11/1967		358.03	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/21/1968		357.63	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/31/1968		359.72	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/15/1969		360.54	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/18/1970		357.75	
32S/37E-22N01	35	7	37	118	0	3	2460	730	10/22/1970		362.72	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/18/1971		361.08	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/16/1972		362.1	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/14/1973		363.85	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/15/1974		363	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/4/1975		365.52	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/12/1976		364.86	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/7/1977		364.92	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/28/1978		369.15	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/14/1979		367.93	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/17/1980		372.47	
32S/37E-22N01	35	7	37	118	0	3	2460	730	2/11/1982		371.55	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/14/1983		364.15	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/8/1984		362.34	
32S/37E-22N01	35	7	37	118	0	3	2460	730	5/16/1985		374.29	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/26/1986		370.95	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/11/1987		371.19	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/30/1988		375.42	
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/22/1989			P
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/24/1989		375.72	R
32S/37E-22N01	35	7	37	118	0	3	2460	730	3/12/1990		377.88	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/19/1991		378.72	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/15/1992		379.1	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/22/1993		380.81	
32S/37E-22N01	35	7	37	118	0	3	2460	730	4/13/1994		381.92	
32S/37E-22Z01	35	7	36	117	59	35	2418		2/6/1918		312	
32S/37E-22Z01	35	7	36	117	59	35	2418		9/30/1929		304.2	
32S/37E-22Z01	35	7	36	117	59	35	2418		2/26/1930		304.8	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-23N01	35	7	35	117	59	2	2415		4/15/1953		401	P
32S/37E-23N01	35	7	35	117	59	2	2415		1/1/1958		353	
32S/37E-23N01	35	7	35	117	59	2	2415		1/30/1958		353.23	
32S/37E-23N01	35	7	35	117	59	2	2415		7/26/1961		312.25	
32S/37E-23N01	35	7	35	117	59	2	2415		9/1/1962		314	
32S/37E-23N01	35	7	35	117	59	2	2415		1/3/1967		295	
32S/37E-24N01	35	7	43	117	57	57	2385	265	1/23/1953		251.83	
32S/37E-24N01	35	7	43	117	57	57	2385	265	3/15/1954		262.01	
32S/37E-24N01	35	7	43	117	57	57	2385	265	12/3/1954		266.61	
32S/37E-24N01	35	7	43	117	57	57	2385	265	3/2/1955		264.24	
32S/37E-24N01	35	7	43	117	57	57	2385	265	10/5/1955		271.58	
32S/37E-24N01	35	7	43	117	57	57	2385	265	3/22/1956		271.9	
32S/37E-24N01	35	7	43	117	57	57	2385	265	11/27/1956		275.68	
32S/37E-24N02	35	7	35	117	57	56	2383		1/1/1917		242	
32S/37E-24N02	35	7	35	117	57	56	2383		9/4/1929		238	
32S/37E-24N02	35	7	35	117	57	56	2383		5/17/1952		248	
32S/37E-26G01	35	7	7	117	58	33	2405	553	1/21/1953		300.62	
32S/37E-26G01	35	7	7	117	58	33	2405	553	4/15/1953		360	
32S/37E-26G01	35	7	7	117	58	33	2405	553	4/22/1954		365	
32S/37E-26G01	35	7	7	117	58	33	2405	553	8/23/1954		380	
32S/37E-26G01	35	7	7	117	58	33	2405	553	6/18/1956		326	
32S/37E-26G01	35	7	7	117	58	33	2405	553	7/15/1958		378	
32S/37E-26G01	35	7	7	117	58	33	2405	553	6/22/1959		376	
32S/37E-26G01	35	7	7	117	58	33	2405	553	7/27/1961		338.5	P
32S/37E-26G01	35	7	7	117	58	33	2405	553	10/28/1965		302.1	
32S/37E-26G01	35	7	7	117	58	33	2405	553	9/16/1975		320	
32S/37E-26G02	35	7	7	117	58	33	2388		1/1/1917		268	
32S/37E-26G02	35	7	7	117	58	33	2388		11/23/1929		268.8	
32S/37E-26G02	35	7	7	117	58	33	2388		3/5/1930		268.8	
32S/37E-26M01	35	7	1	117	59	4	2420	543	10/7/1955		346.66	
32S/37E-26M01	35	7	1	117	59	4	2420	543	1/29/1958		351.98	
32S/37E-26M01	35	7	1	117	59	4	2420	543	6/22/1959		349	
32S/37E-26M01	35	7	1	117	59	4	2420	543	7/18/1961		327.1	
32S/37E-26M01	35	7	1	117	59	4	2420	543	9/13/1962		324	
32S/37E-26M01	35	7	1	117	59	4	2420	543	7/30/1963		314	
32S/37E-26M01	35	7	1	117	59	4	2420	543	10/28/1965		324.2	
32S/37E-26M01	35	7	1	117	59	4	2420	543	9/17/1969		336	
32S/37E-26M01	35	7	1	117	59	4	2420	543	6/16/1971		395.81	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	1/22/1953		364.8	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/30/1954		421	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/7/1955		341.18	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	1/29/1958		361.68	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	7/15/1958		441	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	7/26/1961		323	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	8/25/1961		324	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/1/1962		326	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	1/3/1967		325.64	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/21/1968		325.36	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/15/1969		326.1	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/18/1970		325	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/22/1970		328.92	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/18/1971		328.54	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/28/1971		328.26	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/16/1972		327.13	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/12/1972		331.1	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/14/1973		328.68	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/2/1973		332.74	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/12/1974		330.63	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/23/1974		332.99	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/4/1975		330.7	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/16/1975		334.53	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/11/1976		330.6	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/3/1976		332.36	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/8/1977		339.44	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/12/1977		338.32	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/28/1978		336.35	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/16/1978		343.52	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/14/1979		336.8	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/24/1979		342.72	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/17/1980		338.95	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/15/1980		336.32	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/16/1981		334.63	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/19/1981		332.14	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	2/11/1982		332.9	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/7/1982		332.72	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/14/1983		332.09	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/27/1983		331.97	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/8/1984		329.94	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/30/1984		335.55	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	5/16/1985		338.33	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/31/1985		337.57	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/26/1986		335.06	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/23/1986		339.23	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/11/1987		336.28	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/4/1987		341.05	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/30/1988		341.04	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/22/1989		340.8	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/18/1989		345.8	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/14/1990		344.72	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/15/1990		348.48	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/19/1991		344.56	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/22/1991		339.09	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/15/1992		345.35	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/3/1992		348.32	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/20/1993		349.13	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/18/1993		348.1	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/13/1994		348.7	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	10/27/1994	13:20	352.04	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/18/1995		346.68	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	12/6/1995	11:50	348.61	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	4/18/1996		346.45	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/14/1996	15:30	347.11	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/4/1997	17:10	348.24	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/17/1997	11:30	351.52	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/17/1998	15:15	346.85	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/4/1998		351.93	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/16/1999		348.35	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	11/17/1999		354.09	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/21/2000		351.24	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/13/2000		359.22	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/23/2001		354.01	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/11/2001		361.57	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/27/2002		354.64	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/17/2002	13:20	362.64	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/26/2003		355.96	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/17/2003		363.15	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/31/2004	14:50	361.49	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/15/2004	8:25	365.34	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/29/2005	15:05	357.59	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/13/2005	10:05	365.19	

HISTORIC GROUNDWATER LEVEL DATA IN THE FREEMONT VALLEY GROUNDWATER BASIN

WELL NAME	LATITUDE			LONGITUDE			LAND SURFACE ELEVATION (FEET MSL)	WELL DEPTH (FEET BGS)	MEASUREMENT		DEPTH TO WATER (FEET BGS)	STATUS
	DEG	MIN	SEC	DEG	MIN	SEC			DATE	TIME		
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/28/2006	14:50	358.79	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/12/2006	10:40	365.28	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/28/2007	15:40	363.93	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	9/6/2007	8:10	366.42	
32S/37E-26N01	35	6	23	117	59	4	2420	1000	3/25/2008	17:05	360.47	

MSL: MEAN SEA LEVEL
BGS: BELOW GROUND SURFACE
A: Water level was affected by atmospheric pressure.
B: Water level was affected by tide stage.
C: Water level was affected by ice.
D: The site was dry (no water level is recorded).
E: The site was flowing recently.
F: The site was flowing. Water level or head could not be measured without additional equipment.
G: A nearby site that taps the same aquifer was flowing.
H: A nearby site that taps the same aquifer had been flowing recently.
I: Recharge water was being injected into the aquifer at the site.
J: A nearby site that taps the same aquifer was injecting recharge water.
M: Well was plugged and not in hydraulic contact with formation.
N: The measurement was discontinued.
O: An obstruction was encountered in the well (no water level was recorded).
P: The site was being pumped.
R: The site had been pumped recently.
S: A nearby site that taps the same aquifer was being pumped.
T: A nearby site that taps the same aquifer had been pumped recently.
V: A foreign substance was present on the surface of the water.
W: The well was destroyed (no water level was recorded).
X: The water level was affected by stage in nearby surface-water site.
Z: Other conditions existed that would affect the measured water level.

APPENDIX F

LIST OF PRODUCTION WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
MOJAVE CITY SUB-BASIN								
32S/36E-20M01	NA	NA		12	NA		2930	
32S/36E-21Q01	J. J. WONDERS	1949	805	10	263	PUBLIC SUPPLY	2798.9	
32S/36E-21N01	W. M. KINKADE	1947	370	6	16	DOMESTIC	2760	
32S/36E-28N01	R. GRANT	NA	406	12	NA	DESTROYED	2832	
32S/36E-34E01	MADDOCK	NA	NA	NA	NA	DESTROYED	2760	
32S/36E-34E02	MOJAVE PUBLIC UTILITY DISTRICT	1957	800	16	1650	UNKNOWN	2760	
32S/36E-35D01	SOUTHERN PACIFIC LAND CO.	1956	800	14	895	UNKNOWN	2692	
32S/36E-35R01	SOUTHERN PACIFIC LAND CO.	1956	800	14	1900	UNKNOWN	2631.9	
32S/36E-35R02	SOUTHERN PACIFIC LAND CO.	1956	720	8	NA	UNKNOWN	2634.5	
12N/11W-34L01	NA	NA	94.5	8	NA	DESTROYED	2550	
12N/12W-35R01	SOUTHERN PACIFIC LAND CO.	1957	640	14	980	UNKNOWN	2743.3	
11N/11W-01Q01	A. H. KENT	NA	761.5	6	NA	TESTING	2450	
11N/11W-02N01	H. L. MILLER	NA	303.5	12	NA	UNKNOWN	2512	
11N/11W-05D01	SOUTHERN PACIFIC LAND CO.	1957	670	14	390	UNKNOWN	2630.9	
11N/11W-06D01	GLEN WARD	NA	257	12	NA	UNKNOWN	2681	
11N/11W-06M01	NA	NA	245.8	12	NA	DESTROYED	2680	
11N/11W-07A01	SOUTHERN PACIFIC LAND CO.	1956	414	14	96	UNKNOWN	2627.9	
11N/11W-08D01	ZETTA THORNING	NA	275	12	NA	UNKNOWN	2624.5	
11N/11W-09A01	SOUTHERN PACIFIC LAND CO.	1956	421	14	230	UNKNOWN	2549.6	
11N/11W-18D01	B. HAMMET	NA	220	12	NA	UNKNOWN	2639.5	
11N/11W-20Q01	A. E. MORSE	NA	76.2	12	NA	DESTROYED	2561	
11N/11W-30C01	NA	NA	21.2	7	NA	DESTROYED	2585	
11N/11W-30K01	F. H. FORBES	NA	146	8	NA	UNKNOWN	2560	
11N/11W-32N01	B. N. PETERSON	NA	112	60	NA	DESTROYED	2550.5	
11N/11W-33P01	MISSION SISTERS OF SACRED HEART	NA	190	NA	NA	DOMESTIC	NA	
11N/11W-34M01	RATHBUN	NA	300	10	NA	DOMESTIC	NA	
11N/12W-12D01	G. A. ARPER	1912	261	48	NA	DESTROYED	2718	
11N/12W-12M01	J. W. JOHNSON	NA	318	8	NA	UNKNOWN	2695	
11N/12W-14D01	H. S. KNOWLES	NA	262.8	12	NA	DESTROYED	2705.4	
11N/12W-14N01	J. CARR	NA	185.8	8	NA	DESTROYED	2665	
11N/12W-14N02	NA	NA	109.1	12	NA	DESTROYED	2670	
11N/12W-18B01	A. CAPELLO	NA	300	6	NA	DOMESTIC	NA	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
11N/12W-18B02	E. A. KOCH	NA	300	12	NA	UNKNOWN	2825	
11N/12W-22D01	MOJAVE PUBLIC UTILITY DISTRICT	1914	206.3	14	NA	DESTROYED	2687.4	
11N/12W-24D01	NA	NA	199.8	14	NA	DESTROYED	2650	
11N/12W-26J01	MONOLITH PORTLAND CEMENT CO.	NA	225	14	200	UNKNOWN	2594.6	
11N/12W-26J02	MONOLITH PORTLAND CEMENT CO.	1948	321	14	800	IRRIGATION	2595	
11N/12W-29D01	NA	1952	283	12	NA	UNKNOWN	2765	
11N/13W-24A01	SPICER AND SILVESTRO	1948	357	8	NA	DOMESTIC	2840	

CALIFORNIA CITY SUB-BASIN

29S/38E-34P01	WESTERN SALT CO	NA	23	16	NA	DESTROYED	1934	
29S/39E-11R01	JENNIFER MINING	NA	NA	14	NA	UNKNOWN	2400	
29S/39E-12L01	YELLOW A. MINING CO	NA	101	60	NA	DESTROYED	2558	
29S/39E-12L02	YELLOW A. MINING CO	NA	350	10	65	DESTROYED	2558	
29S/39E-12L03	YELLOW A. MINING CO	NA	516	12	65	UNKNOWN	2510	
29S/39E-12N01	YELLOW A. MINING CO	NA	520	16	NA	IRRIGATION	2395	
29S/39E-14A01	YELLOW A. MINING CO	NA	NA	NA	NA	UNKNOWN	2360	
29S/39E-15E01	JACK WATSON	NA	56	48	NA	DESTROYED	2230	
29S/39E-15M01	MILLER & MARTIN	NA	80	60	NA	UNKNOWN	2295	
29S/39E-21A01	MATHILDA AUSTIN	1955	103	8	NA	DOMESTIC	2165	
29S/39E-22D01	BEN BOYLE	NA	56	48	NA	UNKNOWN	2160	
29S/39E-22D02	SLOCUM	1870	6	48	NA	DESTROYED	2160	
29S/39E-22E01	LEE REAMS	NA	71	NA	NA	DESTROYED	2140	
29S/39E-23J01	T. F. PRATHER	1954	600	14	600	IRRIGATION	2280	
29S/39E-26A01	T. F. PRATHER	1957	244	10	NA	UNKNOWN	2270	
29S/39E-27K01	NA	NA	124	10	NA	DESTROYED	2145	
29S/39E-28H01	NA	NA	NA	12	NA	UNKNOWN	2100	
29S/39E-29M01	MARK MORRIS	NA	265	14	800	IRRIGATION	1980	
29S/39E-29N01	WIRTZ	1942	165	8	350	IRRIGATION	1980	
29S/39E-32C01	WIRTZ	1949	NA	14	1160	IRRIGATION	1990	
29S/39E-32E01	JONES	NA	125	6	NA	DOMESTIC	1965	
29S/39E-32J01	NA	NA	NA	12	NA	DESTROYED	2020	
29S/39E-33C01	NA	NA	31	8	NA	DESTROYED	2055	
29S/39E-33H01	STOCKTON, WORKS	1956	460	16	1100	INDUSTRIAL	2095	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
29S/39E-33K01	STOCKTON, WORKS	1956	403	16	NA	UNKNOWN	2050	
29S/39E-34F01	JESSE STOCKTON	NA	178	10	NA	UNKNOWN	2140	
29S/39E-35H01	U.S. GRAZING SERVICES	NA	NA	6	NA	UNKNOWN	2280	
29S/40E-21H01	NA	NA	352	12	NA	UNKNOWN	2780	
29S/40E-22D01	GEORGE MOORE	NA	NA	NA	NA	UNKNOWN	2800	
29S/40E-22E01	GEORGE MOORE	NA	NA	NA	NA	UNKNOWN	2840	
29S/40E-22E02	GEORGE MOORE	1942	860	14	94	UNKNOWN	2840	
30S/37E-12N01	DONLEY	1947	160	6	8	DOMESTIC	2180	
30S/37E-13E01	CROOK SHANK	NA	30	18	NA	DESTROYED	2185	
30S/37E-13F01	CROOK SHANK	NA	1859	12	NA	UNKNOWN	2110	
30S/37E-14N01	FRANK PAPPAS	NA	200	6	NA	UNKNOWN	2145	
30S/37E-23D01	JIM BISHOP	NA	NA	6	NA	DOMESTIC	2120	
30S/37E-23J01	CANTIL SCHOOL	NA	NA	10	NA	PUBLIC SUPPLY	2010	
30S/37E-23J02	NA	NA	NA	NA	NA	DOMESTIC	2010	
30S/37E-23J03	SOUTHERN PACIFIC CO	NA	NA	NA	55	DOMESTIC	2015	
30S/37E-23J04	CANTIL SCHOOL	NA	NA	6	NA	UNKNOWN	2010	
30S/37E-24B01	SOUTHERN PACIFIC CO	NA	50	12	NA	DESTROYED	2020	
30S/37E-24G01	BROWN	NA	NA	12	NA	UNKNOWN	2000	
30S/37E-24G02	CLARK	1957	200	8	NA	UNKNOWN	1985	
30S/37E-24J01	EARL BROWN	NA	108	12	NA	UNKNOWN	1975	
30S/37E-24K01	FRED CLARK	1952	73	6	200	UNKNOWN	1980	
30S/37E-24K02	GENE GETTY	NA	120	6	NA	DOMESTIC	1980	
30S/37E-24M01	NA	NA	NA	8	NA	UNKNOWN	1987	
30S/37E-24N01	NA	NA	6	4	NA	UNKNOWN	1985	
30S/37E-24N02	NA	1957	NA	NA	NA	DOMESTIC	1985	
30S/37E-24R01	GEORGE PAPPAS	1936	197	8	360	UNKNOWN	1955	
30S/37E-24R02	GEORGE PAPPAS	NA	163	8	215	STOCK SUPPLY	1945	
30S/37E-25M01	M & R RANCH	NA	692	18	1150	IRRIGATION	1978	
30S/37E-26D01	M & R RANCH	NA	78	10	NA	DESTROYED	2034	
30S/37E-26E01	M & R RANCH	1950	NA	14	1420	IRRIGATION	2035	
30S/37E-26K01	JOHN MACRORIE	1914	NA	12	900	UNKNOWN	2000	
30S/37E-26K02	JOHN MACRORIE	NA	6	6	NA	DESTROYED	2000	
30S/37E-26M01	ROGERS	1914	59	12	180	UNKNOWN	2030	
30S/37E-26M02	ROGERS	NA	100	12	NA	DOMESTIC	2030	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
30S/37E-26M03	ROGERS	1914	640	12	1120	IRRIGATION	2030	
30S/37E-26M04	ROGERS	1914	NA	NA	NA	UNKNOWN	2030	
30S/37E-26Z01	M & R RANCH	NA	NA	12	810	DESTROYED	2034	
30S/37E-27H01	J. S. SHESLER	1924	220	10	100	DOMESTIC	2034	
30S/37E-27P01	ROGERS	NA	NA	12	NA	UNKNOWN	2060	
30S/37E-27Z01	ROSS R. ROGERS	NA	NA	11	NA	UNKNOWN	2050	
30S/37E-28H01	GEORGE PYE	1918	198	8	NA	DOMESTIC	2120	
30S/37E-28J01	BRUCE MINARD	1957	231	8	150	INDUSTRIAL	2100	
30S/37E-34B01	M. M. BLACK	1920	141	12	2	DOMESTIC	2040	
30S/37E-34F01	ROASENBANM	1956	NA	10	NA	IRRIGATION	2030	
30S/37E-34H01	NA	1947	NA	6	NA	DOMESTIC	2018	
30S/37E-35D01	M & R RANCH	NA	844	18	2380	IRRIGATION	2015	
30S/37E-35Q01	M & R RANCH	NA	810	20	2920	IRRIGATION	2015	
30S/37E-36C01	M & R RANCH	NA	NA	14	2140	UNKNOWN	1980	
30S/37E-36D01	M & R RANCH	NA	NA	16	2030	IRRIGATION	1985	
30S/37E-36G01	M & R RANCH	NA	NA	14	1200	DOMESTIC	1981	
30S/37E-36H01	M & R RANCH	NA	NA	NA	NA	IRRIGATION	1985	
30S/37E-36K01	M & R RANCH	NA	527	14	1320	IRRIGATION	2005	
30S/37E-36N01	M & R RANCH	NA	590	20	2660	IRRIGATION	2015	
30S/38E-03B01	WESTERN SALT CO	1954	99	10	NA	DOMESTIC	1927	
30S/38E-03E01	NA	NA	30	40	NA	UNKNOWN	1946	
30S/38E-03G01	WESTERN SALT CO	NA	NA	12	NA	INDUSTRIAL	1905	
30S/38E-03J01	WESTERN SALT CO	NA	NA	12	NA	INDUSTRIAL	1900	
30S/38E-03K01	WESTERN SALT CO	NA	NA	NA	NA	UNKNOWN	1900	
30S/38E-03K02	WESTERN SALT CO	NA	NA	12	NA	INDUSTRIAL	1900	
30S/38E-05A01	WALTER TISCH	1941	140	8	NA	DOMESTIC	1994	
30S/38E-05R01	E. S. MCKENDRY	NA	NA	12	NA	UNKNOWN	1914	
30S/38E-05R02	E. S. MCKENDRY	NA	22	12	NA	UNKNOWN	1914	
30S/38E-08E01	E. S. MCKENDRY	NA	NA	NA	NA	UNKNOWN	1980	
30S/38E-08E02	E. S. MCKENDRY	NA	27	30	NA	UNKNOWN	1980	
30S/38E-08G01	E. S. MCKENDRY	NA	NA	48	70	DOMESTIC	1930	
30S/38E-08G02	E. S. MCKENDRY	NA	NA	NA	NA	UNKNOWN	1932	
30S/38E-08J01	E. S. MCKENDRY	NA	NA	20	20	UNKNOWN	1900	ARTESIAN (02/1958)
30S/38E-08K01	E. S. MCKENDRY	NA	32	6	NA	UNKNOWN	1930	ARTESIAN (02/1958)

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
30S/38E-08K02	E. S. MCKENDRY	NA	275	10	350	STOCK SUPPLY	1930	ARTESIAN (02/1958)
30S/38E-08N01	E. S. MCKENDRY	NA	52	10	NA	STOCK SUPPLY	1955	
30S/38E-08N02	E. S. MCKENDRY	NA	NA	NA	NA	UNKNOWN	1955	
30S/38E-19A01	J. E. SPROTT	1926	NA	NA	NA	UNKNOWN	1954	
30S/38E-19F01	CROOK SHANK	NA	2886	18	NA	DESTROYED	1970	
30S/38E-19K01	J. E. SPROTT	1913	NA	24	370	IRRIGATION	1960	
30S/38E-19M01	J. E. SPROTT	1911	NA	24	500	UNKNOWN	1966	
30S/38E-19P01	J. E. SPROTT	NA	3090	12	NA	UNKNOWN	1945	
30S/38E-19P02	J. E. SPROTT	NA	5056	18	NA	UNKNOWN	1945	ARTESIAN (02/1958)
30S/38E-20B01	PIEROSE	1957	NA	10	NA	UNKNOWN	1920	
30S/38E-20C01	G. PIEROSE	NA	143	8	NA	UNKNOWN	1920	ARTESIAN (02/1958)
30S/38E-20C02	PIEROSE	NA	80	8	NA	DOMESTIC	1920	
30S/38E-20C03	J. C. CRISTIE	1957	205	8	NA	IRRIGATION	1930	
30S/38E-20C04	PIEROSE	1957	NA	12	NA	UNKNOWN	1920	ARTESIAN (02/1958)
30S/38E-20E01	CALLOWAY	NA	24	8	NA	UNKNOWN	1928	
30S/38E-20F01	T. MCKEY	1955	205	12	500	IRRIGATION	1928	
30S/38E-21D01	T. MCKEY	NA	NA	8	20	STOCK SUPPLY	1898	ARTESIAN (10/1956)
30S/38E-21N01	DR. THOM	NA	300	NA	600	DOMESTIC	1913	
30S/38E-24F01	LINCOLN	1944	446	5	NA	UNKNOWN	1940	
30S/38E-28D01	MRS. A. DALY	1918	152	10	40	UNKNOWN	1910	ARTESIAN (02/1958)
30S/38E-28G01	NA	NA	NA	6	NA	UNKNOWN	1905	
30S/38E-29Z01	FRED HARTSOOK	NA	NA	NA	NA	DESTROYED	1930	
30S/38E-30B01	NA	NA	NA	12	10	STOCK SUPPLY	1940	ARTESIAN (02/1958)
30S/38E-30B02	NA	NA	3	24	450	UNKNOWN	1935	
30S/38E-30E01	OWEN	NA	260	12	40	UNKNOWN	1946	
30S/38E-30P01	M & R RANCH	NA	643	20	1570	IRRIGATION	1957	
30S/38E-30Q01	NA	NA	94	12	NA	UNKNOWN	1957	
30S/38E-30R01	MRS. MUNSEY	1917	80	6	NA	UNKNOWN	1955	
30S/38E-30R02	MRS. MUNSEY	NA	38	6	NA	UNKNOWN	1955	
30S/38E-31C01	M & R RANCH	NA	NA	16	2240	IRRIGATION	1957	
30S/38E-31F01	M & R RANCH	NA	658	16	1220	IRRIGATION	1980	
30S/38E-31G01	M & R RANCH	NA	656	20	1580	UNKNOWN	1980	
30S/38E-31L01	M & R RANCH	1957	NA	16	NA	UNKNOWN	1995	
30S/38E-31Q01	M & R RANCH	NA	NA	NA	1940	IRRIGATION	1995	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
30S/38E-32D01	HOLDERNESS	1935	300	6	NA	DOMESTIC	1965	
30S/38E-32D02	HOLDERNESS	1947	167	12	NA	UNKNOWN	1965	
30S/38E-32E01	M & R RANCH	NA	107	12	NA	UNKNOWN	1980	
30S/38E-32G01	M & R RANCH	NA	852	12	NA	STOCK SUPPLY	1949	
30S/38E-32N01	ROGERS	1914	NA	NA	585	UNKNOWN	2000	
30S/38E-32Z01	ROGERS	NA	NA	NA	NA	DESTROYED	1995	
30S/38E-34C01	P. CASSOU	1923	367	10	250	IRRIGATION	1940	
30S/38E-34C02	P. CASSOU	NA	52	12	NA	UNKNOWN	1925	
30S/39E-03C01	J. STOCKTON	1956	610	14	1600	UNKNOWN	2160	
30S/39E-04H01	NA	NA	225	12	NA	DESTROYED	2155	
30S/39E-05A01	NA	NA	85	12	NA	DESTROYED	2010	
30S/39E-06G01	NA	NA	20	10	NA	DESTROYED	1930	
30S/39E-08A01	NA	NA	268	12	NA	UNKNOWN	2050	
30S/39E-08E01	NA	1956	84	NA	NA	DESTROYED	2000	
31S/37E-01H01	M & R RANCH	NA	504	14	NA	IRRIGATION	2019	
31S/37E-01M01	M & R RANCH	NA	NA	16	NA	IRRIGATION	2040	
31S/37E-01R01	M & R RANCH	NA	468	20	NA	IRRIGATION	2055	
31S/37E-02D01	M & R RANCH	NA	NA	16	NA	IRRIGATION	2030	
31S/37E-02P01	M & R RANCH	NA	380	18	2070	IRRIGATION	2065	
31S/37E-02Z01	M & R RANCH	NA	NA	NA	NA	DESTROYED	2065	
31S/37E-04N01	M & R RANCH	1952	NA	16	1600	IRRIGATION	2120	
31S/37E-05M01	CINCO GAS STATION	1946	205	6	8	DOMESTIC	2150	
31S/37E-06J01	W. PAGANEU	NA	NA	4	NA	DOMESTIC	2170	
31S/37E-08C01	M & R RANCH	1952	650	16	1690	UNKNOWN	2190	
31S/37E-10A01	J. HUNTER	1948	320	12	NA	IRRIGATION	2100	
31S/37E-10Q01	NA	NA	162	48	500	UNKNOWN	2160	
31S/37E-10Z01	J. HUNTER	NA	NA	NA	NA	DESTROYED	2120	
31S/37E-12H01	M & R RANCH	NA	NA	18	1640	UNKNOWN	2085	
31S/37E-12N01	M & R RANCH	NA	NA	NA	NA	DESTROYED	2135	
31S/37E-12Z01	M & R RANCH	NA	NA	NA	NA	DESTROYED	2070	
31S/37E-13A01	LEWIS RYAN	1915	400	12	NA	UNKNOWN	2135	
31S/37E-13B01	LEWIS RYAN	1916	NA	12	NA	UNKNOWN	2140	
31S/37E-14L01	L. H. GIDDINGS	1914	NA	60	500	UNKNOWN	2179	
31S/37E-22J01	CINCO	NA	275	10	NA	UNKNOWN	2235	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
31S/37E-22Q01	L. W. GIDDINGS	1914	NA	14	NA	UNKNOWN	2260	
31S/37E-22R01	HIX	NA	67	12	NA	DESTROYED	2240	
31S/37E-23K01	M & R RANCH	1953	205	16	750	UNKNOWN	2210	
31S/37E-26K01	R. M. MARROW	NA	NA	14	NA	UNKNOWN	2240	
31S/37E-28H01	PGNACE ROSETTI	NA	585	14	NA	UNKNOWN	2300	
31S/37E-28P01	FREEMONT VALLEY	1957	NA	14	NA	UNKNOWN	2340	
31S/37E-28Q01	DR. SLAUGHTER	1956	600	16	1400	IRRIGATION	2330	
31S/37E-30F01	GIDDINGS	NA	NA	16	NA	UNKNOWN	2372	
31S/37E-32A01	NA	NA	NA	12	180	UNKNOWN	2348	
31S/37E-32Z01	W. E. GANTI	NA	NA	10	18	UNKNOWN	2380	
31S/37E-33H01	M & R RANCH	NA	535	16	1860	IRRIGATION	2340	
31S/37E-33Z01	L. D. DAVIS	NA	NA	14	NA	DESTROYED	2324	
31S/37E-34A01	KENT REALTY CO	1914	205	12	NA	DESTROYED	2271	
31S/37E-35N01	M & R RANCH	1952	NA	16	1750	UNKNOWN	2320	
31S/38E-06P01	NA	NA	22	60	720	UNKNOWN	2025	
31S/38E-18P01	M & R RANCH	NA	NA	12	NA	UNKNOWN	2225	
31S/38E-22H01	FREEMONT OIL SYN	NA	NA	8	NA	DESTROYED	2660	
31S/38E-22H02	FREEMONT OIL SYN	NA	270	5	NA	DESTROYED	2655	
31S/38E-22J01	NA	NA	NA	6	NA	DESTROYED	2640	
31S/38E-31C01	NA	NA	202	12	450	UNKNOWN	2300	
31S/39E-23K01	MOJAVE INVESTMENT	1957	330	8	NA	UNKNOWN	2970	
31S/39E-24M01	MOJAVE INVESTMENT	1957	NA	14	NA	UNKNOWN	2930	
31S/39E-24P01	MOJAVE INVESTMENT	1957	793	14	75	UNKNOWN	2925	
31S/39E-26C01	CALIFORNIA CITY	NA	1040	NA	NA	UNKNOWN	2900	
31S/39E-35C01	MOJAVE INVESTMENT	1957	NA	16	NA	UNKNOWN	2845	
31S/39E-35F01	MOJAVE INVESTMENT	1952	344	10	NA	UNKNOWN	2825	
31S/39E-35F02	MOJAVE INVESTMENT	1957	64	8	NA	DESTROYED	2825	
31S/40E-32F01	U. S. GRAZING SERVICES	NA	251	6	NA	DESTROYED	2800	
31S/40E-35N01	N. P. MIRILDY	NA	217	6	NA	UNKNOWN	2744	
32S/36E-14Q01	M & R RANCH	1929	62	60	NA	DESTROYED	2630	
32S/36E-22B01	OLIVER PESCH	1947	829	6	NA	DOMESTIC	2710	
32S/36E-22B01	MUSICAL WELL	NA	534	8	NA	UNKNOWN	2710	
32S/36E-22C01	NA	1957	NA	6	NA	UNKNOWN	2720	
32S/36E-23Q01	HENRY KIRSCHMAN	1952	NA	12	NA	UNKNOWN	2670	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
32S/37E-01N01	M & R RANCH	NA	NA	18	NA	UNKNOWN	2330	
32S/37E-02E01	M & R RANCH	NA	6	NA	NA	DESTROYED	2317	
32S/37E-02F01	M & R RANCH	NA	206	16	NA	DESTROYED	2320	
32S/37E-02N01	M & R RANCH	NA	90	10	NA	DESTROYED	2330	
32S/37E-04D-1	M & R RANCH	1952	NA	16	1920	IRRIGATION	2390	
32S/37E-04D02	M & R RANCH	NA	NA	NA	NA	DESTROYED	2390	
32S/37E-04P01	M & R RANCH	NA	NA	16	2300	IRRIGATION	2405	
32S/37E-04P02	M & R RANCH	NA	NA	16	NA	DESTROYED	2405	
32S/37E-04Q01	M & R RANCH	NA	427	12	150	DESTROYED	2389	
32S/37E-06L01	NA	NA	85	NA	NA	DESTROYED	2480	
32S/37E-08E01	NA	NA	NA	10	NA	DESTROYED	2470	
32S/37E-09Q01	M & R RANCH	NA	NA	16	1680	IRRIGATION	2410	
32S/37E-09Z01	M & R RANCH	NA	NA	NA	NA	DESTROYED	2445	
32S/37E-11N01	M & R RANCH	1952	NA	16	1000	UNKNOWN	2375	
32S/37E-12M01	D. JONES	1957	431	16	300	UNKNOWN	2350	
32S/37E-12P01	NA	NA	NA	16	NA	UNKNOWN	2350	
32S/37E-14N01	M & R RANCH	1952	NA	16	1000	IRRIGATION	2400	
32S/37E-14Q01	M & R RANCH	1917	NA	NA	NA	UNKNOWN	2395	
32S/37E-16R01	M & R RANCH	1952	NA	16	1990	IRRIGATION	2440	
32S/37E-19R01	NA	NA	60	8	NA	DESTROYED	2560	
32S/37E-22N01	M & R RANCH	1952	NA	16	1260	IRRIGATION	2460	
32S/37E-22Z01	M & R RANCH	NA	NA	12	NA	DESTROYED	2418	
32S/37E-23N01	M & R RANCH	1952	NA	16	1780	IRRIGATION	2415	
32S/37E-24N01	M & R RANCH	1952	265	18	250	UNKNOWN	2385	
32S/37E-24N02	M & R RANCH	NA	NA	12	315	DOMESTIC	2383	
32S/37E-26G01	M & R RANCH	1952	NA	16	1390	IRRIGATION	2405	
32S/37E-26G02	M & R RANCH	NA	NA	8	NA	DESTROYED	2388	
32S/37E-26M01	M & R RANCH	1953	598	16	600	IRRIGATION	2420	
32S/37E-26N01	CALIFORNIA CITY	1952	NA	NA	1000	UNKNOWN	2420	
32S/37E-26R01	M & R RANCH	NA	NA	16	1660	IRRIGATION	2395	
32S/37E-26Z01	M & R RANCH	NA	NA	NA	NA	DESTROYED	2410	
32S/37E-32N01	M & R RANCH	1952	1800	16	1000	UNKNOWN	2550	
32S/37E-34D01	M & R RANCH	NA	335	12	NA	DESTROYED	2450	
32S/37E-35G01	M & R RANCH	1952	662	NA	656	IRRIGATION	2405	

LIST OF WELLS IN THE FREEMONT VALLEY GROUNDWATER BASIN

STATE WELL NUMBER	OWNER NAME	YEAR COMPLETED	DEPTH (FEET)	DIAMETER (INCHES)	CAPACITY (GPM)	USAGE	GROUND ELEVATION (FEET MSL)	REMARKS
32S/37E-36N01	M & R RANCH	1952	NA	NA	NA	DESTROYED	2395	
32S/37E-36R01	SCHOOL HOUSE	NA	141	8	NA	DESTROYED	2385	
32S/38E-10P01	U. S. GRAZING SERVICES	NA	169	7	NA	DESTROYED	2475	
32S/38E-10P02	NA	NA	NA	6	NA	UNKNOWN	2475	
32S/38E-20D01	DESERT WELL	NA	98	NA	NA	DESTROYED	2330	
32S/38E-20D02	NA	NA	49	NA	NA	DESTROYED	2330	
32S/38E-30G01	NA	NA	220	12	NA	DESTROYED	2360	
32S/38E-32N01	M & R RANCH	NA	NA	10	NA	UNKNOWN	2370	
32S/39E-04L01	M & R RANCH	NA	237	10	NA	UNKNOWN	2725	
32S/39E-28G01	PEERLESS PUMP	1956	NA	NA	NA	DESTROYED	2530	
32S/39E-30R01	U. S. GRAZING SERVICES	NA	253	12	NA	UNKNOWN	2485	
32S/39E-32C01	M & R RANCH	NA	231	10	NA	DESTROYED	2480	
32S/39E-33A01	PEERLESS PUMP	1956	NA	NA	NA	DESTROYED	2510	
32S/39E-33C01	MOJAVE RANCH	1962	1200	NA	NA	IRRIGATION	2500	
32S/39E-33L01	PEERLESS PUMP	1956	1400	16	1780	IRRIGATION	2485	
32S/39E-33M01	MOJAVE RANCH	1959	1000	18	NA	UNKNOWN	2474	
32S/39E-33N01	PEERLESS PUMP	1956	1410	16	1830	IRRIGATION	2465	
32S/39E-33R01	PEERLESS PUMP	1956	300	10	40	DOMESTIC	2470	
32S/40E-31B01	U.S.B. & CHEMICAL CO	1954	NA	NA	NA	DESTROYED	2530	
32S/40E-31F01	U.S.B. & CHEMICAL CO	1954	NA	NA	19	DESTROYED	2520	

SOURCES:

1. WATER LEVELS AND SPRINGS IN THE FREEMONT VALLEY AREA, KERN COUNTY, CALIFORNIA. BULLETIN NO. 91-16. FEBRUARY 1969
2. DATA ON WATER LEVELS IN THE WILLOW SPRINGS, GLOSTER, AND CHAFFEE AREAS, KERN COUNTY, CALIFORNIA. BULLETIN NO. 91-4. SEPTEMBER 1960.

NOTES:

GPM: GALLONS PER MINUTE
MSL" MEAN SEA LEVEL

APPENDIX G

ESTIMATED AVERAGE THICKNESS AND EFFECTIVE POROSITY OF THE FREEMONT VALLEY GROUNDWATER BASIN

ESTIMATED AVERAGE SATURATED THICKNESS FOR THE FREEMONT VALLEY GROUNDWATER SUBBASIN

MOJAVE CITY SUBBASIN

AVERAGE SATURATED THICKNESS ALONG CROSS SECTION A-A'

STATION	THICKNESS (FT)
0	280
10000	320
20000	380
30000	520
40000	710
50000	820
AVERAGE	505

AVERAGE SATURATED THICKNESS ACROSS SECTION B-B'

STATION	THICKNESS (FT)	
10000	50	
15000	240	
20000	340	
25000	420	
30000	460	22D01
35000	470	
40000	460	
45000	420	
50000	120	
AVERAGE	331	
ADJUSTED FACTOR	0.72	(=331/460)

SUBBASIN AVERAGE SATURATED THICKNESS 364 FEET (=0.72*505)

ESTIMATED AVERAGE SATURATED THICKNESS FOR THE FREEMONT VALLEY GROUNDWATER SUBBASIN

CALIFORNIA CITY SUBBASIN

AVERAGE SATURATED THICKNESS ALONG SECTION A-A'

STATION	THICKNESS (FT)
50000	120
60000	220
70000	300
80000	340
90000	420
100000	500
110000	660
120000	740
130000	740
140000	770
150000	700
160000	660
170000	600
180000	540
190000	520
200000	580
210000	580
220000	540
230000	340
AVERAGE	519

AVERAGE SATURATED THICKNESS ACROSS SECTION C-C'

STATION	THICKNESS (FT)	
2500	150	
5000	540	
10000	800	
15000	830	
20000	820	19P01
25000	840	
30000	830	
35000	310	
AVERAGE	640	
ADJUSTED FACTOR	0.78	(=640/820)

SUBBASIN AVERAGE SATURATED THICKNESS 405 FEET (=0.78*519)

ESTIMATED EFFECTIVE POROSITY
FOR THE FREEMONT VALLEY GROUNDWATER BASIN
(USING DRILLERS' LOG OF WELL 30S/38E-19P01*)

FORMATION DESCRIPTION	THICKNESS (FT)	EFFECTIVE POROSITY (%)**	(THICKNESS)x (POROSITY)
Clay and sand	20	3	60
Clay	20	3	60
Sand	30	28	840
Clay	10	3	30
Sand	20	28	560
Clay, blue	10	3	30
Clay with streaks of sand	30	3	90
Clay	120	3	360
Clay	10	3	30
Clay, sandy	30	3	90
Sand and gravel	30	25	750
Clay	5	3	15
Sand	45	28	1260
Clay, blue	25	3	75
Sand with streaks of clay	45	23	1035
Clay, blue, and hard	10	3	30
Clay, sandy	20	3	60
Clay, blue, and hard	40	3	120
Sand and gravel	40	25	1000
Clay, blue, and hard	15	3	45
Sand	25	28	700
Shale, sandy	40	0	0
Shale, sandy, with streaks of sand	210	0	0
Shale, sticky	20	0	0
Sand and shale in streaks	30	25	750
Sand, hard	50	25	1250
Shale, hard, blue	10	0	0
Shale, hard, sandy	25	0	0
Sand	55	28	1540
Shale, sandy	60	0	0
	1100		10780
		Weighted effective porosity (%)	9.8

* Bulletin No. 91-16 - Water Wells and Springs in the Freemont Vally Area, Kern County, California. DWR. February 1969.

** Table 1.2 Handbook of Ground Water Development - Roscoe Moss Company -1990

#23* $5.75 gm -

CITY OF CALIFORNIA CITY

2000

URBAN WATER MANAGEMENT PLAN

PUBLIC PARTICIPATION

Law:

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

PUBLIC PARTICIPATION:

PLAN ADOPTION:

AGENCY COORDINATION:

Law:

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

COORDINATION WITHIN THE CITY:

City Staff met and coordinated the development of this plan. Staff members involved were City Manager, Public Works Director, City Engineer, Police Chief, Fire Chief, Finance Director and elected officials

INTERAGENCY COORDINATION:

California City is a full service City. Our primary water source is groundwater however, we do purchase water from two other agencies, Antelope Valley East Kern Water Agency (A.V.E.K.) and Mojave Public Utilities District (M.U.P.D.). Both agencies were contacted for assistance in preparing this report.

Table 1 summarizes the efforts taken by California City to include various agencies and the community.

Table 1

Agency	Contacted for Assistance	Commented on Draft	Attended Public Meeting
A.V.E.K.	Yes	X	
M.P.U.D.	Yes	X	
Citizen groups	Yes		X
General Public	Yes		X

SUPPLIER SERVICE AREA:

Law:

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five year increments to 20 years or as far as data is available.

CLIMATE:

Our desert climate is warm and dry in the summer, mild in the winter. Average rainfall is 1.5" to 3" annually, usually in December through February.

OTHER DEMOGRAPHIC FACTORS:

California City is located in the high desert 100 miles north of Los Angeles, 60 miles west of Bakersfield. We are the third largest city in California in area with 208 square miles. California City maintained a population of approximately 3,000 from 1965 to 1986. From 1986 to 1990, we experienced an economic growth to approximately 6,000 residents. From 1990 to 2000 population continued to increase at a lower rate to a current population of approximately 9,000 residents. Most residents are employed at Edwards Air Force Base and U.S. Borax.

Most of the growth thus far has been from residential building (single and multi-family) however, in 1999 and 2000, some commercial and industrial development has taken place. Commercial structures are: Rite-Aid Pharmacy, McDonalds Restaurant, Private 2,300 bed prison, forty acre industrial park.

Table 2

	2000	2005	2010	2015	2020
Service Population Area	9,000	11,300	12,476	13,774	15,208

PAST DROUGHT, WATER DEMAND AND CONSERVATION:

Past drought conditions have had little effect on water supply as we rely primarily on ground water. The City does maintain an 18 hole championship golf course and central park area with several small lakes. In 1994, we constructed a 1 MGD tertiary wastewater treatment plant. The treated effluent is utilized to fill the lakes and irrigate these facilities. Plans to expand the wastewater treatment plant to 1.5 MGD is underway with construction to begin in 2001. Sewer collections system will also be extended to increase influent flow. Current demands of recycled water is inadequate during summer months and must be supplemented with potable water.

WATER SOURCES (SUPPLY)

Law:

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments [to 20 years or as far as data is available.]

WATER SUPPLY SOURCES:

California City has 3 water sources including groundwater, imported, recycled. Additional supplies are potentially available by additional importing and increases groundwater pumping. Table 3 below shows current and projected water supplies.

Table 3					
Current and projected water supplies					
Water Supply Source	**2000**	**2005**	**2010**	**2015**	**2020**
City produced groundwater	4,800	5,800	5,800	5,800	5,800
Purchased from A.V.E.K.	300	1,600	1,600	1,600	1,600
Purchased from M.P.U.D.	55	800	800	800	800
Recycled water	331	1,370	1,438	1,510	1,585
Total	5,486	9,570	9,638	9,710	9,785
Unit of measure: Acre-foot/year					

GROUNDWATER:

The City produces about 3,500 Acre foot per year from 5 wells, one is primarily used as a standby. One more well is planned and will be on line in 2001. All production wells are treated with on site chlorine generation and meet all water quality standards set for acceptable drinking water quality by Federal and State health agencies. The system also incorporates 5 above ground storage tanks totaling 6 MG.

The City's groundwater system currently has the capability to produce 4,800 acre feet per year with a 25% downtime. When a sixth well comes on line, total producing capacity will increase to about 5,800 acre feet per year.

PURCHASED WATER:

Water purchased from A.V.E.K. during 1999 was 340 acre feet. Estimated usage for the year 2000 is at 300 acre feet. City water personnel have the ability to increase or decrease the amount of water purchased, depending on demand. After discussion with A.V.E.K. personnel, water may be limited during a multi-year drought.

Water purchased from M.P.U.D. is based on the demand of a small rural community supplied solely from this source. Currently, there are 33 service connections with water consumption remaining relatively consistent. Purchased water in 1999 was 53 acre feet and estimated usage for 2000 is 55 acre feet. Discussions with the General Manager of the Mojave Public Utilities District predicts increased water supply to this community should not be a problem.

RECYCLED WATER:

The Cities wastewater treatment plant currently produces 331 acre feet per year, solely used for irrigation of the golf course. Refer to recycled water (wastewater system description).

RELIABILITY PLANNING

Law:

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

10631 (c) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

10631 (c) Provide data for each of the following:
(1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three year historic sequence for the agency's water supply.

RELIABILITY:

Reliability is a measure of a water service system's expected success in managing water shortages.

In addition to climate, the most immediate threat of water shortage could arise from damage due to an earthquake, plane crash and power outages. Being located in the high desert, effects of climate are minimal. An exceptionally long hot spell during summer months or high winds causing power outages are the main concerns due to climate. Customers are encouraged to water lawns during early morning hours and for shorter periods of time when temperatures exceed normal. Our water system is gravity feed from a 2.5 MG tank, kept a minimum 2/3 full at all times and 1 natural gas operated well producing 1,000 GPM which will meet the demands for several days during a power outage.

FREQUENCY AND MAGNITUDE OF SUPPLY DEFICIENCIES:

California City has yet to experience a supply deficiency, therefore, a mandatory rationing program has not been established.

PLANS TO ASSURE A RELIABLE WATER SUPPLY:

California City's primary water source is groundwater pumping. The five wells are monitored and maintained closely. Each well is sounded regularly to detect any drops in the water table.

One additional production well is being installed this year and several additional storage tanks are in the planning.

The wastewater treatment plant capacity is being increased from 1 MGD to 1.5 MGD with additional sewer connections. This will provide additional recycled water which will save on potable water use for irrigation. Potable water can still be used as a back-up when needed.

RELIABILITY COMPARISON:

Table 4 Supply Reliability				
		Multiple Dry Water Years		
Average/ Normal Water Year 2000 (Volume)	Single Dry Water Year (Volume)	Year 1 (Volume) 2001	Year 2 (Volume) 2002	Year 3 (Volume) 2003
3,840	3,840	3,840	3,840	3,840
Unit of measure: Acre-feet/year				

THREE YEAR MINIMUM WATER SUPPLY:

Year 1 3,840	Year 2 3,840	Year 3 3,840
Unit of measure: Acre-feet/year		

TRANSFER OR EXCHANGE OPPORTUNITIES:

Law:

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (d) Describe the opportunities for exchange or transfers of water on a short-term basis.

In case of an emergency, the City's only options are to purchase more water from A.V.E.K., or to increase ground water pumping.

WATER USE:

Table 5 Past, Current and Projected Water Use							
Water Use Sectors	1990	1995	2000	2005	2010	2015	2020
Single Family Residential							
Multi-Family Residential							
Commercial							
Industrial							
Institutional and Governmental							

Landscape							
Sales to Other Agencies							
Saline Barriers							
Groundwater Recharge (recycled water)							
Conjunctive Use							
Agriculture							
Unaccounted for System Losses							
Total	3,237	3,495	3,840	4,196	4,280	4,366	4,453
Unit of measure: Acre feet/year							

Note: There is no information available for use sectors.

Table 6
Number of Connections by Customer Type

Customer Type	1990	1995	2000	2005	2010	2015	2020
Single Family Residential			2,903	2,961	3,020	3,080	3,140
Multi-Family Residential			58	64	70	79	91
Commercial			108	113	119	125	131
Industrial							
Institutional and Governmental							
Landscape/Recreation			232	236	241	246	251
Agriculture							
Other (recycle water)							
Total			3,301	3,374	3,450	3,530	3,613

Residential projections based on a 2% increase per year.

Commercial building is just beginning to take place and is projected to continue at a 5% growth rate.

RESIDENTIAL SECTOR:

California City has 2,961 residential service connections of which 58 are multi-family units, mostly duplexes. System water use is approximately 110 gallons per capita per day.

COMMERCIAL SECTOR:

California City has 108 service connections, commercial customers ranging from markets, restaurants, office buildings,

beauty shops and a privately owned prison facility.

INDUSTRIAL SECTOR:

California City has a very small industrial sector at this time. We expect some growth in the next few years.

INSTITUTIONAL/GOVERNMENT SECTOR:

California City currently has 2 schools with approximately 1,200 students attending and a civic center to serve public needs.

LANDSCAPE AND RECREATIONAL SECTOR:

This sector consists of 2 parks, 5 ballfields, several small lakes, a par three and a 18 hole championship golf course. Central park lake and golf courses are supplied with recycled water. As more recycled water becomes available, other areas will be irrigated also to offset potable water demand.

SUPPLY AND DEMAND COMPARISON PROVISIONS

Law:

> 10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water services reliability assessment shall be based upon the information compiled pursuant so Section 10631, including available data from the state, regional, or local agency population projections within the service area of the urban water supplier.

SUPPLY AND DEMAND COMPARISON:

Table 7

	2000	2005	2010	2015	2020
Supply Totals	7,300	8,300	8,300	8,300	8,300
Demand Totals	3,895	4,175	4,258	4,343	4,429
Difference	3,405	4,125	4,042	3,957	3,871
Acre/foot per year					

NOTE:
Supply totals in Table 7 include purchased water and ground water but does not include recycled water. Projections are based on current sources with no major system failures.

Table 8 Single dry year and multiple dry water years					
			Multiple dry years		
Water Supply Source	2000	Single Dry Yr.	Year 1	Year 2	Year 3
Supply Totals	7,300	7,300	7,300	7,300	7,300
Demand Totals	3,895	3,895	3,895	3,895	3,895
Difference	3,405	3,405	3,405	3,405	3,405
Acre foot/ per year					

WATER SHORTAGE CONTINGENCY PLAN

PREPARATION FOR CATASTROPHIC WATER INTERRUPTION:

Law:

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplies:

10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

Table 9 Preparation Actions for a Catastrophe	
Examples of Actions	**Check if Discussed**
Determine what constitutes a proclamation of a water shortage.	X
Stretch existing water storage.	X
Obtain additional water supplies.	
Develop alternative water supplies.	
Determine where the funding will come from.	X
Contact and coordinate with other agencies.	
Create an Emergency Response Team/Coordinator.	X
Create a catastrophe preparedness plan.	X
Put employees/contractors on-call.	X
Develop methods to communicate with the public.	X
Develop methods to prepare for water quality interruptions.	X

WATER SHORTAGE EMERGENCY RESPONSE:

California City adopted an Emergency Response Plan in 1999. We also participated in a functional disaster exercise in conjunction with County or State officials. Emergency exercises will be conducted annually. Although utility loss is covered in the plan, a more precise water contingency plan is as follows:

STAGES OF ACTION:

Law:

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (h) A draft water shortage contingency resolution or ordinance.

TRIGGERING EVENTS:

1. Reductions in specific water supplies.
2. Dropping groundwater level.
3. Changes in water quality.
4. System failures.
5. Disaster.

STAGES OF ACTION:

City personnel first will evaluate the water shortage and recommend actions to Council, call special meeting if needed. Evaluation will be based on the following conditions:

1. Cause of water shortage.
2. Possible duration of shortage.
3. Amount of shortage based on % of normal water demand.

RATIONING STAGES AND REDUCTION GOALS:

The City has prepared a 4 stage rationing plan to invoke during a declared water shortage. The plan includes voluntary and mandatory rationing depending on the severity of the water supply shortage.

Table 10
Water Rationing Stages and Reduction Goals

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
15 - 25%	II	25%	Mandatory
25 - 35%	III	35%	Mandatory
35-50%	IV	50% or >	Mandatory

PRIORITY BY USE:

Priority for use of available potable water during a shortage is established for all customers according to the following

ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals, convalescent facilities, retirement and mobile home communities, student housing, fire fighting and public safety.)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses).
- Permanent agriculture (orchards, vineyards and other commercial agriculture which would require at least five years to return to production).
- Annual agriculture (floriculture, strawberries and other truck crops).
- Existing landscaping.
- New customers, proposed projects without permits when shortage declared.

Note: A potable water shortage reduction will cause little effect on recycled water production.

HEALTH AND SAFETY REQUIREMENTS:

Based on commonly accepted estimates of interior residential water use in the United States, Table 16 indicates per capita health and safety water requirements. In Stage I shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage II, Stage III and Stage IV mandatory rationing programs, the City has established a health and safety allotment of 68 gpcd (which translates to 33 HCF per person per year), because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses,

Stage IV mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless "necessary" or taking less frequent showers).

Table 11
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		Habit Changes 1		Conserving Fixtures 2	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0

1. Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
2. Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.

WATER SHORTAGE STAGES AND TRIGGERING MECHANISMS:

As the water purveyor, the City of California City must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) is usually forecasted by the Water Department on or about April 1 each year. If it appears that it may be a dry year, the City contacts its agricultural customers in March, so that they can minimize potential financial impacts.

The City's potable water sources are groundwater and imported. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. Because shortages overlap stages, triggers automatically implement the more restrictive stage. Specific criteria for triggering the City's rationing stages are shown in Table 12.

Table 12
Water Shortage Stages and Triggering Mechanisms

Percent Reduction of Supply	**Stage I** **Up to 15%**	**Stage II** **15 - 25%**	**Stage III** **25 - 35%**	**Stage IV** **35 - 50%**
Water Supply Condition				
Current Supply	Total supply is 85-90% of "normal". And Below "normal" year is declared. Or	Total supply is 75-85% of "normal". Or Below "normal" year is declared Or	Total supply is 65-75% of "normal". Or Fourth consecutive below "normal" year is declared. Or	Total supply is less than 65% of"normal". Or Fifth consecutive below "normal" year is declared. Or
Future Supply	Projected supply insufficient to provide 80% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 75% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 65% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 50% of "normal" deliveries for the next two years. Or
Groundwater	No excess groundwater pumping undertaken. Or	First year of excess groundwater pumping taken, must be "replaced" within four years. Or	Second year of excess groundwater pumping taken, must be "replaced" within four years. Or	No excess groundwater pumping available. Or Reduced groundwater pumping due to replenishment of previously pumped groundwater. Or

Water Quality	Contamination of 10% of water supply (exceeds primary drinking water standards).	Contamination of 20% of water supply (exceeds primary drinking water standards).	Contamination of 30% of water supply (exceeds primary drinking water standards).	Or
Disaster Loss				Disaster Loss

WATER ALLOTMENT METHODS:

The City has established the following allocation method for each customer type. See Appendix C for sample water shortage rationing allocation method.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gvt/Institutional	Percentage Reduction
Agricultural-Permanent	Percentage Reduction-vary by efficiency
Agricultural-Annual	Percentage Reduction-vary by efficiency
Recreational	Percentage Reduction-vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage).

Based on current and projected customer demand, Appendix C indicates the water allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are based on a five-year period. This gives the City a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year base period.

The Public Works Director shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Each customer shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the Public Works Director's classification on the basis of use or the allotment on the basis of incorrect calculation.

PROHIBITIONS, CONSUMPTION REDUCTION METHODS AND PENALTIES:

Law:

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
>
> 10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

10632 (f) Penalties or charges for excessive use, where applicable.

MANDATORY PROHIBITIONS ON WATER WASTING:

The City of California City's "No Waste" Ordinance (see Appendix C) includes prohibitions on various wasteful water uses such as lawn watering during mid-day hours, washing sidewalks and driveways with potable water, and allowing plumbing leaks to go uncorrected more than 24 hours after customer notification. The Fire Department personnel will also be notified to stop flowing hydrants (except when necessary).

Table 13
Consumption Reduction Methods

Examples of Consumption Reduction Methods	Stage When Method Takes Effect
Demand reduction program	All stages
Reduce pressure in water lines	
Flow restriction	IV
Restrict building permits	II, III, IV
Restrict for only priority uses	
Use prohibitions	All stages
Water shortage pricing	All stages
Per capita allotment by customer type	IV
Plumbing fixture replacement	
Voluntary rationing	I
Mandatory rationing	II, III, IV
Incentives to reduce water consumption	
Education program	All stages
Percentage reduction by customer type	II, III, IV
Other	
Other	

See Appendix C, the "No Waste" Ordinance and Moratorium on New Connections-which details the reduction methods-regarding Table 13.

EXCESSIVE USE PENALTIES:

Any customer violating the regulations and restrictions on water use set forth in the "No Waste" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the district may cause a flow-restrictor to be installed in the service. If a flow restrictor is placed, the violator shall pay the cost of the installation and removal. Any willful violation occurring subsequent to the issuance of the second written warning shall constitute a misdemeanor and may be referred to the Kern County District Attorney's office for prosecution pursuant. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the City Council.

REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME IMPACTS:

Law:

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f) inclusive, on the revenues and expenditures of the urban water supplier.
>
> 10632 (g) [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

California City currently has no surplus revenues from water sales, we operate approximately $350,000 in the red each year, if the existing rates are increased by 25% to eliminate the existing shortage, rate increases still would need to be severe to cover increased expenses and decreased sales if a shortage should occur.

Analysis indicate rate increases would need to be as follows with no additional water purchased:

Stage I	No Increase
Stage II	25% Increase
Stage III	50% Increase
Stage IV	100% Increase

REDUCTION MEASURING MECHANISM:

Law:

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

MECHANISM TO DETERMINE REDUCTIONS IN WATER USE:

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported weekly to the Water Treatment Facility Supervisor. Totals are reported monthly to the Water Department Manager and incorporated into the water supply report.

During a Stage I or a Stage II water shortage, daily production figures are reported to the Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the Public Works Director and the Water Shortage Response Team. Monthly reports are sent to the City Manager and the City Council. If reduction goals are not met, the Public Works Director will notify the City Manager and the City Council so that corrective action can be taken.

During a Stage III or a Stage IV water shortage, the procedure listed above will be followed with the addition of a daily production report to the Public Works Director.

During emergency shortages, production figures are reported to the Supervisor hourly and to the Public Works Director and the Water Shortage Response Team daily. Daily reports will also be provided to the City Manager and the City Council.

WATER RECYCLING

WASTEWATER SYSTEM DESCRIPTION:

Law:

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:
>
> 10633 (a) A description of the wastewater collection and treatment systems in the suppliers area.

The City of California City owns and operates a 1.0 MGD extended air, tertiary treatment facility and all domestic collection systems within the City limits. The collection systems are gravity fed and only receive domestic wastewater (no storm water run off).

The existing California City Wastewater Treatment Facility is designed to treat an average flow of 1.0 million gallons per day (MGD) and a peak flow of 2.0 MGD. Currently, the average influent flow is 0.3 MGD of domestic wastewater. The present treatment process includes an influent pump station, head works consisting of a parshall flume, mechanical bar screen and sonic flow meter. Secondary treatment consists of one extended aeration activated sludge basin, (split into two cells) two clarifiers and a return activated sludge (RAS)/waste activated sludge (WAS) pump station. The tertiary treatment facilities consist of filter influent pump station, a chemical mixing flocculation tank, up-flow sand filtration filters, disinfection in a chlorine contact chamber, a tertiary effluent storage pond and chemical storage facilities for polymer, alum and chlorine.

Sludge treatment and disposal consists of the WAS being conveyed to 5 lined sand type sludge drying beds for dewatering. The existing sludge drying beds have a total area of 15,000 square feet. Dried sludge is removed and disposed at an authorized site, currently a landfill.

Wastewater from a newly constructed prison will be conveyed to the California City Wastewater Treatment Facility. In order to accommodate the increased flows from the new prison, the City of California City is implementing a facility expansion. The expansion involves modification and improvements of the individual unit processes to achieve a design flow if 1.5 MGD and a peak flow of 3.0 MGD.

Based on recommended capacity evaluation reports, the following upgrades are proposed:

a. Replace the influent pumps to be capable of pumping a 3.0 MGD peak flow.
b. Upgrade of the power section of the aeration basin aerators.
c. Add a new RAS/WAS station.
d. Add nine similar sludge drying beds with an increase of 27,000 square feet to an approximate total of 42,000 square feet drying area.
e. Upgrade filter influent pumps to handle a 3.0 MGD peak flow.

This upgrade is expected to start construction in June of 2001 and completed one year later.

WATER RECYCLING: WASTEWATER GENERATION, COLLECTION & TREATMENT:

Law:

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be

coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

10633 (a) A[...] quantification of the amount of wastewater collected and treated.

Table 14 Wastewater Generation and Collection					
	2000	2005	2010	2015	2020
Wastewater Generated in Service Area	346	1,385	1,455	1,529	1,606
Wastewater Collected & Treated in Service Area	346	1,385	1,455	1,529	1,606
Unit of Measure: Acre-feet/Year					

Table 15 Wastewater Treatment					
Treatment Plant Name	**Location (City)**	**Average Daily (2000)**	**Maximum Daily (2000)**	**Year of Planned Build-out**	**Planned Maximum Daily Volume**
California City Wastewater Treatment Facility	California City	.3 MGD	.410 MGD	2015	1.5 MGD

WASTEWATER DISPOSAL AND RECYCLED WATER USES:

Law:

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

10633 (a) A description of the [...] methods of wastewater disposal.

10633 (b) A description of the recycled water currently being used in the suppliers service area, including but not limited to, the type, place and quantity use.

10633 (c) A description and quantification of the potential uses of recycled water, including but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge and other appropriate uses and a determination with regard to the technical and economic feasibility of serving those uses.

10633 (d) The projected use of recycled water within the suppliers service area at the end of 5, 10,15 and 20 years.

Table 16 Wastewater Disposal and Recycled Water Use							
Destination	**Treatment Level**	**Time of Use**	**2000**	**2005**	**2010**	**2015**	**2020**
Number of Septic Systems	Any	Year Round	528	502 (@ 5%reduction))	477 (@ 5% reduction)	453 (@ 5% reduction)	430 (@ 5% reduced))
Evaporation Ponds	Secondary or Better	Seasonal	15	15.75 (@ 5% growth)	17.33 (@ 10% growth)	19.06 (@ 10% growth)	20.97 (@ 10% growth)
Landscape	Tertiary	Year Round Jan-Dec	331	1,370 (@ 2% growth	1,438 (@ % growth	1,510 (@ % growth	1,585 (@ 5% growth)
Total			**346**	**1,386**	**1,455**	**1,529**	**1,606**

Units of Measure: Acre/feet/Year

TYPE OF WASTEWATER DISPOSAL AND CURRENT RECYCLED WATER POINTS:

Currently, the only authorized disposal site for the secondary and tertiary treated effluent are the 8 existing percolation ponds, the Central Park Lake (used as recreational non-contact water) and the Tierra Del Sol Golf Course, (used for landscape and course irrigation). The eight percolation ponds receive approximately 15 acre-feet/year of secondary and tertiary treated effluent. The Central Park Lake is primarily (with concern to treated effluent) a holding transfer point of tertiary treated effluent for the irrigation systems at Tierra Del Sol golf course, the treatment plant sends approximately 331 acre-feet/year of tertiary treated effluent to the Tierra Del Sol golf course.

POTENTIAL USES OF RECYCLED WATER:

The City of California City is studying the feasibility of using the tertiary treated effluent on the green belts, parks and local baseball fields. Due to the capitol cost of the force main and irrigation infrastructure that will be needed to convey the treated effluent to the above mentioned potential recycling points, it is not cost efficient for the City to invest in this project for an estimated 5 year period. In conjunction, the present and projected demands of the Tierra Del Sol golf course (approximately 456 acre-feet/year) and Central Park Lake consumes all of the recyclable water that the treatment facility produces.

ENCOURAGING RECYCLED WATER USE

Law:

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:
>
> 10633 (e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water and project the results of these actions in terms of acre-feet of recycled water used per year.

The City of California City is the sole end user of the tertiary treated effluent produced by the Treatment Facility therefore, the City has not developed a program that encourages the use of recycled water.

The City has seen a considerable savings in their potable water production costs due to the influence of the recycled water that has been introduced as a supplemental water source to the golf course irrigation system and the central park

lake.

RECYCLED WATER OPTIMIZATION PLAN

Law:
The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

PLAN FOR OPTIMIZING THE USE OF RECYCLED WATER:

Supplying recycled water to residents and small businesses would not be cost effective at this time.

APPENDIX A

LIST OF GROUPS WHO PARTICIPATED IN THE DEVELOPMENT OF THIS PLAN:

CITY COUNCIL
PLANNING COMMISSION
CITIZENS ADVISORY COMMITTEE
CITY DEPARTMENT HEADS

APPENDIX B

RESOLUTION TO ADOPT THE URBAN WATER MANAGEMENT PLAN

City of California City
Kern County, California
December 19, 2000

The City Council of the City of California City does hereby resolve as follows:

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS the City is an urban supplier of water providing water to a population over 9,000, and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and that the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by December 31, 2000, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS the City has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the City Council on December 19th, 2000, and

WHEREAS the City of California City did prepare and shall file said Plan with the California Department of Water Resources by December 31st, 2000;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of California City as follows:

1. The 2000 Urban Water Management Plan is hereby adopted and ordered filed with the City Clerk; The Mayor is hereby authorized and directed to file the 2000 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date;

The Mayor is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2000 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the City Council regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

In a water shortage, the Mayor is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, and implement necessary elements of the Plan;

The Mayor shall recommend to the City Council additional regulations to carry out effective and equitable allocation of water resources; and

The attached budget is approve and authorized for implementation.

ADOPTED this 19th day of December 2000, by the following vote:

AYES: Council Members Adams, Bailey, Lessenevitch, Eddington, Dempsey
NOES: None

ABSENT: None
ABSTAIN: None

Larry Adams
Mayor

12/19/00
Date

ATTEST: Helen Dennis
City Clerk, Helen Dennis

City Council Members: Harry Bailey, Nick Lessenevitch, Russell Eddington, Bill Dempsey
Mayor: Larry Adams
Director, Public Works Department: Ron Wallace
Chief, Water Department: Anthony Langin

RESOLUTION TO DECLARE A WATER SHORTAGE EMERGENCY

CITY OF CALIFORNIA CITY
KERN COUNTY, CALIFORNIA
December 19, 2000

The City Council of the City of California City does hereby resolve as follows:

PURSUANT to California Water Code Section 350 et seq., the Council has conducted duly noticed public hearings to establish the criteria under which a water shortage emergency may be declared.

WHEREAS, the Council finds, determines and declares as follows:

(a) The City is the water purveyor for the property owners and inhabitants of California City;

(b) The demand for water service is not expected to lessen;

(c) When the combined total amount of water supply available to the City from all sources falls at or below the Stage II triggering levels described in the 2000 Urban Water Management Plan, the City will declare a water shortage emergency. The water supply would not be adequate to meet the ordinary demands and requirements of water consumers without depleting the City's water supply to the extent that there may be insufficient water for human consumption, sanitation, fire protection, and environmental requirements. This condition is likely to exist until precipitation and inflow dramatically increases or until water system damage resulting from a disaster are repaired and normal water service is restored.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of California City hereby directs the Mayor to find, determine, declare and conclude that a water shortage emergency condition exists that threatens the adequacy of water supply, until the City's water supply is deemed adequate. After the declaration of a water shortage emergency, the Mayor is directed to determine the appropriate Rationing Stage and implement the City's Water Shortage Emergency Response.

FURTHERMORE, the Council shall periodically conduct proceedings to determine additional restrictions and regulations which may be necessary to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

ADOPTED this 19th day of December 2000, by the following vote:

AYES: Council Members Adams, Bailey, Lessenevitch, Eddington, Dempsey

NOES: None

ABSENT: None

ABSTAIN: None

Mayor

12/19/00
Date

ATTEST: Helen Dennis
City Clerk, Helen Dennis

City Council Members: Harry Bailey, Nick Lessenevitch, Russell Eddington, Bill Dempsey
Mayor: Larry Adams
Director, Public Works Department: Ron Wallace
Chief, Water Department: Anthony Langin

CITY OF CALIFORNIA CITY

2010

URBAN WATER MANAGEMENT PLAN

DRAFT

Preface

In order to maximize the usefulness of this document, the author's have decided to use the same format used in the 2000 California City Urban Water Management Plan. Changes in the next decade should as a result of the directly comparable information formats be very easy to track. Information has been updated and projected expansions are included in both tables and text.

This is designed as a discussion DRAFT document and as such is only complete as of: 19 February 2010

Public hearings for this document will be scheduled in May, 2010.

PUBLIC PARTICIPATION

Law: 10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published. After the hearing. the plan shall be adopted as prepared or as modified after the hearing.

PUBLIC PARTICIPATION:

PLAN ADOPTION:

AGENCY COORDINATION:

Law: 10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

COORDINATION WITHIN THE CITY:

City Staff met and coordinated the development of this plan. Staff members involved were City Manager, Public Works Director, City Engineer, Police Chief, Fire Chief, Finance Director and elected officials

INTERAGENCY COORDINATION:

California City is a full service City. Our primary water source is groundwater however; we do purchase water from tow other agencies, Antelope Valley East Kern Water Agency (A.V.E.K) and Mojave Public Utilities District (M.U.P.D.). Both agencies were contacted for assistance in preparing this report.

Table 1 summaries the efforts taken by California City to include various agencies and the community.

Table 1

Agency	Contacted for Assistance	Commented on Draft	Attended Public Meeting
A.V.E.K.	Yes	X	
M.P.U.D.	Yes	X	
Citizen groups	Yes		X
General Public	Yes		X

SUPPLIER SERVICE AREA:

Law: 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following.

10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five year increments to 20 years or as far as date is available.

CLIMATE:

Our desert climate is warm and dry in the summer, mild in the winter. Average rainfall in 1.5" to 3" annually, usually in December through February.

OTHER DEMOGRAPHIC FACTORS:

California City is located in the high desert 100 miles north of Los Angeles, 60 miles west of Bakersfield. We are the third largest city in California in area with 208 square miles. California City maintained a population of approximately 3,000 from 1965 to 1986. From 1986 to 1990, we experienced an economic growth to approximately 6,000 residents. From 1990 to 2000 population continued to increase at a lower rate to a current population of approximately 9,000 residents. From 20000 to 2010 population continued to increase to a current population of approximately 14,000 residents. Most residents are employed at Edwards Air Force Base and U.S. Borax.

Most of the growth thus far has been from residential building (single and multi-family) however, in 1999 and 2000, some commercial and industrial development has taken place. Commercial structures are: Rite-Aid Pharmacy, McDonalds Restaurant, Private 2,300 bed prison, forty acre industrial park. Commercial development will increase in the next five years with the proposed expansion of the CCA facility from 2,300 beds to 5,000 beds; the opening of a 65 room motel and the construction of Cerro-Cossa Community College Campus.

Table 2

	2010	2015	2020	2025	2030
Service Population Area	14,000	15,400	16,900	17,800	18,500

PAST DROUGHT, WATER DEMAND AND CONSERVATION:

Past drought conditions have had little effect on water supply as we rely primarily on ground water. The City does maintain an 18 hole championship golf course and central park area with several small lakes. In 1994, we constructed a 1 MGD tertiary waster water treatment plant. The

treated effluent is utilized to fill the lakes and irrigate these facilities. The wastewater treatment plant was expanded to 1.5 MGD in 2002. Plans are in process to expand the wastewater treatment plant to 3.0 MGD in 2012. Sewer collections system will also be extended to increase influent flow through the creation of neighborhood sewer assessment districts.

WATER SOURCES (SUPPLY)

Law: 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments [to 20 years or as far as data is available.]

WATER SUPPLY SOURCES:

California City has 3 water sources including groundwater, imported, and recycled. Additional supplies are potentially available by additional importing and increases groundwater pumping. Table 3 below shows current and projected water supplies.

Table 3

Current and projected water supplies

Water Supply Source	2010	2015	2020	2025	2030
City produced groundwater	5,800	5,800	5,800	7,000	7,000
Purchased from A.V.E.K.	1,600	1,600	1,600	1,600	1,600
Purchased from M.P.U.D.	800	800	800	800	800
Recycled water	1,438	1,510	1,585	1,743	1,917
Total	9,638	9,710	9,785	11,143	11,317

Unit of measure: Acre-foot/year

GROUNDWATER:

The City currently produces about 4,000 Acre foot per year from 5 wells. The City has one additional well, which is primarily used as a standby. All production wells are treated with one site chlorine generation and meet all water quality standards set for acceptable drinking water quality by Federal and State health agencies. The system also incorporates 5 above ground storage tanks totaling 6 MG.

Future plans call for the construction of 1 new well in the Fremont Basin.

The City's groundwater system currently has the capability to produce 5,800 acre feet per year.

PUCHARSED WATER:

Water purchased from A.V.E.K. during 2009 was 636 acre feet. Estimated usage for the year 2010 is a 1,000 acre feet. City water personnel have the ability to increase or decrease the amount of water purchased, depending on demand. After discussion with A.V.E.K. personnel, water may be limited during a multi-year drought.

Water purchased from M.P.U.D. is based on the demand of a small rural community supplied solely from this source. Currently, there are 38 service connections with water consumption remaining relatively consistent. Purchased water in 2009 was 54 acre feet and estimated usage for 2010 is 75 acre feet. Discussions with the General Manager of the Mojave Public Utilities District predicts increased water supply to this community should not be a problem.

RECYCLED WATER:

The Cities wastewater treatment plant currently produces 1,019 acre feet per year, solely used for irrigation of the golf course. Refer to recycled water (wastewater system description).

RELIABILITY PLANNING

Law: 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following.

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

10631 (c) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

10631 (c) Provide date for each of the following:
(1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier.

10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three year historic sequence for the agency's water supply.

RELIABILITY:

Reliability is a measure of a water service system's expected success in managing water shortages.

In addition to climate, the most immediate threat of water shortage could arise from damage due to an earthquake, plane crash and power outages. Being located in the high desert, effects of climate are minimal. An exceptionally long hot spell during summer months or high winds causing power outages are the main concern due to climate. Customers are encouraged to water lawns during early morning hours and for shorter period of time when temperatures exceed normal. Our water system is gravity feed from a 2.5 MG tank, kept a minimum 2/3 full at all times and 1 natural gas operated well producing 1,000 GPM which will meet the demands for several days during a power outage.

FREQUENCY AND MAGNITUD OF SUPPLY DEFICIENCIES:

California City has yet to experience a supply deficiency; therefore, a mandatory rationing program has not been established.

PLANS TO ASSURE A RELIABLE WATER SUPPLY:

California City's primary water source is groundwater pumping. The five wells are monitored and maintained closely. Each well is sounded regularly to detect any drops in the water table.

One additional production well is being installed this year and several additional storage tanks are in the planning.

The wastewater treatment plant capacity is being increased from 1 MGD to 1.5 MDG with additional sever connections. This will provide additional recycled water which will save on potable water use for irrigation. Potable water can still be used as a back-up when needed.

Table 4
Supply Reliability

		Multiple Dry Water Years		
Average/Normal Water Year 2000 (Volume)	Single Dry Water Year (Volume)	Year 1 (Volume) 2010	Year 2 (Volume) 2012	Year 3 (Volume) 2013
3,840	3,840	3,840	3,840	3,840
Unit of measure: Acre-feet/year				

THREE YEAR MINIMUM WATER SUPPLY:

Year 1	Year 2	Year 3
3,840	3,840	3,840
Unit of measure: Acre-feet/year		

TRANSFER OR EXCHANGE OPPORTUNITIES:

Law: 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (d) Describe the opportunities for exchange or transfers of water on a short-term basis.

In case of an emergency, the City's only options are to purchase more water from A.V.E.K., or to increase ground water pumping.

WATER USE:

Table 5 **Past, Current and Projected Water Use**							
Water Use Sectors	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Single Family Residential							
Multi-Family Residential							
Commercial							
Industrial							
Institutional and Governmental							
Landscape							
Sale to Other Agencies							
Saline Barriers							
Groundwater Recharge (recycled water)							
Conjunctive Use							
Agriculture							
Unaccounted for System Losses							
Total	3,840	4,195	4,280	4,366	4,453		
Unit of measure: Acre feet/year							

Note: There is no information available for use sectors.

Table 6 Number of Connections by Customer Type							
Customer Type	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
Single Family Residential	2,903	2,961	3,020	3,080	3,140		
Multi-Family Residential	58	64	70	79	91		
Commercial	108	113	119	125	131		
Industrial							
Institutional & Governmental							
Landscape/Recreation	232	236	241	246	251		
Agriculture							
Other (recycle water)	3,301	3,374	3,450	3,530	3,613		
Total							

Residential projections based on a 2% increase per year.

Commercial is projected to continue at a 5% growth rate.

RESIDENTIAL SECTOR:

California City has 4,299 residential service connections of which 58 are multi-family units, mostly duplexes. System water use is approximately 110 gallons per capita per day.

COMMERCIAL SECTOR:

California City has 120 service connections, commercial customers ranging from markets, restaurants, office buildings, beauty shops and a private owned prison facility.

INDUSTRIAL SECTOR:

California City has a very small industrial sector at this time. We expect limited growth in the next few years.

INSTITUTIONAL/GOVERNMENT SECTOR:

California City currently has 4 schools with approximately 2,000 students attending and a civic center to serve public needs.

LANDSCAPE AND RECREATIONAL SECTOR:

This sector consists of 2 parks, 5 ball fields, several small lakes, a par three and a 18 hole championship golf course. Central park lake and golf courses are supplied with recycled water.

As more recycled water becomes available, other areas will be irrigated also to offset potable water demand.

SUPPLY AND DEMAND COMPARISON PROVISIONS

Law: 10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water services reliability assessment shall be based upon the information compiled pursuant so Section 10631, including available date from the state, regional, or local agency population projections within the service area of the urban water supplier.

SUPPLY AND DEMAND COMPARISON:

Table 7					
	2010	**2015**	**2020**	**2025**	**2030**
Supply Totals	8,300	8,300	8,300	8,300	8,300
Demand Totals	4,258	4,343	4,429		
Difference	4,042	3,957	3,871		
Acre/foot per year					

Note:
Supply totals in Table 7 include purchased water and ground water but does not include recycled water. Projections are based on current sources with no major system failures.

Table 8 **Single dry year and multiple dry water years**					
			Multiple dry years		
Water Supply Source	2010	Single Dry Yr.	Year 1	Year 2	Year 3
Supply Totals	8,300	8,300	8,300	8,300	8,300
Demand Totals	4,258	4,258	4,258	4,258	4,258
Difference	4,042	4,042	4,042	4,042	4,042
Acre foot/ per year					

WATER SHORTAGE CONTINGENCY PLAN

PREPARATION FOR CATASTROPHIC WATER INTERRUPTON:

Law: 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplies:

10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

Table 9 Preparation Actions for a Catastrophe	
Example of Actions	**Check if Discussed**
Determine what constitutes a proclamation of a water shortage	X
Stretch existing water storage	X
Obtain additional water supplies	
Develop alternative water supplies	
Determine where the funding will come from	X
Contact and coordinate with other agencies	
Create an Emergency Response Team/Coordinator	X
Create a catastrophe preparedness plan	X
Put employees/contractors on-call	X
Develop methods to communicate with the public	X
Develop methods to prepare for water quality interruptions	X

WATER SHORTAGE EMERGENCY RESPONSE:

California City adopted an Emergency Response Plan in 1999. We also participated in a functional disaster exercise in conjunction with County or State officials. Emergency exercises will be conducted annually. Although utility loss is covered in the plan, a more precise water contingency plan is as follows:

STAGES OF ACTIONS:

Law: 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water suppliers:

10632 (h) A draft water shortage contingency resolution or ordinance.

TRIGGERING EVENTS:

1. Reductions in specific water supplies:
2. Dropping groundwater level.
3. Changes in water quality
4. System Failures
5. Disaster

STAGES OF ACTION:

City personnel first will evaluate the water shortage and recommend actions to Council, call special meeting if needed.
Evaluation will be based on the following conditions:

1. Cause of water shortage
2. Possible duration of shortage
3. Amount of shortage based on % of normal water demand

RATIONING STAGES AND REDUCTION GOALS:

The City has prepared a 4 stage rationing plan to invoke during a declared water shortage. The plan includes voluntary and mandatory rationing depending on the severity of the water supply shortage.

Table 10
Water Rationing Stages and Reduction Goals

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Pro
Up to 15%	I	15%	Voluntary
15 - 25%	II	25%	Mandatory
25 - 35%	III	35%	Mandatory
35 - 50%	IV	50% or >	Mandatory

PRIORITY BY USE:

Priority for use of available potable water during a shortage is established for all customers according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals, convalescent facilities, retirement and mobile home communities, student housing, fire fighting and public safety.)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses).
- Permanent agriculture (orchards, vineyards and other commercial agriculture which would require at least five years to return to production).
- Annual agriculture (floriculture, strawberries and other truck crops).
- Existing landscaping
- New customers, proposed projects without permits when shortage declared.

Note: A potable water shortage reduction will cause little effect on recycled water production.

HEALTH AND SAFETY REQUIREMENTS:

Based on commonly accepted estimates of interior residential water use in the United States, Table 16 indicates per capita health and safety water requirements. In Stage I shortage,

customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage II, Stage III and Stage IV mandatory rationing programs, the City has established a health and safety allotment of 68 gpcd (which translates to 33 HCF per person per year), because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses.

Stage IV mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless "necessary" or taking less frequent showers).

Table 11
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		**Habit Changes 1**		**Conserving Fixtures 2**	
Toilets	5 flushes x 5.5 gpf	27.5	3 flushes x 5.5 gdf	16.5	5 flushes x 1.6 gpf	8.0
Shower	5 min x 4.0 gpm	20.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Other	4 gpcd	4.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		68.0		48.0		37.5
HCF per capita per year		33.0		23.0		18.0

1. Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
2. Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothers washers.

WATER SHORTAGE STAGES AND TRIGGERING MECHANISM:

As the water purveyor, the City of California City must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) is usually forecasted by the Water Department on or about April 1 each year. If it appears that it may be a dry year, the City contacts it agricultural customer in March, so that they can minimize potential financial impacts.

The City's potable water sources are groundwater and imported. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination or source.

Because shortages overlap stages, triggers automatically implement the more restrictive stage. Specific for triggering the City's rationing stages are shown in Table 12.

Table 12 **Water Shortage Stages and Triggering Mechanisms**				
Percent Reduction of Supply	**Stage I** **Up to 15%**	**Stage II** **15 – 25%**	**Stage III** **25-35%**	**Stage IV** **35-50%**
Water Supply Condition				
Current Supply	Total supply is 85 – 90 % "normal" And Below "normal" year is declared Or	Total supply is 75 – 85% of "normal" Or Below "normal" year is declared Or	Total supply is 65 - 75% of "normal" Or Fourth consecutive below "normal" year is declared. Or	Total supply is less than 65% Of "normal" Or Fifth consecutive Below "normal" year is declared Or
Future Supply	Projected supply insufficient to provide 80% or "normal" deliveries for the next two years Or	Project supply insufficient to provide 75% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 65% of "normal" deliveries for the next two years. Or	Projected supply insufficient to provide 50% of "normal" deliveries for the next two years. Or
Groundwater	No excess groundwater pumping undertaken	First year of excess groundwater pumping taken, must be "replaced" within four years.	Second year of excess groundwater pumping taken, must be "replaced" within four years.	No excess groundwater pumping available. Or Reduced groundwater pumping due to replenishment of previously pumped groundwater Or
Water Quality	Contamination of 10% of water supply (exceeds primary drinking water standards).	Contamination of 20% of water supply (exceeds primary drinking water standard).	Contamination of 30% of water supply (exceeds primary drinking water standards).	Or
Disaster Loss				Disaster Loss

WATER ALLOTMENT METHODS:

The City has established the following allocation method for each customer type. See Appendix C for sample water shortage rationing allocation method.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
GVT/Institutional	Percentage Reduction
Agricultural-Permanent	Percentage Reduction-vary by efficiency
Agricultural-Annual	Percentage Reduction-vary by efficiency
Recreational	Percentage Reduction-vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage).

Based on current and project customer demand, Appendix C indicates the water allocated to each customer type by priority and rationing stage during a declared water shortage

Individual customer allotments are based on a five-year period. This gives the city a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year based period.

The Public Works Director shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Each customer shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible, notice will be provided by other means. Any customer may appeal the Public Works Director's classification on the basis of use or the allotment on the basis of incorrect calculation.

PROHIBITIONS, CONSUMPTION REDUCTION METHODS AND PENALTIES:

Law: 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier.

10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortage, including, but not limited to, prohibition the use of potable water for street cleaning.

10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply

10632 (f) penalties or charges for excessive use, where applicable.

MANDATORY PROHIBITINS ON WATER WATING:

The City of California City's "No Waste" Ordinance (see Appendix C) includes prohibitions on various wasteful water uses such as lawn watering during mid-day hours, washing sidewalks and driveways with potable water, and allowing plumbing leaks to go uncorrected more than 24 hours after customer notification. The Fire Department personnel will also be notified to stop flowing hydrants (except when necessary).

Table 13
Consumption Reduction Methods

Example of Consumption Reduction Methods	Stage When Method Takes Effect
Demand reduction program	All stages
Reduce pressure in water lines	
Flow restriction	IV
Restrict building permits	II, III, IV
Restrict for only priority uses	
Use Prohibitions	All stages
Water shortage pricing	All stages
Per capita allotment by customers type	IV
Plumbing fixture replacement	
Voluntary rationing	I
Mandatory rationing	II, III, IV
Incentive to reduce water consumption	
Education program	All stages
Percentage reduction by customer type	II, III, IV
Other	
Other	

See Appendix C, the "No Water" Ordinance and Moratorium on New Connection-which details the reduction methods-regarding Table 13.

EXCESSIVE USE PENALTIES:

Any customer violating the regulations and restrictions on water use set forth in the "No Water" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the district may cause a flow-restrictor to be installed in the service. If a flow restrictor is placed, the violator shall pay the cost of the

installation and removal. Any willful violation occurring subsequent to the issuance of the second written warning shall constitute a misdemeanor and may be referred to the Kern County District Attorney's office for prosecution pursuant. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the City Council.

REVENUE AND EXPENDITURE IMPACTS AND MEASURE TO OVERCOME IMPACTS:

Law: 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the flowing elements which are within the authority of the urban water supplier:

10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f) inclusive, on the revenues and expenditures of the urban water supplier.

10632 (g) {An analysis of the impacts of each of the } proposed measure to overcome those {revenue and expenditure} impacts, such as the development of reserves and rate adjustments.

California City currently has no surplus revenues from water sales, we operate approximately $350,000 in the red each year, if the existing rates are increased by 25% to eliminate the existing shortage, rate increases still would need to be severe to cover increased expenses and decreased sales if a shortage should occur.

Analysis indicate rate increases would need to be as follows with no additional water purchased:

Stage I	N Increase
Stage II	25% Increase
Stage II	50% Increase
Stage IV	100% Increase

REDUCTION MEASURING MECHANISM:

Law: 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the flowing elements which are within the authority of the urban water supplier:

10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

MECHANISM TO DETERMINE REDUCTIONS IN WATER USE:

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported weekly to the Water Treatment Facility Supervisor. Totals are reported monthly to the Water Department Manager and incorporated into the water supply report.

During a Stage I or a Stage II water shortage, daily production figures are reported to the Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the Public Works Director and the Water Shortage Response Team. Monthly reports are sent to the City Manager and the City Council so the corrective action can be taken.

During a stage III or a Stage IV water shortage, the procedure listed above will be followed with the addition of a daily production report toe h Public Works Director.

During emergency shortage, production figures are reported to the Supervisor hourly and to the Public Works Director and the Water Shortage Response Team daily. Daily reports will be provided to the City Manager and the City Council.

WATER RECYCLING

WASTERWATER SYSTEM DESCRIPTION:

Law: 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water suppler. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

10633 (a) A description of the wastewater collection and treatment systems in the suppliers area.

The City of California City owns and operates a 1.5 MGD extended air, tertiary treatment facility and all domestic collection systems within the City limits. The collection systems are gravity fed and only receive domestic wastewater (no storm water run off).

The existing California City Wastewater Treatment Facility is designed to treat an average flow of 1.5 million gallons per day (MGD) and peak flow of 3.0MGD. Currently, the average influent flow is 0.8 MGD of domestic wastewater. The present treatment process includes an influent pump station, head works consisting of a pararshall flume, mechanical bar screen and sonic flow meter. Secondary treatment consists of one extended aeration activated sludge basin, (split into two cells two clarifiers and a return activated sludge (RAS)/waster activated sludge (WAS) pump station. The tertiary treatment facilities consist of filter influent pump station , a chemical mixing flocculation tank, up-flow storage facilities for polymer, alum and chlorine.

Sludge treatment and disposal consists of the WAS being conveyed to 5 lined sand type sludge drying beds for dewatering. The existing sludge drying beds have a total area of 15,000 square feet. Dried sludge is removed and disposed at the authorized site, currently a landfill.

Based on 2009 recommended capacity evaluation reports, the following upgrades are proposed:

a. Replace the influent pumps to be capable of pumping a 3.0 MGD peak flow.
b. Replace tertiary filtration median with cartridge based system
c. Upgrade head works to a two channel facility
d. Add a sludge drying system to allow open use of processed sludge
e. Upgrade pumps and lines to handle a 4.5 MGD peak flow.

A feasibility study to upgrade the plant to 3.0MGD is expected to be completed in June, 2010

WATER RECYCLING: WASTEWATER GENERATION, COLLECTION & TREATMETN:

Law: 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, ground water and planning agencies and shall include all of the following.

10633 (a) A [...] quantification of the amount of wastewater collected and treated.

Table 14
Wastewater Generated in Service Area

	2010	2015	2020	2025	2030
Wastewater Generated in Service Area	1,455	1,529	1,606		
Wastewater Collection & Treated in Service Area	1,455	1,529	1,606		
Unit of Measure: Acre-feet/Year					

Table 15
Wastewater Treatment

Treatment Plant Name	Location (City)	Average Daily (2010)	Maximum Daily (2010)	Year of Planned Build-out	Planned Maximum Daily Volume
California City Wastewater Treatment Facility	California City	.8 MGD	3.0 MGD	2012	4.5 MGD

WASTEWATER DISPOSAL AND RECYCLED WATER USES:

Law: 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated

10633 (a) A description of the [...] methods of wastewater disposal.

10633 (b) A description of the recycled water currently being used in the suppliers service area, including but not limited to, the type, place and quantity use.

10633 (c) A description and quantification of the potential uses of recycled water, including buy not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge and other appropriate uses and a determination with regard to the technical and economic feasibility of serving those uses.

10633 (d) The projected use of recycled water within the suppliers service area at the end of 5, 10, 15 and 20 years.

Table 16
Wastewater Disposal and Recycled Water Use

Destination	Treatment Level	Time of Use	2010	2015	2020	2025	2030
Number of Septic Systems	Any	Year Round	477 (@ 5% reduction)	453 (@ 5% reduction)	430 (@ 5% reduction)		
Evaporation Ponds	Secondary or Better	Seasonal	17.33 (@ 10% growth)	19.06 (@ 10% growth)	20.97 (@ 10% growth)		
Landscape	Tertiary	Year-Round Jan-Dec	1,438 (@ % growth)	1,510 (@ % growth)	1,585 (@ 5% growth)		
Total			**1,455**	**1,529**	**1,606**		

Unit of Measure: Acre/feet/Year

TYPE OF WASTEWATER DISPOSAL AND CURRENT RECYCLED WATER POINTS:

Currently, the only authorized site for the secondary and tertiary treated effluent are the 8 existing percolation ponds, the Central Park Lake (used as recreational non-contact water) and the Tierra Del Sol Golf course, (used for landscape and course irrigation). The eight percolation ponds hold approximately 300 acre-feet/year of secondary and tertiary treated effluent. The Central Park Lake is primarily (with concern to treated effluent) a holding transfer point of tertiary treated effluent for the irrigation systems at Tierra Del Sol golf course, the treatment plant sends approximately 533 acre-feet/year of tertiary treated effluent to the Tierra Del Sol golf course.

POTENTIAL USES OF RECYCLED WATER:

The City of California City is studying the feasibility of using the tertiary treated effluent on the green belts, parks and local baseball fields. Due to the capitol cost of the force main and irrigation infrastructure that will be needed to convey the treated effluent to the above mentioned potential recycling points, it is not cost efficient for the City to invest in this project for an estimated 5 year period. In conjunction, the present and projected demands of the Tierra Del Sol golf course (approximately 525 acre-feet/year) and Central Park Lake consumes all of the recyclable water that the treatment facility produces.

ENCOURAGING RECYCLED WATER USE

Law: 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

10633 (d) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water used per year.

The City of California City is the sole end user of the tertiary treated effluent produced by the Treatment Facility therefore, the City has not developed a program that encourage the use of recycled water.

The City has seen a considerable savings in their potable water production costs due to the influence of the recycled water that has been introduced as a supplemental water source to the golf course irrigation system and the central park

RECYCLED WATER OPTIMIZATION PLAN

Law: The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater and planning agencies and shall include all of the following:

PLAN FOR OPTMIZING THE USE OF RECYCLED WATER:

Supplying recycled water to residents and small businesses would not be cost effective at this time.

APPENDIX A

LIST OF GROUPS WHO PARTICIPATED IN THE DEVELOPEMNT OF THIS PLAN:

CITY COUNCIL
PLANNING COMMISSION
CITIZEN ADVISORY COMMITTEE
CITY DEPARTMENT HEADS

APPENDIX B

RESOLUTION TO ADOPT THE URBAN WATER MANAGEMTN PLAN

City of California City
Kern County, California
December 19, 2000

The City Council of the City of California City does hereby resolve as follows:

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the urban Water Management Planning Act) during the 1983-1984 Regular Session, an das amended subsequently, which mandates that every supplier providing water for municipal purpose to more than 3,000 customer or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for e the conservation and efficient use of water; and

WHEREAS the City is an urban supplier of water providing water to a population over 9,000, and

WHEREAS The Plan shall be periodically reviewed at least once every five years, and that the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by December 31, 2000, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS the City has therefore, prepared and circulated for public review and draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the City Council and December 19th, 2000, and

WHEREAS the City of California City did prepare and shall file said Plan with the California Department of Water Resource by December 31st, 2000;

NOW, THEREFORE, BE IT RESOLVED By the City Council of the city of California City as follows:

1. The 2000 Urban Water Management Plan is hereby adopted and ordered filed with the City clerk; the Mayor is hereby authorized and directed to file the 2000 Urban Water Management Plan with the California Department of Water Resources within 30 days after this date;

The Mayor is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2000 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the City Council regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

In a water shortage, the Mayor is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicted in the Plan, and implement necessary elements of the Plan;

The Mayor shall recommend to the City Council additional regulations to carry out effective and equitable allocation of water resources; and

The attached budget is approve and authorized of implementation.

ADOPTED this 19th day of December 2000, by the following vote:

AYES: Council Members Adams, Bailey, Lessenevitch, Eddington, Dempsey
NOES: None

ABSENT: None
SUSTAIN: None

_____ _____
Mayor Date

ATTEST: _____
City Clerk, Helen Dennis

City Council Members: Harry Bailey, Lessenevitch, Russell Eddington, Bill Dempsey
Mayor: Larry Addams
Director, Public Works Department: Ron Wallace
Chief, Water Department: Anthony Langin

RESOLUCTION TO DECLARE A WATER SHORTAGE EMERGENCY

CITY OF CALIFORNIA CITY

KERN COUNTY, CALIFORNIA
December 19, 2000

The City Council of the City of California City does hereby resolve as follows:

PURSUANT to California Water Code Section 350 et seq., the council has conducted duly noticed public hearings to establish the criteria under which a water shortage emergency may be declared.

WHEREAS, the Council finds, determines and declares as follows:

(a) The City is the water purveyor for the property owners and inhabitants of California City;

(b) The demand for water service is not expected to lessen;

(c) When the combined total amount of water supply available to the City from all sources falls at or below the Stage II triggering levels described in the 2000 Urban Water Management Plan, the City will declare a water shortage emergency. The water supply would not be adequate to meet the ordinary demands and requirements or water consumers without depleting the City's water supply to the extent that there may be insufficient water for human consumption, sanitation, fire protection, and environmental requirement. This condition is likely to exist until precipitation and inflow dramatically increased or until water system damage resulting from a disaster are repaired and normal water service is restored.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of California City hereby directs the Mayor to find, determine, declare and conclude that a water shortage emergency condition exists that threatens the adequacy of water supply, until the City's water supply is deemed adequate. After the declaration of a water shortage emergency, the Mayor is directed to determine the appropriate Rationing Stage and implement the City's Water Shortage Emergency Response.

FURTHERMORE, the Council shall periodically conduct proceedings to determine additional restrictions and regulations which may be necessary to safeguard the adequacy of the water supply for domestic, sanitation, fire protection, and environmental requirements.

ADOPTED this 19th day of December 2000, by the following vote:

AYES: Council Members Adams, Bailey, Lessenevitch, Eddington, Dempsey

NOES: None

ABSENT: None

ABSTAIN: None

_____ _____

Mayor Date

ATTEST: _____
City Clerk, Helen Dennis

City Council Members: Harry Bailey, Nick Lessenevitch, Russell Eddington, Bill Dempsey
Mayor: Larry Adams
Director, Public Works Department: Ron Wallace
Chief, Water Department: Anthony Langin

SEPTIC TANK GUIDELINES

Memorandum of Understanding
Between the
California Water Quality Control Board
Lahontan Region
and the
City of California City

This Memorandum of Understanding is entered into by and between the California Regional Water Quality Control Board, Lahontan Region (hereinafter Board), and the City of California City (hereinafter City). Its purpose is to expedite the overall review process for proposed land developments and to provide a clear operating policy for the Board and the City on the implementation of the Board's guidelines for wastewater disposal from land developments.

Section 13260 of the California Water Code requires any person discharging waste or proposing to discharge waste that may affect waters of the State, except to a community sewer system, to file a report of waste discharge with the regional board of that region. Implementation of this code section has included regulation of individual waste systems wherever warranted.

In 1973, the Board adopted guidelines to (1) establish the conditions under which waivers of the filing requirement would be in the public interest (pursuant to California Water Code Section 13269); (2) establish minimum criteria for the use of individual systems; and (3) prevent pollution or nuisance caused by the discharges from leaching or percolating systems.

On January 14, 1988, the Regional Board adopted revisions to the "Guidelines for Waste Disposal from Land Developments". In conjunction with these revisions, the Regional Board also adopted the "Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems". These implementation guidelines list general and specific provisions in considering exemptions to the maximum density criteria (2 EDUs per acre) for individual waste disposal systems in both new and existing land developments.

This requirement also applies to domestic wastewater discharges from new commercial and industrial developments with wastewater discharge volumes exceeding two EDUs per acre density (500 gal/day/acre based on 250 gal/day/EDU). On June 16, 1988, the State Water Resources Control Board approved the revisions. For purposes of this Memorandum of Understanding, gross acreage is that area which encompasses the entire net lot area plus any underlying fee title within the adjacent right(s)-of-way, if any.

Inasmuch as the City has incorporated into its review criteria the "Minimum Criteria for Subsurface Discharge of Sewage" contained in the Board's guidelines, and has consistently applied these criteria in its review of proposed developments, it is not against the public interest for the Board to reduce its oversight work by eliminating redundant review of proposed projects.

It is agreed that:

I. The City is authorized to issue construction permits for projects that utilize individual subsurface disposal systems without Regional Board approval under the following conditions:

A. All of the following:

1. The on-site soil characteristics comply with established "Minimum Criteria for Individual Waste Disposal Systems as adopted by Resolution 6-88-15; and

2. The discharge is composed of domestic wastewater only; and

B. One of the following:

1. The development consists of single-family residences, multiple-family residences, non-residential or of mixed occupancy and the cumulative development density in the specified area, as defined on Map "A" which is made a part of this memorandum, does not exceed two equivalent dwelling units (EDUs) per acre (500 gallons/acre/day wastewater

flow). The estimated wastewater flow from non-residential or mixed occupancy developments shall be determined using Table I-2 and I-3 in the Uniform Plumbing Code and occupant loads as determined by Table 33A in the Uniform Building Code; or

2. The development consists only of a single-family home on an individual lot, subdivided prior to January 14, 1988, which has a minimum net area of 15,000 square feet; or

3. The project is in a class that has been designated exempt from Regional Board review in writing under signature of the Regional Board Executive Officer; or

4. The project/development has been granted an exemption by the Board and complies with the City's standards for use of septic tank wastewater disposal systems.

II. The City shall <u>not</u> issue construction permits without Regional Board approval for the following projects:

A. Projects that involve domestic wastewater discharge from residential, commercial or industrial development if the cumulative development density in the specified area as defined on Map "A" is in excess of two EDUs/acre or 500 gallons/acre/day as determined by the Board (except in exempted areas); or

B. Projects that will have industrial wastewater discharges; or

C. Projects that do not comply with the City's standards for use of septic tank wastewater disposal systems; or

D. Projects located within existing waste discharge prohibition areas (unless in areas exempted in I.B. above); or

E. Projects utilizing package wastewater treatment plants with on-site disposal; or

III. The City, at its discretion, may defer consideration of projects, based on water quality impacts, to the Board for any projects even if it appears that compliance with Section I. of this Memorandum of Understanding has been achieved.

IV. The City, at its discretion, may require the formation of a public entity (as defined in the State of California Government Code Section 53090 et seq.) to maintain septic systems in residential developments of one hundred (100) lots or more.

V. The Board may review permits issued by the City at its discretion. Copies of permits will be made available upon request for review in City offices.

VI. The Board, upon reviewing permits issued by the City, may require proposals be submitted and/or waste discharge requirements (permits) be obtained for all other types of waste discharges such as stormwater runoff and solid waste leachate.

VII. The City, on its own initiative or at the request of an applicant and upon providing the information specified in the implementation guidelines, may apply for individual, large scale, or area-wide exemptions.

VIII. The applicant, for projects found in compliance with the Board's guidelines, will be notified of acceptance by issuance of a City building permit or by issuance of a Board clearance letter.

IX. The City shall maintain a record of all documents submitted and reviewed under this Memorandum of Understanding. This record shall be kept as a note on the construction permit for each project.

X. This Memorandum of Understanding shall be effective immediately after execution of this agreement and shall remain in full force until terminated by a prior thirty (30) day written notice by either party.

XI. This Memorandum of Understanding may be amended as mutually agreed to by the City and the Regional Board.

XII. All notices and communications under this Memorandum of Understanding shall be addressed to the following:

Peggy L. Rosler City of California City City Manager 21000 Hacienda Blvd. California City, Ca 93505	O.R. Butterfield California Regional Water Quality Control Board, Lahontan Region 15371 Bonanza Road Victorville, Ca 92392-2494

This Memorandum of Understanding is executed on the date of the most recent signature below, by the following authorized representatives of the parties.

Peggy L. Rosler Peggy L. Rosler City Manager	O.R. Butterfield O.R. Butterfield Executive Officer
Date 3/20/89	Date

ORDINANCE NO. 89-414

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CALIFORNIA CITY AMENDING THE CALIFORNIA CITY MUNICIPAL CODE AS IT RELATES TO THE LIMITING OF ON-SITE SEWAGE DISPOSAL

THE CITY COUNCIL OF THE CITY OF CALIFORNIA CITY ORDAINS as follows:

Section 1. Purpose

This Ordinance amends the California City Municipal Code by limiting development of real property with on-site sewage disposal to conform to the Memorandum of Understanding between the California Water Regional Water Quality Control Board and the City of California City.

The Council finds, determines and declares as follows:

(a) The California Regional Water Quality Control Board has adopted amendments to the Water Quality Control Plans for the North and South Lahontan Basins which prohibit discharge of domestic waste water to individual waste disposal systems where the density is in excess of two dwelling units per acre.

(b) The California Regional Water Quality Control Board has proposed an exemption to the above requirements which would allow an exemption to the above requirements allowing the City to develop in distinctly specified areas in accordance with the above-mentioned Memorandum of Understanding.

(c) The above-mentioned proposed exemption is within the guidelines of the public policy of the City with regard to the use of individual waste water disposal systems and the City sewer system.

Section 2. Amendment

Section 6-4.01 of the City of California City Municipal Code is hereby amended as follows:

"Section 6-4.01 Connections Required

(a) Prior to the issuance of any building permit for any building upon property which fronts upon or is located within 200 feet of a City sewer line, provisions shall be made for such building to be connected to such City sewer line. Property which does not front upon a City sewer shall be deemed located within 200 feet of a City sewer only if such property is also contiguous to a public right-of-way through which such City sewer line may be reached. (Chapter 4, Art. VII, C.C.M.C., as amended by Section 1, Ord. 9-69-14)

(b) On-site sewage disposal systems shall be limited to two (2) dwelling units per acre pursuant to the above-mentioned Memorandum of Understanding. Where the density has exceeded the standards of the Memorandum of Understanding, all domestic waste water discharge shall discharge to the community sewer system.

(c) The City is divided into zones for the purposes of resolving density determination. Each zone shall be evaluated on its individual density. Where any individual zone exceeds two (2) dwelling units per acre, development shall be halted and a moratorium shall be declared in that zone until all domestic waste water discharge can be discharged into the City sewer system."

Section 3. Other

Except as provided herein, the California City Municipal Code is reaffirmed and readopted.

PASSED, APPROVED and ADOPTED this 7th day of March, 1989.

Mayor

ATTEST:

City Clerk

(SEAL)

California Regional Water Quality Control Board
Lahontan Region

Linda S. Adams
Secretary for Environmental Protection

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
http://www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

JUN 02 2008

WDID No. 6B150118001

Michael J. Bevins
Public Works Director
21000 Hacienda Blvd
California City, CA 93505

INDIVIDUAL SEPTIC TANK SYSTEM GUIDELINES, MEMORANDUM OF UNDERSTANDING BETWEEN THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION (WATER BOARD), AND CITY OF CALIFORNIA CITY, KERN COUNTY

This is a follow-up to your letters of January 3 and 4, 2008, (copies enclosed) requesting amendments to the above-referenced Memorandum of Understanding (MOU), established in 1989. The MOU addresses the central portion of the City shown in Map A (attached to the MOU). This portion of the City consists of approximately 12 square miles and includes small residential lots (<0.5 acre) created before the MOU was established. The MOU authorizes the City to issue permits for individual septic tank systems, provided the project meets a maximum density requirement of two equivalent dwelling units (EDUs) per acre in the area.

City staff requests the Water Board consider two proposed changes to the MOU: (1) improve Map A to facilitate better determination of dwelling density, and (2) temporarily waive the maximum density requirement for a specific area within the City.

For the first proposal, the City is requesting that the 83 areas, illustrated in Map A of the MOU, be redrawn using recorded tract boundary information. Under the current MOU, these 83 areas (known as Sewer Density Zone Boundaries) are used for determining density of dwellings served by septic tank systems. However, the boundaries of these areas are not recorded, and the rationale for establishing the boundaries in this manner is not well understood. Use of the current unrecorded areas is not practical to implement. There are 68 recorded tracts located in the same footprint established by the Sewer Density Zone Boundaries. The boundaries and locations of these tracts are documented in a map transmitted with the January 4, 2008 letter and titled: Sewer Density Zone Map, prepared by Helt Engineering on August 29, 2005. The January 4, 2008 letter also transmitted a table containing the following information for each tract: number of lots, area (in acres) for the portion of the tract not sewered, number of EDUs allowed on septic tank systems, number of existing EDUs, and the ratio (or percent) of the number of existing EDUs on septic tank systems to the total number allowed. The City proposes that the

tracts identified and described in the above map and table be used to redefine the areas covered in the current MOU. I accept your proposal to use tracts on the condition that the City continue to determine the number of EDUs allowed on septic tank systems using the same method used for the table attached to the January 4, 2008 letter. The number of EDUs allowed on septic tank systems would equal the area (in acres) for the portion of the tract not sewered as of the date of this letter multiplied by two (2) EDUs per acre. Hereafter, "Map A" in the MOU is replaced with the above-referenced Helt Engineering drawing (recorded tracts) and the terms "specific area" or "area" used in the MOU refers to the unsewered area as of the date of this letter within an existing individual recorded tract.

For the second proposal, the City requested changing the MOU to allow a temporary waiver to the maximum density limit (two EDUs per acre) for a specific area of the City served by septic tank systems. This area is approaching the maximum density limit. According to your January 3, 2008 letter, the City is in the process of applying for a federal grant to expand the sewage collection system to this area. This letter also stated that the City plans to require individual property owners in the area to connect to the sewer within one year after its completion via an existing ordinance. The City indicated sewer expansion to the area is scheduled for completion in May 2009. The City is requesting a waiver of the maximum density limit for the area through the end of 2012 to allow development to continue while expanding sewer service to the area. The Water Quality Control Plan for the Lahontan Region (Basin Plan) authorizes me to grant a request for a temporary waiver to the maximum density limit in an area if installation of sewers to the area is imminent; however, the information provided in your letter to support this request is limited.

I believe the City's proposal has merit and I am willing to approve of the request after additional information is provided and once all discretionary decisions have been completed. The following information is needed.

1. Information regarding the proposed temporary-waiver area including: boundaries of the area, size of the area in acres, and existing number of EDUs with septic-tank systems. The map attached to your January 3, 2008 letter did not clearly show the area proposed for a temporary waiver and the routing for proposed sewers that will extend into this area.

2. The City's proposed schedule for completing tasks for the sewering project and treatment plant upgrade project (if needed to accommodate increase in flows resulting from the additional connections), including, but not limited to, completed planning documents, required permitting, compliance with the California Environmental Quality Act (CEQA), funding approvals (whether from outside funding sources or City funding), design plans and specifications, and construction. This submittal should clearly indicate the source(s) and funding needs for each phase of the projects.

3. Additional information describing why the City is requesting a temporary waiver of the maximum density limit for septic tank systems in the area to December 31,

2012, rather than the above-referenced date of May 2009 when installation of sewers for the area is expected to be completed.

4. A monitoring and reporting proposal to periodically inform the Water Board of progress during the period of sewer expansion and treatment plant upgrade (if needed as noted in 2 above), including data on increases in septic tank system density in the temporary-waiver area and progress in completing the sewering and treatment plant upgrade projects.

5. Clarification that the sewering project includes laterals that would be within 100 feet of each parcel (triggering compliance with Municipal Code, Section 7-2.00(a)) that is currently developed or will be developed between the time when approval is granted to exceed the density requirement and when the sewer system expansion is complete. This clarification is needed as the City's letters refer to a "sanitary sewer trunk line project" that may not meet the above standard.

As indicated above, I am willing to approve of the City's request once it demonstrates that all discretionary approvals have been completed. This would include completion and certification of a CEQA document to support this project and receipt of all necessary third-party funding approvals that are needed to complete any remaining planning, design or construction phases of the projects. Additionally, I would want documentation that the City has adopted any needed financing structure necessary to repay any loans or bonding to fund either the City's share of the cost of these projects and/or repayment of third-party financing.

We look forward to assisting the City as this project is developed while ensuring the protection of water quality. If you have any questions, please call me at (530) 542-5412 or Mike Plaziak, Supervising Engineering Geologist at (760) 241-7325.

Harold J. Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

Enclosures: January 3, 2008 letter from City to Water Board staff
January 4, 2008 letter from City to Water Board staff and attached table

cc w/encl: David Evans, Mayor, California City
Linda Lunsford, City Manager, California City
Ed Collins, Planning Commission, California City
Jerry Helt, Helt Engineering, Inc.
Jesse Dhaliwal, CA Dept of Public Health, DDWEM

cc w/o enclosures:
Regional Board members

CS\rc\MOUltr

MAILING LIST

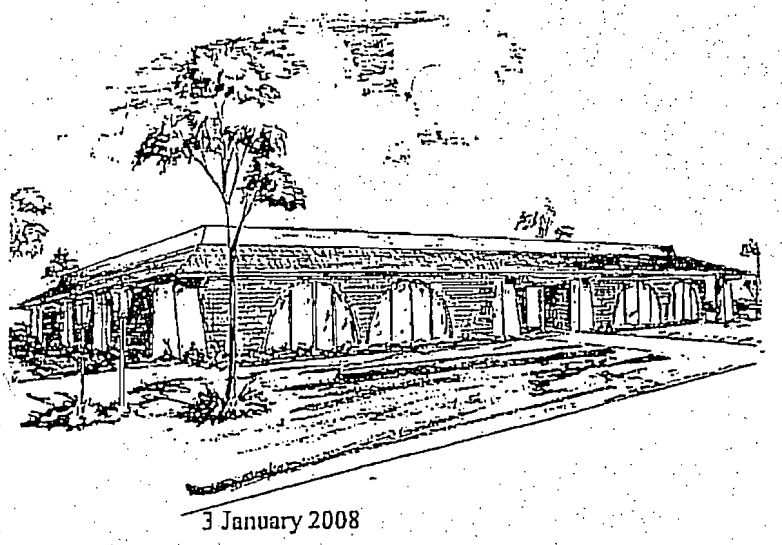
David Evans, Mayor
California City
21000 Hacienda Blvd
California City, CA 93505

Linda Lunsford, City Manager
California City
21000 Hacienda Blvd
California City, CA 93505

Ed Collins, Planning Commission
California City
21000 Hacienda Blvd
California City, CA 93505

Jerry Helt
Helt Engineering, Inc.
2930 Union Ave
Bakersfield, CA 93305

Jesse Dhaliwal
CA Dept of Public Health, DDWEM
1200 Discovery Drive, Suite 100
Bakersfield, CA 93309



Incorporated 1965

City of California City

City Hall

PHONE (760) 373-8661

21000 HACIENDA BLVD. - CALIFORNIA CITY, CALIFORNIA 93505

1/29

CRWQCB REG 6	
Rec'd	JAN 17 2008
MP	
JK	
CS	✓
File	6R15011 8001

3 January 2008

Mike Plaziak
Supervising Engineering Geologist
California Regional Water Quality Control Board
South Lahontan Basin Division
14440 Civic Drive, Suite 200
Victorville, CA 92392

Dear Mr. Plaziak:

The Holidays have been significantly distracting for me and I must apologize for the delay in getting this letter to you and the Board. As you may recall from our November meeting, the City of California City faces a unique and potentially damaging situation with a significant history of septic tank authorization on relatively small lots created prior to our MOU in 1989, which limited the City to 2 units per acre. The MOU divided the first community portion of the City into 83 separate monitoring zones and defined these on a map attached to the MOU.

Two of these zones are currently at or very near the allowed saturation level and several more zones in the South Loop, Neuralia and Redwood Rd area are over 70% saturated. The City has designed and is securing USDA funding for a sanitary sewer trunk line project that will penetrate this zone. Under current California City Municipal Code, Sec 7-2.00 (a), revised 18 December 2007, which reads:

> Improved property whose proposed discharge line would not be longer than 100 feet shall deposit sewage into the main through a lawful sewer connection. The sewer connection for property improved as of September 1, 2002, shall be made before September 1, 2003. The sewer connection for property improved before the future extension of the sewer main shall connect to the main within one year of the installation of the sewer main.

Sec 7-2.05 (b), revised 18 December 2007, which in part reads:

> Private disposal systems shall be permanently deactivated in accordance with the Uniform Plumbing Code when the property is connected to the community system.

Residents currently living on septic tanks will be required to connect to the new trunk lines when the lines are completed some time in May, 2009. Additionally, our waste water treatment plant

will be upgraded from 1.5 mgd to approximately 4.0 mgd by 2012 with planned discharge either being delivered to Cache Creek, per your suggestion, or to a FPL Energy, LC solar generation plant planned for the area.

We would therefore request the Board to waive the saturation limits through the end of 2012, so that the City can have the opportunity to implement the first phase of its sanitary sewer collection and treatment plant expansion plans.

We left you with a significant amount of supporting documentation at our last meeting, but if you require additional copies, please contact me directly at (760)596-2861 and I will immediately send you any material you request.

Sincerely,

Michael J. Bevins
Public Works Director
City of California City

HELT ENGINEERING, INC.

2930 UNION AVE. BAKERSFIELD, CA 93305 (661)323-6045 FAX (661)323-0799

FEB 8 - 2008

CRWQCB REG 6	
Rec'd	
JK	
CS	✓
File	6B15011800001

1-04-08

Joe Koutsky, P.E.
Water Resource Control Engineer
California Regional Water Quality Control Board Lahontan Region
Victorville Branch Office
14440 Civic Dr., Suite 200
Victorville, Ca 92392

Mr. Koutsky,

Enclosed is a copy of the sewer density map and the revised density figures for the First Community of California City, divided into areas North and South of California City Blvd. It should be noted that the zones have been changed to reflect the Tracts within California City as we talked about at our last meeting. These figures have been adjusted up to the month of December, 2007.

Please call me as soon as you've had a chance to review these. We would like to schedule another meeting as soon as possible so we may use these revised sewer density maps.

Jerry Helt
Helt Engineering, Inc.

CC: Mike Bevins, Public Works Director California City

Enclosed: 3 copies sewer density map, 3 copies of the North & South Density Figures.

CITY OF CALIFORNIA CITY - NORTH COMMUNITY

TRACT/ZONE CALCULATIONS BASED ON TWO DWELLING UNITS PER ACRE

SEWER DENSITY PER TRACT AS OF: 1/22/08

TRACT/ ZONE	LOTS PER TRACT/ ZONE	ACREAGE	# OF D.U. ALLOWED	PERMITS ISSUED	APT PERMITS	TOTAL # OF LOTS	# OF UNDEVELOPED LOTS	% TO SEPTIC CAP	% AT BUILDOUT	PARTIAL SEWER
2227	287	92		139	4	287	144			•
SEPTIC	141	45	90	80		141	61	88.89%	157%	
2228	302	116		146	11	302	145			•
SEPTIC	255	99	198	134		255	121	67.68%	129%	
2252	312	113		135		312	177			•
SEPTIC	213	65	130	109		213	104	83.85%	164%	
2305	290	104		92		290	198			•
SEPTIC	190	61	122	44		190	146	36.07%	156%	
2398	39	14	SEWERED							
2435	287	98		132		287	155			•
SEPTIC	259	87	174	119		259	140	68.39%	149%	
2436	395	155		107	7	395	281			•
SEPTIC	377	148	296	63		377	314	21.28%	127%	
2447	304	114		56	1	304	247			•
SEPTIC	211	76	152	29		211	182	19.08%	139%	
2528	533	273	546	7		533	526	1.28%	98%	
2613	24	4	SEWERED							
2629	686	174		131	12	686	543			•
SEPTIC	157	136	272	75		157	82	27.57%	58%	
2726	500	162	324	73	1	500	426	22.84%	154%	
2727	384	123	246	1		384	383	0.41%	156%	
2778	525	141		254	5	525	266			•
SEPTIC	265	71	142	48		265		33.80%	187%	
2779	465	165		107		465	358			•
SEPTIC	292	101	202	49		292	243	24.26%	145%	

JOB # 06403

CITY OF CALIFORNIA CITY - NORTH COMMUNITY
TRACT/ZONE CALCULATIONS BASED ON TWO DWELLING UNITS PER ACRE
SEWER DENSITY PER TRACT AS OF: 1/22/08

TRACT/ ZONE	LOTS PER TRACT/ ZONE	ACREAGE	# OF D.U. ALLOWED	PERMITS ISSUED	APT PERMITS	TOTAL # OF LOTS	# OF UNDEVELOPED LOTS	% TO SEPTIC CAP	% AT BUILDOUT	PARTIAL SEWER
2791	309	90		127	1	309	182			•
SEPTIC	161	46	92	67		161	94	72.83%	175%	
2811	500	148		16		500	484			•
SEPTIC	426	121	242	6		426	420	2.48%	176%	
2812	621	164	328	0		621	621	0.00%	189%	
2814	48	21	SEWERED							
2880	52	142		0		52	52			•
SEPTIC	44	103	206	0		44	44	0.00%	21%	
2887	653	163	326	2		653	651	0.61%	200%	
2898	578	162	324	0		578	578	0.00%	178%	
2967	497	133		0		497	497			•
SEPTIC	461	122	244	0		461	461	0.00%	189%	
3151	213	57	SEWERED							
3257	80	21	SEWERED							
3296	68	18	SEWERED							
3298	24	8	SEWERED							
5169	112	43	86	60		112	52	69.77%	130%	
5178	52	12	SEWERED							
5179	95	18	SEWERED							
3399	80	16	32	0		80	80	0.00%	250%	
3921	1	4	8	1		1	1	12.50%	13%	
4138	15	3	SEWERED							
5527-1	102	14	28	0		102	102	0.00%	364%	
5988	11	39	SEWERED							

CITY OF CALIFORNIA CITY - SOUTH COMMUNITY
TRACT/ZONE CALCULATIONS BASED ON TWO DWELLING UNITS PER ACRE
SEWER DENSITY PER TRACT AS OF: 1/22/08

TRACT/ ZONE	LOTS PER TRACT/ ZONE	ACREAGE	# OF D.U. ALLOWED	PERMITS ISSUED	APT PERMITS	TOTAL # OF LOTS	# OF UNDEVELOPED LOTS	% TO SEPTIC CAP	% AT BUILDOUT	PARTIAL SEWER
2066	376	132	264	144		376	232	54.55%	142%	
2067	849	269		446	10	849	393			•
SEPTIC	797	253	506	426		797	371	84.19%	158%	
2068	497	160	320	238		497	259	74.38%	155%	
2069	392	151		140	2	392	250			•
SEPTIC	275	93	186	83		275	192	44.62%	148%	
2115	339	142	284	21		339	318	7.39%	119%	
2116	362	113	226	167		362	195	73.89%	160%	
2117	518	177	354	36	1	518	481	10.17%	146%	
2118	277	83	166	0		277	277	0.00%	167%	
2119	322	102	204	72		322	250	35.29%	158%	
2120	371	132	264	145		371	226	54.92%	141%	
2121	84	107	214	0		84	84	0.00%	39%	
2122	269	82	164	0		269	269	0.00%	164%	
2123	85	103	206	0		85	85	0.00%	41%	
2159	344	143	286	133		344	211	46.50%	120%	
2160	225	81		37		225	188			•
SEPTIC	201	72	144	29		201	172	20.14%	140%	
2161	222	89		8		222	214			•
SEPTIC	177	78	156	6		177	171	3.85%	113%	
2163	260	146	292	31		260	229	10.62%	89%	
2164	245	75	150	12		245	233	8.00%	163%	
2191	263	111	222	22		263	241	9.91%	118%	
2223	476	202	404	2		476	474	0.50%	118%	
2225	540	234	468	38		540	502	8.12%	115%	
2226	756	295	590	125		756	631	21.19%	128%	

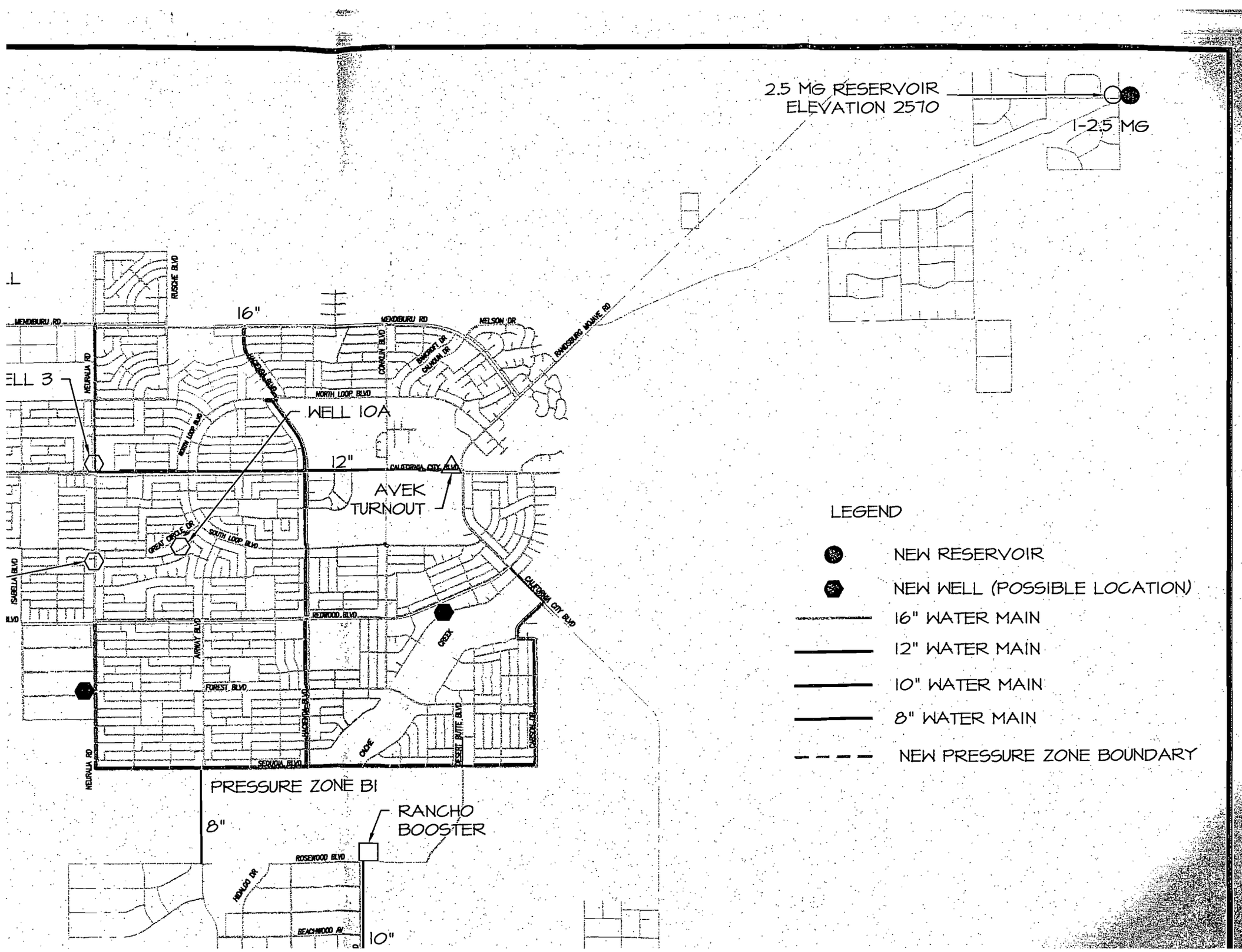
JOB # 06403

CITY OF CALIFORNIA CITY - SOUTH COMMUNITY

TRACT/ZONE CALCULATIONS BASED ON TWO DWELLING UNITS PER ACRE

SEWER DENSITY PER TRACT AS OF: 1/22/08

TRACT/ ZONE	LOTS PER TRACT/ ZONE	ACREAGE	# OF D.U. ALLOWED	PERMITS ISSUED	APT PERMITS	TOTAL # OF LOTS	# OF UNDEVELOPED LOTS	% TO SEPTIC CAP	% AT BUILDOUT	PARTIAL SEWER
2310	364	123	246	85		364	279	34.55%	148%	
2317	363	119	238	3		363	360	1.26%	153%	
2404	207	67	134	0		207	207	0.00%	154%	
2461	206	70	140	0		206	206	0.00%	147%	
2530	489	127	254	2		489	487	0.79%	193%	
2630	539	138	276	1		539	538	0.36%	195%	
2725	611	160	320	75		611	536	23.44%	191%	
5676	70	35	SEWERED							
6113-1	27	8	16	4		27	23	25.00%	169%	
2860	21	3	6	0		21	21	0.00%	350%	
5634	6	22	SEWERED							



2.5 MG RESERVOIR
ELEVATION 2570
1-2.5 MG
16"
WELL 10A
12"
AVEK
TURNOUT
PRESSURE ZONE B1
8"
RANCHO
BOOSTER
10"
MENDIBURU RD
NELSON DR
RANDSBURG MOJAVE RD
NORTH LOOP BLVD
CALIFORNIA CITY BLVD
SOUTH LOOP BLVD
REDWOOD BLVD
FOREST BLVD
SEQUOIA BLVD
ROSEWOOD BLVD
BEACHWOOD AV
NEURALIA RD
RUSCHE BLVD
CONKLIN BLVD
GREAT CIRCLE DR
ARWAY BLVD
CREEK
CACHE
DESERT BUTTE BLVD
CARSON DR
LEGEND
NEW RESERVOIR
NEW WELL (POSSIBLE LOCATION)
16" WATER MAIN
12" WATER MAIN
10" WATER MAIN
8" WATER MAIN
NEW PRESSURE ZONE BOUNDARY

REVIEW OF WATER SUPPLY AND WATER QUALITY CALIFORNIA CITY AREA KERN COUNTY, CALIFORNIA

FEBRUARY 1971

THOMAS M. STETSON

CIVIL AND CONSULTING ENGINEERS

THOMAS M. STETSON

REVIEW OF
WATER SUPPLY AND WATER QUALITY
CALIFORNIA CITY AREA
KERN COUNTY, CALIFORNIA

February 1971

THOMAS M. STETSON

Civil and Consulting Engineers
Los Angeles San Francisco

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P L A T E S

Plate 1	Map of California City and Vicinity	At rear of report

Appendices

A	Letter of October 14, 1970, from Kern County Health Department to Thomas M. Stetson	Follows page 23
B	Qualifications of Thomas M. Stetson	Follows Appendix A

THOMAS M. STETSON
CIVIL AND CONSULTING ENGINEERS

849 SOUTH BROADWAY
LOS ANGELES, CALIFORNIA 90014
TELEPHONE 622-2188

430 PACIFIC AVENUE
SAN FRANCISCO, CALIFORNIA 94133
TELEPHONE 781-4297

February 17, 1971

REPLY TO: Los Angeles

State of California
Department of Public Health
Main Headquarters
2151 Berkeley Way
Berkeley, California 94704

Gentlemen:

By letter dated October 14, 1970, the Kern County Health Department requested a complete, current hydrological report for the California City area. In accordance with that request, the report, entitled "Review of Water Supply and Water Quality, California City Area, Kern County, California," is transmitted herewith.

Sincerely yours,

Thomas M. Stetson

Thomas M. Stetson

TMS:jg

INTRODUCTION

By letter dated October 14, 1970, the Kern County Health Department requested a complete and current hydrological report be prepared on the California City area and submitted to the State Department of Real Estate, the State Health Department and the Kern County Health Department. It was requested that the report be prepared by a person or firm qualified in the field of geology and ground water hydrology and so registered in the State of California. A copy of that letter is attached to this report as Appendix A.

This report presents the results of an up-to-date investigation of the geology, ground water hydrology, water quality and water reserves of the California City area. It was prepared by Thomas M. Stetson, former City Engineer of California City and a consulting civil engineer qualified in these fields and so registered in California. A statement of his qualifications is attached to this report as Appendix B.

California City is located in southeasterly Kern County, California, in the western portion of the Mojave Desert. The region is characterized by low hills and mountains and closed alluvial basins typical of the basin and range province.

It is located in two major surface drainage areas. They are the Fremont Valley area, which drains into Koehn Lake northerly of California City, and the Antelope Valley area, which drains to Rodgers Dry Lake southerly of the City. Within the drainage areas, California City overlies two separate, relatively deep, alluvial basins

and an intervening area of relatively impervious materials.

The westerly portion of the City overlies a part of the Fremont Valley groundwater basin, one of the major groundwater basins in the Mojave Desert. Much of the eastern portion of the City overlies the Rand Basin. The City has been conducting a groundwater exploration program in the Rand Basin since 1966.

In order to properly evaluate the groundwater situation within the City portion of the Fremont Valley groundwater basin the entire portion of the basin within the Fremont Valley drainage area was investigated. In addition, the groundwater conditions beneath the Cantil Ranch, located within the Fremont Valley groundwater basin and recently acquired by Great Western Cities, Inc., was studied.

The groundwater situation in the Fremont Valley is treated separately from the little developed Rand Basin and intervening area. The groundwater geology, annual groundwater supply, groundwater reserves, present groundwater use and pumpage, well performance, groundwater quality and the development of the groundwater resources were evaluated.

GENERAL REGIONAL GEOLOGY

The rocks and deposits in the western Mojave Desert and adjacent mountains are divided into three main groups; 1) pre-Tertiary crystalline basement complex, 2) consolidated sedimentary and volcanic rock of Tertiary age, and 3) unconsolidated and semi-consolidated sediments of Quaternary age. The Tertiary rocks were deposited upon basement rock in many local basins and are probably present under

most of the valleys. Both the pre-Tertiary and Tertiary rocks are overlain unconformably by Quaternary alluvial sediments that cover nearly all the valley areas.

The pre-Tertiary crystalline rocks exhibit a low permeability and contain water only in fractures and joints. These rocks yield only a few gallons of water per minute to wells. In highly fractured areas the yields may reach several tens of gallons per minute per well.

The consolidated Tertiary rocks are slightly to moderately permeable. The harder, well indurated strata are relatively impervious. The more friable sandstones and conglomerates are slightly to moderately permeable and yield a few gallons to several tens of gallons per minute to wells.

The alluvial sediments of Quaternary age vary in texture from coarse fanglomerates to fine clays and are generally permeable. They form the main groundwater reservoirs. Clay, or mixtures of clay and sand or gravel, are generally impervious. Highly permeable clean sand and gravel yield moderate to large quantities of water to wells.

FREMONT VALLEY

Fremont Valley is bounded on the north and west by the El Paso Mountains and the Sierra Nevada. The Rand Mountains and lower hills and buttes form the eastern and southern boundary. These surrounding highland areas are underlain by pre-Tertiary basement rock and several thousand feet of Tertiary sedimentary rocks. In the valley areas

these rocks lie at depth and are buried by Quaternary alluvial deposits which form the principal aquifers.

The Fremont Valley drainage basin, which includes the northern portion of the Fremont Valley groundwater basin and tributary area, was selected as the study area because of the importance of the precipitation and runoff of that area in providing recharge to the groundwater supply of the California City area. The drainage area of the Fremont Valley comprises about 680 square miles. Approximately 66 square miles of the City of California City lies within the Fremont Valley drainage area, of which about one-half overlies the groundwater basin. The entire 10-1/2 square mile area of the Cantil Ranch is within both the drainage area and the groundwater basin. Plate 1 shows the geographic relationship between the groundwater basin, the drainage area, the location of California City and the Cantil Ranch property.

Annual Groundwater Supply

The source of water supply to Fremont Valley comes predominantly from recharge of precipitation. Additional water enters the Fremont Valley by subsurface inflow. There appears to be no significant natural discharge of groundwater from the area. Most discharge of groundwater since 1900 has been from wells.

Application of techniques used by the United States Geological Survey (U.S.G.S.) in its studies of the Fremont and Antelope Valleys[1/]

1/ U. S. Geological Survey, 1965, Water Resources of the Antelope Valley-East Kern Water Agency Area, California; Open File Report.

to estimate the groundwater recharge from precipitation indicate that approximately 15,000 to 20,000 acre-feet of water is annually recharged to the portion of the groundwater basin within Fremont Valley drainage area. The U.S.G.S. estimated the recharge from precipitation for a slightly different area at 18,000 acre-feet per year.[2/]

Groundwater elevation contour maps indicate that there are two major sources of subsurface inflow to the Fremont Valley portion of the groundwater basin. These include 1) northward subsurface flow across the Fremont Valley drainage divide from the southern part of the groundwater basin and 2) flow through the Castle Butte-Desert Butte Narrows. Limited data indicate that between 500 and 2,500 acre-feet of subsurface flow annually moves across the Fremont Valley drainage divide from the southern portion of the groundwater basin. Approximately 100 to 500 acre-feet per year of subsurface inflow is estimated to move through the Castle Butte-Desert Butte Narrows.

The estimated average annual water supply available within the Fremont Valley portion of the Fremont Valley groundwater basin is between 16,000 and 23,000 acre-feet, or the sum of the recharge from precipitation (15,000 to 20,000 acre-feet) and subsurface inflow (600 to 3,000 acre-feet). The U.S.G.S., for a slightly different study area, estimated a total net annual water supply of 18,000 to 19,000 acre-feet.[3/]

2/ Ibid

3/ See U.S.G.S., note 1 supra

Groundwater Reserves

When the demand on a groundwater basin exceeds the annual replenishment, the excess demand must be met by groundwater taken from storage. In areas with a vast groundwater storage potential it is not necessary to limit development to the annual replenishment. In other words, the basin can be economically drawn upon to support a broad base of development. Thus, any study of the total water supply or future water supply of a groundwater basin must consider groundwater storage, as it may make up a major portion of the potential future supply. The Fremont Valley is such an area.

Determination of the groundwater stored in sedimentary deposits filling the Fremont Valley portion of the groundwater basin first required ascertaining the total thickness of the deposits or, in other words, the depth to the top of the basement rocks.

The U.S.G.S. conducted a gravity survey consisting of 1,900 gravity stations in the western Mojave Desert.[4/] It was found that a sufficient density contrast exists between the Cenozoic (Tertiary and Quaternary) deposits and the pre-Tertiary basement. From this gravity data the depth to basement, or thickness of the sedimentary deposits, could be inferred.. However, the gravity data by itself cannot be used to differentiate the Tertiary non-marine rocks from the alluvial Quaternary sediments. Differentiation of these two types of Cenozoic deposits is important in the estimation of the usable groundwater in storage.

4/ U. S. Geological Survey, 1960, Gravity Survey of the Western Mojave Desert, California; Professional Paper 316-D.

The Tertiary non-marine rocks are generally consolidated. Where these rocks have been tapped by shallow wells they have generally yielded low quantities of water to wells. The important water bearing deposits in the area are the unconsolidated deposits of Quaternary age. Thus additional data, including geologic cross-sections prepared by the U.S.G.S.[5/] and available well logs, were used to prepare isopach maps showing the thickness of the unconsolidated deposits and the thickness of the consolidated deposits. The thickness of the unconsolidated deposits ranged from zero, at places along the margins of the basin, to more than 1,100 feet in the vicinity of California City. The consolidated rocks varied in thickness from zero to more than 9,000 feet adjacent to the Garlock Fault in the Koehn Lake-Cantil Valley area.

The groundwater in storage was estimated separately for the unconsolidated and consolidated deposits. Depth to water contours for the spring of 1967, prepared by the U.S.G.S., were superimposed upon an isopach map of the unconsolidated deposits and the saturated thickness determined. The specific yield values applied to the unconsolidated deposits were those determined by the U.S.G.S.[6/] The resulting estimate of groundwater in storage in the unconsolidated deposits in the Fremont Valley portion of the groundwater basin is approximately 6,000,000 acre-feet.

The greatest thickness of Cenozoic deposits is comprised of relatively consolidated rocks. Where these rocks are penetrated by wells they are known to yield only small quantities of water. In

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5/ See U.S.G.S., note 1 supra.

6/ Ibid.

most places these deposits lie at great depth, thus the storage potential of these deposits should not be presently relied upon to supply future demands without more extensive exploration. It is quite possible that certain zones within the consolidated deposits may be good aquifers but the depth to water and the areal extent may prevent full development. The estimated groundwater in storage in these consolidated deposits in the Fremont Valley portion of the groundwater basin is about 12,000,000 acre-feet.

The estimated total potential groundwater in storage in the Fremont Valley portion of the groundwater basin is about 18,000,000 acre-feet. Only a portion of this water can be removed from the basin by wells and used for the development of the area. Present depth limitations of pumping equipment prevents, in most cases, the economical removal of water from depths greater than 1,000 feet. Under heavy draft, well interference could limit the complete dewatering of the aquifer to the maximum bowl setting depth unless the pumping rate is significantly reduced. In addition, with substantial dewatering it is possible that water quality considerations could prevent the removal of some water.

The Fremont Valley portion of California City and the Cantil Ranch property overlie two of the most prolific groundwater areas in the basin. It is estimated that in the unconsolidated sediments underlying the California City portion of the basin approximately 1,500,000 acre-feet of groundwater is presently in storage. Beneath the Cantil Ranch approximately 300,000 acre-feet of groundwater is presently in storage in the unconsolidated deposits. Most of this water beneath the Cantil Ranch and California City is expected to

be available to wells. In addition, any future heavy pumping in these areas would result in groundwater presently in storage in adjacent portions of the basin moving into the area of pumping. Thus, a greater quantity of groundwater than the above stated amounts would actually be available to those areas.

In addition to the water stored in the unconsolidated deposits beneath the Cantil Ranch, it is believed that some water is available at economical depths within the consolidated rocks. There is not sufficient information available at this time to properly evaluate the quantity obtainable from the consolidated deposits. Throughout most of the California City portion of the basin the unconsolidated deposits extend to the economical pumping depth. Therefore it is not expected that the consolidated deposits will serve as a significant source of supply to the area in the near future.

Present Water Use and Pumpage

For all practical purposes the source of all water used in the Fremont Valley is from groundwater supplies. The principal uses of water are for irrigation (mainly alfalfa) and municipal requirements. Minor quantities of water are pumped for individual domestic and stock needs throughout Fremont Valley and adjacent valleys within the Fremont Valley drainage area.

A recent reconnaissance survey was made of the Fremont Valley to ascertain crop distribution. Based upon the results of this survey, a 1958 land use survey by the California Department of

Water Resources[7/] was updated to correspond to 1970 conditions. The results indicated that at the present time approximately 5,100 acres are under irrigation of which alfalfa comprises about 4,400 acres and irrigated grain 700 acres.

The estimated total annual unit rates of consumptive use of water by alfalfa and irrigated grain in Fremont Valley are about 3.4 and 1.5 acre-feet per acre, respectively. These values are based upon studies conducted in the Tehachapi area.[8/] Assuming that 0.2 acre-foot of water per acre is provided by direct precipitation for the consumptive use of alfalfa, a somewhat lesser quantity than that for irrigated grain, and assuming an irrigation efficiency of 55 percent, the unit irrigation water requirement for alfalfa and irrigated grain in Fremont Valley is estimated to be 5.8 and 2.4 acre-feet per acre, respectively. The unrecoverable water due to conveyance losses and riparian vegetation is assumed to be 5 percent. Therefore the unit rate of applied irrigation water returned to the groundwater basin is about 2.3 acre-feet per acre for alfalfa and 1.0 acre-feet per acre for irrigated grain.

Applying the unit irrigation requirement to the approximately 4,400 acres of alfalfa and 700 acres of irrigated grain, the total annual pumpage for irrigation purposes in Fremont Valley is about 27,000 acre-feet. Approximately 11,000 acre-feet of the pumped water returns to the groundwater basin.

7/ California Department of Water Resources, 1963, Desert Areas of Southwestern California, Land and Water Use Survey, 1958; Bulletin No. 101.

8/ Stetson, Thomas M., 1969, Hydrologic Investigation of Cummings Valley, Kern County, California.

The Cantil Ranch, the property recently acquired by Great Western Cities, Inc., represents the major production of groundwater from the Fremont Valley portion of the groundwater basin at the present time. The purchase of this land resulted in the acquisition of an established history of large scale pumpage of groundwater

Developement of the Cantil Ranch property was first started in 1948. Since 1952, approximately 3,200 to 3,500 acres of alfalfa and 500 to 600 acres of grain have been irrigated each year. At the present time the irrigated crops consist of 3,335 acres of alfalfa and 408 acres of wheat.

Based upon current crops and the water requirements it is estimated that the total pumpage at the Cantil Ranch is about 20,000 acre-feet per year. It is not expected that the annual pumpage has varied significantly over the past few years since development has been reported as fairly constant since 1952. Of the 20,000 acre-feet pumped, it is estimated that about 12,000 acre-feet is consumed and the remaining 8,000 acre-feet is returned to groundwater.

The major domestic and municipal pumpage in the Fremont Valley is by the California City Community Services District, which serves water in the City of California City. The historic pumping records of District owned wells, presented in Table 1, indicate large extractions during the 1950's when the wells were used for agricultural purposes. In 1959, when major agricultural use of the wells ceased, the extractions sharply declined. Pumpage by District wells during 1969 totaled about 1,430 acre-feet. Much of this water is used for watering individual

TABLE 1

Historic Pumpage From
California City Community Services District Wells
Within Fremont Valley

Calendar Year	Pumpage, acre-feet
1953	14,233
54	7,708
55	7,599
56	11,210
57	9,438
58	4,772
59	1,353
1960	375
61	1,007
62	1,401
63	1,148
64	1,859
65	1,086
66	1,087
67	1,289
68	1,482
1969	1,430

yards, a golf course, and maintenance of a lake, where consumptive use and evaporation losses are large. It is estimated that about 500 acre-feet of the present pumpage from District wells returns to groundwater storage.

In addition to California City pumpage, it is estimated that groundwater pumped by the Mojave Public Utility District and miscellaneous pumpers in Fremont Valley drainage basin does not exceed 1,500 acre-feet per year. Approximately 40 percent of this returns to the groundwater storage. Thus, the total current groundwater production from the Fremont Valley groundwater basin within the Fremont Valley drainage area is approximately 30,000 acre-feet per year. About 18,000 acre-feet of this pumped groundwater is consumed and 12,000 acre-feet returns to groundwater storage.

Wells and Well Performance

There are currently five active and four inactive wells within the California City portion of Fremont Valley. These wells, the locations of which are shown on Plate 1, are owned by the California City Community Services District. Selected well characteristics for those nine District wells are presented in Table 2.

Well tests, conducted by the Southern California Edison Company, indicate that the District wells are capable of producing about 500 to 1,500 gallons per minute (gpm) each. The specific capacities of the active wells, a measure of the well performance expressed in gallons per minute produced per foot of drawdown (gpm/ft), range between 23 and 49, which are considered to be very good. This would indicate aquifers with good coefficients of transmissibility.

TABLE 2

Selected Well Characteristics of
California City Community Services District Wells
In Fremont Valley

District Well No.	1	1A	2	3	4	10	11	14	15
I.S.G.S. Well No.	32/37-26N1	32/37-26R1	32/37-22N1	32/37-23N1	32/37-14N1	32/37-26G1	32/37-35G1	32/37-16R1	32/37-26M1
Well Status	Inactive	Inactive	Inactive	Active	Inactive	Active	Active	Active	Active
Date Drilled	1952	1952	1952	1952	1952	1952	1952	1952	1953
Casing Depth, ft.	1,000	500	730	680	685	553	428	686	598
Diameter, in.	16	16	16	16	16	16	16	16	16
Pump Unit	1/	1/	1/	Line-Shaft	1/	Line-Shaft	Line-Shaft	Line-Shaft	Line-Shaft
Pump Horsepower	-	-	-	350	-	150	125	150	250
Power Type	-	-	-	Natural Gas	-	Electric	Electric	Electric	Butane
Depth Standing Water Level, ft.	-	-	-	-	-	305	315	362	336
Depth Pumping Water Level, ft.	-	-	-	-	-	349	331	387	352
Well Capacity, gpm	790	1,040	1,530	1,452	590	1,377	477	822	805
Specific Capacity, gpm/ft.	10	115 or less	13	23	2	31	30	34	49
Date, Power and Test Data 2/	7-15-58	7-19-64	-	6-22-59 3/	-	10-17-69	10-23-69	10-23-69	10-17-69

/ Not presently equipped.
/ Well tests performed by Southern California Edison Company.
/ Test data not applicable to recently installed equipment.

Water for irrigation of the crops at the Cantil Ranch is provided by wells. A total of fifteen wells appear to be active and equipped with pumping units. Southern California Edison Company well tests indicate that the Cantil Ranch wells are capable of producing 900 to 2,500 gpm, with most of the wells producing 1,600 to 1,900 gpm. The specific capacities of those wells, as reported by the U.S.G.S., range generally from 20 to more than 30 gpm/ft with most of the wells in the central portion of the property exhibiting specific capacities in excess of 30 gpm/ft. A pump test conducted in March 1969 on Cantil Well No. 6 indicated a specific capacity of 81 gpm/ft at a pumping rate of 2,500 gpm.

Water Quality

Water quality data for the District wells within the Fremont Valley were available for this report for four of the five active wells, (Well Nos. 10, 11, 14 and 15) and two of the inactive wells, (Well Nos. 1-A and 4). The water analyses for the active wells are from samples collected in March of 1969. The analyses of the water from the other wells are from samples collected in the late 1950's and early 1960's. The analyses are presented in Table 3 and are expected to be representative of the general groundwater quality of the California City portion of Fremont Valley.

The ground water quality of the California City portion of Fremont Valley is adequate for domestic purposes. Although fluoride concentrations are high, they are within acceptable limits. The analyses presented in Table 3 show fluoride concentrations generally ranging from 0.5 to 1.4 milligrams per liter (mg/l), with

TABLE 3

Water Quality Analyses
California City Community Services District Wells
Fremont Valley

Item*	#1A 32S/37E-26R1	#4 32S/37E-14N1	#10 32S/37E-26G1	#11 32S/37E-35G1	#14 32S/37E-16R1	#15 32S/37E-26M1
Collection Date	8/23/62	7/1/57	3/20/69	3/20/69	3/20/69	3/20/69
Calcium (Ca)	17	31	18	22	28	13
Magnesium (Mg)	6.1	7.0	5.8	7.3	10	10
Sodium (Na)	144	132	150	158	146	156
Potassium (K)	2.0	2.4	2.5	3.2	3.7	2.5
Bicarbonate (HCO_3)	224	223	218	238	222	179
Carbonate (CO_3)	0	0	1.8	0	0	19
Chloride (Cl)	75	76	77	78	84	78
Sulfate (SO_4)	86	89	102	119	123	119
Sulfide (S)	-	-	0	0	0	0
Nitrate (NO_3)	1.5	0	2.8	1.8	1.8	2.1
Nitrite (NO_2)	-	-	0	0	0	0
Ammonia (NH_3)	-	-	Trace	Trace	Trace	Trace
Silica (SiO_2)	26	20	-	-	-	-
Iron (Fe)	-	-	0.1	0.1	-	0.1
Fluoride (F)	1.4	2.4	1.2	1.3	0.5	1.2
Manganese (Mn)	-	-	0.01	0	0	0
Arsenic (As)	-	-	Nil	Nil	Nil	Nil
Boron (B)	.40	.40	-	-	-	-
Hardness ($CaCO_3$)	68	106	70	86	112	74
Total Dissolved Solids	445	470	466	507	504	486
Specific Conductance (micromhos at 25°C)	752	797	-	-	-	-
pH	7.9	7.9	8.0	7.9	7.6	8.2

*All units in parts per million (ppm) unless noted otherwise.

one water analysis in 1957 from an inactive well being 2.4 mg/l. The U. S. Public Health Service (USPHS) Drinking Water Standards have set recommended upper limits and rejection limits for the fluoride concentration in domestic water supplies. These concentrations, which are tabulated below, are a function of the annual average maximum daily air temperature.

Annual Average of Maximum Daily Air Temperatures, °F	Concentration (mg/l) Recommended Upper Limit	Rejection Limit
50.0 - 53.7	1.7	2.4
53.8 - 58.3	1.5	2.2
58.4 - 63.8	1.3	2.0
63.9 - 70.6	1.2	1.8
70.7 - 79.2	1.0	1.6
79.3 - 90.5	0.8	1.4

The average fluoride concentration in the water from the active wells, based upon the March 1969 analyses presented in Table 3, is 1.05 mg/l. The annual average of the maximum daily air temperature at California City is not known. However, at Backus Ranch, located between Mojave and Rosamond, the annual average maximum daily air temperature for the period 1938 to 1960 was 76.8°F. Thus, the fluoride concentration of the water in the District System is within acceptable limits for domestic use.

As a result of the discovery of arsenic in water in the vicinity of the town of Boron, the California City Community Services District had obtained a determination of arsenic concentration in the March 1969 water quality analyses. The results, as reported by Hornkohl Laboratories, Inc., of Bakersfield, indicated that the arsenic concentration was nil, as shown in Table 3.

Limited water quality data within and adjacent to the Cantil

Ranch were available from a State Department of Water Resources publication.[9] The results of those analyses are presented in Table 4. These analyses probably reflect the general quality of the groundwater now available in the area even though the latest available complete analysis was in 1961 and partial analysis was in 1966. The four analyses for Well No. 14, spanning the period from 1955 to 1966, showed no significant trend toward changes in water quality. The water quality of the three Cantil Ranch wells appear generally adequate for domestic purposes.

RAND BASIN AND INTERVENING AREA

That portion of California City east of the Fremont Valley groundwater basin overlies either the Rand Basin or the intervening area between the Rand Basin and the Fremont Valley groundwater basin. Rand Basin is located generally north of the Lockhart Fault and extends from the Rand Mountains southeast toward Harper Valley. It is bounded on the northeast by the large area of granitic rocks extending northwesterly of Fremont Peak, and on the southeast by a series of granitic rock hills south of Fremont Peak. As indicated on Plate 1, most of the eastern and northeastern portion of the City overlies Rand Basin. That portion of the Rand Basin within the City is in the surface drainage of the Antelope Valley.

Groundwater is believed to occur in Pleistocene alluvial deposits and possibly in older Cenozoic sediments filling Rand Basin. Several minor faults have been mapped within the basin and surface

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[9] California Department of Water Resources, 1969, Water Wells and Springs in the Fremont Valley.

TABLE 4

Water Quality Analyses,
Cantil Ranch Wells

Item*	#9 30S/37E-36N1	#13 30S/37E-26E1	#14 31S/37E-1H1			
Date of Collection	3/11/53	3/17/53	7/1/57	7/8/59	8/3/61	4/20/66
Depth of Well, (feet)	590					
Water Temperature (°C)	28	-	26	23	27	-
Silica (SiO_2)	31	26	20	30	22	-
Iron (Fe)	-	-	-	-	-	-
Calcium (Ca)	58	67	55	49	57	-
Magnesium (Mg)	15	21	17	22	21	-
Sodium (Na)	89	78	81	86	79	-
Potassium (K)	5.0	3.0	4.2	4.0	3.8	-
Bicarbonate (HCO_3)	156	315	146	161	154	145
Carbonate (CO_3)	-	-	0	0	0	0
Sulfate (SO_4)	128	109	135	120	138	-
Chloride (Cl)	103	26	85	103	87	-
Fluoride (F)	0.2	0.7	0.3	0.4	0.2	-
Nitrate (NO_3)	3.5	3.7	5.3	2.5	4.8	-
Boron (B)	1.0	0.60	0.21	0.44	0.47	-
Total Dissolved Solids	511	490	475	496	489	-
Hardness ($CaCO_3$)	206	254	207	213	229	210
Percent Sodium	48	40	45	46	42	-
Specific Conductance (micromhos at 25°C)	856	798	776	801	777	778
pH	7.7	7.6	8.2	7.7	7.7	7.9

*Constituents reported in mg/l unless noted otherwise.

exposures clearly indicate considerable folding of the water bearing sediments.

The central portion of California City overlies the intervening area between Rand Basin and the Fremont Valley groundwater basin. This area is characterized by complex geology with relatively impervious materials or with relatively shallow water bearing materials. Groundwater in this area, which lies north of Castle Butte and southwest of the Lockhart Fault, apparently occurs in alluvium which has filled ancient channels. It is probable that the few wells located therein obtain water which is flowing along the pre-alluvial erosion surface. While some of this water may come from Rand Basin, the extensive granitic area southwest of the Lockhart Fault probably is a nearly perfect barrier. The groundwater in this area has been derived from the limited precipitation on the ground surface. The depth, steep hydraulic gradient and shallow bedrock all indicate that the quantity of groundwater stored there and moving toward Fremont Valley is negligible from a practical point of view.

The gravity survey conducted by the U.S.G.S. in the western Mojave Desert indicated the presence of a major gravity low in the southeast corner of California City in Rand Basin. This gravity low, which corresponds to an area of thick accumulation of Cenozoic deposits, is bounded on the southwest by the Lockhart Fault. One deep hole, a borate test well, has been drilled to a depth of 1,750 feet near the area of the low. This test hole did not penetrate basement rock. A subsurface profile prepared from the gravity data by the U.S.G.S. across the gravity low indicated that the Cenozoic

deposits are approximately one mile thick.

Although the relationship between the gravity lows and the occurrence of groundwater in the western Mojave Desert is not completely understood the U.S.G.S. indicates that several of the best water producing areas seem to occur near the margins of the gravity lows.

Since 1966 the City has conducted a groundwater exploration program along the periphery of Rand Basin and in the intervening area between Rand Basin and Fremont Valley groundwater basin. A total of 19 exploratory holes were drilled. Eleven of them were core holes averaging 500 feet in depth and eight were in alluvial deposits averaging 750 feet in depth. Samples and cores were studied and the lithology logged. Electric logs were run on some of the exploratory holes.

Subsequent to the drilling of the 19 exploratory holes, two cased test wells were drilled. 27-A1 and 13 P-1. Well 27-A1 is 1,550 feet deep and the pilot hole for Well 13-P1 penetrated to a depth of 4,457 feet.

None of the exploratory holes or test wells penetrated the Cenozoic section near the center of the gravity low. Thus, the groundwater potential of Rand Basin has not yet been adequately explored to make an evaluation of the annual groundwater supply, reserves and potential well yields. Until this low area is adequately explored definite conclusions cannot be reached.

Present Groundwater Use

At the present time only two wells are pumping groundwater from the California City portion of the Rand Basin. None are in operation in the intervening area between the Fremont Valley groundwater basin and the Rand Basin. The two operating wells are the test well, 27-A1, and Reiss No. 2, a test well drilled prior to the City's exploration program.

Well 27-A1 currently provides water for construction work in the area. Great Western Cities, Inc., has been maintaining and operating the pump and engine, which are owned by the California City Community Services District. Well 27-A1 was most recently tested by the City in August 1970. The test indicated that the "sustained yield" rate for the well appears to be approximately 100 to 120 gallons per minute. A slightly higher rate may be possible if extensive long periods of continuous pumping were not expected.

Reiss No. 2 Well is equipped with a 30 horsepower submersible deep well pump and provides water to a tank which supplies the Galileo Hill area, including a camp ground, riding stables, recreation center and a few residences. This well was tested by Southern California Edison in September 1969. The test indicated a capacity of 99 gallons per minute with a specific capacity of 83 gpm/ft.

Water Quality

The results of three chemical analyses of water from Well 27-A1, collected during the period from 1968 through 1970, are presented in Table 5. The analyses indicate that the concentrations of the consti-

TABLE 5

Water Quality Analyses,
California City Community Services District Wells,
Rand Basin

Item*	Well 27-A1			Reiss No. 2		
Collection Date	2/23/68	8/15/69	7/27/70	11/30/66	4/15/69	9/3/70
Calcium (Ca)	19	24	16	3.4	2.8	3.6
Magnesium (Mg)	2	2	3	0.5	0.2	0.2
Sodium (Na)	237	250	218	138	152	133
Potassium (K)	3.5	2.6	2.6	1.9	0.4	0.5
Bicarbonate (HCO_3)	278	260	253	74	71	70
Carbonate (CO_3)	-	4	6	25	16	14
Chloride (Cl)	135	148	136	80	88	92
Sulfate (SO_4)	142	156	110	110	125	86
Sulfide (S)	-	0.0	0.0	-	0.0	0.0
Nitrate (NO_3)	0	Trace	Trace	0	Trace	Trace
Nitrite (NO_2)	-	0.0	0.0	-	0.0	0.0
Ammonia (NH_3)	-	Trace	Trace	-	Trace	Trace
Silica (SiO_2)	17	-	-	19	-	-
Iron (Fe)	0.02	-	0.1	0.12	<0.1	2.4
Fluoride (F)	2.0	1.5	1.7	0.25	0.55	0.35
Manganese (Mn)	0.06	0.03	0.01	0.00	0.00	0.03
Arsenic (As)	-	-	<0.01	-	-	-
Boron (B)	0.84	-	-	0.09	-	-
Hardness ($CaCO_3$)	55	48	50	11	8	10
Total Dissolved Solids	694	714	615	416	419	364
Specific Conductance (micromhos at 25°C)	1,202	952	870	694	534	588
pH	8.0	8.1	8.2	8.9	8.8	8.6

*All units in parts per million(ppm) unless noted otherwise.

tuents are satisfactory for domestic and drinking water purposes. The only possible exception is the fluoride concentration which has ranged from 1.5 to 2.0 ppm. It is believed that the present concentration is below the water supply rejection limit set by the USPHS. However, if the fluoride content becomes too high the water can be blended with Reiss No. 2 Well water, which is low in fluoride.

Three analyses of water samples collected from Reiss No. 2 Well are also presented in Table 5. These analyses cover the period from 1966 to 1970. The analyses indicate that the water would be classed as excellent for domestic and drinking purposes. The September 1970 analysis indicated an iron concentration of 2.4 ppm. This value is considerably higher than those reported in earlier analyses and in excess of the 0.3 ppm recommended limit set by the USPHS. An iron concentration in excess of the recommended limit is not necessarily a health hazard but may merely affect the color or taste of the water. It is believed that the 1970 iron concentration is a result of corrosion of the well casing and/or may [illegible] poor sampling techniques.

POTENTIAL FOR WATER SERVICE

As demonstrated from Table 1, the wells of the California City Community Services District are capable of producing annual quantities of water far in excess of the present annual production. The District's "share" of the common groundwater supply may at some future time become a constraint on its ability to produce water to the full capacity of its wells. But at the present time the only

constraint is need (or a market) for larger quantities of water. In other words, if the demand were ten times the quantity produced in 1969, the District's wells have the capability of producing it.

The total annual production of water from the Fremont Valley groundwater basin can be sustained indefinitely at a level of about 20,000 acre-feet of beneficial consumptive use, or about 30,000 acre-feet of pumpage, based on the long-term average annual supply to the basin. In 1968 Woodward-Clyde and Associates[10/] estimated that the annual "safe withdrawal rate" from the California City portion of Fremont Valley groundwater basin was 4,500 acre-feet. However, there is no way at the present time to ascertain the City's "share" of the basin supply. It could be more or less than the estimated 4,500 acre-feet.

At the present time per capita water production in California City is very high. This is mainly due to the developing characteristics of a new community. As population increases the per capita use will decline and will eventually be about 250 gallons per capita per day. On that basis, annual pumpage of 4,500 acre-feet would support a population of about 16,000 or, at a rate of 3.2 persons per connection, about 5,000 connections.

If it is also assumed that the Cantil Ranch production of 20,000 acre-feet per year, now owned by Great Western Cities, Inc., is also eventually converted to municipal use, it would support an additional population of about 71,000 persons, or about 22,300 connections.

10/ Woodward-Clyde & Associates, 1968, Reconnaissance Geohydrologic Study of California City Development, Kern County, California

The groundwater reserves can also be drawn upon to support additional population on a temporary basis for a limited term of years.

With an estimated 1.5 million acre-feet of groundwater in storage in the unconsolidated sediments underlying the California City portion of the Fremont groundwater basin and an additional 300,000 acre-feet beneath Cantil Ranch, a very large population could be supported on an interim basis. Most of that water is expected to be available to wells. Due to well hydraulics all of the water cannot be withdrawn from storage. Poor quality water, which is known to exist in the vicinity of Koehn Lake, could, under heavy pumping from wells such as the Cantil Ranch wells, start to invade the areas of acceptable water quality. However, sufficient water is available from storage to meet any City needs for a long time. If it is assumed that 50 percent, or 750,000 acre-feet, of groundwater is available from storage beneath the City portion of the groundwater basin, an additional population of 80,000 could be served for 50 years if 50 percent of the pumped water returns to the main groundwater body. This would represent about 25,000 connections. Actually it is expected that more than 50 percent of the water in reserve is available to wells.

If the groundwater reserves underlying the Cantil Ranch or those of the entire basin are drawn upon, a much greater additional population could be served. Because of the limited production from the existing wells in the Rand Basin and the as yet unproven

reserves in the Rand Basin, none of the supply from that basin has been considered in the foregoing analysis of potential population which could be served water.

By utilizing the groundwater reserves additional assessed valuation could be developed to enable the financing of imported water to eventually alleviate the depletion of the reserves and to furnish a permanent water supply. This was one means by which the coastal area of Los Angeles County built its vast economic base. Furthermore, with the power of eminent domain of the City of California City and of the California City Community Services District, the water wells and water rights of non-public interests in the Fremont Valley groundwater basin can be condemned to furnish water supplies for the higher priority municipal uses.

In November of 1970 the City Council of California City and the Board of Directors of the California City Community Services District both adopted resolutions to annex the territory of California City to the Antelope Valley-East Kern Water Agency (AVEK). That agency has a contract with the State of California for the delivery of northern California water through the State Water Project. The contract calls for an initial delivery of 20,000 acre-feet in 1972, increasing annually to a maximum annual entitlement of 138,400 acre-feet in 1991 and each year thereafter.

Since the area of the City of California City was originally within AVEK, it has continued to pay taxes to AVEK for obligations under the State water contract even though the territory was withdrawn from AVEK. By annexing the territory to AVEK the City of

California City will be eligible to receive supplemental water supplies from that source. Also, as future water demands may dictate, AVEK will be able to obtain other supplemental water supplies in the future and the City of California City would be eligible to participate in those supplies.

KERN COUNTY HEALTH DEPARTMENT

1700 Flower Street
P. O. Box 997
Bakersfield, California-93302
Telephone 325-5051

OWEN A. KEARNS, M.D., M.P.H.
Director of Public Health
Air Pollution Control Officer

October 14, 1970

Mr. Thomas M. Stetson
Director of Public Works
City of California City
P. O. Box 426
California City, California 93501

Attention: Mr. Donald R. Howard

Dear Mr. Stetson:

The State Department of Real Estate has requested a complete, current hydrological report for the California City area. Because this water system is under permit with the State Health Department, you can make the report to them. We would appreciate receiving three copies of this report. One copy will be forwarded to the State Department of Real Estate and the other to the State Department of Justice.

The report shall be prepared by a person or firm qualified in the field of geology and ground water hydrology and so registered in the State of California. The study should include, but should not be limited to, well yield tests, analyses of the quantity and quality of the ground water reserves (including chemical tests for arsenic content), and a determination of the number of connections which could ultimately be served by the reserve.

RECEIVED
OCT 16 1970
THOMAS M. STETSON

Since the question of an adequate water supply has arisen, the Kern County Health Department is reluctant to approve any more land division in California City or its environs until the hydrological report is completed.

Very truly yours,

OWEN A. KEARNS, M.D., Health Officer

Vernon S. Reichard, Director
Environmental Health Division

By B. C. Smith

B. C. Smith, R.S.
Environmental Health Specialist

BCS:lb
cc: California City Community Services District
McIntire and Quiros, Attention: Hans Rusche
James M. Sprowls, Supervising Investigator, State Department of Justice
Edmund S. Cary, Senior Sanitary Engineer, State Department of Public Health
Hull-Moreland and Associates
J. Austin Donaghue, State Department of Real Estate
Stirling Long, Appraiser, State Department of Real Estate

QUALIFICATIONS
OF
THOMAS M. STETSON

Mr. Stetson studied at Sacramento Junior College, the California Maritime Academy, the University of California and the University of Hawaii. He is a licensed professional engineer in the State of California, C.E. 8763.

From 1941 to 1945, Mr. Stetson was in the United States Navy. During that time, he was engaged primarily in aerial mapping of the Pacific Ocean areas. About three years of that time was spent in the southwest and central Pacific Ocean areas supervising the aerial mapping of practically all islands in the combat area of the Pacific Ocean, the islands of Japan, the coast of China, the Aleutian Islands, the islands in the southwest as far as Australia, Sumatra and the Indian Ocean. This aerial mapping was for the purpose of preparing bombardment charts, hydrographic charts, air target maps, and intelligence maps. His experience included the interpretation of the aerial photographs as well as the supervision of the preparation of maps therefrom.

From 1945 to 1949, he was employed as an engineer with the California Division of Forestry. This work related to the design and construction of forestry roads, telephone lines, power lines, forest fire suppresion stations, lookout towers, and California Youth Authority camps. It included surveying, structures, and the development of water supply and sanitary disposal systems. He also supervised

the aerial mapping activities and the general mapping program of the Division of Forestry during that time.

From 1949 to 1953, he served as a civil engineer with the California Division of Water Resources. During that time he was resident engineer in charge of the Lake County Cooperative Water Resources Investigation and the Ventura County Cooperative Water Resources Investigation, both of which were being carried out by the State Water Resources Board. Both of these assignments included the determination of water supplies, water utilization and requirements, and preliminary designs and cost estimates for a plan for water development to serve the present and potential needs of the areas.

From 1953 to 1954, he was hydraulic engineer for the Ventura County Flood Control and Water Conservation District. This assignment included hydrologic studies and the development of plans for water supply, flood control and drainage projects, and related matters.

From 1954 to 1955, he was employed as hydraulic engineer with the California Division of Water Resources with headquarters in Los Angeles. He was responsible for cooperative water resources investigations of the Salinas River Basin and San Luis Obispo County. He was also in direct charge of the activities in southern California related to the development of the California Water Plan resulting in the publication of Bulletin 3 of the State Water Resources Board. He was responsible for the reallocation of state funds to local flood control districts for flood control improvement which qualified

for such aid. He was also in charge of many special investigations of water supply studies for state institutions and the review of reports on proposed federal projects. The San Diego and San Luis Obispo field offices were under his direct supervision.

From 1955 to 1957 he was employed by the Colorado River Board of California as engineer in direct charge of the Board's engineering staff. This work included the study of water supply and utilization of the Colorado River Basin in all seven states of the basin and in Mexico.

He established his private practice in April 1957 and since that time has been continuously retained as engineering consultant to the Department of Justice, State of California, in connection with Colorado River matters. During the trial of Arizona v. California he gave direct testimony on three separate subjects. They were: Water supply of the Gila River basin in New Mexico and Arizona, water supply of the main Colorado River available for use by the lower basin states, and land use and property ownership adjacent to a portion of the Colorado River Indian Reservation.

He represented 23 of the 28 defendant agencies in the Long Beach v. San Gabriel Valley Water Company litigation as consulting engineer and was appointed by the Court as Watermaster to represent the San Gabriel Valley in the Watermaster Service under the continuing jurisdiction of the Court.

He employs a staff of 15 to 20 engineers and geologists, including three registered civil engineers and one registered geologist, and

supporting personnel in his two offices. Principal activities of the firm include hydrologic and geologic investigations; design, construction and operation of water systems and public works; municipal engineering; water well design and construction; groundwater basin management studies; water rights; property boundary problems; and engineering economics.

A partial list of his clients is as follows:

City of Los Angeles, Department of Water and Power
City of Ventura
City of San Bernardino
Six-Agency Committee (Colorado River water users in California)
Cross Water Company
La Puente Valley Water Company
Occidental Petroleum Company
Upper San Gabriel Valley Municipal Water District
San Gabriel County Water District
State of California, Department of Justice
State of California, Division of Highways
California City Community Services District
Union Oil Company
City of California City
Peabody Coal Company
Kaiser Steel Company
Palo Verde Irrigation District
Suburban Water Systems
East Pasadena Water Company
City of Bakersfield
City of Glendora
Southwest Water Company
Bat-Jac Productions
Santa Ynez River Water Conservation District
Fontana Union Water Company
United States Public Land Law Review Commission
United States Internal Revenue Service
Southern California Water Company
Southern California Edison Company
Pueblo de Cochiti, New Mexico
Solvang Municipal Improvement District
North American Cities, Inc.
San Gabriel Valley Municipal Water District
Town of Cochiti Lake, New Mexico

Mr. Stetson is the sole owner of Thomas M. Stetson, Civil and Consulting Engineers, with offices in Los Angeles and San Fran-

cisco. He holds membership in the American Society of Civil Engineers, the National Water Well Drillers Association, the International Congress on Irrigation and Drainage, the Consulting Engineers Association of California and the National Society of Professional Engineers.

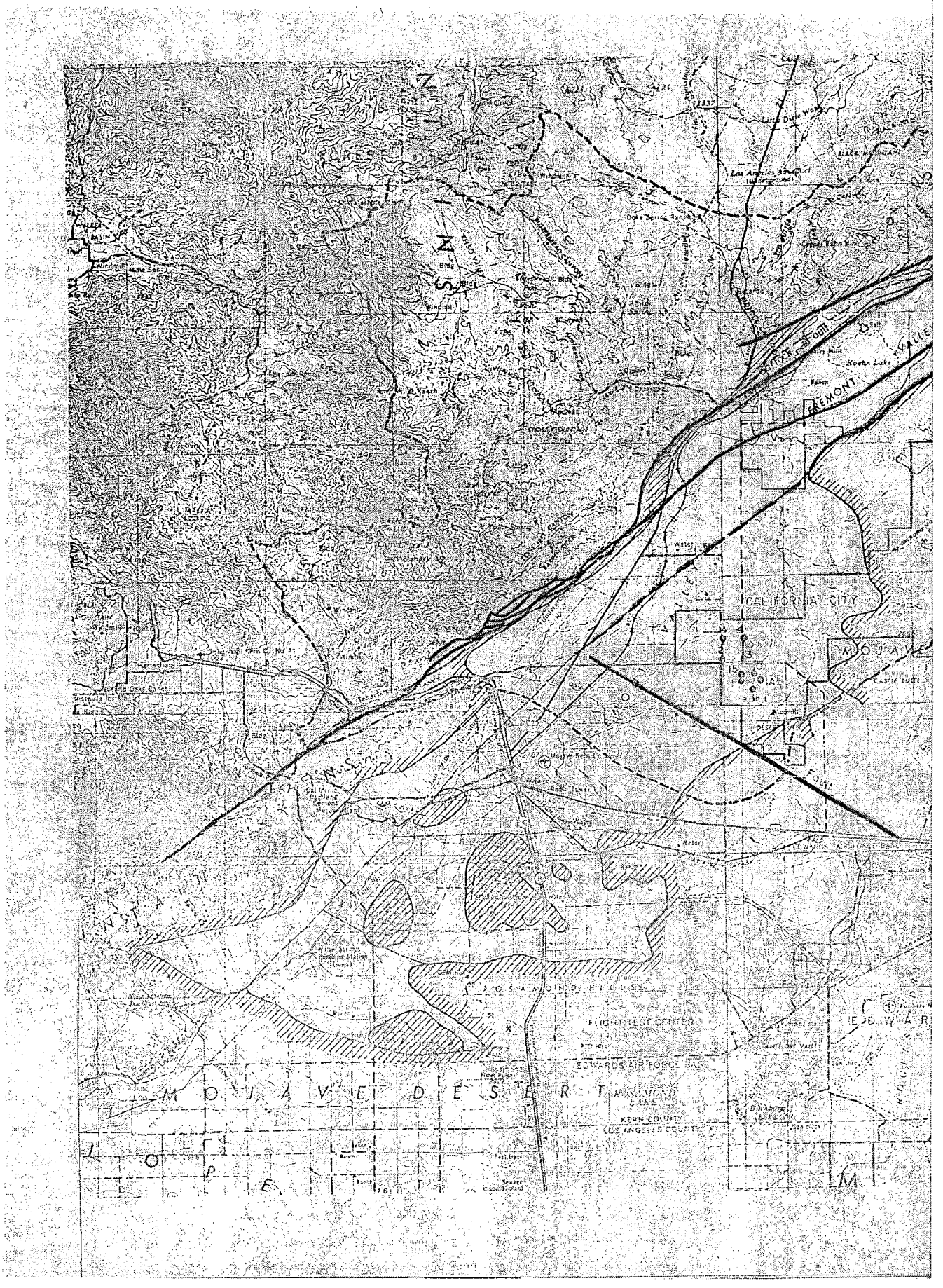
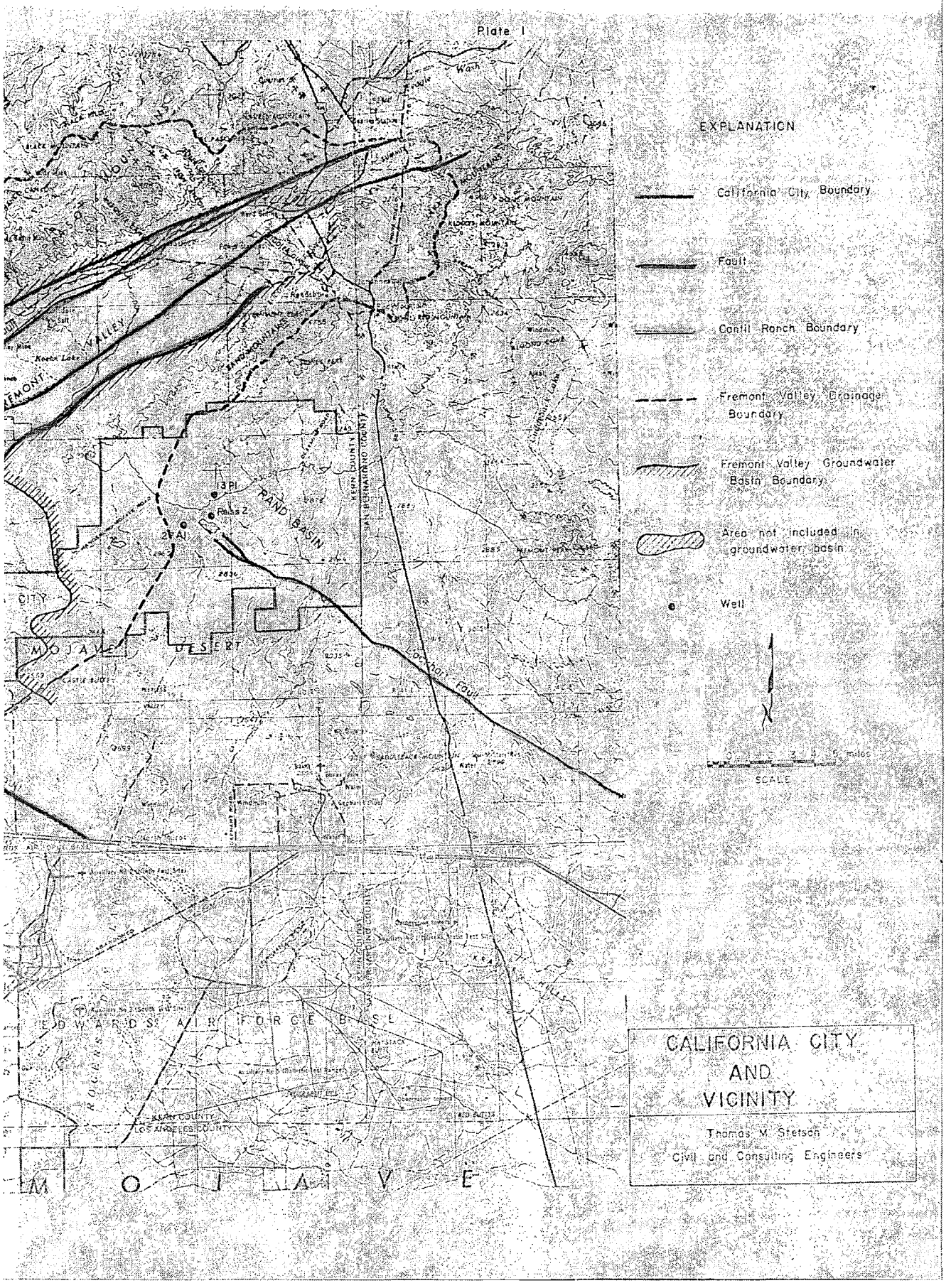

CALIFORNIA CITY
MOJAVE
FLIGHT TEST CENTER
EDWARDS AIR FORCE BASE
MOJAVE DESERT
KERN COUNTY
LOS ANGELES COUNTY

Plate I


EXPLANATION
California City Boundary
Fault
Cantil Ranch Boundary
Fremont Valley Drainage Boundary
Fremont Valley Groundwater Basin Boundary
Area not included in groundwater basin
Well
0 1 2 3 4 5 miles
SCALE
RAND BASIN
13 PI
Reiss 2
2 AI
Lockhart Fault
MOJAVE DESERT
EDWARDS AIR FORCE BASE
KERN COUNTY
LOS ANGELES COUNTY
CALIFORNIA CITY AND VICINITY
Thomas M. Stetson
Civil and Consulting Engineers

Public Works Director

Saint-Amand Scientific Services

GROUND-WATER RESOURCES OF CALIFORNIA CITY

California City, Kern County, California

Pierre Saint-Amand, PhD.
David Saint-Amand, BA.

November 26, 1991

For the City of California City,
California City Hall, 23000 Hacienda Blvd., California City, CA. 93505.

Ground-Water Resources of California City
Executive Summary

California City obtains water from wells in its downtown area. About 2,000,000 acre feet of water are in accessible storage. Some supplemental water is available from the Antelope Valley East Kern Water District. Water within the pumping field has 400 and 500 parts per million dissolved solids. The quality of AVEK water is not quite as good. The area of the present well field is loosing water to a pumping depression extending from California City to Neuralia, and along the Koehn Valley.

Peerless Valley has 250,000 acre feet of marginally acceptable water. The Boron-Rand area has little water that could be pumped for urban use, although individual wells might be found that would supply isolated houses.

The City's wells were drilled in the early 1950s. Three of these wells are reaching the end of their useful life. These should be abandoned and replaced with wells to the west as soon as feasible. This will increase the area capable of being serviced, reduce pumping costs and provide better quality water for mixing with water from the presently used wells.

In order to capture as much water as possible, to extend the life of the aquifer and reduce pumping costs, a number of new wells should be distributed over the area controlled by the City, to the west of the hills on the east side of the City. These should be smaller wells. The installation of privately owned wells in remote areas not serviced by City water mains could reduce the capital burden.

California City is more fortunate in its water supply than most other desert communities; it should be developed and used carefully.

Ground-Water Resources of California City

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GROUND-WATER RESOURCES OF CALIFORNIA CITY

INTRODUCTION

Purpose: This report was commissioned by California City. It examines the ground-water supply of California City, estimates the amount of water present and suggests new sources and pumping patterns that might be used to improve the situation.

Methodology: All the available records of well tests, chemical analyses and other information pertaining to the system of wells currently in use, or otherwise applicable to California City, were collected. The available, published, information about the area and the surrounding desert, pertinent to the problem, was reviewed. The information was sifted, recompiled and is discussed in this report.

The general area has been examined over the years by members of this firm. No well tests were conducted specifically for this study.

Historical Perspective: Rainfall over the Mojave Desert was heavier during the ice age than it is at present. Twenty inches or more fell per year. This epoch climaxed about 18,000 to 20,000 years ago. The precipitation continued at a diminishing rate until about 9,000 years ago when it almost ceased. Except for a few periods of heavy rainfall, about the beginning of the Christian Era, the annual precipitation dropped to the present level of a few inches a year. Most of the water now found under the desert was deposited during the wet phases of the Pleistocene. The climate is now about as dry as it ever has been and recharge of ground-water to the desert acquifers has all but ceased.

Historical Water Usage: Large-scale alfalfa farming has taken place over much of the area. Antelope Valley, Peerless Valley, Fremont Valley, the Mojave area, and Koehn Valley were used for this purpose beginning after World-War II. Agriculture in this area continued for a few years, until the water table was lowered several hundred feet. The resulting increase in pumping costs drove most of the farmers out of business. Farming has continued in the Koehn area up to the present, although at a smaller scale than in the past. As the water-table in that area has continued to drop, the farming

has moved radially away from Koehn Lake, to the east, west and south.

The area in which California City lies was farmed until the costs of pumping grew excessive. The land then lay fallow for a time. This pattern of farming followed by development has been repeated over most of the Mojave Desert. Settlements of a few hundred to a few thousand people are rising all over the whole of the Mojave Desert. In most places, the remaining water supply is not substantial. The rapid growth of the Antelope Valley population and of the desert as a whole will become a serious problem for the State of California. Fortunately, as we will show, many years will elapse before this is a problem for California City.

Previous Studies: The United States Geological Survey has made numerous studies throughout the desert southwest. They have divided the area into Units and Subunits that have commonality of recharge or storage. Their work is sound, but it is not available in great detail, because of the insufficiency of basic information, the expense of gathering more, and the difficulty of studying such a large and diverse area. Krieger and Stewart (1971) made an excellent study of the water supply with the information available to them at the time. Much of the information used herein was taken from their report. We have not given citations to support all of our comments and data, but we have included all the references used.

Ground-water Units: Figure 1 shows the Units and Subunits, as described by the U.S.G.S., that are involved in the water supply of California City. These ground-water units are the Chaffee Subunit, the California City Ground-Water Subunit , the Koehn Ground-water Subunit, the Rand-Boron Sub-Area and the Peerless Sub-Area. Of these, the California City Subunit is divided into a Zone I and a Zone II.

Availability of water: California City gets its water from Subunit II of the California City Sub-Area. It is derived from wells located in the central part of town. Table 1 is a partial list of wells within California City territory. A part of California City is within the Chaffee Subunit and water could, and should, be taken from there as well.

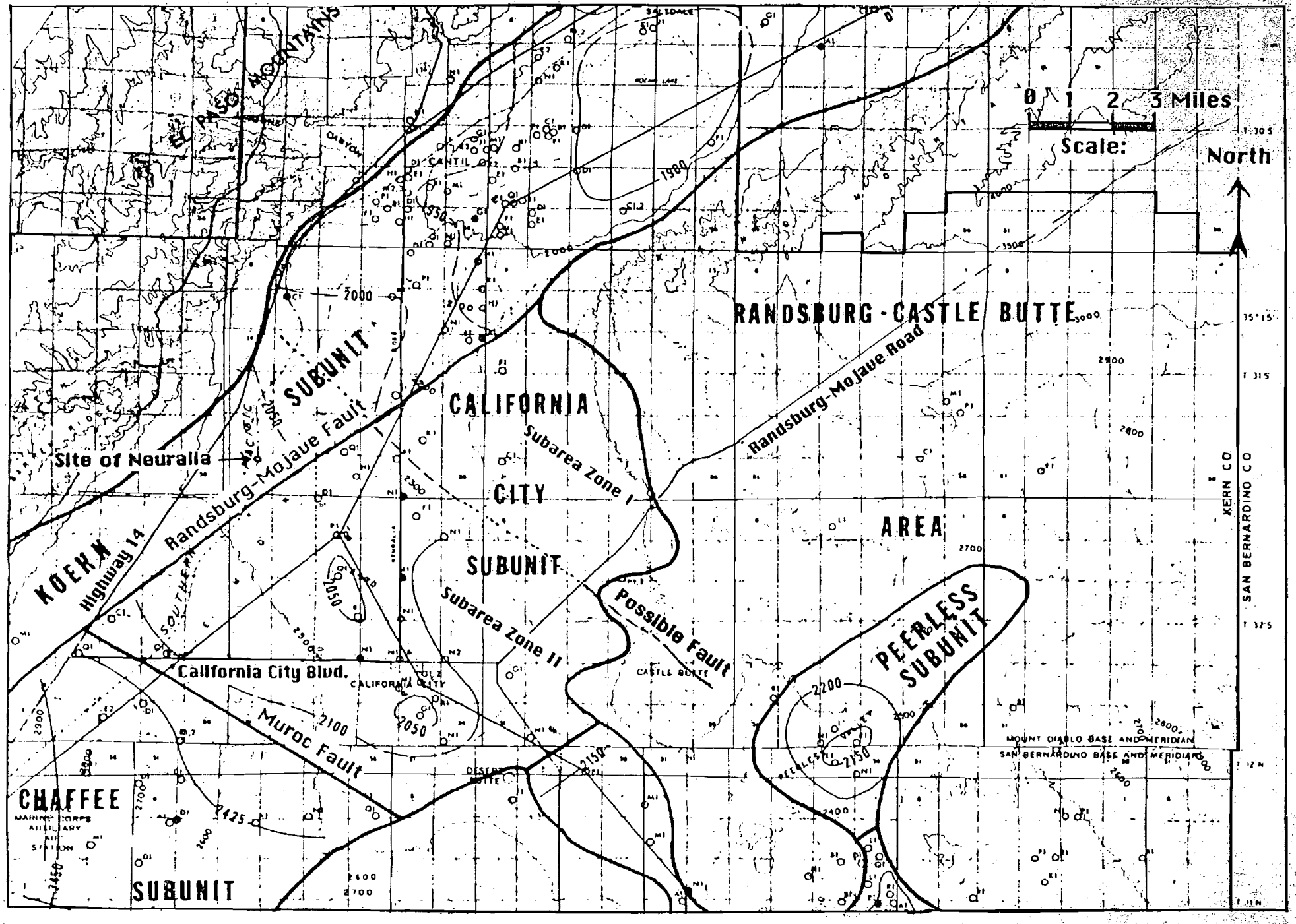

Figure 1. The Units and Sub-Units that are involved in the water supply of California City. See for example Duell (1987). Map taken from Bloyd (1967), figure 10.

USGS Well number	Name and Cal City #	Date Drilled	Cased Depth Ft.	Surface Elevation Feet Msl	Original Depth to water,	Depth to Water, rec. measurem.	Specific Capacity Gpm/foot	Total diss. solids,ppm
31S/37E MD								
28Q1	Slaughter	1956	600	2330	243		--	
33H1	MR Ran. 12	1952	813	2340	274		15---55	
35N1	MR Ran. 7	1952	584,439, 650	2320	235	-	58	
31S/39E MD								
13P1	13P1	1953	3,300, 4,465	3006	?		?	?
24M1	Reiss 2	1957	962, 990	2930	364		1.5	497
27A1	27A1	1968	1550	2910	344, 420-'68	not used	<1	720
26P1	26P1 (9)	1971?	600	---	325	not used	low	?
32S/37E MD								
4D1	MR Ran. 9	1952	650	2390	253		17	480
4P1	"	1952	800	2405	265		28	435
9Q1	"	1952	711	2410	275		15	
11N1	"	1952	600	2375	---		---	
14N1	Cal. City 4	1952	685	2400	---		---	473
16R1	" " 14	1952	686	2440	390	359 -- 1990	34--33, 1990	455
22N1	" " 2	1952	730	2460	376	384 -- 1990	14--10, 1990	382
23N1	" " 3	1952	680	2415			20	
26G1	" " 10	1952	553	2405			37	
26M1	" " 15	1953	598	2405	325?	349 -- 1990	49--28, 1990	481
26N1	" " 1	1952	1,000	2420	321	344 -- 1978	10-- 4,1978	?
32N1	32N1	1953?	1800	2550	419		?	
35G1	Cal City 11	1952	662	2405	305	320 -- 1970	44? 27, 1970	506
32S/39E MD								
33C1	Moj. Ranch	1962	1200	2500			--	
33L1	" "	1956	1400	2485	397		67	
33M1	" "	1959	1000	2474				
33N1	" "	1956	1410	2465			37	
12N/9W SB								
35L1	Moj. Ranch	1956	1260	2450			34	
36N1	McLain	1956	820	2435			--	

Table 1. Characteristics of the wells, used by, or within California City. The data was taken from Kreiger and Stewart, the U.S.G.S. reports, well tests by P.G.E. and from an informal document, prepared for the Conklin Ranch. The data is spotty and incomplete. Some wells have several different reported case depths.

THE GROUND-WATER UNITS

Chaffee Subunit: The Chaffee Subunit contains several millions of acre feet of high quality water. What recharge to Fremont Valley there is, comes from the hills to the north. Very little water enters from the hills within the desert. The Chaffee Subunit is recharged mainly by water flowing under Cache Creek, with some ancillary input from the Horned Toad Hills. The earliest ground-water map that we have comes from the Krieger and Stewart Report of 1971, based in part on the work of Moyle (1969). It shows the recharge coming into the Chaffee Subunit from Cache Creek. Cache Creek and Sand Creek drain a large area of locally high rainfall in the Tehachapi Mountains. Only rarely does Cache Creek bring surface water on to the desert, and this soon evaporates. The under-flow is what contributes to the recharge.

California City Subunit: The Chaffee Ground-water Subunit is separated from the California City Unit by the Muroc Fault (Diblee, 1958a). This fault is visible in the hills to the southwest of California City, and presumably continues underground to where it joins the Mojave-Randsburg Fault, or the Garlock Fault. This division is important. The water-table to the southwest of the Muroc barrier is higher than it is to the east and the quality of the water is higher. Some water probably flows over the ground-water barrier into the California City Subunit. A small amount of water, probably the order of a few tens of acre-feet a year flows into the area from the valley located between Desert Butte and Castle Butte. The recharge to this little valley is almost zero, and what water is flowing into the California City Subunit from there is doing so in response to the draw-down in the California City area.

California City Pumping Depression: By 1958 a 70 foot pumping depression had been established over the area of what is now down-town California City because of agricultural pumping. This depression ran for about 10 miles, all the way to Highway 14 near the old town of Neuralia. By 1961, this depression had partially filled in due to the cessation of agricultural pumping. A pumping depression about 20 feet in depth, and circular in shape, remained in the downtown area. The general depression still continued on towards Highway 14. As a result of pumping for domestic water, this had redeveloped to about 50 feet in 1990. How much of this change was caused by measurement of static levels in wells that had not had time to recuperate from pumping is unknowable. All the static levels

reported by the power company are in question for this reason. The maps that show the water level contours are also in considerable question. The only measurements of water level were made from actively pumped wells. Most of these have developed cones of pumping depression that may not have had time to recover before the measurements were made. A cone of depression develops around a well that has been pumped for a period of time. If the pump is then shut off, the cone of depression fills in again, unless so much water has been extracted that it cannot. The time required for the water level to recover to about 90% of the original static level is the same as the time the pump had been running. For this reason measurements taken from actively pumped wells can lead to an overly grim picture of drawdown, as presented in the water-level contour maps.

Recoverable Water in California City Subunit: Krieger and Stewart (1971) estimate that the recoverable water in the California City Subunit II is about 2,100,000 acre-feet. We concur with this assessment.

We do not, however, concur with their assessment of a safe annual yield. The safe annual yield is that amount of water that can be removed from an aquifer in perpetuity without eventually exhausting the water in the aquifer. Unless the basin is being recharged, there can not be a safe yield. With the present rate of pumping in California City, which is much less than the agricultural pumping was at its peak, the depression will be slowly filling in around the edges. However, the water that comes in is not new water but is derived from the surrounding area. A very small amount is entering from the south, while some of the water is escaping into the Cantil area. The water used by the City is probably not being returned to the ground-water table at all, considering the high potential evaporation. Water from septic systems, surface flow into, and rain falling on the area is all evaporated.

Koehn Subunit: The Koehn Ground-Water Subunit is recharged from Tree Canyon, Jaw Bone Canyon, Red Rock Canyon, and Last Chance Canyon with minor contributions from smaller canyons and Goler Wash. None of the canyons that drain into the Koehn Subunit show patterns of recharge that are reflected in the ground-water contours.

Recharge to Koehn Subunit: The rainfall in the hills that feeds the under-flow is now about 10 to 16 inches a year (Rantz, 1969). The

hydrologic divide is quite close to Fremont Valley and the aggregate ground-water contribution of this whole area is virtually zero. About 1 to 5% of the rain winds up as ground-water in the desert basins. The rest of the water is used by plants on the hillsides and on the desert slopes, or is evaporated from the ground. The run-off, from the stream beds in the canyons, onto the valley floor is all evaporated. Potential evaporation rates, because of the high temperatures and frequent strong winds, approach 120 inches per year.

Koehn Valley Recharge: Koehn Valley gets about 500 to 600 acre feet of recharge a year from the El Paso Mountains and the Rand Hills (Koehler, 1977). It derives about 10,000 acre feet a year by underflow from the California City Subunit II and the Chaffee Subunit. This water is migrating from the rest of the area to replace that which was originally lost by evaporation around Koehn Dry Lake, and that which has been pumped for alfalfa farming. The valley floor is cut into pieces by the branches of the Garlock Fault, which causes numerous discontinuities in the ground-water there.

Effect on California City: The separation of the Koehn Subunit from the larger California City Subunit is an arbitrary one, based in part upon a hypothetical fault, nowhere exposed at the surface, that presumably runs from Mojave to the Randsburg area. This fault forms a sort of ground-water barrier. The ground-water barrier is not complete, in that some of the water can pass over the top of the barrier, indeed it is not clear that the barrier is there. Where ground-water contours are drawn, they cross this fault zone without obvious interruption. The depression in the Cantil area, approximately 21 by 4.5 miles, is causing water to be lost from the California City Sub-area. This loss of water exceeds the present day usage by California City. The hatchured area in Figure 2 shows the extent of the pumping depression in California City and in Koehn Valley. All the information about static levels in the wells is so old that we can not redraw the ground-water contour lines. If we were able to obtain this information, we could show the direction of flow of the underground water and estimate the present quantity flowing into the depression.

Possible Contamination by Saline Water: Around the turn of the century ground-water surfaced as springs and artesian waters near Koehn Lake. By 1958, the area to the immediate east of Neuralia Road, about 2 miles south of Munsey road had been pumped below

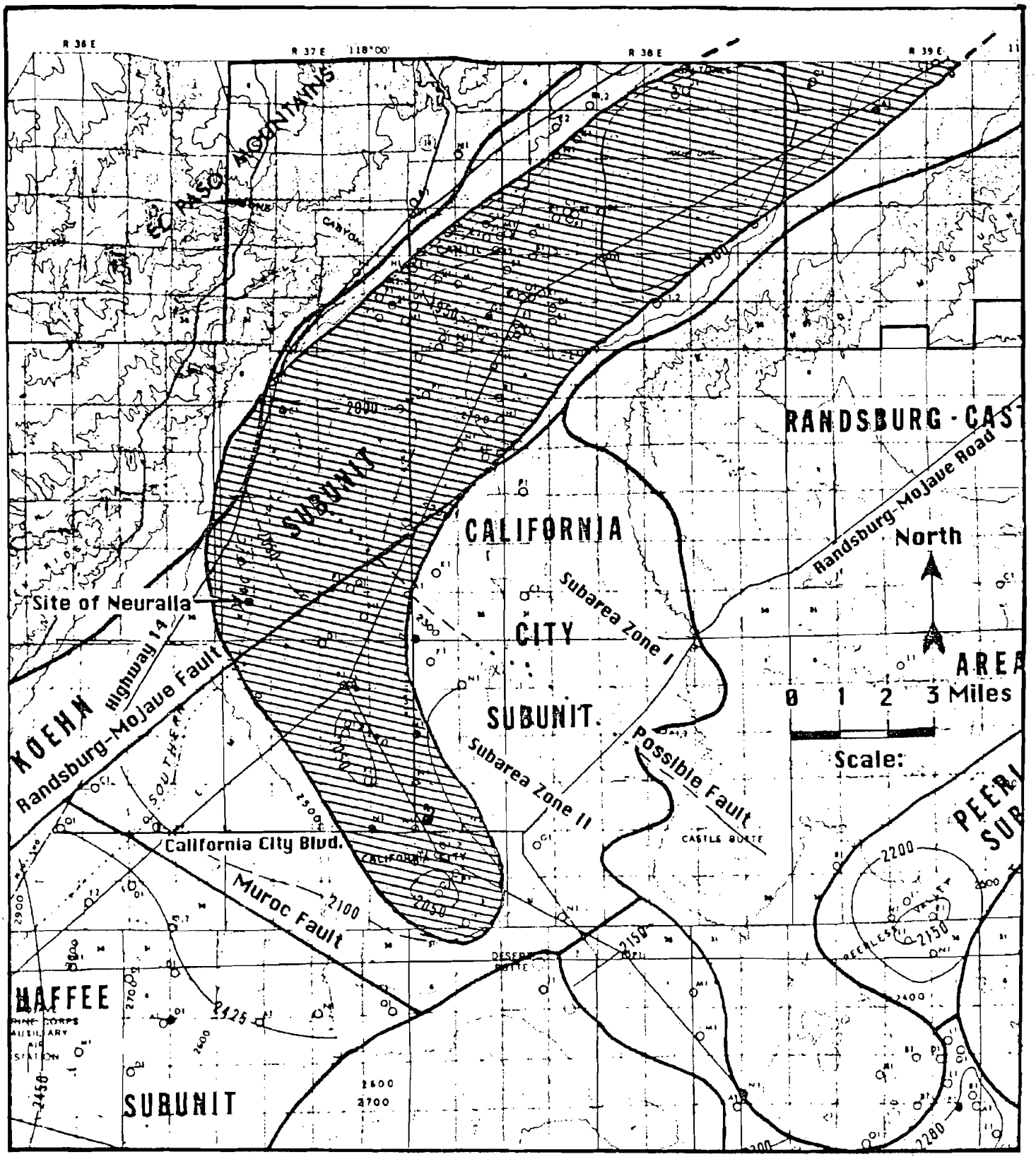

Figure 2. Extent of the pumping depression in the California City Area and Koehn Valley. The striped area is the area of the pumping depression. Base map taken from Bloyd (1967), figure 10.

the level of the water in Koehn Lake, there being a drawdown of the order of 20 to 30 feet, Koehler (1977). A large amount of water is still available there, but the farming has so lowered the water-table that brackish water from Koehn Dry Lake may migrate westward into the pumping depression near Cantil and eventually into a part of the California City aquifer. The water that supplies Randsburg and Johannesburg comes from the east side of Koehn Lake, and those towns will be facing the possibility of exhaustion of their supply, and the contamination of what remains, with salines from the Lake bed. We have no evidence that the brackish water is indeed migrating, and are not likely to get any for a long while.

Cracks in the Earth: A serious consequence of such enthusiastic pumping is that the fine grained silts and clays at depth in the Koehn Valley have been dewatered enough to permit them to contract. The contraction at depth leads to shrinkage, which propagates to the surface. This has lead to the development of long subsidence cracks in the valley. Some of these cracks are a mile or more in length and several feet wide. At first the cracks are barely noticeable. Following a heavy rain, as in 1982, water from slope-wash runs into the cracks, which develop rounded edges on the upslope side. The cracks are enlarged by this piping, and can reach a width of ten or more feet. The sides can then cave in in large pieces. The water that runs into the cracks carries sand that partially fills the voids that were developed by the desiccation. The silts and clays then take up the water and expand again, raising one side or the other of the cracks and causing considerable damage to structures situated over them. This phenomena appears to have been confined to the Cantil area. While Koehn Valley has such cracks, it does not seem as if this phenomenon is now taking place in the central part of California City.

Peerless Subunit: The Peerless Subunit occupies Peerless Valley and is fed by seepage from the hills that surround the Peerless Sub-Area. This area receives little or no recharge. About 250,000 acre feet of acceptable, but marginal, quality water is available there. Rather than repeat the information here, we refer to our report, Ground-water Resources of Peerless Valley, (Saint-Amand, 1990) prepared for the Mojave Ranch Project, a part of California City.

Rand-Boron Areas: The Rand and Boron areas receive virtually no recharge from the surrounding hills, or from those hills contained in the area. A portion of California City lies within this Subunit. There is scant chance that water of adequate quality and quantity to serve

a metropolitan area can be found there. Some individual wells might be found to serve scattered dwellings. The alluvium is quite shallow, and the area is mostly solid bedrock, or Tertiary sediments that do not readily yield water. If this portion of the City is to be developed, it would be well to consider the necessity of bringing water there from elsewhere. The most plentiful water will be found in the flats to the west of the hills; the dividing line is about where the "possible fault" is located.

Wells in the California City Complex: Table 1 contains information about some of the wells in the area. We have included all the wells that are now being pumped by California City and some wells that were dug but not used. We have used two designations for the wells: The California City Well Number and the standard U.S.G.S. well designation. The U.S.G.S. designation is based upon the Township and Range system, and for the benefit of our readers we furnish Figure 3, which shows the system. The specific capacity refers to the yield of a well in gallons per minute per foot of drawdown (gpm/ft).

Discussion of the Wells: The following data is the information available for each of the wells. Numerous other wells exist in the area, but records for these could not be located, either in the California City files, or in the U.S.G.S. reports. Almost all the wells in the area were agricultural wells drilled in the 1950s. The important point is that the static level has dropped about 25 feet in all the wells except well 14, and that is probably in error, in that the level at which the pump was set may have been reported as the static level.

City Well 1, 32S/37E-26N1: Located at the northeast corner of Neuralia and Redwood. The data is incomplete; no chemical analysis is available. The specific yield is so low as to be difficult to believe. It decreases with time. The only recent pumping tests are on 8-3-78. This gives the specific capacity as 10 gpm/ft, but we can't find records for this. This well was an agricultural well on Conklin Ranch in 1953, the specific capacity was then about 12 gpm/ft. A Pump test by "Gary" gives values of about 1 or 2 gpm/ft. The data is internally inconsistent and gives recoveries in too short a time. The casing in this well has either collapsed, or is plugged, if the well tests are to be believed.

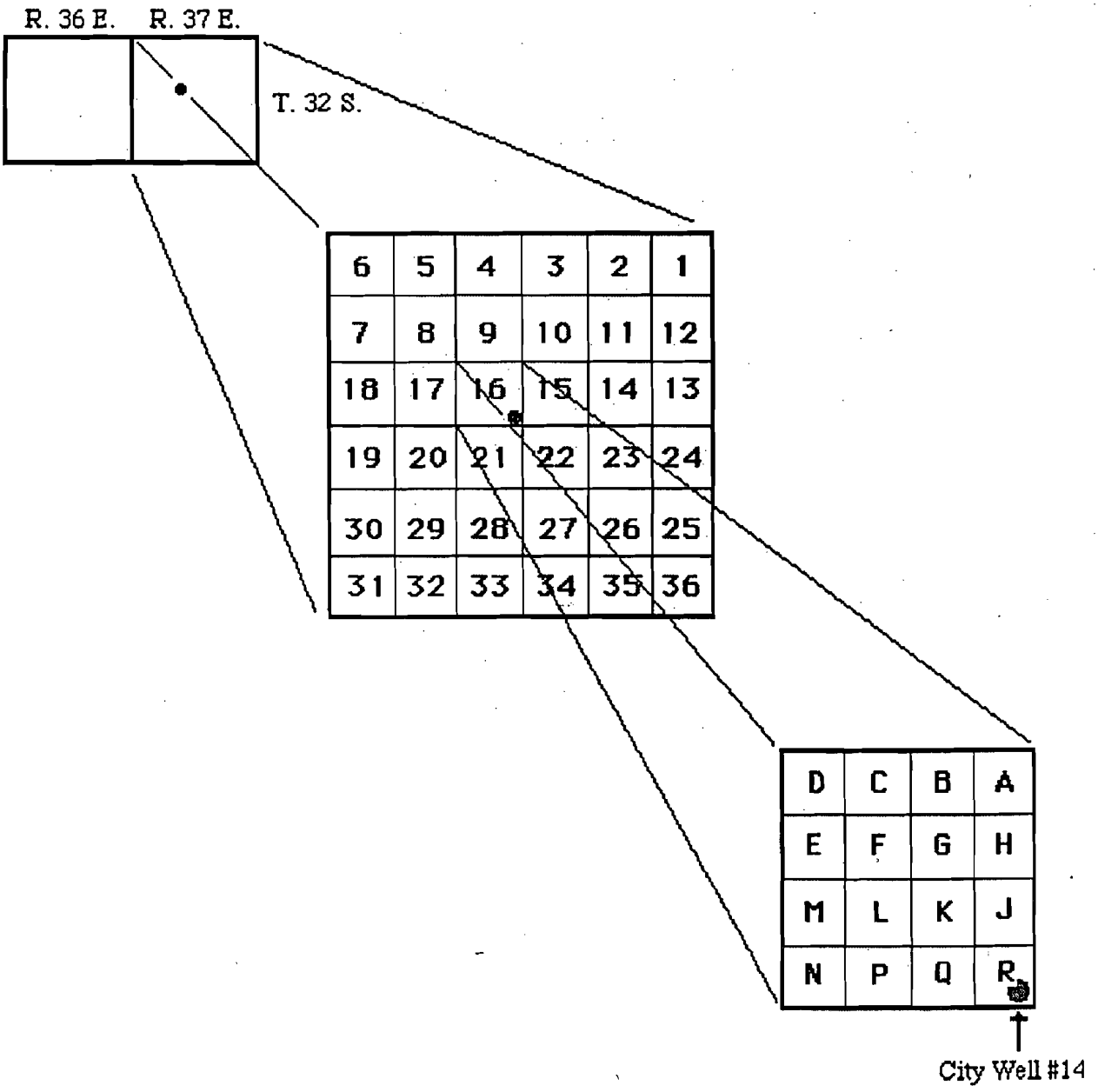

Figure 3. The U.S.G.S. Well Numbering System. Each well is assigned a number according to the location of the well within the rectangular system for subdividing the land. The numbers separated by the slash are the Township and Range in which the well is located, respectively. The number after the dash is the section number and the letter corresponds to the quarter section of a quarter section. A letter 'Z' indicates that it is unclear exactly where the well is located within the section. Any number following the final letter is the serial number of the well in that area. For example, City Well #14 has the number 32S/37E - 16R1 and would be the first well located in the southeast 1/4 of the southeast 1/4 of section 16, Township 32S south, Range 37 east.

City Well 2. 32S/37E-22N1: Located at 21034 Yerba Blvd., N.E. corner of the intersection of Yerba Boulevard and the California City Blvd. in the S.W. corner of section 22, T32S, R37E. A pump test conducted on 01 June 1972 gave a specific capacity of 14.3 gpm/ft. On 18 July 1974 the specific capacity was 12 gpm/ft. On 05 August 1979 the specific capacity was 14.5 gpm/ft. On 10 February 1984, the specific capacity was 11.4 gpm/ft. On 13 May 1990, the specific capacity was 11 gpm/ft. The specific capacity is decreasing with time. It is now 70% of what it was in 1972, we have no earlier records. Some records from Conklin ranch in 1954, 55, 56 indicate a specific capacity of about 8 gpm/ft. They do not give the static level, we interpolated it from other wells. These data do not appear useful. Coliform bacteria was noted from a well sample taken on 28 May 1974. There is no further reference to this matter so we imagine that it was cleared up. This well may have siderophilic bacteria that are attacking the casing. Dissolved solids as of same date were 382 ppm.

City Well 9. 31S/39E-26P1: Located at Galileo Park, 14 miles East of California City. The records are incomplete and confusing. The static level was 284 feet at the time of a test on 10 August 1971. The level quickly drew down in excess of 560 feet. The well appears to be of little use.

City Well 11. 32S/37E-35G1: Located at 8513 Willow Avenue, west of Airway. This well is high in flourides, 1.8 ppm and 0.4 ppm in Boron. The well was drilled in 1952, originally as an irrigation well. The specific capacity is decreasing with time. The specific capacity given by Krieger and Stewart is 44 gpm/ft. On 01 November 1968 it was 24.0 gpm/ft, and the static level was 314.2 ft; on 23 September 1969 the specific capacity was 30.0 gpm/ft, and the static level was 315 ft; on 06 July 1967 the specific capacity was 20.8 gpm/ft, and the static level was 320 ft; on 21 October 1970 the specific capacity was 27.3 gpm/ft and the static level was 320.3 ft. The drop in static level, to 95% of the original well depth is not great enough to account for the large change, 62%, in specific capacity. We are therefore led to conclude that the perforations in the well are becoming plugged. It is also possible that the transmissivity of the sediments is decreasing with depth.

City Well 13P1 31S/39E-13P1: Located on the slope to the south of Koehn Lake. There is no data on water levels in the files, but it has a lithologic log and an electric log. It seems that the well is in the

Ricardo formation, or equivalent, for most of its depth. The electric log indicates equivocal depth to water, which we can't interpret. Koehler indicates that the area is consolidated rock of Tertiary age. These rocks do not yield water readily to wells. Finding useful amounts of water there is unlikely.

City Well 14 32S/37E-16R1: Located at California City Boulevard with Yerba. On 05 January 1953, the specific capacity was 33.7 gpm/ft, and the static level is given as 390 ft, in both the owners document and in Bulletin 91-16, but these are obviously wrong; it was probably about 290 feet. On 03 February 1982 the specific capacity was given as 73.5 gpm/ft; this is also in error; the static level was then 308 feet. On October 21, 1985 the specific capacity was 34.3 gpm/ft, and the static level was 370.0 ft. On 12 November 1986 the specific capacity was 35.8 gpm/ft, and the static level was 371 feet. On 24 January 1990, the specific capacity was 33.1 gpm/ft and the static level was 359 feet. Although the static level has dropped some 30 feet, the specific capacity has remained about the same. This is a good well. We have only one chemical analysis and there was nothing unusual about the results.

City Well 15 32S/37E-26M1: Located 1/8 mile south of Neuralia Road on the east side of Great Circle, 20336 Neuralia Road, approximately half way along the western boundary of Section 26, T32S, R37E. The records for this well are scarce. The well was dug in 1953 and the specific capacity was estimated to be 14 gpm/ft then. This is probably in error due to erroneous water depth. On 21 October 1985, the static level was 339 feet and the specific capacity was 27 gpm/ft. On 12 November 1986, the static level was 339 feet and the specific capacity was 26 gpm/ft. On 17 January 1990, the static level was 349 feet and the specific capacity was 28 gpm/ft. This well appears to have been cleaned or redrilled because it has been relabled from 15 to 15A and has a lithologic well log, given in a report dated 05/26/84. The well was started in February 29, 1984 and completed on 07 March 1984. It is 760 feet deep and appears to terminate in hard gray rock. This may give us some idea of the depth of sedimentation in that locality. The static Level of water was 332 feet at completion. There is nothing unusual in the chemistry, except for a little flouride.

City Well 27A1 31S/39E-27A1: Tests on August 11, 1969 show a high flouride content, but the chemistry is otherwise satisfactory for domestic use. Kreiger and Stewart (1971) give the specific capacity

as less than 1 gpm/ft, a pumping test in August 1970 indicates that it is about 0.5 gpm/ft. This fits with the data for the nearby well, Reiss 2. Neither well appears to be useful.

City Well Reiss 2: N.W. Corner of the intersection of the California City Blvd. and Yerba Blvd., S.W. corner of section 22, T32S, R37E. The information in this file is unclear as to the well number. It was drilled in 1957. This well is not useful for domestic production, nor are any of its neighbors. Specific capacity is given as 1.5 gpm/ft, without attribution. The file on this well is incomplete.

Comments on the Wells: It would seem that the static level of the water in all the wells has dropped. The average decline since the wells were drilled, 40 years ago, is about 25 feet, although Well 11 seems to have lost some 85 feet. There is an average of about 326 feet of standing water in the production wells. If pumping continues at the present rate, these wells will produce for several more decades. An exact estimate is not possible because we do not know what the future usage will be, nor if the pumping patterns will change. Moreover, we do not have information about the transmissivity of the sediments, nor for that matter, the variation of chemistry, as a function of depth.

Specific Capacity and Storage Coefficients: The specific capacities are different for each well, and not known with any great precision. It is not known how much of the specific capacity is affected by the condition of the wells, which are now almost 40 years old, and how much by the transmissivity of the sediments. In general it looks as if the storage coefficient of the sediments will be between 10% and 15%. This leaves about 33 feet of pumpable water in the present wells. The transmissivity of the sediments will be about 10,000 gallons per day per foot (gpd/ft), at unit gradient, which is about right for desert sediments.

Probable Depth to Bedrock, Opportunity for Deeper Drilling: It might be possible to drill deeper in the future, but the one well, Well 15, appears to be bottomed in bedrock. If so, then the wells are about as deep as they are likely to go. If this matter is to be investigated further, a geophysical study might be considered to estimate the depth to bedrock. A seismic refraction profile can reveal the depth to bedrock. Gravity and magnetic studies are not too useful for this purpose because the depth to bedrock and scale of the maps make it difficult to show small scale detail. They are useful for general

information. Mabye (1960) shows a pronounced gravity low along Koehn Valley and a lesser low in the California City area. The deepest part of Fremont Valley is in the Koehn Lake area, along the front of the hills. The best way to determine the depth to bedrock would be to drill a few exploration wells. Any new wells could be used for this purpose. If such are drilled, they should be done with the idea of extracting as much information as is feasible by measuring the transmissivity of the sediments as a function of depth, and by determining variations in the quality of the water to guide future production.

Effects of Continued Pumping: As pumping continues, the water level will continue to drop. Water will flow into the pumping depression from at least 3 sides and add to the available water. This process is not very fast, and it can not be counted on to help the situation. The older wells will go dry, even though water is still present nearby. On the other hand, an enormous quantity of water is in storage beneath California City. This water can all be recovered, and it would be well to do so; a different pumping pattern is necessary to do this. Some pumping of the water along a line to the north of the present city center will reduce the underflow to the Koehn Sub-Area. The quality of the water will be fairly uniform over the whole of the California City Subunit. The wells are drawing from the whole depth of the aquifer and are probably mixing water with several different chemistries.

Some Wells Should be Dropped: New wells in the area southwest of the Muroc Fault ground-water barrier could profitably replace Well 1, Well 2 and Well 11. The other production wells in the center of the City are still useful. The outlying wells, not now used, are beyond salvation. Installing new wells in the region of higher water quality will permit pumping of better water than is available from AVEK, and could be used to dilute the AVEK water and/or water from the present pumping field. An ancillary advantage is that the cost of pumping can be greatly reduced, because of the potentially higher specific yields from modern wells and the higher elevation of the ground-water table. The drilling of the new wells and the connecting pipe lines should, of course, precede the abandonment of the older wells. The wells taken out of production can be retained in an operational status for fire flow and emergency purposes.

Lack of Water in Rand-Boron Area: There is little hope of finding much water of useable quality in the eastern part of California City.

The rocks are too compact, and what water there is has high levels of dissolved solids. Water will have to be imported to those parts.

Water in Peerless Valley: Peerless Valley has enough water for its own use for many years, although the chemical quality of the water is marginal. The present inhabitants of Aerial Acres seem to appreciate the problem and are conserving water effectively. This area will need additional water in about a century if it is fully developed.

Infrastructure: The capital expense of the new wells and distribution lines will be high, of that there is little question. On the other hand one can, to some extent, control the direction of development to coincide with the necessary new lines, so that use can be made of them almost as soon as they are installed. It is not often that a City has the opportunity to construct the infrastructure before it is all built up. This will permit you to do it correctly, and at a much lower cost than if it had to be done later. The drilling of individual wells by responsible parties may be permitted in order to spread out the pumping and to reduce the need for costly supply lines to the more remote parts of the city. Such wells could be taken into the system at a later date.

Reduce Losses to Cantil Area: If possible, the City should acquire water rights in the Cantil area in order to reduce the amount of water that is being used there to grow Alfalfa. Alfalfa grows well in the desert, but the water use is excessive. If the pumping there is reduced, the exodus of California City ground-water will be correspondingly reduced.

Prognosis: We were not tasked to predict the duration of the water supply under the present and projected growth of California City. We are, however, gratuitously adding some comments along those lines. If the water system is optimized to make the water supply last as long as possible, then water may be available for some centuries. This is not, however, a long time in the life of a city. The City should add to its water supply by getting as much water as it can from AVEK. At the present time the city is importing only a few hundred acre feet of water per year. This amount should be increased to at least 2000 acre feet per year. If a standard of use is established, then that much can be obtained in the future. If this is not done, little or no water will be available for

City's use in the future because the demands by others will soon require the whole supply. Eventually, the state will have to produce water from the sea, or import it from Alaska or elsewhere. At such a time, AVEK water may become more available and of higher quality.

Conservation: Some effort should be made to make people realize that they are living in a desert, using water left over from the ice age. The water is there to enjoy, but like most things it should be enjoyed in moderation. The City can control the water use by not requiring, indeed not tolerating, water intensive landscaping and similar activities. Maintaining reasonably large lots sizes will help also. Plans should be made to use reclaimed sewage water for irrigation of parks and similar purposes.

Information management : More and better information should be acquired for each well, either new or old. The information should be organized and kept current, maintenance logs kept, along with pumping records for each well and the usage rates of the several parts of the City.

RECOMMENDATIONS

We would like to suggest several things that would help the City deal with its water production. These suggestions are based on what the best long term hydrologic strategy might be. They might not necessarily be the best from a standpoint of the bottom line in the near future. We prefer to take a longer view of things, hoping that people will be around for a protracted period. The items are in the best order for proceeding, although there is no necessity to take them up in that order.

- Abandon Wells No. 1, 2, and 11. They might be cleaned up, but the casings are likely to collapse if they are treated.

- Install enough small wells over the whole of the flat lands of California City to ensure an even draw down of the water supply.

- Put a line of wells along the north edge of the City to decrease the escape of water into the Koehn Valley depression.

- Connect the output of the wells directly to the distribution system, so that the cost of laying pipe can be minimized.

- Peerless Valley can support itself for many decades without additional water, but eventually it will have to be brought into the system.

- Recognize that the eastern half of California City will have to derive its water from the western half. The Rand-Boron area can not support itself with water.

- Keep more complete records of the well conditions, output, electrical use, and a log of repairs and maintenance.

- Eventually develop a computer model of the water supply of California City, so that you can use it to plan the water development and production schedules.

- Develop a library of literature that pertains to the surrounding area and its water supply.

- Institute a policy to reduce water use by using arid regions landscaping.
- Use reclaimed sewage for irrigation, landscaping and other appropriate purposes.
- Arrange to get the largest possible allotment of AVEK water.
- Plan on mixing waters to get the longest lasting acceptable supply.