

MAINTAINING YOUR WELL

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A great number of small water systems in CA and NV have wells as their principal source of water supply. A few maintenance tips to keep the well producing a sufficient quantity and quality of water and troubleshooting problems before they become severe are as follows:

1. Obtain historical records of your well including well drillers log, e-log, pump test, static and pumping ground water levels, specific capacity (gpm/ft. of drawdown) of the well, pump and intake tube settings in the well, water quality test results, and any repairs or maintenance work completed. Sources of this information include Dept. of Water Resources (well drillers log), well drilling contractor, County and State Dept. of Health Service offices, and power company (PG&E performs pump tests on wells). Keep the records you obtain on file.
2. Equip your well with two pressure gauges (one on each side of check valve for indicating the condition of the check valve), running time meter on the controls, and water meter with a flow indicator and flow totalizer (a meter will provide an indication if the well production has dropped off). There are a variety of types available depending on the flow rate of the well pump. Read and record the pressure, hours of operation, flow rate, and total quantity of water pumped daily (weekly at most) approximately at the same time each day.
3. Sample the water at the well and visually check for solids, discoloration, and if available measure temperature, pH, chlorine (if used) and electrical conductivity (EC) with portable meters on a weekly to monthly basis. If you do not have a pH/EC meter at your disposal, call around to other water utilities nearby and ask if they have the testing equipment and would test the samples at no charge. A swimming pool colorimeter test kit for testing o pH and chlorine residual can also be used. Record any observations or reading. Also have a current sampling plan on file with you regulatory agency (DOHS or County Environmental Health office) and comply with the requirements of the plan.
4. Check water levels in the well through the vent pipe, sounding tube, or removable plug at the well head during pumping and static water conditions approximately once every one to two months and record the information in a log.
5. Contact you local power company. They may have a program where they will pump test your well and give you a report on the efficiency of the well at no charge (PC&E does this for most of its customers).
6. Approximately once every 3 months to 1 year measure volts and amps of well pump motor under starting and running conditions with a volt/amp meter and resistance of drop cable (submersible pump) with a meager. Record the measurements in a logbook and compare the data to the volt and amp ratings of the pump and desired resistance. If the utility does not have the equipment or trained staff, consider contracting with a qualified electrician to measure the readings and/or train your staff to perform the measurements safely and correctly.
7. Periodically pull the well pump and TV inspect the well, approximately once every 7 to 10 years. Consider TV inspecting the well immediately if well production falls off and cannot be explained by a lower pumping water level or if the well is pumping sand. Plan to clean and complete repairs of the well by various methods depending on the condition of the well. Inspect the pump, pump motor and cable (if submersible type), bearings and line shaft (if turbine type), and column pipe. Repair or replace worn or damaged equipment. Contracting for this work by a well driller, pump supplier/installer or authorized pump representative with the appropriate equipment will most likely be required. Request and check reference of previous clients to assist in selecting a reputable contractor.