Irrigation Well Record

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An irrigation well represents a significant investment as the central component of a groundwater-based irrigation system. To ensure continued optimal performance throughout its lifespan, regular maintenance and servicing are imperative. In many cases, a well's productivity gradually declines and might go unnoticed until costly or unfeasible reclamation becomes necessary. Maintaining accurate and consistent records of the well's condition helps in early detection of pump issues and aids in diagnosing problems and prescribing appropriate treatments.

The essential equipment for gathering the required data includes a water flow meter and an access point into the well casing. Placing a water flow meter in or on the discharge pipe of the pump allows measurement of the well yield over a specific period. Utilizing a drawdown water level meter through the access point, both static water level and pumping water level can be accurately measured. During pump installation, adding an airline with airline gauge facilitates these measurements.

If the data reveals minimal water level fluctuation but a decrease in yield and pumping level, it suggests a potential issue with the pump. If adjusting the bowl doesn't resolve the problem, seeking assistance from a pump service professional might be necessary.

In cases where the data shows no significant change in static water level but a drop in pumping water level and yield, potentially leading to decreased specific capacity, the trouble might be due to an obstruction hindering water flow through the screen into the well or scaling on the rock well's surface. Initial steps involve chlorination to eliminate iron bacteria and their residue. If this proves ineffective, acidizing may be required to remove hardened iron bacteria residue and mineral deposits. In some cases, dynamiting might be necessary to remove encrustations on sandstone rock well surfaces.

If the data shows a drop in both static water level and pumping water level, aligning with the decrease in yield, but not exceeding the difference in static water level, this could indicate a declining water table. While it warrants monitoring, it doesn't proportionally correspond to the drawdown and explains the lowered pumping level. It is important to recognize that a pump is designed to deliver a specific volume of water against a specific head, lift, or pressure, and any increase in head will decrease the yield.

It's advisable for a professional well service to assess the output and energy requirements every 1-2 years. The provided forms are designed to assist in maintaining a comprehensive record of the well's condition, including service and maintenance activities.

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New Well and Pump Data

This information is available in the well log provided by the well driller at installation; copies may be available from the well driller or your state's well log database system.

https://www.michigan.gov/egle/maps-data/wellogic

https://www.in.gov/dnr/water/ground-water-wells/water-well-record-database/

Well location _____ ¼, Sec. _____ Town _____ Range _____

Township _____ Country _____

Pumping water level _____ft.

Static water level _____ft.

Drawdown (1-2)_____ft.

Well yield _____gpm

Specific capacity (yield gpm + drawdown) _____ gpm per ft. drawdown

Pump bowl setting _____ft.

Well depth _____ft.

Kind of screen _____

Screen slot size _____

Length of screen _____ft.

Diameter of screen _____in.

Diameter of casing _____in.

Year constructed _____

Was well gravel packed? If so, diameter _____

Well contractor (Name, address, zip) _____

Irrigation well for a center pivot system. Photo: Lyndon Kelley, MSU Extension.

Water competitors may question whether irrigation pumping lowers water levels in wells in the area. To refute such claims, one effective strategy is to maintain a comprehensive record of water levels in your well. We suggest regularly measuring and documenting your water level on an annual basis. The static level should be measured prior to commencing any pumping activities.

See sheet below to record static and pumping water level

Static and Pumping Water Level Record

Date	Well No.	Pumping Level (Feet)	Static Level (Feet)	Drawdown (Feet)	Capacity (G.P.M.)	Discharge Pressure

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