

APPENDIX B

**Water Supply Supplemental Data Report:
Executive Summary**

Final Report

Water Supply Supplemental Data Report

Deep Aquifer Testing at the COB Energy Facility Water Supply Well

Prepared for
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Executive Summary

This report has been prepared in connection with the Energy Facility Siting Council site certificate application filed on September 5, 2002, by COB Energy Facility, LLC, and the water right application (No. G-15757) submitted to the Oregon Water Resources Department on April 24, 2002. These applications pertain to a proposed 1,150-megawatt electric generating facility located approximately 3 miles south of Bonanza, Oregon, in Klamath County. The proposed water supply for the Energy Facility is groundwater from a deep aquifer system encountered in the existing Babson well (KLAM 51920) located in the Energy Facility area. The proposed Energy Facility is designed to conserve water supplies by using a zero-discharge system that will recycle, reuse, and evaporate process wastewater. This document will present the results of an aquifer test conducted to evaluate whether deep aquifer system withdrawals will have a substantial impact on the shallow aquifer system, Bonanza Big Springs, or the Lost River.

Groundwater Sources

Previous borehole geophysics and aquifer testing at the Babson well identified the presence of two separate aquifer systems (CH2M HILL, 1994). The shallow aquifer system (above approximately 500 feet) is a heavily appropriated basalt aquifer that is in varying degrees of hydraulic connection with the Lost River and Bonanza Big Springs. The shallow system is used for irrigation and domestic water supply. The deep aquifer system produces water from water-bearing zones below 1,500 feet. No other Langell Valley area wells or water rights in the deep aquifer system are known to exist.

Previous Investigations

Aquifer testing conducted at the Babson well in 1993 demonstrated that the deep aquifer is hydraulically isolated from surface water and the shallow aquifer system (CH2M HILL, 1994). That test was conducted at just over 3,000 gallons per minute (gpm), which is approximately 60 percent of the average annual production rate (5,390 gpm at average annual conditions) of the proposed Energy Facility. To definitively address public concerns about the proposed use of water, COB Energy Facility, LLC, elected to conduct additional testing at a rate higher than the average annual production rate (approximately 6,800 gpm). The purpose of this additional work was to demonstrate that the proposed use will not impact the shallow aquifer system in the Energy Facility vicinity.

Aquifer Test Description

A 30-day aquifer test was performed in August and September 2002 at an average pumping rate of 6,800 gallons per minute. A pneumatic packer and pump assembly was installed in the Babson well to hydraulically separate the shallow and deep systems and to withdraw

water only from the deep aquifer. An extensive monitoring network consisting of 31 stations monitored water levels in groundwater, springs, and the Lost River during the test. The monitoring network extended well beyond the 5-mile monitoring radius required by the Energy Facility Siting Council.

Aquifer Test Results

No data gathered from the monitoring well network indicate that deep aquifer withdrawals will impact water levels in the shallow aquifer system, Bonanza Big Springs, or the Lost River. These data support the previous conclusion from the 1993 testing that there is no apparent measurable hydraulic connection between the shallow and deep aquifers in the Energy Facility area.

The very rapid and complete recovery at the end of pumping suggests that the withdrawal is insignificant relative to the recharge available to the well. The recovery response does not indicate that the proposed withdrawal will have a negative impact on deep system supplies or water levels.