

*Department of Environmental Quality*

## LAND QUALITY DIVISION

STATE OFFICE BUILDING

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CHEYENNE, WYOMING 82002

MEMORANDUM

TO: Ed Francis, District III Engineer

FROM: Dan Herlihy, Hydrogeologist *D.H.*

DATE: March 10, 1978

SUBJECT: Summary of 2 March 1978 meeting with Ogle Petroleum, Inc.

PARTICIPANTS: Glenn Catchpole, Ogle Petroleum  
John Gwinn, Ogle Petroleum  
Ed Francis, Land Quality Division  
Dan Herlihy, Land Quality Division

Glenn Catchpole presented a map (Well Field Layout, 3/1/78) showing the location of wells to be used to collect baseline water quality data for a proposed pilot test (T27N, R97W, Section 25). The map also identified both injection and recovery wells that may be used during the test operation.

John Gwinn presented a series of geophysical logs to suggest that a thick mudstone layer underlying the production zone is of sufficient thickness as to not require a lower aquifer monitor well. The thickness of this mudstone layer was estimated to be 50 to 100 feet. A thin siltstone stringer was identified approximately 20 feet below the production zone and within the underlying mudstone confining layer. The stringer occurs as a lens having a maximum thickness of four (4) feet and appears to pinch out in all directions within a few hundred (100) feet. Mr. Gwinn explained that an upper aquifer monitor well will be completed in the "Basal B Sand" at approximately 110 feet above the production zone.

Based upon this information I recommend that a lower aquifer monitoring well should not be required beneath the zone of production and injection activity. In addition the locations of "Restoration sampling wells" and the "Upper Aquifer Monitor Well" as shown on the "Ogle Petroleum, Inc., Well Field layout (3/1/78)" map are acceptable for the purposes of collecting baseline data as described in the 16 January 1978 memorandum (License to Explore #38). Drilling of any additional wells should not take place until after approval of the in situ pilot test.

In the formal application submitted for a License to Explore using the in situ technique Ogle Petroleum should substantiate the presence of the underlying mudstone by submitting appropriate cross sections and geophysical logs. A narrative should be given to explain why a lower aquifer monitor well should not be required.

## EXHIBIT 52(CONT.)

If you agree that the eleven (11) monitor wells are sufficient to determine baseline data, I suggest you so inform Dick Stockdale of the Wyoming State Engineer's Office. Ogle Petroleum must acquire water well permits through the State Engineer's Office.

DH:sh

cc: License to Explore #38