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June 8, 1979

PLEASE DIRECT REPLY TO:

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Casper, Wyoming 82601
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U.S. NUCLEAR REG.
COMMISSION
MAIL SECTION

Fuel Processing and Fabrication Branch
Division of Fuel Cycle and Material Safety
Office of Material Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

RE: Source Material License SUA-1336
Docket Number 40-8693

SUBJECT: Ground Water Restoration Plan

Gentlemen:

Pursuant to condition 32 of the referenced Source Material License, Ogle Petroleum Inc. herewith submits a specific plan for ground water quality restoration. The commencement of the ground water restoration phase of the project is scheduled for on or about August 6, 1979. Details of the restoration procedures are contained in the enclosed Ground Water Restoration Plan.

Please contact me at our Casper office if there are any questions concerning the enclosed Restoration Plan.

Sincerely,

OGLE PETROLEUM INC.

Glenn J. Catchpole
Project Manager

GJC:jm

Enclosure

CC: Office of Inspection and
Enforcement, Region IV

FEE EXEMPT

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OGLE PETROLEUM INC.
Source Material License SUA-1336
Docket Number 40-8693

GROUND WATER RESTORATION PLAN

BACKGROUND

In August, 1978, Ogle Petroleum Inc. (OPI) received Source Material License SUA-1336 from the Nuclear Regulatory Commission (NRC). The License authorizes OPI to conduct a pilot scale uranium in-situ solution mining operation within a one-acre test area in southern Fremont County, Wyoming. Mining operations authorized by the NRC under License SUA-1336 and the State of Wyoming commenced on May 1, 1979 and are scheduled to terminate on or about August 1, 1979. The ground water restoration phase of the project is scheduled to commence on or about August 6, 1979.

GENERAL PLAN

OPI will restore the ground water affected by the in-situ mining operation by circulating the purified permeate from a reverse osmosis (R. O.) unit[1] through the mined production zone aquifer. The concentrated waste solution (brine) produced during the operation of the R. O. unit will be routed to the plastic-lined evaporation pond via PVC pipe.

SPECIFIC PLAN

Step One: On or about August 1, 1979, mining operations will be suspended by discontinuing the addition of leaching chemicals to the circulating ground water. This action may be taken sometime in July depending on the relative strength of the lixiviant.

Step Two: On or about August 6, 1979 and following [illegible]ction of Step One above, the injection of fluids into the ore zone will stop and one pore

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1) Reverse osmosis is a physical means of separating dissolved ions from an aqueous stream. This treatment technology utilizes an externally applied pressure in excess of the solution's inherent osmotic pressure to force water to pass through a semi-permeable membrane while the dissolved ions are prevented from crossing this barrier. The water that passes through the membrane is referred to as permeate and the concentrate that did not pass through the membrane is referred to as reject or brine.

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volume (approximately 115,000 gallons) of ground water will be pumped from the production zone aquifer to the evaporation pond after routing the fluid through the plant for uranium removal. This step simulates the commercial-scale mining plan wherein approximately one aquifer pore volume from the area just mined will be transferred to the next mining unit.

Step Three: Following the completion of Step Two above, ground water from the production zone aquifer will be circulated through an R. O. unit at a planned flow rate of 25 gpm to reduce the concentration of dissolved constituents to acceptable levels. The permeate produced by the R. O. Unit will be injected into the production zone aquifer and the reject from the unit will be routed to the evaporation pond.

Step Four: Concurrent with Step Three above, the restoration sampling wells (see attached diagram) will be sampled a minimum of once each month to evaluate the ground water restoration effort. The water quality data obtained from the restoration sampling program will be forwarded to the NRC in OPI's Quarterly Reports.

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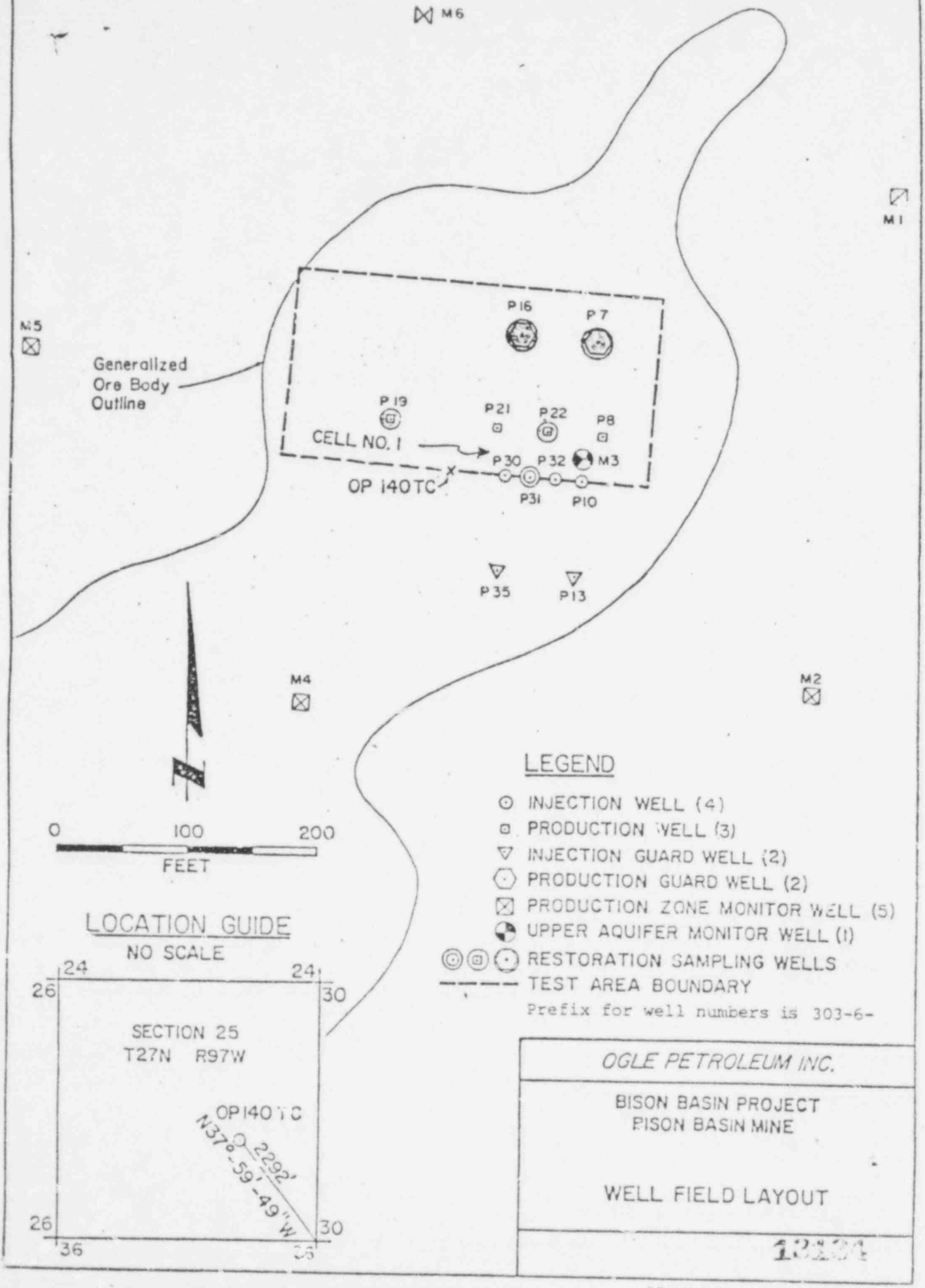

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BISON BASIN PROJECT
BISON BASIN MINE

WELL FIELD LAYOUT

REVISED 10/20/78