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USEcology

April 8, 1983

Mr. Robert E. Browning
Acting Director, Division of
Waste Management
Nuclear Regulatory Commission
Mail Stop 623 SS
Washington, D. C. 20555

Dear Mr. Browning:

As you are aware, the Sheffield tritium investigation committee was requested by US Ecology, Inc. and the State of Illinois Department of Nuclear Safety to recommend a program of investigation of the small quantities of tritium in Well 602. At their January 17, 1983 meeting, specific recommendations, including the installation of four (4) monitoring wells, were developed by the Tritium Investigation Committee. (See minutes of meeting, attached.) It was expected that this program would be agreed to by the Company and the State at the next settlement negotiations meeting. In early March when it became apparent that this meeting would be delayed, Dr. Phil Gustafson was contacted to request the State's concurrence with the program. Dr. Gustafson stated that he would take the matter up the the State's attorneys and have someone contact US Ecology regarding the State's position. As of April 7, no word had been received from the State in this regard.

In the absence of State concurrence with the program, the Company refrained from installing these particular wells for the following reasons:

1. The proposed location for the wells is on property over which the Company has been unable to obtain title from the owner of the property. The Company's access to the property is contingent upon a cooperative agreement between the landowner and USGS.

2. The necessary USGS supervision would have to be funded through the State of Illinois, Department of Nuclear Safety. The Company was willing to subsequently reimburse the State for these costs; however, there was some initial concern on the State level as to the proper mechanism. This concern has since been resolved; however, it contributed to the delay in implementation.

3. Subsequent disapproval by State authorities of well locations could have resulted in unnecessary duplication of effort and costs and could further delay ongoing USGS field investigations.

However, we now understand that the State will provide their concurrence with this program. Upon receipt of their concurrence, US Ecology will expeditiously obtain an appropriate contractor to perform the recommended installations.

If so desired, I would be pleased to discuss the details of this matter at your convenience.

Sincerely yours,

Ronald K. Gaynor

Ronald K. Gaynor
Vice President
Technical Service and Safety

SUMMARY

Results of Technical Update Meeting on Tritium Migration Investigation at the Sheffield LLWD Site

January 17, 1983

The meeting convened at 10:45 a.m., January 17, 1983, in the Capital Development Board offices in Chicago, Illinois. The following were in attendance: Dave Ed, Tom Borecki, Tom Johnson, Dave Siefken, Buck Foster, Ron Gaynor, Howard Chinn, Jim Grant and Jim Blackburn.

The meeting was opened with a review by Jim Grant of the borehole dilution testing which was performed in December, 1982. The results were discussed as to how that related to the investigation and the proposed tracer testing. Due to the range of groundwater velocities measured, it was decided to proceed with an initial tracer test in Well 601. Five sand points will be installed in the downgradient stream bed by the USGS for detection of the tracer. Jim Grant, Buck Foster, Dave Ed and Tom Johnson are to consult on the details of the tracer to be used and the types of sampling and analyses necessary. Further tracer testing may be utilized subsequent to the results of this work.

With respect to the continued tritium monitoring, the sampling frequency will be increased in the spring in an attempt to identify any potential spring recharge events. Sampling will be performed biweekly for a period of about three months (March, April and May) in the following wells: 563, 575, 580, 586, 587, 590.

In addition to the regular committee meeting, US Ecology and the State of Illinois requested the committee to provide recommendations on three other issues:

1. Investigation of the new tritium discovery in Well 602.

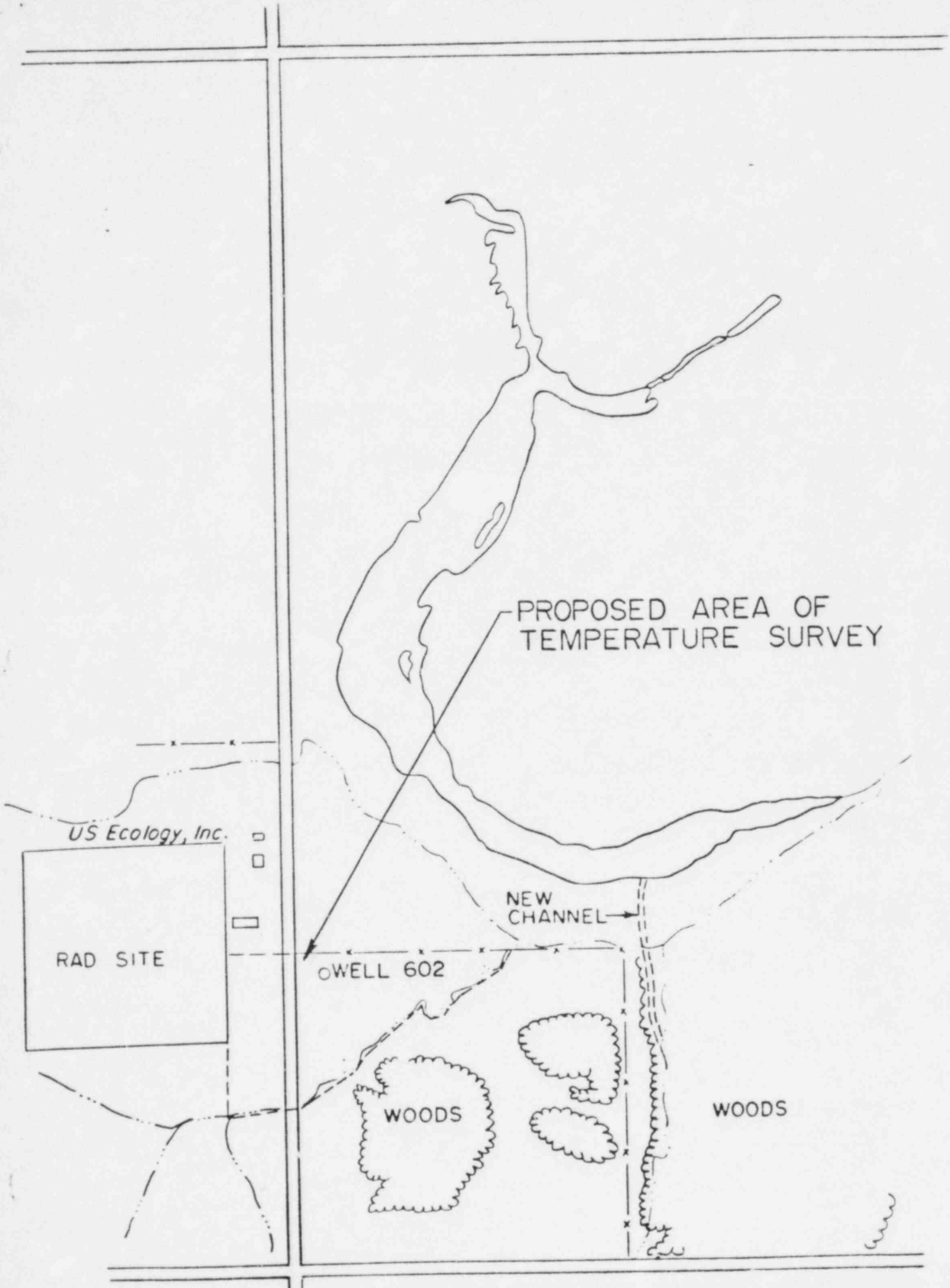
2. Identification of major groundwater pathways from the site.

3. Buffer zone recommendations based on hydrogeological aspects of the site.

With respect to the new tritium discovery, the first action recommended is to perform a temperature survey in the general area of Well 602. The proposed area for the survey is shown in the attached drawing. Additionally, four monitoring wells are proposed to be located by the USGS for the purpose of better defining the bedrock topography and the potentiometric surface east of the road. These wells will consist of two-inch slotted plastic pipe and, if necessary, may later be replaced with more permanent monitoring wells. Subsequent to this work, the committee will use the resulting information to locate additional wells for the purpose of bounding the tritium migration. This may also include further geophysical studies including a resistivity survey.

With respect to a program of study to identify major groundwater pathways from the site, and buffer zone recommendations, the committee agreed that the basis for a site groundwater monitoring program and buffer zone requirements is a reasonably well-defined potentiometric surface and understanding of subsurface conditions. It is felt that the definition of the potentiometric surface is satisfactory with respect to the 20-acre rad site and at least some of the surrounding areas. Certainly there is additional information necessary in the area of Well 602. The committee agreed that the available information south and west of the rad site on US Ecology property and to the northeast of the rad site between the northeast corner of the site and the strip mine pond, should be reviewed to determine if additional information is necessary.

It is recommended that the committee be requested to review all existing groundwater, well location and well construction information and collaborate on a potentiometric map of the site. In doing this, it will be possible to evaluate and identify areas where additional information is desirable, and to define the boundaries of the groundwater flow system. The USGS is prepared to compile and present all available information for the committee's review in this regard. It is anticipated that this compilation and review of data would take approximately four to six weeks.


PROPOSED AREA OF
TEMPERATURE SURVEY
US Ecology, Inc.
RAD SITE
NEW
CHANNEL
WELL 602
WOODS
WOODS