PDR 40-8714 RDS

MEMORANDUM

TO FILE: Cleveland-Cliffs Iron Company, Collins Draw, 3RD, Campbell County, Wyoming

FROM: Kathy Muller, Hydrologist KDM

DATE: July 11, 1980

SUBJECT: Observations During Inspection of the Collins Draw Site on July 1, 1980

Persons Present:

Margery Hulburt, DEQ-LQD
Dennis Morrow, DEQ-LQD
Kathy Muller, DEQ-LQD
10-12 Cleveland-Cliffs Personnel and Consultants
Truman Louderback, Cleveland-Cliffs

Site:

The plant seemed well maintained except for the room containing the yellow cake. That room had yellow dust on the floor and various pieces of equipment. The well field pad and the pressure control system for the wells seemed correctly designed. However, it should be noted that inflatable packers are being used on injection/production wells to prevent leakage of the lixiviant into the upper section of damaged casing. The soil moisture blocks were in place in the leach field, but the leach field is not in use at this time. Phreatophytes (cottonwoods) can be observed on Collins Draw above and below the site.

Meeting:

The procedure for setting upper control limits was discussed. The results of the meeting were:

1. Present Two Sets of U.C.L.'s:

   Cleveland-Cliffs is presently operating under two sets of U.C.L., one for DEQ and another for NRC. DEQ offered its assistance at resolving this situation.

2. Statistical T-Distribution, Versus Chet McKees' Method: (Throwing out the high value and then using the upper range as an excursion indicator.)

   DEQ-LQD agreed to consider the alternative method if data and comparisons were submitted.

3. Well by Well U.C.L. versus Aquifer U.C.L.

DEQ prefers to stay with the present well by well method in order to retain the earliest warning of an excursion as opposed to the aquifer U.C.L. suggested by Cleveland-Cliffs.

4. Proposed Two U.C.L. Method:

Cleveland-Cliffs proposed using 2 sets of upper control limits; one by the present method, and a second by Chet McKee's method applied on an aquifer basis. Whenever either sceme indicated an excursion, a meeting would be held with DEQ to determine if the excursion was "Real". This proposal was rejected by DEQ.

KM:lv
cc: Margery Hulburt
Dennis Morrow

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality

LAND QUALITY DIVISION

DISTRICT IV OFFICE

30 EAST GRINNELL STREET TELEPHONE 307-672-6488 SHERIDAN, WYOMING 82801

September 22, 1980

Mr. Al Stoick
Nuclear Dynamics
Nubeth Joint Venture
200 South Lowell
Casper, Wyoming 82601

RE: Oshoto ISL Uranium R&D Test, License No. LE19

Dear Mr. Stoick:

Enclosed please find a copy of the Annual Inspection Report for the Oshoto ISL test. Please inform this office in writing if I have made any incorrect or misleading statements. Your comments will be included in our inspection report files for this gravel license.

Please call if you have any questions.

Sincerely,

Dennis Morrow
District IV Engineer

DM/kn

Enclosure

cc: Jack Rothfleisch, NRC

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30 EAST GRINNELL STREET
TELEPHONE 307-672-6488
SHERIDAN, WYOMING 82801

1979 ANNUAL INSPECTION REPORT

SUBJECT: 1979 Annual Inspection Report, Nuclear Dynamics, Oshoto ISL Uranium Test, License No. LE19

DATE OF INSPECTION: September 18, 1979

PERSONS MAKING INSPECTION: Dennis Morrow, District IV Engineer DM
Don Crecelius, Soil Scientist

PERSON CONTACTED: Al Stoick, Vice President

The Oshoto Test area is located in the S½SW¼ of Section 18, T.53N., R.67W., in Crook County. The single five-spot pattern on the site has been in restoration since April and the facility will be shut down for the winter within the next few days. Samples were taken during this inspection and the pattern will be resampled in Spring, 1980 to ascertain any change in restoration constituents. Sodium bicarbonate was the leach solution that was used with a hydrogen peroxide oxidizing agent. Yellowmine pipe were used for the well casings.

The first area inspected was the five-spot well pattern located just northeast of the plant building (Photo No. 12). The recovery well is in the center of the pattern and is surrounded by four injection wells with a 40 foot spacing between the recovery and injection wells. The production zone is known as the "B" aquifer and is some 525-530 feet below the surface and confined above by a 10-15 foot shale layer. The next higher aquifer, the "A" aquifer above the shale is being monitored. No excursions (either production zone or shallow monitor zone) have ever been reported at this site. A natural confining hydrologic barrier runs basically east-west at production zone level, and this barrier probably resulted in the reduction and deposition of uranium many years ago.

The plant building was inspected. Fixed bed ion columns are used in the plant process. About 97% of the well field water is recirculated and 3% goes to the evaporation ponds. Up to a 90 gallons/minute recovery rate is authorized by the NRC for a maximum well field size of two acres.

The evaporation ponds (Photos 13-16) have stored about 2.2 million gallons. Two feet of freeboard are required at the ponds, and current pond levels are well within this limit. The leak detection system for the ponds is checked weekly. Evaporation can be as high as 3 inches per week in the summer. Average evaporation from the ponds runs about 32 inches per year. The topsoil stockpile at the far right of Photo No. 16 and another stockpile on site will be seeded this fall.

No problems were noted during the inspection. The bond for this project is presently $60,000 which was calculated to cover the plugging of all wells, removal of structures, and surface and subsurface restoration costs as presented on June 5, 1978 in the license application. Since restoration has been ongoing for 4-5 months, the current bond should be adequate even in view of inflation.

About 18 assessment drill holes were drilled in 1979 in the area of this project. The holes have been plugged, capped, and the drill sites prepared for fall seeding.

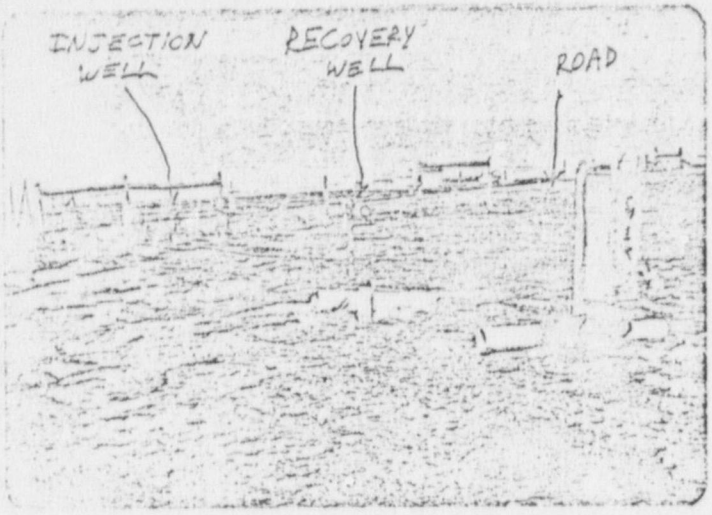
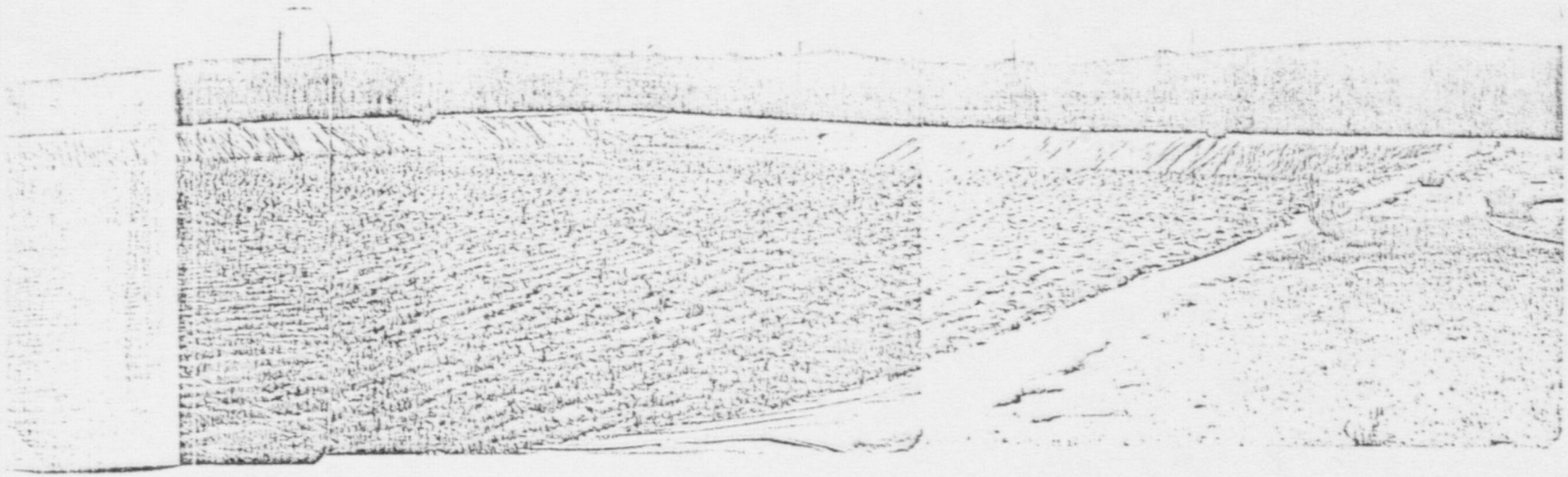


Photo No. 12

Five-spot well pattern, view to the north-northeast. The road in photo background runs due east-west and crosses the quarter-section line at far right of photo.

Photos taken September 18, 1979
by Don Crecelius



Photos Nos. 13, 14, 15 and 16

Evaporation ponds, view to the south-southwest. Pond 1 is at photo right; Pond 2a at photo left. A topsoil stockpile can be seen at far right of photos. Location is the S½SE¼SW¼SW¼ of Section 18, T.53N., R.67W.

Photos taken September 18, 1979
by Don Crecelius