

Subject: Tennessee Valley Authority (TVA) tailings disposal
facility near Edgemont, South Dakota

Task Order No. 003 Contract No. NRC RG4-83-673

Licensing Assistance/Geotechnical and Hydrological
Evaluations/URFO;
Review of Settlement Measurement Proposal

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The Settlement Measurement Proposal for the TVA Edgemont Decommissioning Project submitted by TVA to NRC by letter dated April 9, 1985 has been reviewed as requested and the following conclusions and recommendations are based on a review of the data submitted:

Conclusions

1. Seven settlement points, installed at approximately the locations shown on Figures 1 and 2, should be an adequate number for Cell 1.
2. Frost action after prolonged cold temperatures could extend below 4 feet in depth.
3. The monitoring frequency (biweekly, reduced to a less frequent basis as settlement stabilizes) is considered adequate.
4. A plywood base plate (Figure 3), suggested as an alternate to a metal base plate, could warp when exposed to moisture and thereby give erroneous settlement readings.
5. No plan was shown for the location and establishment of a stable survey point from which settlement readings can be made.

Recommendations

1. The need for settlement points on the remaining cells should be determined after readings from Cell 1 settlement points have stabilized and the data have been plotted and reviewed.
2. An accurate record should be made of the type and location of the mill debris placed into Cell 1.
3. The settlement point base plate should be buried a minimum of 5 feet below surface to avoid frost action on the plate.
4. All base plates should be made of metal; plywood is considered unsatisfactory.
5. To facilitate removal of the settlement point rod, consideration should be given to the use of non-corrosive metal when fabricating the settlement points.
6. A stable survey point from which settlement readings can be made should be established outside Cell 1, and in a location not subject to disturbance by construction equipment.

DEVICES IN PLAN

EDGE MONT MILL DECOMMISSIONING

SOUTH DAKOTA

FIGURE

1

EDGE MONT

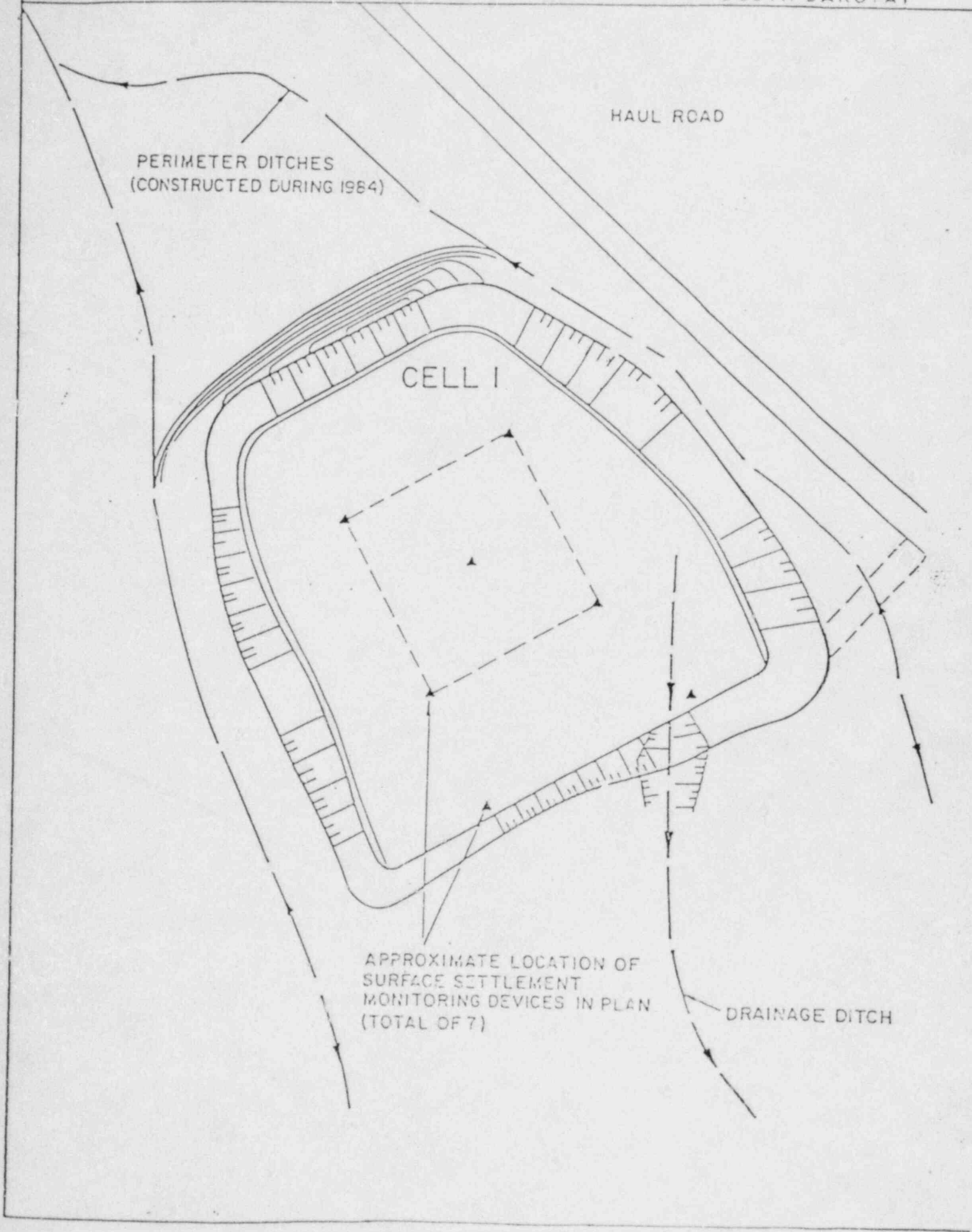
HAUL ROAD

PERIMETER DITCHES
(CONSTRUCTED DURING 1984)

CELL 1

APPROXIMATE LOCATION OF
SURFACE SETTLEMENT
MONITORING DEVICES IN PLAN
(TOTAL OF 7)

DRAINAGE DITCH



APPROXIMATE LOCATIONS OF SETTLEMENT MONITORING DEVICES IN SECTION EDGEMONT	EDGEMONT MILL DECOMMISSIONING	SOUTH DAKOTA
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FIGURE
2

