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US Nuclear Regulatory Commission
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MIDLAND PROJECT

MIDLAND DOCKET NO 50-329, 50-330

TEST RESULTS FOR REMAINING SOIL TEST SPECIMENS

TAKEN FOR VARIOUS MIDLAND PLANT STRUCTURES

FILE: 0485.16 SERIAL: 16882

- REFERENCES:
- (1) J W COOK LETTER TO H R DENTON, FINAL RESULTS OF SOIL BORING AND TESTING PROGRAM FOR PERIMETER AND BAFFLE DIKE AREAS, SERIAL 13340, DATED JULY 27, 1981
 - (2) J W COOK LETTER TO H R DENTON, TEST RESULTS OF SOIL BORING AND TESTING PROGRAM FOR DIESEL GENERATOR BUILDING, SERIAL 13382, DATED JULY 31, 1981
 - (3) J W COOK LETTER TO H R DENTON, RESULTS OF SOIL BORING AND TESTING PROGRAM FOR AUXILIARY BUILDING (PART 1), SERIAL 13794, DATED SEPTEMBER 22, 1981
 - (4) J W COOK LETTER TO H R DENTON, TEST RESULTS OF SOIL BORING AND TESTING PROGRAM FOR SERVICE WATER PUMP STRUCTURE, SERIAL 14280, DATED NOVEMBER 6, 1981
 - (5) J W COOK LETTER TO H R DENTON, RESULTS OF SOIL BORING AND TESTING PROGRAM FOR THE BWST, SERIAL 14281, DATED NOVEMBER 10, 1981
 - (6) J W COOK LETTER TO H R DENTON, RESULTS OF SOIL BORING AND TESTING PROGRAM FOR AUXILIARY BUILDING (PART 2), SERIAL 14874, DATED NOVEMBER 24, 1981
 - (7) J W COOK LETTER TO H R DENTON, TEST RESULTS OF THE SOIL BORING AND TESTING PROGRAM FOR THE RETAINING WALLS, SERIAL 16573, DATED MARCH 23, 1982

- ENCLOSURES:
- (1) ADDITIONAL TEST RESULTS, FOUNDATION SAND-BAFFLE DIKE, SOIL BORING AND TESTING PROGRAM, MIDLAND PLANT - UNITS 1 & 2, DATED SEPTEMBER 17, 1981
 - (2) ADDITIONAL TEST RESULTS, INDEX PROPERTY TESTING, SOIL BORING AND TESTING PROGRAM, MIDLAND PLANT - UNITS 1 AND 2, DATED MARCH 15, 1982
 - (3) ADDITIONAL TEST RESULTS, FOUNDATION TILL, PERIMETER DIKE, SOIL BORING AND TESTING PROGRAM, MIDLAND PLANT - UNITS 1 AND 2, DATED DECEMBER 9, 1981

We are forwarding thirty (30) copies of Enclosure 1, which is the Woodward Clyde Consultants (WCC) report for soil borings taken in the baffle dike

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foundation sand. Enclosure 1 provides the results of a series of isotropically consolidated-undrained triaxial compression tests for the baffle dike foundation sand. The results of these tests were presented by Dr A J Hendron in the Atomic Safety and Licensing Board hearing on August 11, 1981 and indicate that the measured effective angles of shearing resistance were greater than the conservative angle of 35° used for the stability analysis of the dike.

During the latter portion of 1981, we forwarded a series of reports with the test results from soil borings taken for the perimeter and baffle dikes, the diesel generator building, the retaining walls, the service water pump structure, the auxiliary building, and the borated water storage tanks. These seven reports, forwarded by References 1 through 7 above, were based on a sufficient quantity of high quality test specimens to allow a complete characterization of the index and engineering properties of the soils without requiring the processing of all recovered tube and core samples.

Early in 1982, the remaining tube and core samples were processed, classified, photographed, and tested for various index properties in a manner similar to that employed during previous laboratory testing. All recovered tube and core samples have recently been processed, and the results of the additional index property testing of the remaining tube and core samples are being forwarded with the thirty (30) copies of Enclosure 2, the Woodward-Clyde Consultants (WCC) report dated March 15, 1982. For completeness, all previously reported index property test results are also included in this enclosed report. Consequently, all available index property test results and other pertinent data are consolidated, by boring, in this report. Engineering property test results, however, are incorporated only by reference to the previous reports.

We are also including thirty (30) copies of Enclosure 3, which is the WCC report for the remaining tube and core samples taken specifically for the perimeter dike natural till. The test results from this enclosure have been incorporated into the more comprehensive report of Enclosure 2. The above three enclosures complete the transmittal of all the reports and test results from the recent soil boring and testing program performed by Woodward-Clyde Consultants.

During the recent processing of the remaining tube and core samples, no soil conditions were encountered which were significantly different from those soil conditions reported by References 1 through 7. Similarly, the results of recent index property tests are also consistent with previously reported results for similar materials from the various structures investigated. These

observations and index property test results further substantiate the conclusions reached in our above-referenced correspondence and the various data reports attached to those letters.

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for J W Cook

JWC/RLT/mkh

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