U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 99990001/82-13

Inspection at: Coles Brook, Maywood, New Jersey

Inspection conducted: September 23, 1982

Inspector: J. Johansen, Radiation Specialist — 10/21/82 date signed

Approved by: John D. Kinneman, Chief, Nuclear Material Section A — 10/21/82 date signed

Inspection Summary:

Inspection on September 23, 1982

Areas Inspected: Special inspection limited to measurment of radiation levels and gathering of sediment samples in and along Coles Brook, Maywood, New Jersey. The inspection involved 5 hours on-site time by one NRC inspector.

Results: No radioactivity was detected in the soil samples taken in and along Coles Brook. Radiation levels in the Brook were representative of natural background.

DETAILS

1. Persons Contacted

   A. Vincent W. Greber, Inspector-Board of Health, Borough of Maywood
   B. Ernest W. Hanabergh, Jr., Superintendent of Public Works, Borough of Maywood
   C. Sam Jones, General Foreman, Department of Public Works, Borough of Maywood

2. Background

   In a letter dated September 14, 1982 the Borough of Maywood, New Jersey that requested NRC Region I advise them whether a proposed stream clearance project of Coles Brook would create any hazard in relationship to the radioactive contamination in the vicinity of the Brook; whether the NRC could make recommendations of actions which should be taken to assure the project would be accomplished safely and whether any on-site inspections would be necessary prior to, during, or after the clearance project.

   Previous NRC measurements (May 4-5, 1981) of radiation levels in the area adjacent to Coles Brook had found radiation levels of up to 300 microR/hr on a pile of earth fill to the west of a path that runs northerly into the vacant lot for approximately 130 feet from the end of the paved parking lot on Essex Street and parallel to Coles Brook at an approximate 30 foot distance.

3. Measurement and Sample Areas

   On September 23, 1982 an inspector from NRC Region I, accompanied by Individual B in paragraph 1, made radiation level measurements in and along Coles Brook in a northerly direction from the end of the paved parking lot behind the Essex Street property to the storm drain located approximately 300 feet from the end of the parking lot (see Attachment 1). The individuals exited the Brook at the storm drain (Point B, Attachment 1) and crossed over (to the west) to the Hackensack and Lodi railroad tracks and walked northerly to a point (Point C, Attachment 1) which is approximately 150 feet from where the Cole Brook runs under the railroad tracks. Access to the Brook was possible at this point and radiation level measurements were made. The individuals again exited the Brook and walked northerly along the railroad tracks to the point where Coles Brook runs under the railroad tracks. Final radiation level measurements were taken in this area. (See Attachment 1.)

   Three soil samples were taken from the middle of the Brook at points approximately 30, 150 and 250 feet north of the end of the paved parking lot. Two soil samples were taken from the west side of the bank near the waterline of the Brook approximately 10 and 150 feet south of the point where the Brook crosses under the Hackensack and Lodi Railroad tracks. (See Attachment 2.)

4. Results of Measurements

All radiation levels measurements were made using a Ludlum Model 12S microR meter calibrated August 25, 1982 and are documented in Attachment 1.

Radiation levels in and along the immediate banks (up to 3 feet from the water line) of Coles Brook did not exceed 10 microR per hour from the end of the parking lot north (approximately 300 feet) to the storm drain. (See Attachment 1.) At point A (see Attachment 1 and 3) the inspector had to exit the Brook and measured levels from 15 microR per hour at the top of the bank to up to 50 microR per hour 15 feet from the top of the bank near two large logs and a green bucket. After leaving the Brook at point B (see Attachment 1), radiation levels ranging from 15 to 40 microR per hour were measured while crossing over to the railroad tracks in a westerly direction. Radiation levels along the railroad tracks, at point C (see Attachment 1) in and along the Brook, and in the area where Coles Brook crosses under the railroad tracks ranged from 10 - 15 microR per hour.

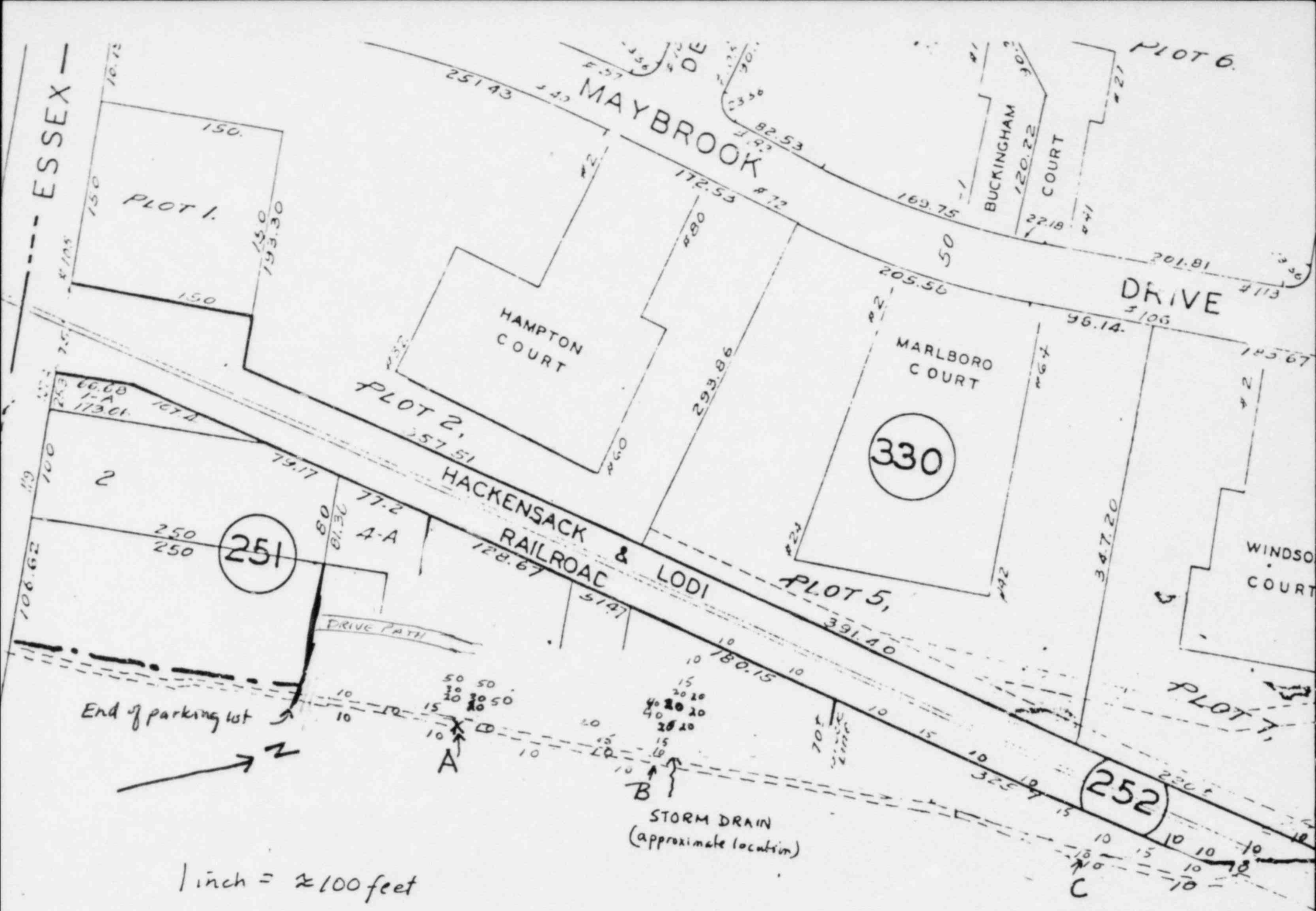
No radiation levels in or along Coles Brook from point B to point C (see Attachment 1) were made due to the depth of the water in the Brook and the difficult access due to the heavy growth of weeds. Previous NRC radiation level measurements made around the apartment complex on the eastern side of Coles Brook showed levels of 8-10 microR per hour. These measurements were at least 30 - 50 feet from the east bank of (Hackensack side) the Brook.

No radiation level measurements were made beyond the point where the brook exited in a north westerly direction from under the Hackensack and Lodi railroad tracks since previous aerial measurements taken by EG&G for the NRC on January 26, 1981 showed no radiation levels north of these railroad tracks exceeding area background.

Soil samples taken from and along Coles Brook were analyzed on a GeLi detector coupled with a computer based multi-channel analyzer in the Region I laboratory. The samples contained no detectable radioactivity.

5. Conclusion

The planned stream clearance project presents no hazard to the workers or residents of Maywood from radioactive contamination. The soil beyond 15 feet from Coles Brook in the areas previously identified as having radiation levels (from point B southerly to paved parking lot, see Attachment 1) should not be removed during the project.



RADIATION Levels in microR per hour

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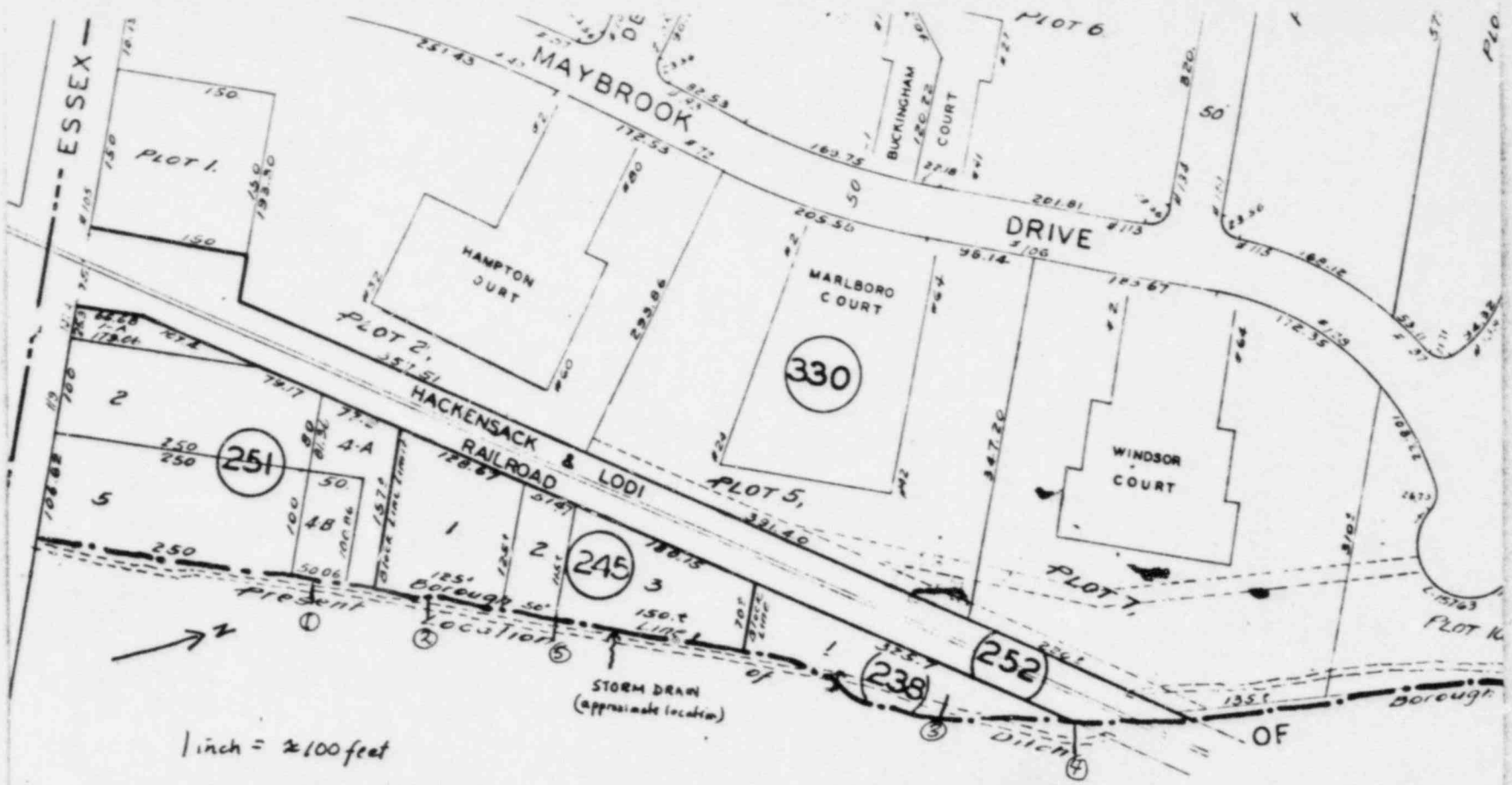
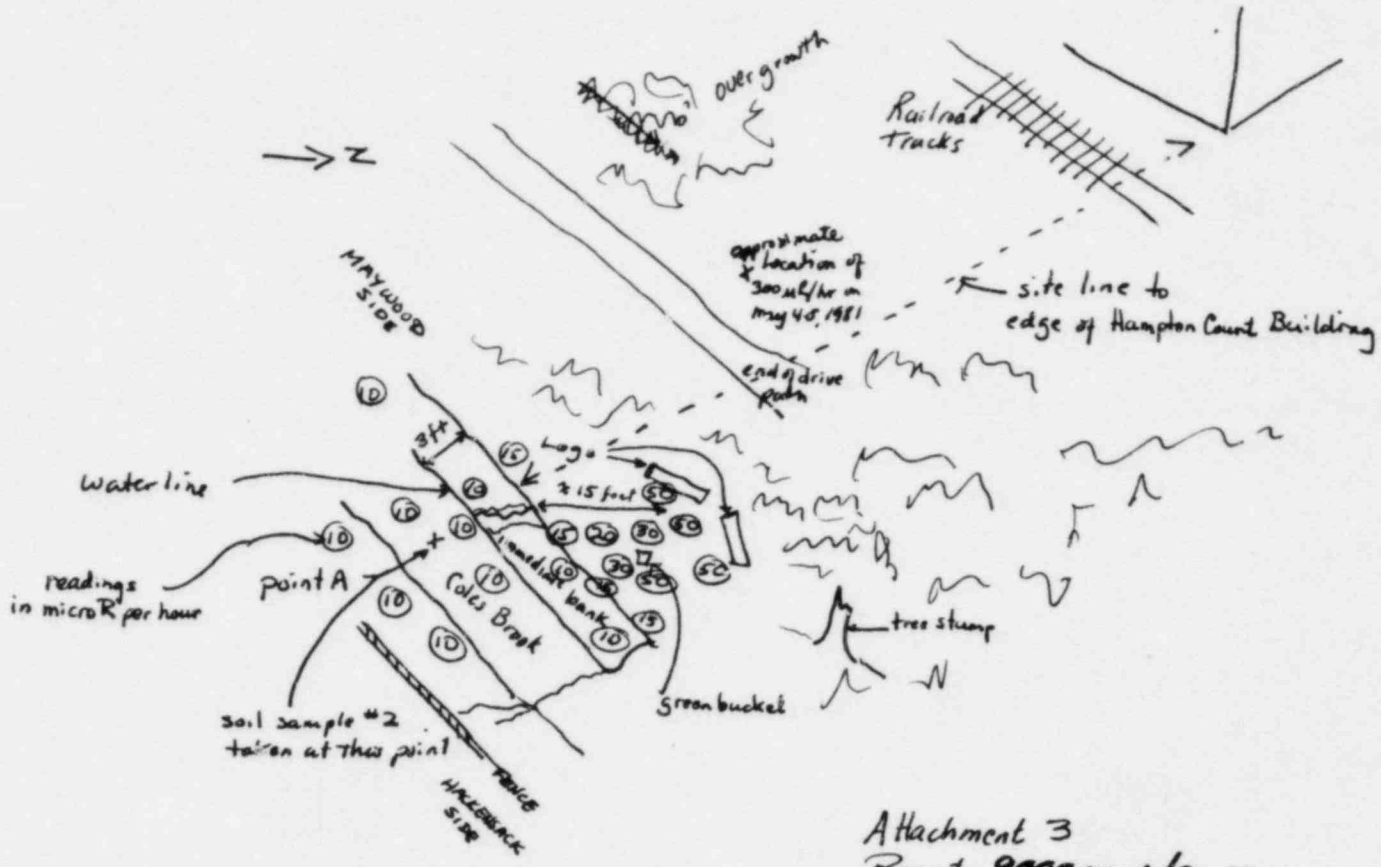


Location of Soil Samples

Attachment Report 99990001/82-13



Attachment 3
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