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Park West Two
Cliff Mine Road
Pittsburgh, PA 15275
412-788-1080

C-34-6-6-16

June 4, 1986

Commander, Atlantic Division
Building I-AA (2nd Floor)
Gilbert Street
Naval Facilities Engineering Command
Environmental Quality Branch
Norfolk, Virginia 23511
Attn: Cheryl Barnett

Subject: Round 3 Recommendations

Reference: MCAS Cherry Point, North Carolina
Confirmation Study
Contract No. N62470-84-C-6886

Dear Ms. Barnett:

The Round 2 Sampling report of February 1986 has been reviewed and in conjunction with the site visit conducted during April, the Round 3 activity recommendations have been revised. The recommendations are included in this letter with appropriate reference Tables and Figures attached. For those sites appearing to be candidates for continuing study in the characterization phase, specific field activities have been recommended necessary for more complete site evaluation.

Per the site visit conducted in April, concurrent with the surface impoundment testing field activities, recommendations for "optional" activities have also been incorporated in this report including:

- Crash Crew Training Area - Cherry Point - (Site 12, IAS) - monitoring well installation, sampling, and analysis
- Fuel Storage Area - (Site 13) - Leak Detection Testing and monitoring well installation.
- Crash Crew Training Area - Boque Sound - (Site 29, IAS) monitoring well installation, sampling, and analysis

Sites 1 and 2

Table 1-1 outlines the proposed samples and analytical parameters for Round 3 sampling at Sites 1 and 2. Proposed Round 3 sampling duplicates Round 2 and consists entirely of groundwater sampling. Figure 1-1 shows the locations of the wells to be sampled. It is not anticipated that this site will proceed to the characterization phase.

Site 4

Table 1-2 outlines the proposed samples and analytical parameters for Round 3 sampling at Site 4. Mill Creek, which flows southwest of Site 4 drains into Slocum Creek. In order to evaluate whether Site 4 is potentially contributing to contaminant loading in Slocum Creek (see Appendix B, Round 2 Sampling Analytical Results, February 1986) or Mill Creek, surface water and sediment samples upgradient, adjacent and downgradient of the site should be collected and analyzed for priority pollutant VOA's, metals, and hexavalent chromium. (Full priority pollutant, CN, EDB, MEK, MIBK and Xylene analysis have been dropped for the surface water/sediment analysis). Collection of three surface water and three sediment samples are proposed for Round 3. The surface water and sediment samples should coincide in location. Also, duplicate samples of both groundwater and surface water are recommended for this site. These quality control samples should verify volatile contamination in these two media and qualify laboratory procedures. Figure 1-2 presents all sample locations. Additional field activities recommended include a pumping test to determine groundwater flow rates.

Site 5

Site 5 sample locations proposed for Round 3 duplicate those sampled in Round 2. In addition, three new surface water/sediment locations are recommended. Proposed analytical parameter changes include:

- Increase to full priority pollutant analysis including inorganics.
- Perform full dioxin (TCDD) analysis instead of screening only.

A full TCDD analysis is recommended since apparent PCB interference caused the TCDD-screening detection limit to be high. (The detection limit for 5SD01 in Round 2 was 55 ug/kg). Proposed samples and analytical parameters are outlined in Table 1-3. Sampling locations are presented in Figure 1-3. An additional field activity recommended is a pumping test to determine groundwater flow rates.

Sites 6 and 7

Proposed Round 3 sampling and analysis at Site 6 are the same as for Round 2 except that a full organics analysis instead of a volatiles-only analysis is recommended. Phenolics were detected in one monitoring well sample during Round 2. Consequently, a full priority pollutant analysis is recommended to determine if non-volatile organic compounds are potential site contaminants. Tables 1-4 and 1-5 outline the proposed Round 3 sampling and analysis plans for Sites 6 and 7, respectively. Figure 1-4 presents sampling locations for both sites.

Site 10

The proposed analytical parameters for Round 3 sampling at Site 10 are the same as those for Round 2. Well Number 10EGW13 has been dropped from analysis as it historically has been a dry well and not sampleable. Additional samples include groundwater from eight newly installed monitoring wells (see Figure 1-6) and two new surface water and sediment locations. These samples are proposed to be collected from (1) upstream of Turkey Gut (SW/SD02), and (2) downstream of Turkey Gut in Slocum Creek (SW/SD01). Samples collected from these locations should indicate any change in Slocum Creek water and sediment quality created by the Turkey Gut effluent. Table 1-6 presents the proposed sampling and analysis plan and Figures 1-5, 6, 7 and 8 illustrate the sample locations.

The existing closure plan will be reviewed. Soil Conservation Service maps will be reviewed and local clay soil areas identified. A one-day field reconnaissance is recommended to locate and sample local clay sources for closure (clay capping) in the event that this remedial action is selected. Ten soil samples will be collected and analyzed for geotechnical properties including:

- Grain size
- Permeability
- Atterberg Limits

Three pumping tests are recommended at the following locations:

- Surface impoundments
- Southwestern landfill boundary
- Northwestern landfill boundary

Groundwater flow rates throughout the landfill will be determined by the pumping test.

Site 12 (Optional)

Site 12 is a Crash Crew Training Area adjacent to Runway 28 at Cherry Point. POL and solvents were burned in one of two cicular bermed areas on old RUnway 28. Contaminated fuel, only, is used currently (IAS, 1983).

It is recommended that three shallow (water table) monitoring wells be installed at Site 12. One well should be upgradient and the remaining two wells downgradient. The monitoring well should be 15 feet deep with a ten foot screen.

Recommended analysis includes oil and grease, and volatile organic priority pollutants.

Site 13

Three additional shallow wells are recommended southwest of the site (downgradient flow direction) in order to better define the limits of the groundwater plume. The wells should be 15 feet deep with 10 foot screens.

Monitoring well locations will be selected during the Round 3 sampling activitiy, field activities recommended include:

- Measurement of water levels and POL layer
- Pumping test

This information will be used to evaluate the feasibility of oil recovery corrective actions. A "leak detection" activity will be conducted at the fuel tank site to determine which tanks/pipe systems are leaking. This activity will be performed by a subcontractor (optional).

Site 15

Table 1-7 outlines the proposed Round 3 sampling and analysis plan for Site 15. Samples proposed for Round 3 include those collected during Round 2, and 3 additional surface waters. The exception being that three of the eight sediment sample locations (15SD02, 04, and 05) will be deleted and replaced by four new locations (15SD09, 10, 11, and 12). Figure 1-9 presents all sample locations. The new sediment sample locations were selected to investigate the possible migration of metals from Site 15 and PCBs from Site 17. The new surface water sample locations were selected to quantify the soluble contaminants moving to Slocum Creek and measure the backgrounds levels.

Twenty four soil samples will be collected in the Former Drum Storage Area. Samples will be collected on a grid at the surface and one foot deep. Analysis will include metals, hexavalent chromium and the EP Toxicity test as shown in Table 1-8.

Additional field activities include a pump test to determine groundwater flow rates.

Site 16

Table 1-9 outlines the proposed sampling and analysis plan for Round 3 at Site 16. In addition to the wells sampled during Round 2, three surface water and sediment samples are proposed. A coinciding surface water and sediment sample are to be collected from three locations. All sample locations are presented on Figure 1-10.

Three additional wells 16GW07, 16GW08 and 16GW09 are recommended and locations shown on Figure 1-10. The objective of these well installations is to further define the limit of the groundwater contamination plume and possibly locate potential upgradient sources. Two pumping tests are recommended, one in wells along the East Prong of Slocum Creek and one upgradient in the newly installed monitoring wells.

Site 17

Eleven locations along the existing fence line by the DRMO will be selected and (i.e. every other fence post). At each post location, 6 samples will be collected as follows:

Description	Designation
• Surface - inside fence	17SO-0-A
• 1' deep - inside fence	17SO-1-A
• Surface - outside fence	17SO-0-B
• 1' deep - outside fence	17SO-1-B
• Surface - adjacent to ditch	17SO-0-C
• 1' deep - adjacent to ditch	17SO-1-C

A cross-section view of the sample location is shown in Figure 1-11.

A total of 66 soil samples will be collected, however, only the two samples by the ditch and the two 1'deep samples by the fence will be submitted for analysis (1750-1-A, 1750-1-B, 1750-0-C, 1750-1-C). The analysis will be for PCBs. Remaining samples will be reserved for potential future analysis.

Sites 19 and 21

Proposed sampling and analysis for Round 3 at Sites 19 and 21 duplicate Round 2 and are presented in Table 1-10. Sampling locations are illustrated in Figure 1-12. It is not anticipated that sites 19 and 21 will be recommended for further characterization.

Site 29 (Optional)

Site 29 is a Crash Crew Training Area at MCALF Bogue, East of White Oak Road at Pine Lane. There is a bermed pit in the area and an unbermed area where miscellaneous scrap metals waste has been dumped on the land (IAS, 1983).

It is recommended that three shallow (water table) monitoring wells be installed at Site 29. One well should be upgradient and the remaining two wells downgradient. The monitoring wells should be 15 feet deep with a ten foot screen.

Recommended analysis includes oil and grease, volatile organic priority pollutants and metals.

Analysis Summary

A summary of analytical parameters is presented in Table 1-11.

If you have any questions regarding the proposed recommendations, please call me at your convenience.

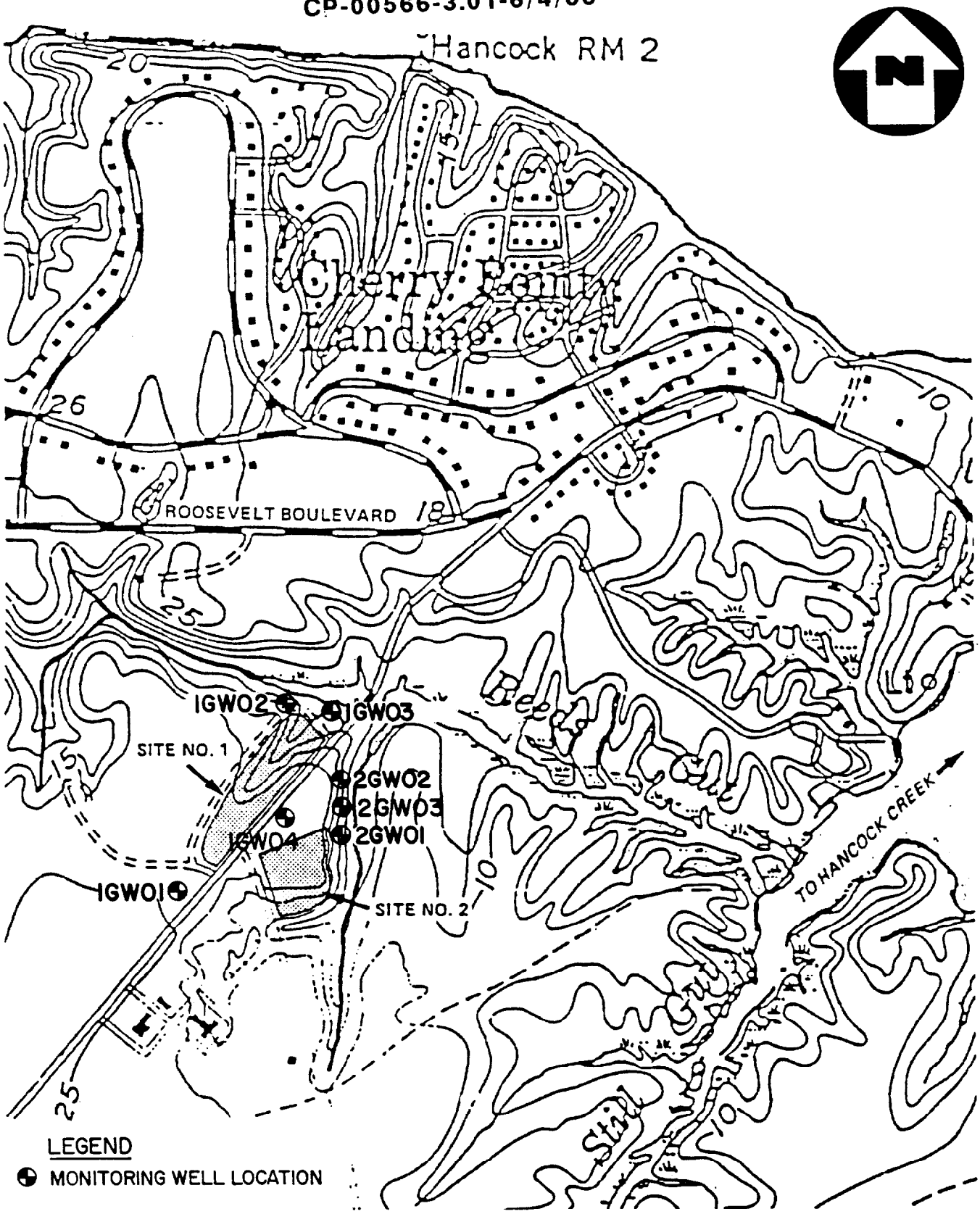
Very truly yours,

Vicki F. Pierce

Vicki F. Pierce
Project Manager

VFP/dlf

cc: Dan Threlfall
Jeff Orient
Jane Patarcity
Rob Markwell



MONITORING WELL LOCATIONS
SITE NOS. 1 & 2
MCAS CHERRY POINT, NC

SCALE 1" = 790' ±

FIGURE 1-1

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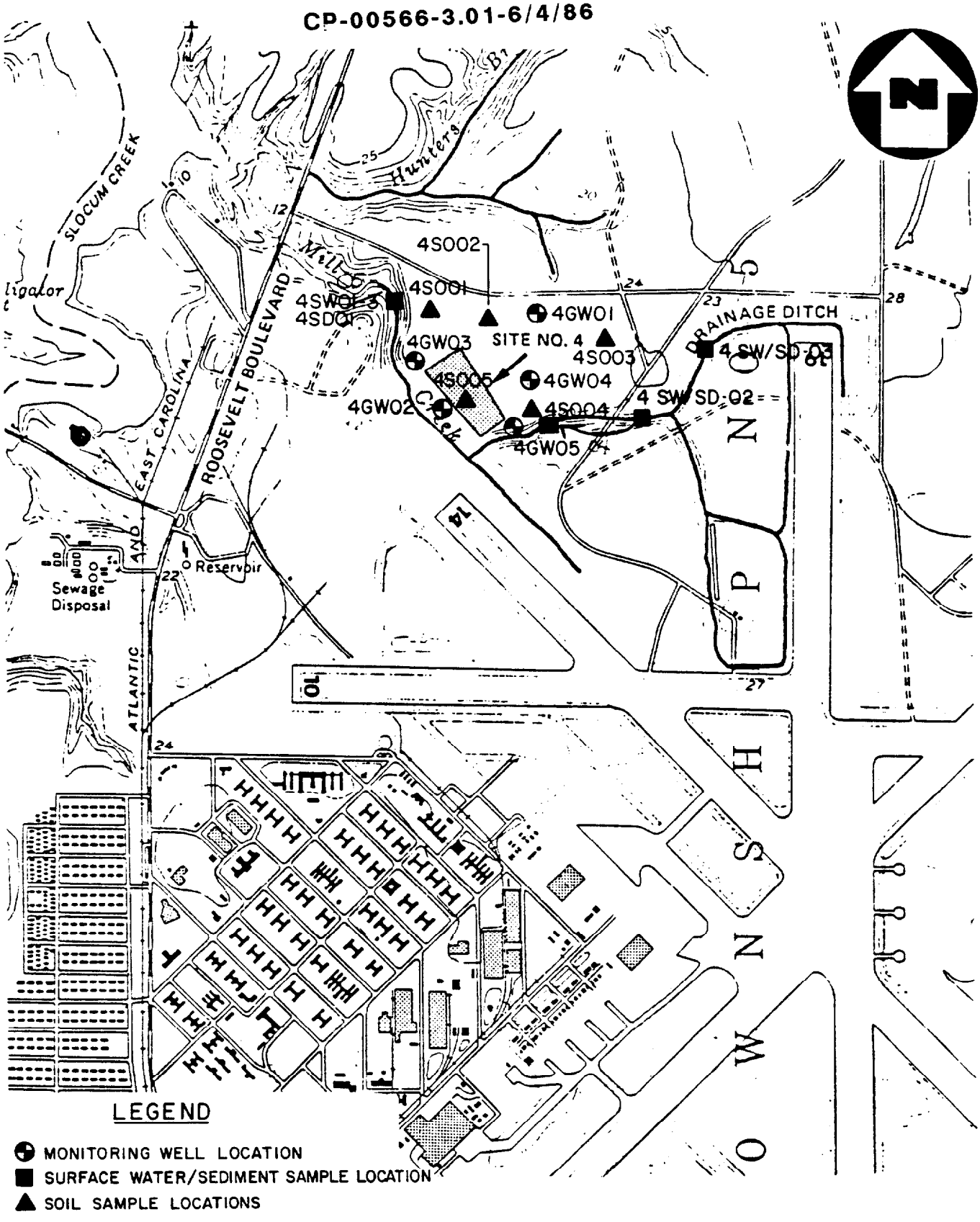
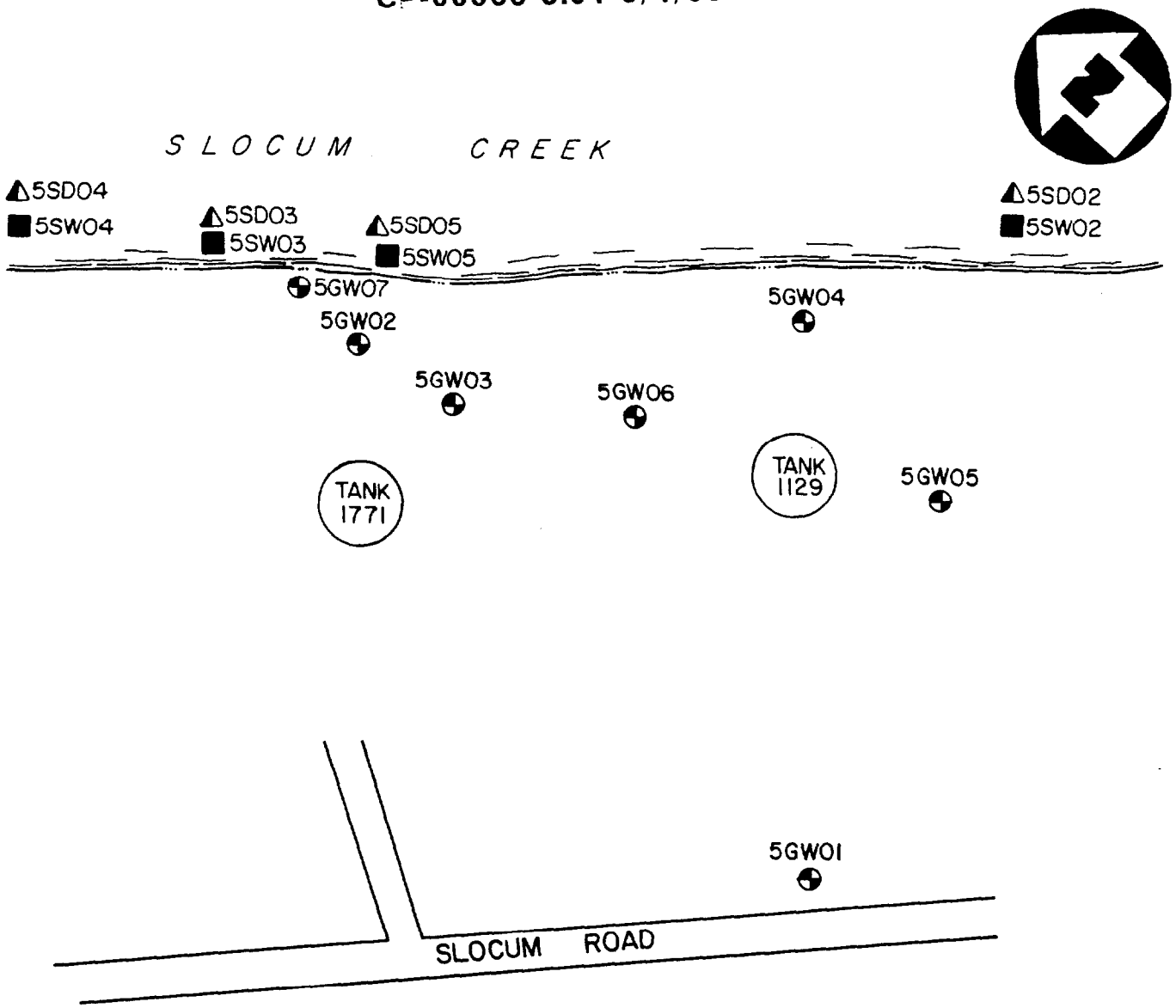


FIGURE 1-2

MONITORING WELLS, SOIL AND SURFACE WATER SAMPLE LOCATIONS, SITE NO.4
MCAS CHERRY POINT, NC
SCALE 1" = 1500'

NUS CORPORATION
A Halliburton Company



LEGEND

- MONITORING WELL LOCATION
- SURFACE WATER SAMPLE LOCATION
- SEDIMENT SAMPLE LOCATION

MONITORING WELL, SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS, SITE NO.5
MCAS CHERRY POINT, NC
SCALE 1" = ≈150'

FIGURE 1-3

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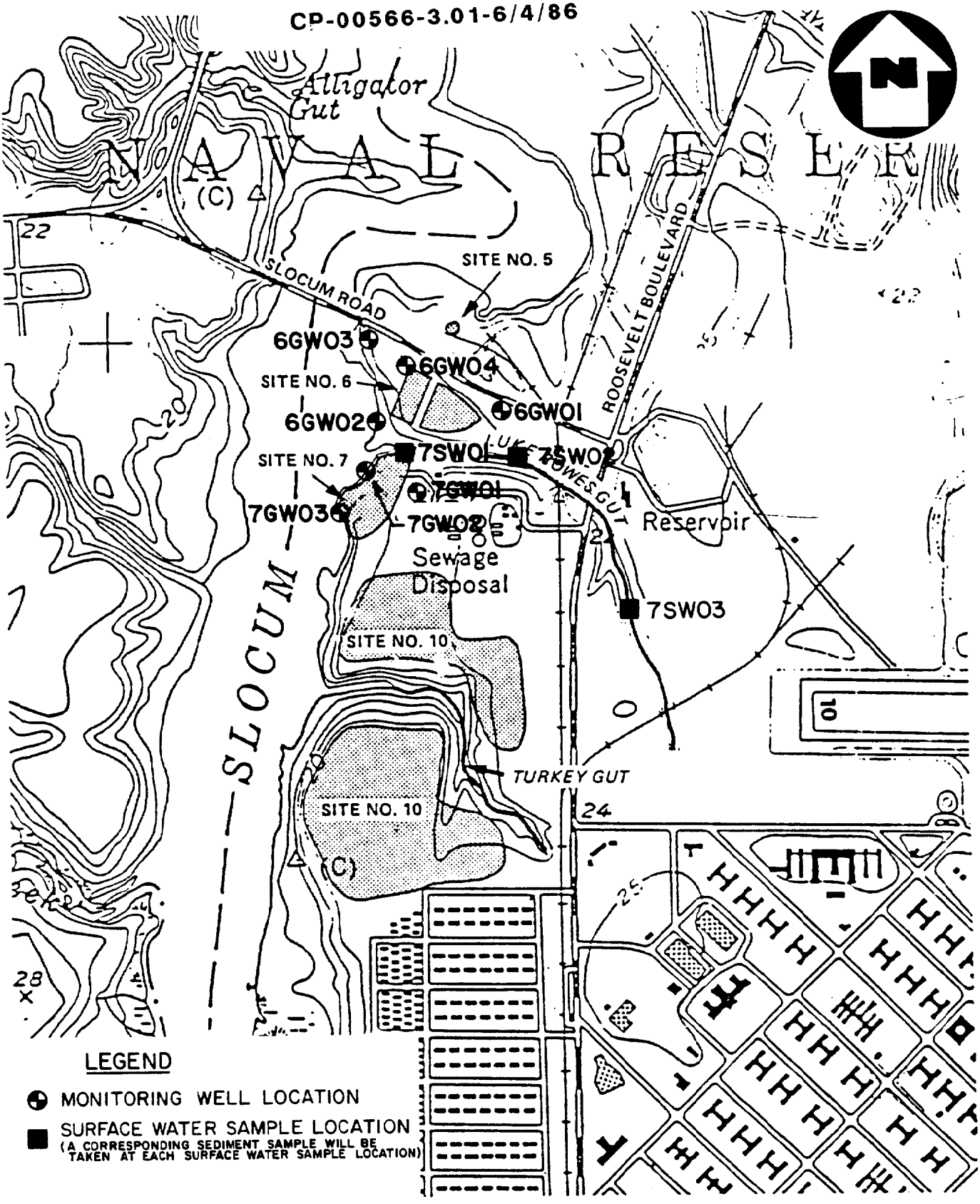

MONITORING WELL, SEDIMENT, AND SURFACE WATER SAMPLE LOCATIONS, SITE NOS. 6&7
MCAS CHERRY POINT, NC

SCALE 1"=1000'

FIGURE 1-4

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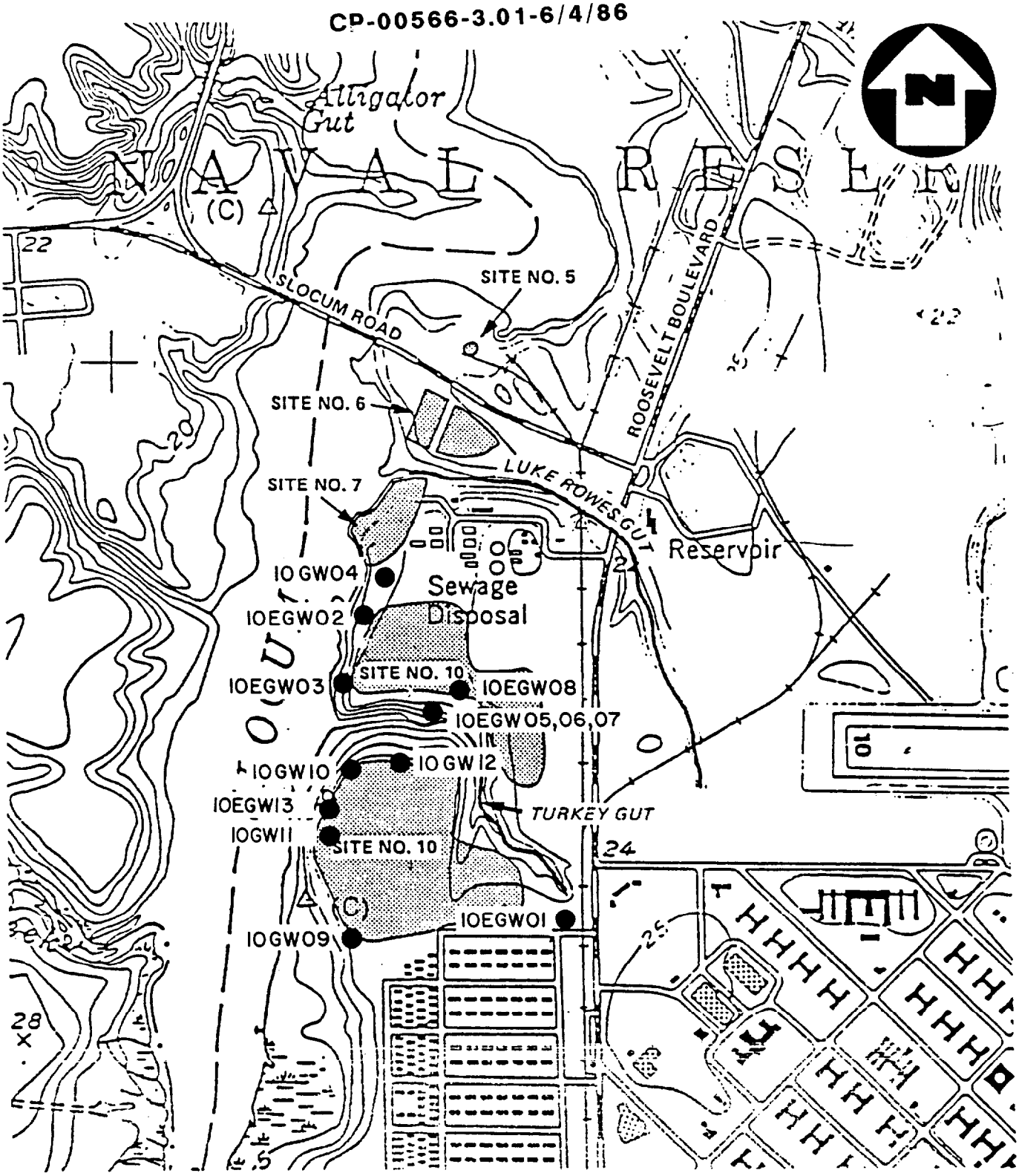


LEGEND

● EXISTING MONITORING WELL

FIGURE 1-5

NACIP PROGRAM – MONITORING WELL LOCATIONS, SITE NO. 10
MCAS CHERRY POINT, NC
SCALE 1" = 1000'

NUS CORPORATION
A Halliburton Company

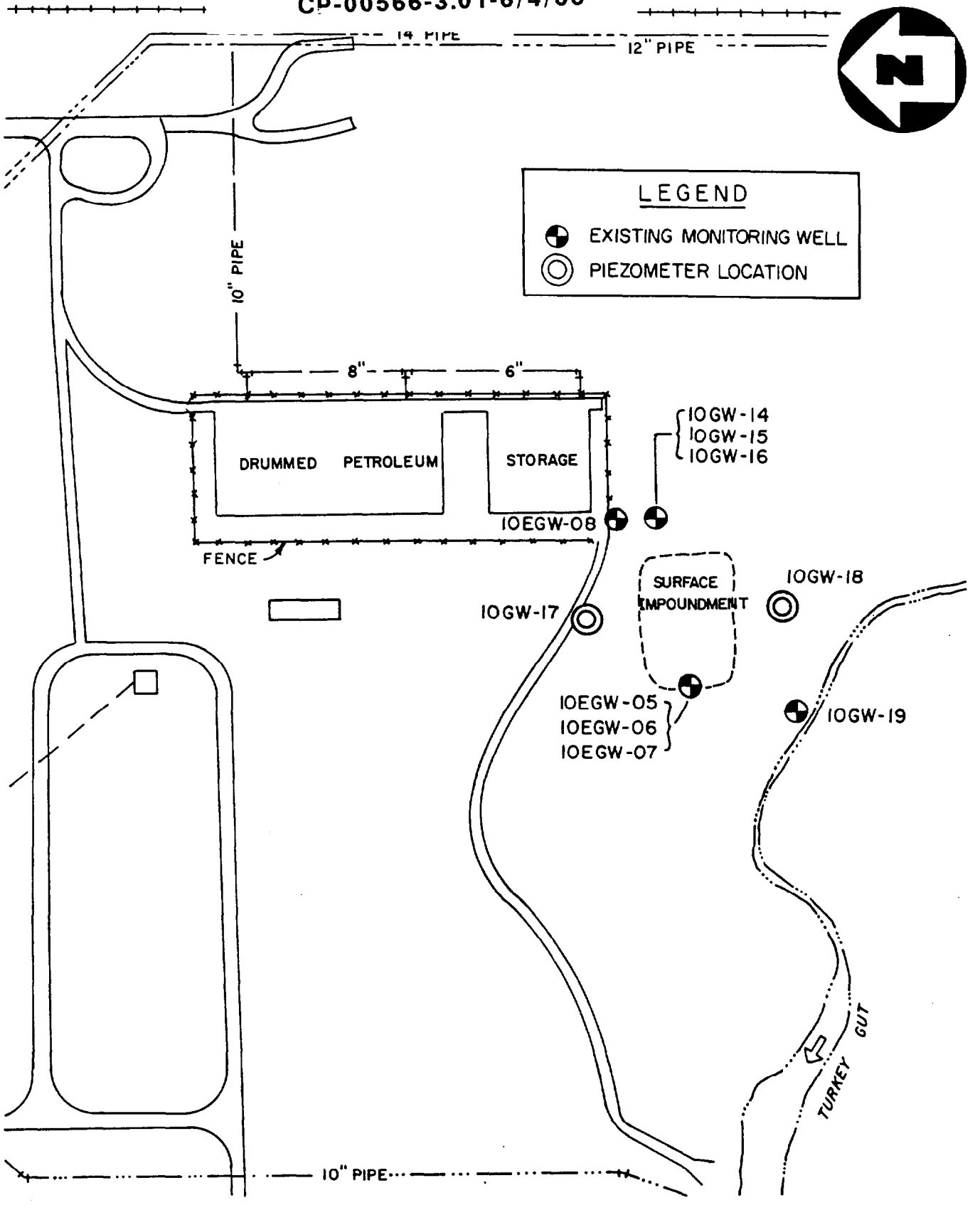
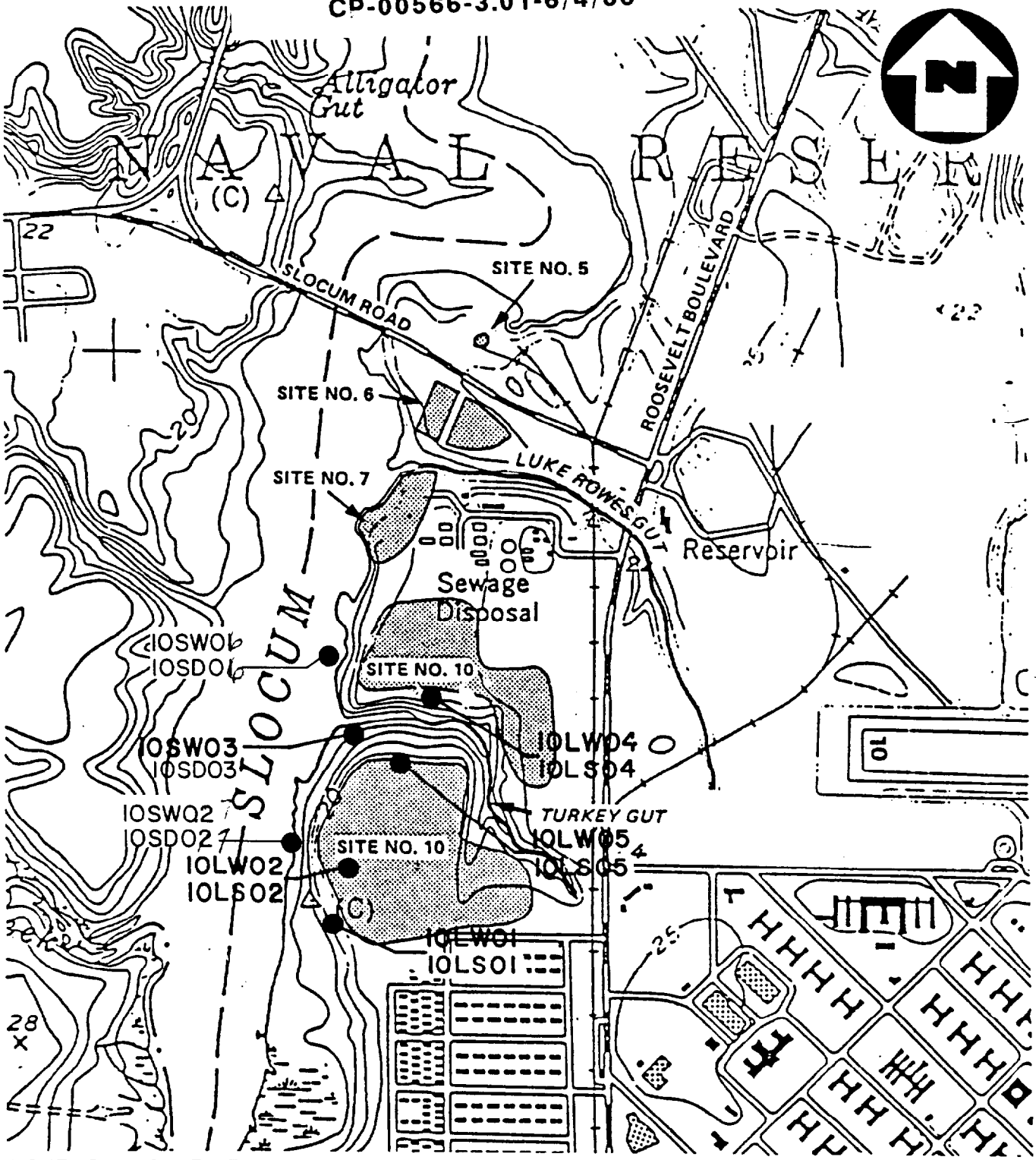


FIGURE 1-6

MONITORING WELL LOCATIONS
SURFACE IMPOUNDMENTS - SITE 10
MCAS CHERRY POINT, NC

SCALE: 1" ≈ 150'

NUS CORPORATION
A Halliburton Company



NOTE: SW = SURFACE WATER SAMPLE, LS = SOIL, LEACHATE SAMPLE, LW = SURFACE WATER LEACHATE SAMPLE, SD = SEDIMENT SAMPLES TO BE TAKEN AT THE SAME LOCATION WHERE INDICATED.

FIGURE 1-7

SAMPLE LOCATIONS, SITE NO. 10
MCAS CHERRY POINT, NC
SCALE 1" = 1000'

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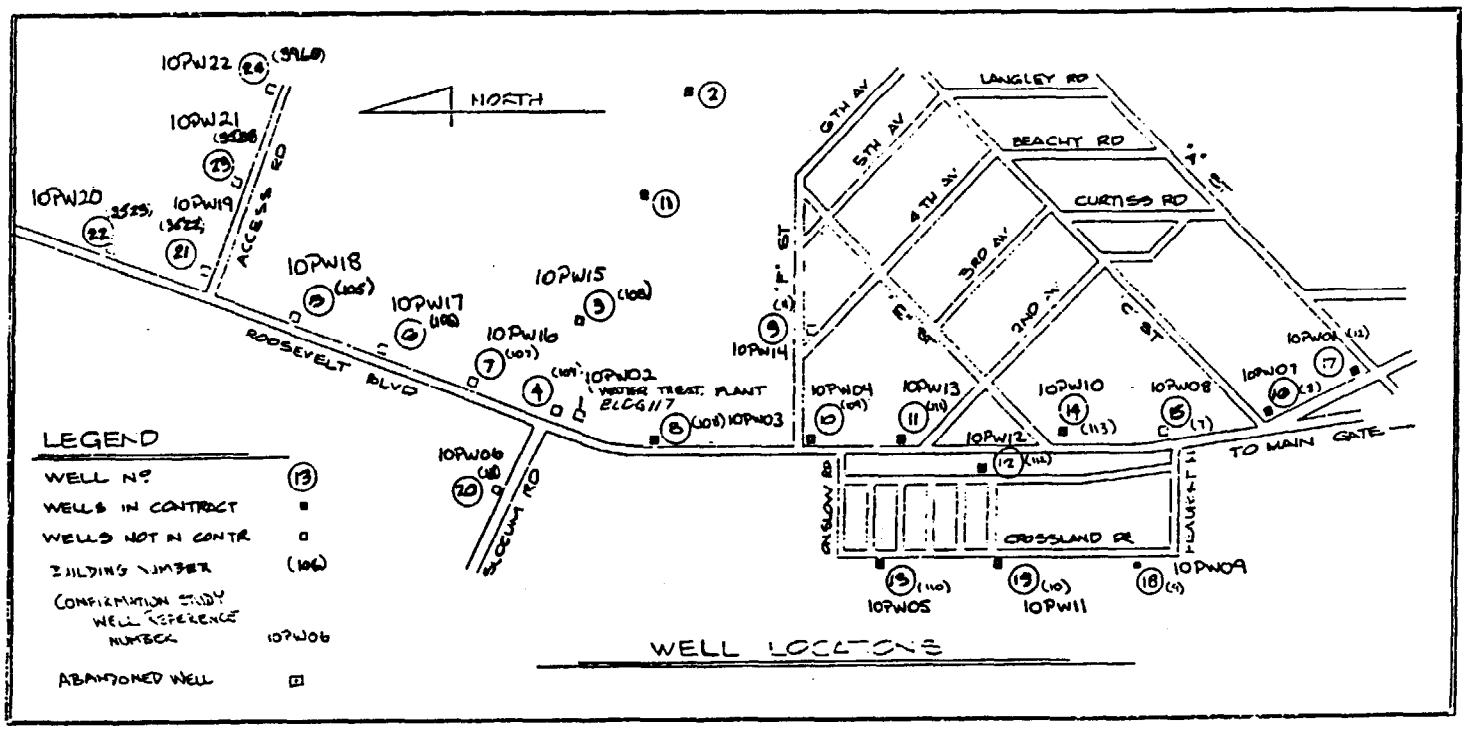

NOTE: WELLS 6,7,8,10,11,13,17,19,21 AND THE WATER TREATMENT PLANT WERE SAMPLED IN ROUND TWO AND WILL BE RESAMPLED IN ROUND THREE.

FIGURE 1-8

POTABLE WATER WELL LOCATIONS
MCAS CHERRY POINT, NC
SCALE: 1" = 2000'

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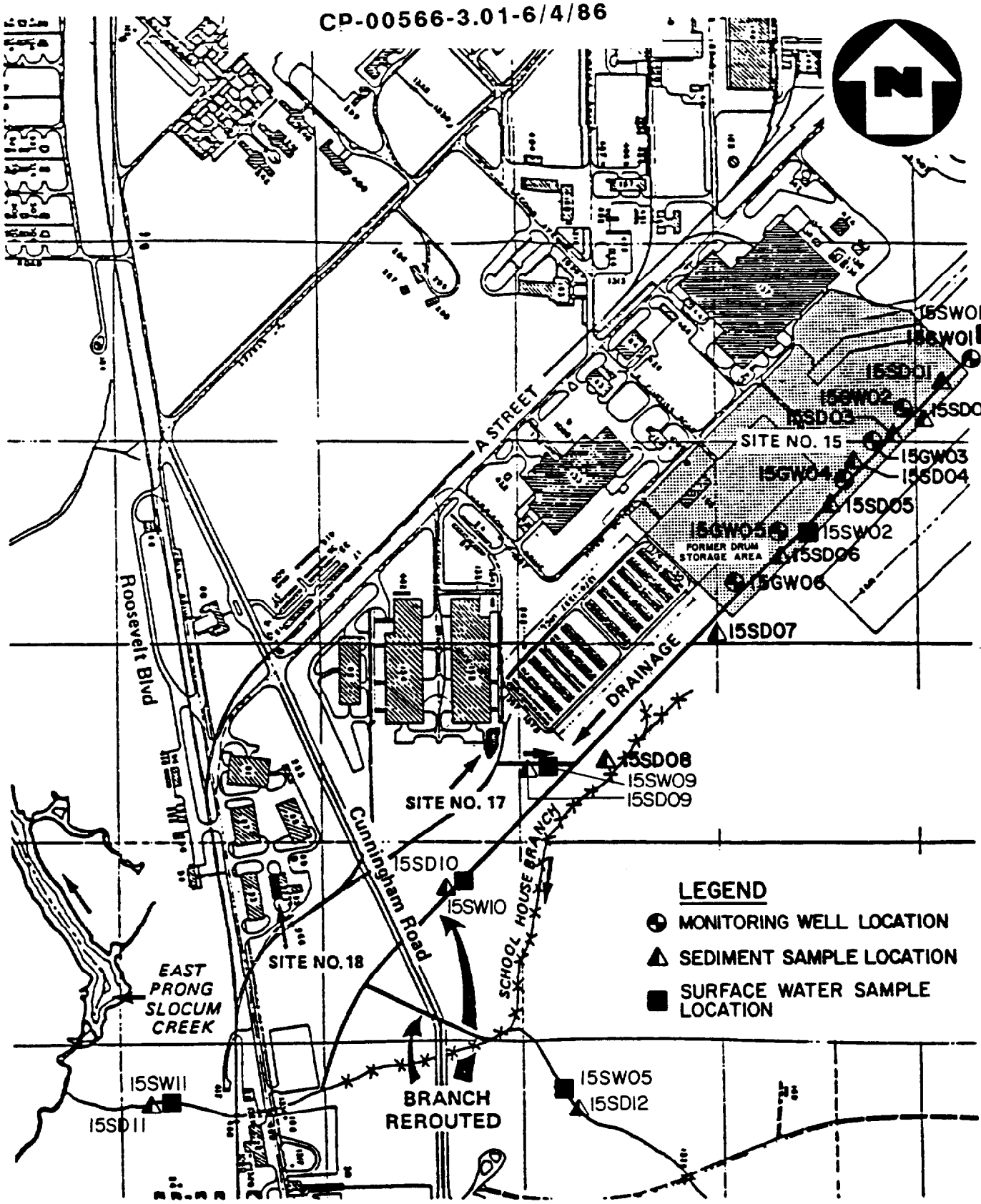
CP-00566-3.01-6/4/86



MONITORING WELL, SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS, SITE NO. 15
MCAS CHERRY POINT, NC

SCALE 1" = 675'

FIGURE 1-9

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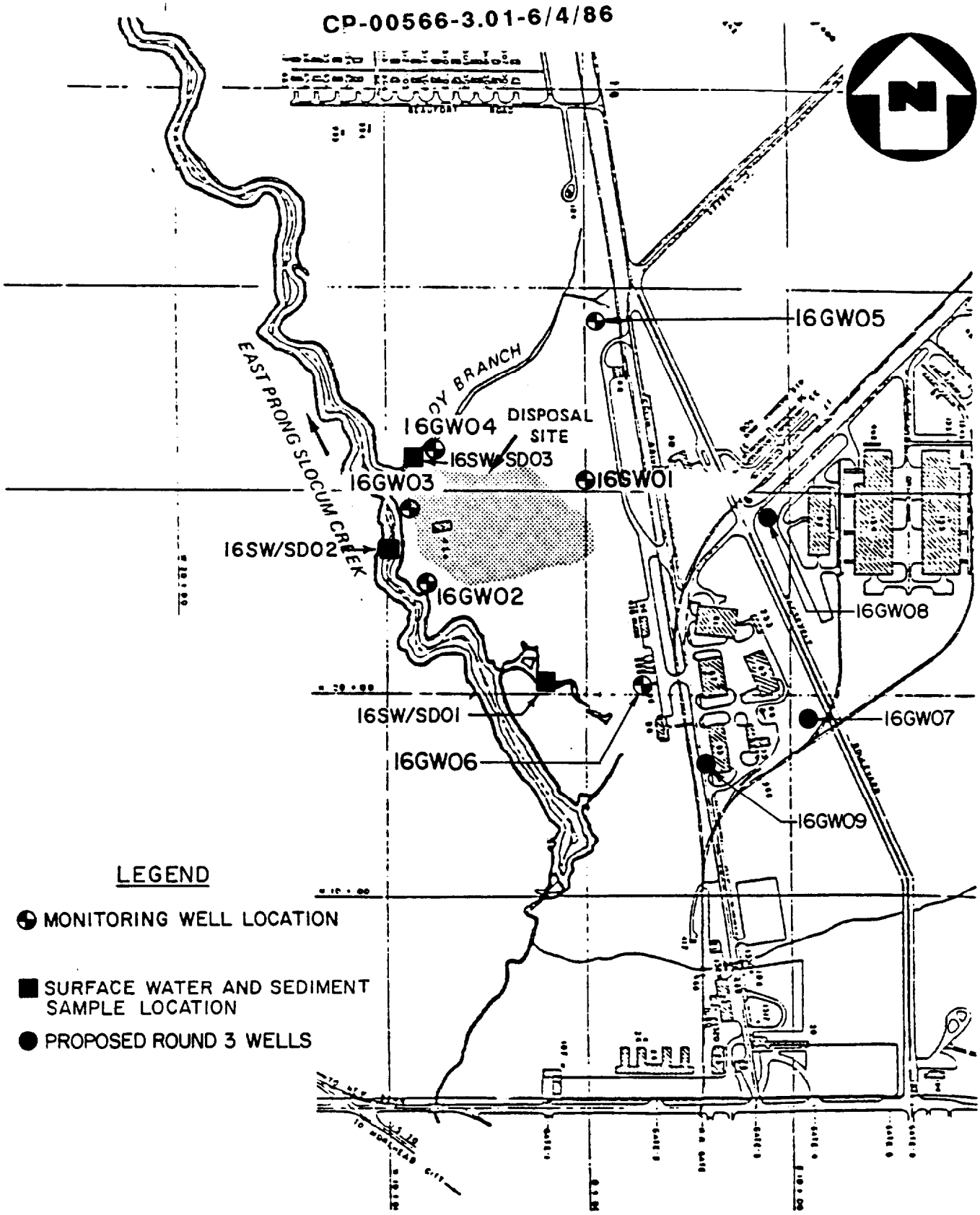

SAMPLE LOCATIONS
SITE NO. 16
MCAS CHERRY POINT, NC
SCALE 1"=700'±

FIGURE 1-10

NUS CORPORATION
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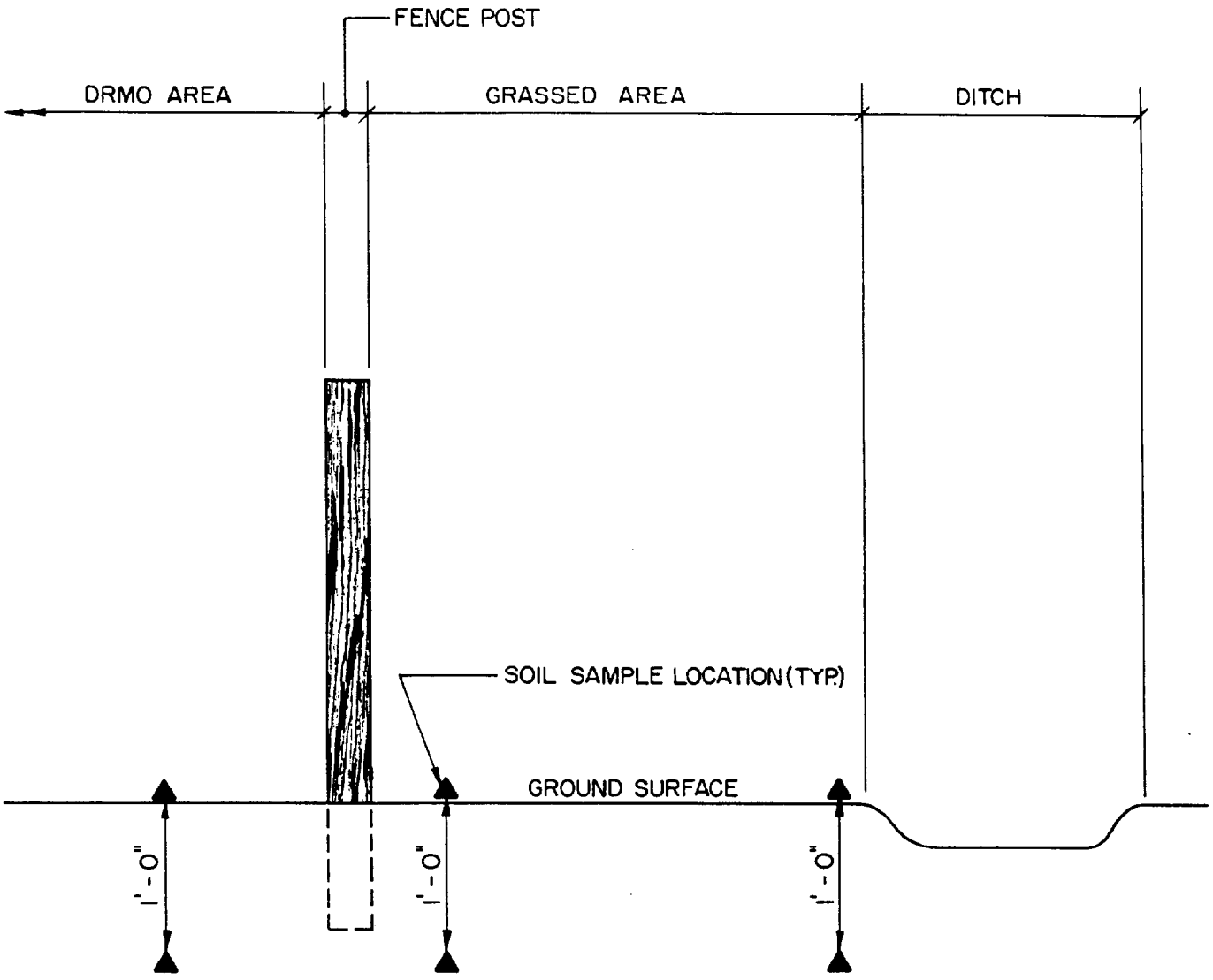

SOIL SAMPLING CROSS SECTION
SITE NO. 17
MCAS CHERRY POINT, NC
NOT TO SCALE

FIGURE 1-11

NUS CORPORATION
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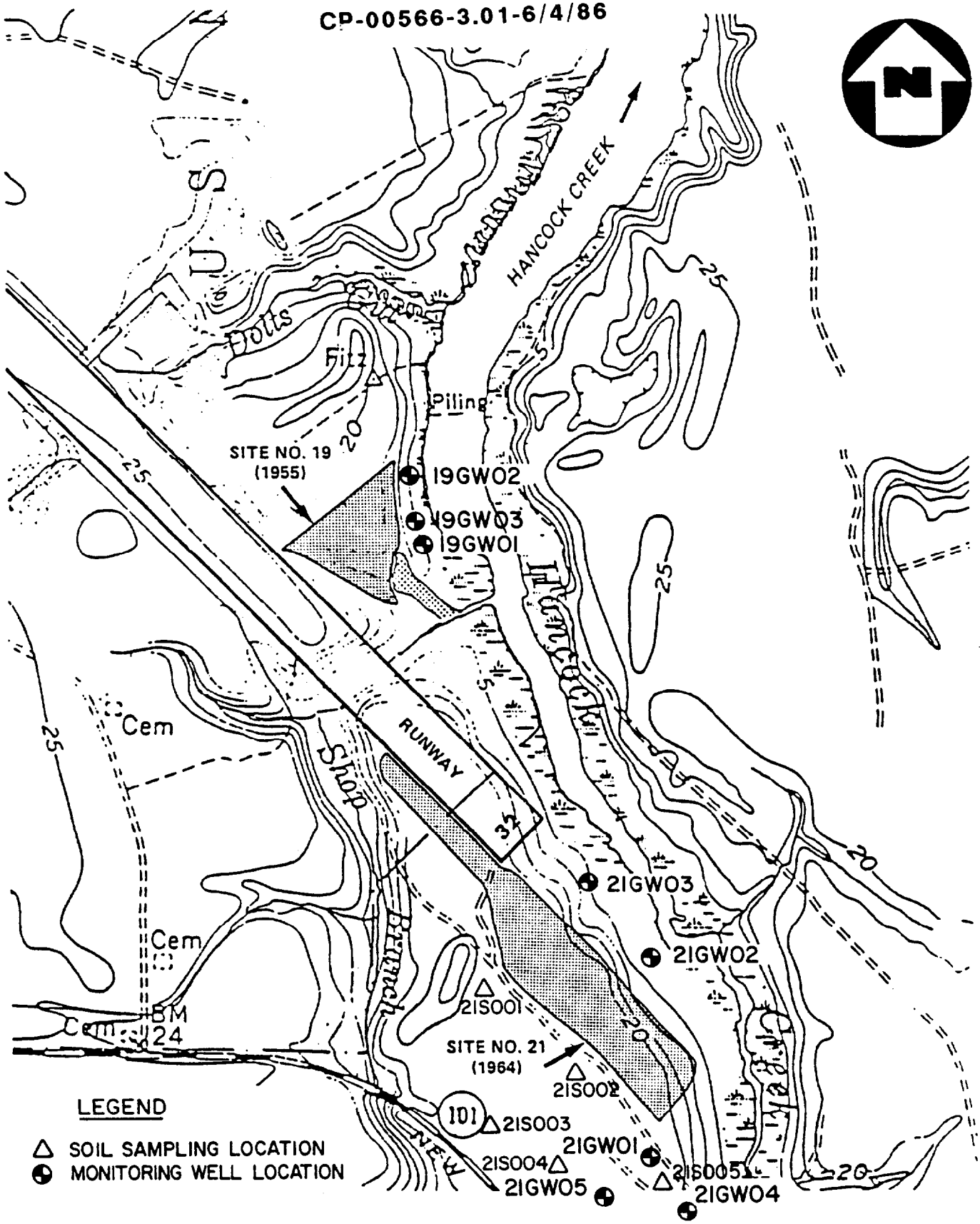

SAMPLING LOCATIONS
SITE NOS. 19 & 21
MCAS CHERRY POINT, NC

SCALE 1"=1000'

FIGURE 1-12

NUS CORPORATION
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CP-00566-3.01-6/4/86

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Park West Two
Cliff Mine Road
Pittsburgh, PA 15275
412-788-1080

C-34-6-6-224

June 13, 1986

Commander, Atlantic Division
Building I-AA, (2nd Floor)
Gilbert Street
Naval Facilities Engineering Command
Environmental Quality Branch
Norfolk, VA 23511
Attn: Ms. Cheryl Barnett

Reference: Contract N62470-84-C-6886
Marine Corps Air Station, (MCAS)
Cherry Point, North Carolina

Subject: Transmittal of Surface Impoundments (Site 10) Report

Dear Ms. Barnett:

Enclosed please find two copies of the Surface Impoundment report. Two copies have been submitted to Gary Edwards at MCAS, Cherry Point. Please call me if you have any questions regarding the report.

Very truly yours,

Vicki L. Pierce

Vicki L. Pierce
Project Manager

VLP/dlf

Enclosures

cc: Gary Edwards, Cherry Point, NC

PGH Press 5/20/86

12 military facilities faulted on toxic waste

WASHINGTON (UPI) — Twelve of 14 military facilities examined by congressional investigators carelessly handled toxic chemicals, possibly allowing cancer-causing agents to seep into the water, ground and air, officials say.

The chemicals in facilities probed by the General Accounting Office include cancer-causing PCBs, paints, acids and sludge from repairs of military vehicles that could seep into the environment.

Military personnel were found to have stored poisonous waste in leaky containers and improperly packaged and labeled waste containers prepared for transport, the GAO, congress's investigative arm, reported yesterday.

The facilities with the most reported offenses were all Navy sites: the Mare Island Naval Shipyard in Vallejo, Calif.; the Naval Air Station in Alameda, Calif.; the Philadelphia Naval Shipyard in Philadelphia; and the Marine Corps Air Station in Cherry Point, N.C.

Pentagon official James Wade Jr. says the violations cited were of a "transitory nature," and that the Defense Department is taking action to correct the problems.

The GAO said each site committed an average of four of the most serious class of violations covered by the 1976 Resource Conservation and Recovery Act, which governs handling of toxic materials.

The GAO cited a Navy report that 90 percent of its facilities generating hazardous waste were violating federal law between 1982 and 1984.

The report criticized the Pentagon for allowing waste to be stored at installations for extended periods rather than having it picked up for disposal. Most installations lack adequate storage facilities.

Two-thirds of the hazardous waste items on military sites in 1984 had been stored for longer than the two months allowed by Pentagon standards, the GAO said.

The Navy Ships Parts Control Center in Mechanicsburg, Pa. went one year without collecting any hazardous waste in 1984 and 1985, the GAO said.

The GAO blamed the tardy waste collection on contractors working for the Defense Reutilization and Marketing Service in Battle Creek, Mich.