CULTURAL RESOURCE ASSESSMENT
97 COLUMBIA HEIGHTS
BLOCK 219, LOT 1
BROOKLYN, NEW YORK

New York, New York

Prepared by: The Cultural Resource Group
Louis Berger & Associates, Inc.
East Orange, New Jersey

July 1986
ACKNOWLEDGEMENTS

The Cultural Resource Group of Louis Berger & Associates, Inc., would like to express their appreciation to Ms. Andrea Kremen of the Law Offices of Howard B. Hornstein and to Dr. Sherene Baugher of the New York City Landmarks Preservation Commission for their assistance during the course of this project. Data were collected by Ms. Meta Janowitz and Ms. Linda Flynn under the supervision of Dr. Amy Friedlander, who was responsible for preparation of the final report. Mr. Rob Tucher was the photographer; Ms. Lee Nicoletti supervised word processing, and Ms. Melissa Perera prepared the graphics.
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I. INTRODUCTION

The Cultural Resource Group of Louis Berger & Associates, Inc. (LBA) has conducted a cultural resource assessment of 97 Columbia Heights, Block 219, Lot 1, in Brooklyn, New York. The site (Figures 1 and 2) has been open since February 1980 when the recently renovated Margaret Apartments were demolished following a fire (Brooklyn, New York, Buildings Department DEMO 197/80). It is located in the Brooklyn Heights Historic District, which is a National Historic Landmark as well as a New York City Landmark and has also been listed in the National Register of Historic Places (Figure 3; Appendix A).

The purpose of this study is to assess the potential for significant archaeological resources at this location and to determine the need for additional work. The following sections present the methodology, results, and recommendations. Soil borings data, provided to LBA, are contained in Appendix B.
FIGURE 2  97 Columbia Heights, Block 219, Lot 1
July 28, 1986
FIGURE 3 Brooklyn Heights Historic District, Nov. 23, 1965
Source: History Division, National Park Service, Washington, DC
II. METHODOLOGY

Data collection for this project involved review of prior studies in the vicinity of the project area, which were found at the New York City Landmarks Preservation Commission; examination of relevant documentation at the History Division, National Park Service, Washington, D.C. and the National Register of Historic Places, Washington, D.C., in addition to investigation of selected primary sources. These included historic maps and atlases, found at the New York Public Library and at the Brooklyn Historical Society; antebellum tax lists and directories, found at the Brooklyn Historical Society; and deeds and buildings records, both housed at the Brooklyn Municipal Building. The site was visited and photographed on July 28, 1986.

Prior investigation of nearby Block 208 in Brooklyn Heights found that Brooklyn adopted a comprehensive drainage and sewerage plan in 1859, which was believed to have been implemented by about 1860 (Historical Perspectives 1985a:4-5). Stratified deep features such as wells, cisterns, and privies with informational potential would, therefore, pre-date the Civil War. While the cartographic search covered the period up to 1929, selected investigation of deeds, city directories, and the surviving tax lists (1810 and 1841) was confined to the period prior to 1860. This approach, moreover, compensated for the absence of atlases, which provide the most accurate cartographic information on a site-specific level, prior to 1855.
Aboriginal occupation of Long Island dates to approximately 3,000 B.C. The closest site to the study area was most likely the village of Mareychawick, which has been linked with three possible locations: Galletin and Elm Place; the vicinity of Lawrence and Jay Streets, and north of Old Fulton Street (Greenhouse Consultants, Inc. 1986:1). No prehistoric artifacts were found during excavations at nearby Cadman Plaza (Greenhouse Consultants, Inc. 1986:13).

Historic occupation of the study area and vicinity dates to the mid-seventeenth century, when Dutch settlers organized the earliest village of Brooklyn. The earliest deeds associated with the study area date to the 1690s, when it appears to have been part of a 650-acre farm, which also contained a ferry landing (George Jacobs to Harman Jonas, October 28, 1692, Liber 1, Page 293). The area was occupied as a farm through the eighteenth century, although no deeds have survived for the period 1767-1811 and only two transactions have been recorded for the period 1702-1811. Prior to partitioning into its present grid in 1806, Block 219 was owned by Jacob and John Hicks, who held a fairly large farm in what is now Brooklyn Heights (Historical Perspectives 1985:3; Beers 1874).

John and Jacob Hicks appear in the 1802-1803 Brooklyn Directory at "Main Ferry" (Brooklyn Directory 1802-1803:n.p.) and are also listed in 1810 tax lists as the owners of an unspecified number of houses and lots, valued at $11,500; the locations of these properties are not given (Kings County, New York 1810). John and Jacob Hicks sold twelve of the sixteen lots that comprised the 200-foot square block bounded by Orange, Columbia, Cranberry, and Willow Streets to George Gibbs in 1811 (Liber 10, Page 95). Gibbs bought the remaining four lots at the corner of Willow and Cranberry (i.e., the northeast corner of Block 219) from Joseph G. Swift in 1819 (Liber 12, Page 454). The entire block appears to have been vacant at this time, according to the Poppleton and Lott map of 1816-1819 (Greenhouse Consultants, Inc. 1985:16).

The area burgeoned in the 1820s and 1830s as an early residential suburb of New York City, to which it was linked by a ferry in 1814. In 1826, Zachariah Lewis acquired the entire block (Joseph G. Swift to Zachariah Lewis, January 6, 1826, Liber 19, Page 5). Lewis was then a resident of the City of New York but apparently moved to Brooklyn, since he appears in the city directory for 1831-1832 (Spooners Brooklyn Directory 1831-1832:38). The address in this directory is given as "75 Columbia, cor[ner] Orange," which corresponds to the locational information given in the earliest of the extant city atlases (Perris 1855; Figure 4). Lewis appears to have occupied the 100-foot square lot at the corner of Columbia (now Columbia Heights) and Orange until he
FIGURE 4  Project Area and Vicinity, 1855
Source: Pevvis; 1855
died between 1837 and 1839 (Brooklyn Directory 1837-1838:67; Brooklyn Directory 1839-1840). During his ownership and that of his heirs in the 1840s, the lots in Block 219 began to be sold off as separate properties, although like other properties in Brooklyn Heights, they retained their original lot sizes and configuration (Bradford 1964:1-2).

As late as 1841, the property at the corner of Columbia Heights and Orange was still owned by Zachariah Lewis's estate, which was taxed for "4 lots & House [at the] cor[ner of] Orange" on the east side of Columbia in that year (Brooklyn, New York, Collector of Taxes and Assessments 1841:7). This property was valued at $15,000. The property devolved among seven heirs in the 1840s, who appear to have rented the frame double house shown on the 1855 Perris map (Figure 4) to tenants (see Lewis to Thompson, March 15, 1844, Liber 117, Page 454; Richards to Hurlbut, as trustee, December 13, 1843, Liber 120, Page 450; Lewis to Edwards, May 21, 1845, Liber 131, Page 417; Lewis to Edwards, August 17, 1848, Liber 183, Page 136). Similar leasing and sub-leasing arrangements were characteristic of real estate in Manhattan by 1840 (Blackmar 1979).

The party wall between the two units of the house corresponds to the lot line parallel to Orange Street and about 50 feet north of the corner of Orange and Columbia. The northern wall of this structure would have been located at about the northern boundary of the study area, which extends approximately 75 feet along Columbia Heights from the intersection of Columbia Heights and Orange (Figure 1). The house was in place through 1886 (M. Dripps & Company 1869; Bromley and Robinson 1880:Plate 1; Figure 5) but was replaced in 1889 by the Margaret Hotel, which appears to have covered the entire study area (Hyde & Company 1898:Plate 1; "A Walking Tour of the Brooklyn Heights Historic District" n.d.:3; Figure 6). This structure was eleven stories tall with two twelve-story towers and had a cellar and sub-cellar (Brooklyn, New York, Buildings Department, ALT 166-78, Margaret Apartments Plot Plans).

The hotel was substantially renovated for conversion to apartments in 1978. Plans of the sub-cellar show an approximately 250 square-foot area of unexcavated material behind the elevator shaft in the center of the building. This area was, however, covered by the cellar (Brooklyn, New York, Buildings Department, ALT 166-78, Margaret Apartments Plot Plans A-1 and A-2). Analysis of soil borings, drilled in 1986 (Appendix B), shows miscellaneous fill to a depth of 20 feet. A concrete floor, presumably corresponding to the floor of the sub-cellar, was encountered at 20 feet below ground level at two locations (Appendix B, Borings B-4, B-5 and B-5A). Boring B-3 was drilled near the center of the area of unexcavated material below the cellar. Like the other borings, the log shows miscellaneous fill to a depth of 20 feet (Appendix B, Boring B-3).
IV. RECOMMENDATIONS

Occupation of the property by Zachariah Lewis in the 1830s constitutes a discrete, antebellum use, assignable to a household of at least prosperous and perhaps elite status. However, there has clearly been extensive disturbance over the entire site to a depth of 20 feet below grade. Geismar (1986:5) has found that the "bottom of the deepest deposits in a non-landfill situation can extend as much as 13 ft. [sic] below the ground surface" in Manhattan, and recent investigations at nearby Cadman Plaza did not identify artifactual materials at depths greater than ten feet below ground surface (Greenhouse Consultants, Inc. 1986:Figures 12-17). No potentially significant cultural resources were identified during the Cadman Plaza study (Greenhouse Consultants, Inc. 1986:13) and no further work was undertaken. Given the depth of documented disturbance at 97 Columbia Heights, therefore, no significant cultural resources appear to be present and no further work is recommended.
V. REFERENCES CITED

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1837-1838,
1839-1840

Brooklyn, New York
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1869 Map of the City of Brooklyn (Being the Former Cities of Brooklyn & Williamsburg and the Town of Bushwick). On file at the Brooklyn Historical Society, Brooklyn, New York.
Geismar, Joan H.  

Greenhouse Consultants, Inc.  

Greenhouse Consultants, Inc.  

Historical Perspectives  

Historical Perspectives  

Hyde, E.  

Hyde & Company  

Hyde, E. Belcher, Map Company  

Kings County, New York  

Perris, William  
Robinson, E. and R.H. Pidgeon

**Spooner's Brooklyn Directory**
1822  Microfilm of original on file at the Brooklyn Historical Society, Brooklyn, New York.
APPENDIX A

BROOKLYN HEIGHTS

NATIONAL REGISTER NOMINATION FORM
**NAME**

HISTORIC: Brooklyn Heights

AND/OR COMMON: Brooklyn Heights

**LOCATION**

STREET & NUMBER: Brooklyn Heights

CITY, TOWN: Brooklyn

STATE: New York

**CLASSIFICATION**

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**OWNER OF PROPERTY**

NAME: Multiple private and public contact Brooklyn Heights Association

STREET & NUMBER: 76 Montague Street

CITY, TOWN: Brooklyn

STATE: New York

**LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE: Kings County Courthouse

REGISTRY OF DEEDS, ETC.:

STREET & NUMBER:

CITY, TOWN: Brooklyn

STATE: New York

**REPRESENTATION IN EXISTING SURVEYS**

TITLE:

DATE:

DEPOSITORY FOR SURVEY RECORDS:

CITY, TOWN: STATE
DESCRIPTION

CONDITION

EXCELLENT
GOOD
FAIR

DETERIORATED
RUINS
UNEXPOSED

CHECK ONE

UNALTERED
ALTERED

CHECK ONE

ORIGINAL SITE
MOVED DATE

Describe the present and original (if known) physical appearance

From the harbor, East River, or Brooklyn Bridge, Brooklyn Heights appears composed of the thin horizontal planes of the Brooklyn-Queens Expressway and the Esplanade, and the bulky upright masses of hotels, apartment houses, office buildings, and a few industrial plants stationed around its perimeter. These impressions belied the charm of the real Brooklyn Heights, with its tree-shaded streets and bluestone-paved walks lined by rows of fine old brick and brownstone houses behind decorative iron fences, and distinguished churches in the romantic styles, dating back to an era when this was the most easily accessible, desirable, and aristocratic suburb of New York. One gets an entirely different concept of the community from within than from any of various vantage points outside its boundaries.

Brooklyn Heights is an irregularly shaped area located on a high bluff of Long Island directly across from the lower tip of Manhattan. In the nineteenth century three ferries connected the Heights with Manhattan. Today, traffic between Long Island and New York comes through Battery Tunnel at the foot of Atlantic Avenue and over Brooklyn Bridge above Fulton Street, the two extremities of Brooklyn Heights. This leaves its predominantly residential streets to the relative quiet of local traffic.

Except for the variable outline in the northern part, and the peculiar angles of Joralemon Street, connecting the dock section with Borough Hall, and Love Lane, Brooklyn Heights is laid out on a rectangular grid scheme. Blocks were planned 250 feet to a side although less than a dozen turned out square. Omission of originally planned streets resulted in very long blocks. Along most of the west side extends the Esplanade, cantilevered out over two levels of the Brooklyn-Queens Expressway. This promenade gives a magnificent view of South Ferry and Manhattan's financial district across the river, a vista up the East River to the north and across the New York harbor to Governor's Liberty and Ellis Islands, New Jersey and Staten Island on the south.

The first scene of active building was along the northern end of Hicks Street and on the cross streets adjacent to it around 1820. A large percentage of these early houses were frame construction such as Numbers 38, 40, 68, 70, and 72 Hicks Street and Numbers 27, 29, 55, 57, and 59 Middagh Street. Numerous contemporary brick examples are found along Hicks and Willow Street.

Although the row house predominated, some earlier houses were constructed to be free-standing. Number 13 Pineapple Street is one of the oldest, and later examples include Numbers 70 Willow Street and 36 Pierrepont Street.

(Continued)
The Federal Period provided the standard plan of the row house used in Brooklyn Heights until well into the twentieth century. The normal twenty-five foot breadth of lots accommodated one room and a hall wide enough for a staircase to one side. This resulted in the three bayed house, usually two rooms deep, with the off center front door. The kitchen was generally in the basement.

In the Heights, classic elements were played down although columns or small slender colonnettes are seen flanking front doors or on mantelpieces in the interior. Other traditional elements such as rustication, paneling, carved sunburst, floral motifs, dentils and various moldings of cornices and entablatures are found on interior woodwork and exterior details.

Arched windows and fan doorways with leaded semicircular or semi-elliptical transoms in delicate patterns still can be found in many houses. Entrance stairs were either of wood or stone and railings were of wrought iron, decorated with small cast-iron fittings such as rosettes and pine cone finials.

The Greek Revival brought generally higher basements, usually with a family dining room on this level with the kitchen. Ceilings became higher and a screen of columns or pilasters flanking sliding doors between parlors added a new decorative element to the interior. Houses became a full three stories above the basement and roofs were lower pitched. Row houses often had superimposed open galleries along the back separated by brick partition walls as in Numbers 20-26 Willow Street. Greek Revival is the predominant style of Heights buildings. The style led to many of the attractive iron fences along the streets; thin square bars fashioned into frameworks filled with frets, meanders, guilloches and floral forms in double relief.

The name of Minard LaFever is closely associated with the Heights. His pattern books provide designs for much of the interior detailing. His acknowledge works in the neighborhood include Packer Collegiate Institute (1854), Church of the Holy Trinity (1844-47) and two churches on Monroe Place. These public buildings of his design, unlike the private residences either by his hand or influenced by his designs, are in the Gothic Revival. These churches gave the Gothic Revival its start in the Heights. Within six years the style was adopted for townhouses. Tudor arches with carved spandrels replaced pilastered doorways, slender clustered colonnettes flanked sliding parlor doors and medieval window tracery offered models for plaster ceilings and iron railings.

(Continued)
Externally the least modified Gothic Revival house is a three story brownstone at Number 131 Hicks Street, with its adjoining twin at Number 135. The doorways are recessed under low pointed arches with horizontal hood molds and the windows retain their center mullions. Three brick houses on State Street are also well preserved although stripped of their hood moldings. Only Number 107 retains its first floor balcony railing but all three display iron tracery stair rails and fences. Four houses on Willow Place also display a delightful blend of clustered colonnetts, Tudor arches and trefoiled spandrels.

Brooklyn Heights also contains a few examples of the more ponderous Romanesque Revival, most notably in Herman Behr's house (now the Hotel Palm) and the Church of the Pilgrims (now Our Lady of Lebanon) by Richard Upjohn.

The Renaissance Revival began to appear on the Heights soon after the Gothic Revival was adopted to residential buildings. This style is distinguished by a certain opulence, manifesting itself in an increased scale and greater ornamentation, especially around the openings. Balustrades replaced other types of railings and a half round arch was reintroduced at entrances, although spanning recessed vestibules instead of flush doors as in the Federal Period. Brownstone was the favored material with cast-iron painted to look like stone used for architectural detail (123 Remsen Street and 220 Columbia Heights).

Among later nineteenth-century styles, perhaps the most important and enduring was Ruskinian or Venetian-Gothic, distinguished by the multi-colored use of stone. The principal example in the Heights is Saint Anne's Protestant Episcopal Church by Renwick and Sands. The Ruskinian style had little effect upon domestic architecture.

Unlike other revivals, the Queen Anne was not concerned with a specific style for its own sake but rather with unusual harmonies of forms, colors, and textures. The best example of Queen Anne is a group of three houses inclusive on Numbers 108-112 William Street, dated 1883. Treated as a single irregular mass of brick, stone, terracotta and shingles, great interest is achieved through the use of bay windows, towers, gables, chimneys, and a variety of different shaped openings. (For a detailed analysis of each street the reader is referred to Clay Lancaster's book on Brooklyn Heights cited in the bibliography.)

The interesting variety of nineteenth-century architecture at times beautiful in its refinement, delightful in its fancy or ponderous in its

(Continued)
massiveness still remains well represented in Brooklyn Heights. The area has been revived as a residential area over the last two decades and most of the private residences are well maintained. The hotels and apartment houses erected in the late nineteenth and early twentieth century have not destroyed either the architectural interest or residential nature of Brooklyn Heights. Montague Street is the principal commercial strip, but most of the shops and businesses are located within old buildings so the scale is not disrupted. In fact, great potential remains for a complete rehabilitation of the area. The Brooklyn Heights Association, chartered by the city, is an active organization which has had remarkable success in safeguarding the area. There greatest triumph occurred in 1950 with the construction of the Esplanade, forcing the Brooklyn-Queens Expressway below the Heights, thus keeping heavy traffic and noise from the residential area. Following the construction, modern low-level dock facilities below the Esplanade were procured, opening up the harbor and skyline view. This innovative solution to the problem of modern highway construction saved the integrity of Brooklyn Heights which would most certainly have been destroyed. In 1971 another battle saved the South Heights from a multi-lane expressway. As long as people are willing to search for alternative answers to the questions of urban development, the continued existence of Brooklyn Heights seems hopeful and should serve as an example for other communities.
Brooklyn Heights, the leading residential district of New York City before the rise of the large homes along Fifth Avenue, contains many private and public buildings that display the various popular architectural styles of the nineteenth-century. Although the area has been intruded upon by modern buildings to some degree, it retains enough of its earlier structures to remain almost a textbook for architectural development between the 1820's and the early 1900's.

The residences in this area display, in the period after 1814, one architectural style after another. Three styles, the Federal, Greek Revival, and Renaissance Revival are represented by outstanding houses. Particularly striking are the fine front doorways flanked with rich ornamental ironwork. Interior ornamentation is equally elaborate, with marble fireplaces, heavy plaster cornices, and carved woodwork. In short, Brooklyn Heights reflects the comfortable, opulent culture of the Victorian era.

HISTORY

Brooklyn Heights was the leading residential area of New York City before the rise of Fifth Avenue. Three ferries connected Manhattan with the promontory of Long Island directly across from the lower tip. The Fulton Street Ferry docked at the northern end of the Heights where the Brooklyn Bridge crosses today. The second and third ferries carried passengers from the base of Montague Street to Wall Street and from Atlantic Avenue to South Ferry. The Atlantic Avenue Ferry was the terminal of the Brooklyn-Jamaica Railroad. From 1842 to 1859 the last mile of this line ran through an underground tunnel, thus, becoming the world's first passenger subway. The railway was placed below ground to preserve the character of Atlantic Avenue, which in those days was a fashionable shopping street. The tunnel ended at a two-storied frame depot built in 1836 and demolished in 1914. Although unused for a century, all but the eastern extremity of the subterranean vault over the two-way tracks is said to remain intact.

The history of Brooklyn Heights as a residential suburb began soon after the establishment of a steam ferry plying between New York and Brooklyn in 1814. At that time a number of landowners, whose memories are perpetuated through such street names as Middagh, Pierrepont, Hicks, Remsen, and
Joralemon, began dividing their respective holdings into 25 X 100-foot building lots. The first village map, recorded by Jeremiah Lott in 1816, the year Brooklyn was incorporated as a village, shows virtually the same street arrangement that exists today north of Clark Street, except for the crook to Orange Street at the Fulton Street end; and the Poppleton and Lott map of the Pierrepont estate, made three years later, indicates in a general way the present layout of the southern section of the Heights. This area, however, was still not much developed when a new map of the Pierrepont estate was made in 1831 by Isaac T. Ludlam, the village surveyor. All streets on the Heights were given their definitive form by about mid century, and they have remained unaltered down to the time of the construction of the Brooklyn-Queens Expressway during the early 1950's, which took off the northwest and southwest corners of the Heights.

Not a single building existing on Brooklyn Heights today figured on the Lott map of 1816 or the Lott and Poppleton map of 1819, barring perhaps part of No. 39 Henry Street not visible from outside. A good many structures stood on Fulton Street in those days, and several farm houses and villas were inside the range of the Heights proper, but all have since disappeared. However, a number of buildings put up soon after the Lott surveys were made are still to be found. The first scene of consecutive building operations was along the northern end of Hicks Street and on the cross streets adjacent to it.

Today the area is entirely built-up, forming an integral part of Brooklyn by its active commercial boundary street. Only when one gets beyond Atlantic Avenue and Fulton and Court Streets does the special character of the area become apparent. Brooklyn Heights remains a community, sustaining the quality of neighborhood in the vast spread of New York City.
**10 GEOGRAPHICAL DATA**

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VERBAL BOUNDARY DESCRIPTION

(See Continuation Sheet)

**11 FORM PREPARED BY**

NAME / TITLE
Patricia Heintzelman, Architectural Historian, Landmark Review Project

ORGANIZATION
Historic Sites Survey, National Park Service

DATE
May 1975

STREET & NUMBER
1100 L Street NW.

CITY OR TOWN
Washington

STATE
D.C.

**12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION**

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

**FOR NPS: USE ONLY**

HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DIRECTOR, OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

ATTEST

KEEPER OF THE NATIONAL REGISTER

**Boundary Certified:**

George F. Emery

Chief, Hist. & Arch. Surveys

DATE

Boundary Certified:

Director, Chief

DATE
The boundary of Brooklyn Heights Historic District follows those of the historic zoning, and is drawn to eliminate the heavy commercialization along the eastern edge. Beginning at the southeast corner, the boundary runs west along the north curb of Atlantic Avenue to the beginning of the Esplanade which runs above the Brooklyn-Queens Expressway, then north along the outer edge of the Esplanade which curves at its beginning to the northwest, then straightens to continue due north then curves to the northeast where the Esplanade stops and the boundary becomes the south edge of the Brooklyn-Queens Expressway until it crosses Fulton Street, then southeast along the south curb of Fulton Street to Henry Street, then south along the west curb of Henry Street to Clark Street, then east along the south curb of Clark Street to the rear property lines of buildings on the east side of Monroe Place, then south along this line to the rear property lines of buildings on the north of Pierrepont Street, then east along this line to Clinton Street, then south along the west curb of Clinton Street to the south curb of Remsen Street, then east to the rear property line of the building on the southeast corner of the intersection of Remsen and Clinton Streets, then south along this line, then west back to Clinton Street along the south property line of this building, then south along the west curb of Clinton Street to Joralemon Street, then east along the south curb of Joralemon Street to the east property line of Packer Institute, then south along this line to Livingston Street, then east along the south curb of Livingston Street to the rear property lines of buildings on the west side of Court Street, then south along these rear property lines to the point of beginning as shown in sketch maps A and B.
Brooklyn Heights, the leading residential district of New York City before the rise of the splendid homes along Fifth Avenue, contains many private and public buildings that display the various popular architectural styles of the 19th century. Although the area has been invaded by modern buildings to some degree, it retains enough of its earlier structures to remain a "textbook" of architectural development between the 1820's and the early 1900's.

The residences in this area display, in the period after 1814, one architectural style succeeding another. Three styles, the Federal, Greek Revival, and Renaissance Revival, are represented by outstanding houses. Particularly striking are the fine front doorways flanked with rich ornamental ironwork. Interior ornamentation is equally elaborate, with marble fireplaces, heavy plaster cornices, and carved woodwork. In short, Brooklyn Heights reflects the comfortable, opulent culture of the Victorian era that is now vanishing throughout most of our Nation.

Brooklyn Heights has been revived as a residential area within the past fifteen years, and most of the private homes appear to be well maintained. Indeed, the influx of new residents has helped to prevent the destruction of old houses and the erection of new apartment and business buildings. The hotels and nonresidential structures erected in the late 19th century and since have not yet destroyed either the architectural interest or the residential nature of Brooklyn Heights.

Situated on a bluff opposite the southeastern tip of Manhattan, Brooklyn Heights has an irregular boundary which encloses an area at the most eight blocks wide and fourteen blocks long. The western boundary follows the cliff facing the East River. Atlantic Avenue, Court Street, and Fulton Street form the southern, eastern, and northern boundaries of historic Brooklyn Heights.
Note: There is no boring log for B-2; this location was inaccessible and work was discontinued.
FIELD SOIL TEST BORING DATA
Eichner Properties
Proposed Construction
97 Columbia Heights
Brooklyn, New York

DATE: July 2, 1986
LAB. NO.: 2162

Prepared For: Eichner Properties
625 Madison Avenue
New York, N.Y. 10022

Prepared By: Testwell Craig Test Boring Co., Inc.
P.O. Box 477
Mays Landing, N.J. 08330
LEGEND SHEET - BORING DATA

SOIL
Bn - brown
Gy - gray
Blk - black
wh - white
Rd - red
Gr - orange
Bl - blue
Multi - multi-colored
Lt - light
Dk - dark

NOTATION
trace - tr
some - sm
adjective - (ly)
and - &
coarse grained - c
medium grained - m
fine grained - f

PERCENT (%) BY WEIGHT
0 - 10
10 - 20
20 - 35
35 - 50

HSA - Hollow Stem Auger Casing
SS - Split Spoon Soil Sampler

WOR - Weight of Rods
WOH - Weight of Hammer
NR - No Recovery of Sample

ROCK QUALITY DESIGNATION, R.O.D.

R.O.D.          Description of Rock Quality*
0-25%           Very Poor
25-50%          Poor
50-75%          Fair
75-90%          Good
90-100%         Excellent

*after Deere et al, 1967
### FIELD TEST BORING LOG

**CLIENT**: Eichner Properties  
**PROJECT**: Proposed Construction, 97 Columbia Heights, Brooklyn, New York  
**DATE**: July 2, 1986  
**LAB. NO.**: 2162  
**Boring No.**: B-1  
**Sheet No.**: 1 of 2

<table>
<thead>
<tr>
<th>Depth</th>
<th>A. Method of Advancing Boring</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 51'9&quot;</td>
<td>1/2&quot; Drilled in Casing</td>
<td>0 to 51'9&quot;</td>
</tr>
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<table>
<thead>
<tr>
<th>Ground Water Data</th>
<th>Ground Surface Elev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>Hour</td>
</tr>
<tr>
<td>Dry</td>
<td>6-9-86</td>
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<table>
<thead>
<tr>
<th>Depth</th>
<th>A. Method of Advancing Boring</th>
<th>Soil Classification</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20'</td>
<td>Misc. Fill</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>A. Method of Advancing Boring</th>
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<th>Remarks</th>
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<tbody>
<tr>
<td>5'</td>
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<td></td>
</tr>
<tr>
<td>10'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-22'</td>
<td>5-3-7-21</td>
<td>F-M SAND, tr silt, tr brick/ bn, dry, loose</td>
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</tr>
<tr>
<td>22-24'</td>
<td>53-25-21-31</td>
<td>F-M-C SAND &amp; f gravel/ bn, dry, dense</td>
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</tr>
<tr>
<td>25-26'</td>
<td>13-27-100/3</td>
<td>C-M-F SAND/ bn, dry, v. dense</td>
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</tr>
<tr>
<td>30-32'</td>
<td>38-63-33-25</td>
<td>C-M-F SAND &amp; f gravel/ bn, dry, v. dense</td>
<td></td>
</tr>
</tbody>
</table>

**Driller**: E. Kimley

---

- **S-2**: 22-24', 53-25-21-31
- **S-3**: 25-26', 13-27-100/3
- **S-4**: 30-32', 38-63-33-25

---

**Notes**:  
- Standard Penetration Resistance per 6"  
- 140# Hammer, 30' drop

---

**Legend**:
- S-2: O.D. Split Spoon Sample  
- U: Undisturbed Sample, 3" Diameter  
- Core Drilling  
- N.R.: No Recovery
# Field Test Boring Log

**Boring No. B-1**

<table>
<thead>
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<th>Depth (ft)</th>
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<th>Remarks</th>
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<tr>
<td>40</td>
<td>S-5</td>
<td>35-38'9&quot;</td>
<td>50-100/3&quot;</td>
<td>F-M-C SAND/bn, dry, v. dense</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>S-6</td>
<td>40-42'</td>
<td>37-66-78-97</td>
<td>C-M-F SAND, sm f gravel/bn, dry, v. dense</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>S-7</td>
<td>45-47'</td>
<td>5-20-34-48</td>
<td>SAME</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>S-8</td>
<td>50-51'9&quot;</td>
<td>28-47-60-100/3&quot;</td>
<td>SAME</td>
<td>51'9&quot;</td>
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Test Boring Completed @ 51'9"

**Notes:**
- S-2" O.D. Spill Spoon Sample
- U - Undisturbed Sample, 3" Diameter
- Core Drilling
- N. R. - No Recovery
- N: Standard Penetration Resistance per 6"
- 140# Hammer, 30" drop

Driller: B. Kimley
### Testwell Craig Test Boring Co., Inc.

- South Jersey Division: P.O. Box 477, Mays Landing, NJ 08330 (609) 625-1700
- New York Division: 36-20 13th Street, Long Island City, NY 11106 (212) 392-0121
- North Jersey Division: 218 Little Falls Rd., Cedar Grove, NJ 07009 (201) 239-5796
- Connecticut Division: 6 Lake Avenue, Danbury CT 06801 (203) 743-7281
- Albany Division: 518 Clinton Avenue, Albany, NY 12206 (518) 436-4114

Address correspondence to the above:

**Testing Engineers** • Steel • Water • Concrete • Chemical Analysis • Soils • Test Borings • Core Drilling • Asphalt • Research

### Field Test Boring Log

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>Eichner Properties</th>
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<tbody>
<tr>
<td>PROJECT</td>
<td>Proposed Construction, 97 Columbia Heights, Brooklyn, New York</td>
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**Boring No.: B-3**  
**Sheet No.: 1 of 3**  
**Ground Surface Elev.:**

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<th>Depth</th>
<th>Sample</th>
<th>A-No.</th>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 50'</td>
<td>6-4-86</td>
<td>Comp of Hole</td>
<td>Misc. Fill</td>
<td>0-20'</td>
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#### Ground Water Data

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<tr>
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<th>Date</th>
<th>Hrs. After Completion</th>
<th>L&quot; Drilled in Casing</th>
<th>Mud Rotary Method</th>
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<tbody>
<tr>
<td>0 to 50'</td>
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<td></td>
<td>0 to 50'</td>
<td>50' to 102'</td>
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#### Depth Log

<table>
<thead>
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<th>Sample</th>
<th>A-No.</th>
<th>Depth</th>
<th>Soil Classification</th>
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</thead>
<tbody>
<tr>
<td>20'</td>
<td></td>
<td>S-1</td>
<td>20-22'</td>
<td>F-M SAND, tr silt/bn, dry, dense</td>
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<tr>
<td></td>
<td></td>
<td>S-2</td>
<td>22-24'</td>
<td>F-M SAND, tr f gravel/bn, dry, dense</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S-3</td>
<td>25-27'</td>
<td>SAME</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S-4</td>
<td>30-32'</td>
<td>F-M-C SAND, sm f gravel/bn, dry, v. dense</td>
</tr>
</tbody>
</table>

---

**S-2" O.D. Split Spoon Sample**  
**U - Undisturbed Sample, 3" Diameter**  
**E - Core Drilling**  
**N.R. - No Recovery**

N - Standard Penetration Resistance per 6"  
(1'40# Hammer, 30" drop)  

Driller: E. Killey
## FIELD TEST BORING LOG

### BORING NO. B-3

<table>
<thead>
<tr>
<th>Depth</th>
<th>Sample No.</th>
<th>Depth</th>
<th>N</th>
<th>Soil Classification</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>35-35'5&quot;</td>
<td>S-5</td>
<td>100/5&quot;</td>
<td>C GRAVEL/bn,dry,v. dense</td>
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<td></td>
</tr>
<tr>
<td>40-40'6&quot;</td>
<td>S-6</td>
<td>100/6&quot;</td>
<td>C-M-F SAND &amp; fc gravel/bn, dry,v. dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-46'</td>
<td>S-7</td>
<td>34-100/6&quot;</td>
<td>F-M SAND/bn,dry,v. dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-52'</td>
<td>S-8</td>
<td>15-34-40-73</td>
<td>F-M-C SAND, sm f gravel/bn, dry,v. dense</td>
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<td></td>
</tr>
<tr>
<td>55-57'</td>
<td>S-9</td>
<td>11-16-18-36</td>
<td>F SAND,silty/rd,bn,moist,dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-62'</td>
<td>S-10</td>
<td>29-34-49-68</td>
<td>F-M-C SAND, tr f gravel/bn, dry,v. dense</td>
<td></td>
<td></td>
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<tr>
<td>65-66'5&quot;</td>
<td>S-11</td>
<td>50-70-100/5&quot;</td>
<td>C-M-F SAND &amp; f gravel/bn,wet, v. dense</td>
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</tr>
<tr>
<td>70-72'</td>
<td>S-12</td>
<td>33-43-40-61</td>
<td>C-M-F SAND, tr f gravel/bn, wet,v. dense</td>
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<tr>
<td>75-77'</td>
<td>S-13</td>
<td>27-42-47-91</td>
<td>SAME</td>
<td></td>
<td></td>
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</tbody>
</table>

**Driller**

B. Kimley

---

- **S**: 2" O.D. Split Spoon Sample
- **U**: Undisturbed Sample, 3" Diameter
- **C**: Core Drilling
- **N.P.**: No Recovery
- **N**: Standard Penetration Resistance per 6" (150s Hammer, 30" drop)
**Testwell Craig Test Boring Co., Inc.**

**Field Test Boring Log**

**Boring No. B-3**

**Sheet No. 3 of 3**

<table>
<thead>
<tr>
<th>Depth</th>
<th>A</th>
<th>Sample</th>
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<th>Remarks</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>Depth</td>
<td></td>
</tr>
<tr>
<td>90</td>
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<td>S-15</td>
<td>85-86'11&quot;</td>
<td>25-59-88-100/5&quot;</td>
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<tr>
<td>95</td>
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<td>S-16</td>
<td>90-92'</td>
<td>20-53-70-81</td>
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<tr>
<td>100</td>
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<td>S-17</td>
<td>100-102'</td>
<td>58-55-61-64</td>
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</tbody>
</table>

Test Boring Completed @ 102'

---

**Driller:** B. Kimley

---

**Legend**
- S - 2” O.D. Split Spoon Sample
- U - Undisturbed Sample, 3” Diameter
- C - Core Drilling
- N.R - No Recovery

**Notes:**
- Standard Penetration Resistance per 6" (140# Hammer, 30" drop)
- All borings are the responsibility of client and information contained herein is based on information obtained during drilling.

---

**Additional Information:**
- CRAIG:\n  - ST:\n  - 30:
  - G:\n  - CO.:\n  - INC.
FIELD TEST BORING LOG

CLIENT: Eichner Properties
PROJECT: Proposed Construction, 97 Columbia Heights, Brooklyn, New York
Boring No.: B-4

<table>
<thead>
<tr>
<th>Ground Water Data</th>
<th>A - Method of Advancing Boring</th>
<th>Depth</th>
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<tbody>
<tr>
<td>Depth</td>
<td>Hour Date Hrs. After Completion</td>
<td>4&quot; Drilled in Casing</td>
</tr>
<tr>
<td>Dry</td>
<td>6-2-86 Comp of Hole</td>
<td>to</td>
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</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>A No.</th>
<th>Depth</th>
<th>N</th>
<th>Soil Classification</th>
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<tr>
<td>0</td>
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<td></td>
<td></td>
<td>Misc. Fill 0-20'</td>
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<tr>
<td>5</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>S-1</td>
<td>20.5-22.5'</td>
<td>11-9-11-12</td>
<td>F-M SAND, tr silt/bn, dry, med. dense</td>
</tr>
<tr>
<td>20.5'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>S-2</td>
<td>22.5-24.5'</td>
<td>9-13-16-24</td>
<td>F-M-C SAND, sm gravel, tr silt/bn, dry, med. dense</td>
</tr>
<tr>
<td>30</td>
<td>S-4</td>
<td>30-30'6&quot;</td>
<td>100/6&quot;</td>
<td>C-M-F SAND &amp; fc gravel/rd, bn, dry, v. dense</td>
</tr>
</tbody>
</table>

N: Standard Penetration Resistance per 6'
140# Hammer, 30" drop

Driller: B. Kimley

Legend:
- S - 2" O.D. Split Spoon Sample
- U - Undisturbed Sample, 3" Diameter
- D - Core Drilling
- N.R. - No Recovery
### Field Test Boring Log

**Boring No. B-4**  
**Sheet No. 2 of 2**  
**Lab No. 2162**

<table>
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<th>Remarks</th>
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<tbody>
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<td>S-5</td>
<td>35-36'10&quot;</td>
<td>20-47-47-100/4&quot;</td>
<td>C-M-F SAND &amp; fc gravel/bn,dry,v. dense</td>
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</tr>
<tr>
<td>40</td>
<td></td>
<td>S-6</td>
<td>40-42'</td>
<td>13-45-51-66</td>
<td>SAME</td>
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<tr>
<td>45</td>
<td></td>
<td>S-7</td>
<td>45-47'</td>
<td>25-54-48-47</td>
<td>SAME</td>
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</tr>
<tr>
<td>50</td>
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<td>S-8</td>
<td>50-52'</td>
<td>13-41-48-70</td>
<td>SAME</td>
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</tbody>
</table>

Test Boring Completed @ 52'

---

1. S: 2" O.D. Split Spoon Sample  
2. U: Undisturbed Sample, 3" Diameter  
3. #: Core Drilling  
4. N: Standard Penetration Resistance per 6"  
   (140# hammer, 30" drop)
CLIENT: Eichner Properties  
PROJECT: Proposed Construction, 97 Columbia Heights, Brooklyn, New York  
DATE: July 2, 1986  
LAB. NO.: 2162  
Sheet No. 1 of 1  
Ground Surface Elev.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Hour Date</th>
<th>Hrs. After Completion</th>
<th>4&quot; Drilled in Casing</th>
<th>Depth</th>
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</thead>
<tbody>
<tr>
<td>Dry</td>
<td>6-3-86</td>
<td>Comp of Hole</td>
<td></td>
<td>0 to 20'</td>
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<table>
<thead>
<tr>
<th>Depth</th>
<th>Sample</th>
<th>Soil Classification</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Misc. Fill</td>
<td>0-20'</td>
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<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Concrete Slab @ 20'</td>
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<td>20</td>
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<td>35</td>
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**Misc. Notes:**
- 2" O.D. Split Spoon Sample
- Undisturbed Sample, 3" Diameter
- Core Drilling
- N.R. — No Recovery

N - Standard Penetration Resistance per 6" (140# Hammer, 30" drop)

Driller: _____________
### FIELD TEST BORING LOG

**CLIENT**: Eichner Properties

**PROJECT**: Proposed Construction, 97 Columbia Heights, Brooklyn, New York

**Boring No.**: B-5A

**DATE**: July 2, 1986

**LAB. NO.**: 2162

**Sheet No.**: 1 of 2

**Ground Surface Elev.**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Ground Water Data</th>
<th>Method of Advancing Boring</th>
<th>Depth</th>
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</thead>
<tbody>
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<td></td>
<td>4&quot; Drilled in Casing</td>
<td>0 to 50'</td>
</tr>
<tr>
<td>Dry</td>
<td></td>
<td></td>
<td>to 50'</td>
</tr>
<tr>
<td></td>
<td>6-5-86 Comp of Hole</td>
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<td></td>
</tr>
</tbody>
</table>

**Depth**: 0-20'

**Soil Classification**

- Misc. Fill
- 0-20' F-M-C SAND & fc gravel/bn., dry, med. dense
- 20' S-1 20-22' 15-17-12-11
- SAME

**Remarks**

- 6-5-86 Comp of Hole

**Sample**

- S-1 20-22' 15-17-12-11
- S-2 22-24' 15-14-18-18
- S-3 25-27' 8-15-26-19
- S-4 30-32' 20-25-34-45

**Notes**

- S-2" O.D. Split Spoon Sample
- U - Undisturbed Sample, 3" Diameter
- N - Standard Penetration Resistance per 6" drop
- Driller: E. Kimley
<table>
<thead>
<tr>
<th>Depth</th>
<th>A</th>
<th>Sample No.</th>
<th>Sample Depth</th>
<th>N</th>
<th>Soil Classification</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>35-36'4&quot;</td>
<td>S-5</td>
<td>59-75-100/4&quot;</td>
<td>C-M-F SAND &amp; f gravel/bn, dry, v. dense</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>40</td>
<td>S-6</td>
<td>40-40'11&quot;</td>
<td>65-100/5&quot;</td>
<td>SAME</td>
<td></td>
<td></td>
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<tr>
<td>45</td>
<td>S-7</td>
<td>45-46'11&quot;</td>
<td>28-55-71-100/5&quot;</td>
<td>SAME</td>
<td></td>
<td></td>
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<tr>
<td>50</td>
<td>S-8</td>
<td>50-50'1&quot;</td>
<td>100/1&quot;</td>
<td>C GRAVEL/bn, dry, v. dense</td>
<td>50'1&quot; Test Boring Completed @ 50'1&quot;</td>
<td></td>
</tr>
</tbody>
</table>

- S 2" O.D. Split Spoon Sample
- U Undisturbed Sample, 3" Diameter
- Core Drilling
- N.R. No Recovery

N: Standard Penetration Resistance per 6" (140# Hammer, 30" drop)

Driller: B. Kimley