

THIRD-ORDER LEVELING
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

180 35-078 44
DURHAM SOUTH QUADRANGLE
NORTH CAROLINA
N3545-W7845/15
DIAGRAM NO 17-3
RALEIGH

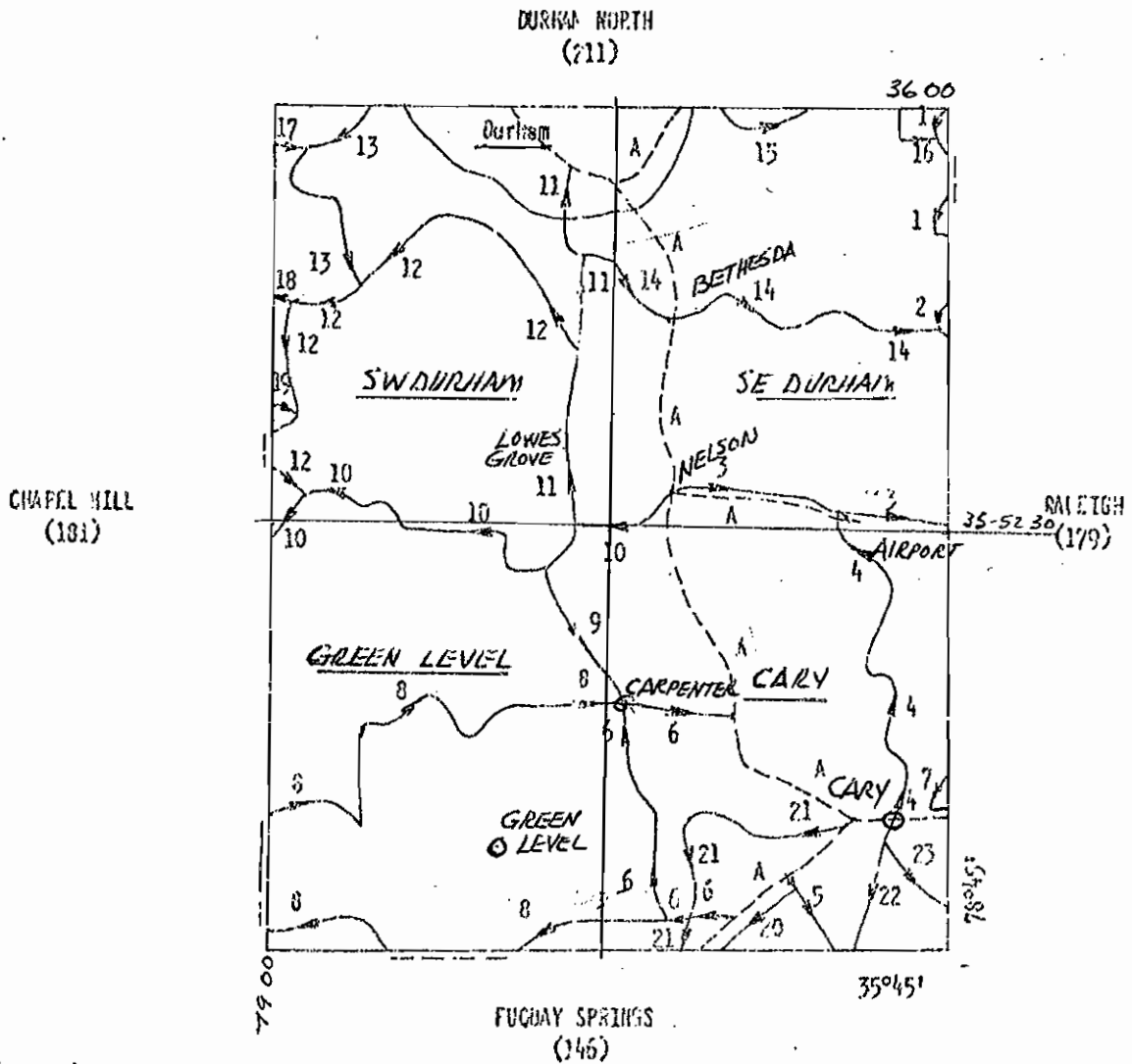
Catham, Durham, Orange and Wake Counties, North Carolina

Final adjustment of 1974

Edition of 1/5/76

PR: WSI/rmc

NGVD 29
Elevations



NGS (USCGS) VERTICAL CONTROL DATA

A. Quadrangle 350784

INDEX OF PERMANENT MARKS

<u>MARKS (USGS)</u>	<u>PAGE NO.</u>	<u>NGS</u>	<u>PAGE NO.</u>
321	3	441.987 W 20 DOL 1918	5
406 RESET	3	458.546 U 20 DDI 1918	5
408	3	504.750 P 20 DOD 1918	4
415	3	DOL 1918	5
497	3	FETNER 1918 Q 20	11, 11
11 BC 1938	3	DURHAM NORTH BASE 1932	8
12 BC 1938	4	DURHAM NORTH BASE NO 1 1932	8
13 BC 1938	5	DURHAM NORTH BASE NO 2 1932	8
15 BC 1938	5	DURHAM NORTH BASE NO 3 1932	8
18 BC 1939	7	DURHAM MIDDLE BASE 1932	8
19 BC 1939	7	DURHAM MIDDLE BASE NO 1 1932	8
20 BC 1939	7	DURHAM MIDDLE BASE NO 2 1932	8
21 BC 1939	9	DURHAM SOUTH BASE 1932	8
22 BC 1939	9	DURHAM SOUTH BASE NO 3 1932	8
23 BC 1939	10	BARBEE 1933	7
24 BC 1939	10	BARBEE NO 1 1933	7
25 BC 1939	10	BARBEE NO 2 1933	7
50 DRD 1960 423	11	BARBEE NO 3 1933	7
53 DRD 1960 437	11	CARPENTER 1933	5
		CARPENTER NO 1 1933	6
		CARPENTER NO 2 1933	6
		CARPENTER NO 3 1933	6
		CARY HIGH NO 2 1933	12, 12
		NELSON 1933	4
		NELSON NO 1 1933	4
		NELSON NO 2 1933	4
		NELSON NO 3 1933	4
		C 151 1935	4
		L 151 1935	8
		Y 150 1935	6
<u>NORTH CAROLINA GEODETIC SURVEY</u>			
N + C 44	10		
N△C 44	10		
N + C 75	10		
N△C 75	3		
N + C 121	9		
N△C 121	9		
N + C 200	5		
N△C 200	4		
N + C 220	5		
N△C 220	5		
N△C 403	6		
N + C 404	6		
N△C 404	6		
N△C 672	9		
N△C 862	9		
N△C 889	6		

NGVD 29
 Elevations

ISOLATED BENCH MARKS (By W. C. Hall, 1897, R. L. Libby, 1905; Books 5008 and 5935)

Feet

Cary, 103 ft E. of E. end of station; 20 ft S. of S. rail of main track; just S. of station flower garden; in line with S. side of hedge; 3 in. underground; on iron post; standard cap stamped "497" (Tied by NGS in 1935 and restamped "495.724")

PUB EL
495.750

Morrisville, 0.6 mi N. of; 4.2 mi S. of Nelson; 801 ft S. of milepost 68; 2/6 ft S. of N. end of curve 2/9 ft N. of culvert; 25 ft W. of W. rail; 1 ft lower than rail; on iron post; standard cap stamped "321" (Tied by NGS in 1935 and restamped "320.400")

PUB EL
320.498

Durham, at NE. corner of new courthouse; in foundation; standard tablet stamped "406 RESET" (as reset in 1917)

PUB EL
405.327

Durham, at corner of intersection of Main and Corcoran Streets; at First National Bank Building; at Corcoran Street entrance to upstairs apartment; in sandstone step; standard tablet stamped "408" (Destroyed, 1914)

408.493

Durham, 1.6 mi NE. of, along Southern Ry.; at East Durham, 0.25 mi NE. of milepost 85; 800 ft SW. of crossing of State Highway 264 (formerly State Highway 91); on O. K. Proctor estate; 650 ft SE. of residence; at SE. corner of grove; 40 ft NE. of gate; 42 ft W. of W. rail of side track; 2 ft E. of grove fence; 2 ft SE. of 18-in. oak tree; on iron post; standard cap stamped "415" (Restamped "414.750" by NGS, 1935)

PUB EL
414.858

LINE 1.

NGVD 29
Elevations

By B. B. Chamblin, 1938; Book B 7843)

Carpenters store, 8.5 mi E. of, thence 1.1 mi N.; on Baptist rd.; at SW. corner of two-story frame house of E. D. Carpenter; 26 ft N. of center of rd.; 40 ft SW. of SW. corner of residence; North Carolina Geodetic Survey standard disk stamped "11 Δ C 75"

PAT ON
LINE
11 B. 721
373.099

Reference mark; 150 ft E. of disk; 25 ft N. of rd.; in root on W. side of 15-in. walnut tree; copper nail and washer

370.07

U.E., Carpenters store, 0.9 mi S. of; 8.5 mi E. of, thence 0.2 mi N. of Durham; at South View Church; 50 ft E. of rd.; on NW. corner of concrete foundation of pump; chiseled square

336.47

U.E., South View Church, 0.8 mi S. of; 8.5 mi E. thence 0.6 mi S. from Durham; 0.3 mi S. of wooden bridge over Lick Creek; 35 ft S. of corrugated 18-in. cross drain pipe; 15 ft W. of centerline of rd.; 75 ft NW. of tobacco barn on opposite side of rd.; on rock; chiseled square

281.68

South View Church, 1.5 mi S. of; 8.5 mi E., thence 1.3 mi S. of Durham; 5.9 mi NW. of Leesville; 150 ft W. of wooden bridge over Rocky Creek; 30 ft N. of ¹⁹⁰⁹ and 30 ft W. of ¹⁹⁰⁹ junction of ~~W. SE~~ rd.; in concrete ^{SR 1902} post; standard tablet stamped "11 BC 1938" (Reported not found, 1973)

89.724
294.369

Reference mark; 150 ft E. of tablet; on N. side of bridge over Rocky Creek; top of westernmost bolt of guardrail

209.34

* Note: 11 BC 1938 - MR. LEWIS RAY 919-771-6434 MET WITH THOMAS COVINGTON (NGS). MARKER WAS AT HOME CONSTRUCTION SITE. HAND HELD GPS POS. (35-59-56) (78-41-37) COLLECTED. IT WAS DETERMINED MARK WAS APPX. 4 MI NE OF ORIGINAL LOCATION. MARKER DUG OUT OF GROUND, ONLY 15" LENGTH. MR. LEWIS BURIED MARKER UNDER NEW HOME FOUNDATION.

NB 3/6/2006

1938

LINE 2.

Feet

By B. B. Chamblin, 1938; Book B 7843

Leesville, 3.3 mi NW. of; 5.8 mi E. of Bethesda; 1.4 mi E. of Andrews Chapel, 50 ft S. and 25 ft E. of junction of E. rd.; in concrete post; standard tablet stamped "12 BC 1938" (Reported destroyed, 1973) *2.65 MI NE OF KYNN CROSSROADS*

471.380

Reference mark; 120 ft E. of tablet; 45 ft N. of rd.; 15 ft E. of tobacco barn; in root on S. side of 18-in. sweetgum tree; copper nail and washer

467.01

LINE 3.

By B. B. Chamblin 1938; Book B 7852

NGVD 29
Elevations

"C 151 1935" (NGS)

404.041

Nelson, 0.1 mi N. of; 10 mi SE. of Durham; on property of R. L. Stone; 11.6 ft S. of middle of one-car garage which is S. of house; 9 ft S. and 34.5 ft E. of easternmost of three poles carrying electric-light wires to house; in concrete post; NGS standard triangulation station disk stamped "NELSON 1933"

427.080

Reference Mark No. 1; 339.25 ft from station in azimuth 5°23', on E. side of hwy.; at S. side of brick church; 24 ft N. of centerline of dirt rd.; just NE. of and across rd. from second telephone pole E. of U.S. Highway 70; in concrete post; NGS standard reference disk stamped "NELSON NO 1 1933"

421.239

Reference mark No. 2; 0.2 mi from sta. in azimuth 23°04'57" 0.5 mi S. of intersection of U. S. Highway 70 and State Highway 54; 24 ft W. of centerline of U. S. Highway 70; 42 ft N. of group of seven mail-boxes directly opposite driveway to small white house; 2 ft N. of telephone pole; in concrete post; NGS standard reference mark disk stamped "NELSON NO 2 1933"

410.979

Reference mark No. 3; 503 ft from station in azimuth 114°42'11", 129 ft N. of sign "NELSON"; 18 ft E. of centerline of U. S. Highway 70; 36 ft N. of centerline of lane to Stone residence; in concrete post; NGS standard reference mark disk stamped "NELSON NO 3 1933"

408.455

Adams Crossroads, 4.5 mi NE. of Morrisville; 0.2 mi N. of Adams Cemetery; in SE. corner of old Mount Herman School Grove; 20 ft W. of centerline of rd.; North Carolina Geodetic Survey standard disk stamped "N Δ C 200" (Not found, 1951)

442.038

Reference mark; 160 ft N. of disk; 50 ft W. of junctior of rd. E.; 10 ft E. of well; in root on NW. side of 14-in. oak tree; copper nail and washer

442.14

LINE 4.

By B. B. Chamblin, 1938; Book B 7852

Dod triangulation station 0.75 mi E. of Cary; at curve; 300 ft E. of county rd. crossing; on prolongation of N. rail of northbound track of tangent toward Raleigh; 55 ft N. of N. rail of southbound track; in field; 144 ft SE. of pole 2980 E 16; 106 ft S. of pole 2981; in concrete post; NGS standard triangulation station disk stamped "504.750 P 20 000 1918" (Reported not found, 1973)

504.773

LINE 4 (Cont'd)

feet

Cary, 0.7 mi E. of, thence 3.7 mi N.; 3.2 mi S. of Adams Crossroads; at N. end of bridge over Crabtree Creek; 15 ft E. of centerline of bridge; 8.8 ft lower than floor; in rock ledge; standard tablet stamped "13 BC 1938" (Reported destroyed, 1973)

78,039
265.033

Adams Crossroads, at Sorrell's store, 105 ft NE. of crossroads, 23 ft E. of rd., N. of driveway, in yard of residence of S. A. King; North Carolina Geodetic Survey azimuth disk stamped "N + C 200"

133,20
437.023

LINE 5.NGVD 29
Elevations

By B. B. Chamblin, 1938; Book 87852)

Doi triangulation station, 2.4 mi SW. of Cary along S. A. L. Ry.; at second curve; on prolongation of W. rail of N. tangent; at rd. crossing; 96 ft E. of E. rail; near N. side of private rd. to farmhouse 84 ft E. of track; in concrete post; NGS standard triangulation station disk stamped "458.546 U 20 DOI 1918"

PUB EL
458.569

LINE 6.

By B. B. Chamblin, 1938; Book 87852

Apex, 2.3 mi NE. of, along S. A. L. Ry.; 0.2 mi S. of NE. end of first curve NE. of station 318 ft S. of private rd. crossing; 130 ft NE. of small house; 54 ft W. of W. rail; 63 ft E. of E. edge of U. S. Highway 1; 14 ft E. of hickory tree; in concrete post; NGS standard triangulation station disk stamped "441.987 W 20 DOL 1918"

PUB EL
442.014

Reference mark; 56.7 ft from station in azimuth $88^{\circ}28'$, 26 ft E. of hwy., in concrete; NGS standard reference disk stamped "DOL 1918"

PUB EL
444.001

Upchurch, 2.8 mi S. of; 0.6 mi W. of Salem Baptist Church; about 2 mi N. of Apex; 170 ft N. of Y-rd. junction; 33 ft W. of centerline of rd.; 2.5 ft W. of powerline pole; in concrete post; standard tablet stamped "15 BC 1938"

143.982
472.381

Reference mark, 120 ft N. of tablet, 25 ft W. of centerline of rd., in yard of one-story frame dwelling, in root on E. side of 30-in. oak tree; copper nail and washer

473.69 -

Upchurch, 0.3 mi S. of, 3.3 mi SE. of NCGS standard disk 220 along O. & S. Ry., 30 ft SW. of track, near milepost 17, 29.6 ft of 12-in. pine tree; North Carolina Geodetic Survey azimuth disk stamped "N + C 220"

123.609
405.540

Upchurch, 2.5 mi SE. of Carpenter, between station and overhead bridge of Cary-Green Level rd., 29 ft NE. of track; North Carolina Geodetic Survey standard disk stamped "N + C 220" (Reported not found, 1973)

128.442
421.396

U.C., Carpenter, in center of village, at sharp curve in rd., 20 ft E. of E. side of Edwards store, on concrete base of old gasoline pump; chiseled square

120.60
395.68

Carpenter, 0.7 mi N. of, 55.2 ft ESE. of center of chimney of Lynn residence, 58.8 ft E. of center of well on S. side of house, in concrete post; NGS standard triangulation station disk stamped "CARPENTER 1933"

121.077
397.235

LINE 6 (Cont'd)

Feet

- Reference mark No. 3; 88.5 ft from station in azimuth $61^{\circ}15'$; 18 ft S. of center of well, in concrete post; NGS standard reference mark disk stamped "CARPENTER NO 3 1933" (Reported disturbed, 1973) 121.521
393.689
- Reference mark No. 1; 143.75 ft from station in azimuth $297^{\circ}43'$; 35 ft E. of intersection of two field rds., at bend in field rd. leading to house, in concrete post; NGS standard reference mark disk stamped "CARPENTER NO 1 1933" 119.024
390.497
- Reference mark No. 2; approximately 0.25 mi from station in azimuth $342^{\circ}27'10''$; at NW. corner of Good-hope Baptist Church; in concrete post; NGS standard reference mark disk stamped "CARPENTER NO 2 1933" (Reported not found, 1973) 117.889
386.773
- U.E., Morrisville, 0.7 mi W. of, 12 ft W. of NW. corner of one-story frame dwelling, 55 ft S. centerline of rd., in root on S. side of 12-in. hickory tree; copper nail and washer 7 317.84
- "V 150, 1935" (NGS) 304.583

LINE 7.

By B. B. Chamblin, 1938; Book 87842

There are no permanent marks in this line in this quadrangle.

LINE 8.NGVD 29
Elevations

By B. B. Chamblin, 1938-39; Book 87852

There are no permanent marks in this portion of this line.

[Jogs into Fuquay Springs quadrangle]

- Olive Chapel, 2.3 mi NW. of, along State Highway 751; 2.0 mi S. of Marthas Chapel; 1.6 mi N. of junction of U. S. Highway 64 and Highway 751; 57 ft W. of T-rd. NE. at offset crossroads; 31 ft NW. of NE.-SW. rd.; 7 ft SE. of centerline of drive leading to W. H. Kelly's brick house; in concrete post projecting 0.2 ft; N. C. Geodetic Survey standard disk stamped "N Δ C 889" 89.869 M
294.844
- Reference mark; 80 ft W. of disk; 25 ft N. of centerline of rd.; in base on S. side of 24-in. pine tree; copper nail and washer 296.22

[Jogs into Chapel Hill quadrangle]

CHATHAM CO

- Farrington, 0.6 mi S. of thence 2.6 mi E.; 888 ft W. of NCGS standard disk 404; 29 ft S. of rd.; in front yard of Mrs. Lila Iates; 5 ft SW. of 18-in. white-oak tree; North Carolina Geodetic Survey azimuth disk stamped "N + C 404" 325.085
- Farrington, 0.6 mi S. of, thence 2.7 mi E.; 27 ft N. and 81 ft W. from junction of State Highway 55; in front of Marthas Chapel Christian Church; in line with E. side of church; North Carolina Geodetic Survey standard disk stamped "N Δ C 404" 324.673
- Carpenter, 4.8 mi W. of; 0.8 mi NE. of Mt. Pisgah Church; 55.7 ft W. of powerpole with transformer; 54 ft N. of T-rd. S. at offset crossroads; 12.7 ft NE. of underground telephone cable junction box; 10 ft W. of centerline of rd. and 1.5 ft W. of rd. drainage ditch; in concrete post; projecting 0.2 ft; N.C. Geodetic Survey disk stamped "N Δ C 403" 317.772

LINE 8 (Cont'd)

Feet

Reference mark; 310 ft E. of table; 20 ft N. of rd.; in yard of two-story frame dwelling; 48 ft S. of front entrance to house; in root on SW. side of 24-in. pine tree; copper nail and washer 314.67

Carpenter, 1.8 mi W. of; 35 ft S. and 90 ft E. of crossroads; 45 ft W. of one-story dwelling; 27 ft NW. of 60-in. oak tree; in concrete post; standard tablet stamped "18 BC 1939" (Reported not found, 1972) 102.084
334.922

Reference mark; 60 ft E. of tablet; at entrance to dwelling; on NW. corner of lower of two concrete steps; chiseled square 102.99
337.38

LINE 9.NGVD 29
Elevations

By B. B. Chamblin, 1939; Book B7853

Carpenter, 4.2 mi N. of; 9.8 mi S. of Durham; 8.2 mi NE. of Cary; 2.9 mi S. of Lowes Grove; 150 ft N. of Durham-Wake County line; on land of J. M. Barbee; 150 ft N. of end of pavement; in small uncultivated field; across rd. from large two-story white house; 55 ft W. of rd.; 50 ft NW. of NW. corner of wagon shed and corner; in concrete; NGS standard triangulation station disk stamped "BARBEE 1933" (Reported not found, 1972) ON INDE;
108.221
355.055

Reference mark No. 1; 60 ft from station in azimuth $233^{\circ}22'49''$, 11 paces S. of centerline of paved rd.; 44 paces SW. of curve in rd.; in concrete post; NGS standard reference mark disk stamped "BARBEE NO 1 1933" ON INP.
102.693
356.920

Reference mark No. 2; 70.4 ft from station in azimuth $235^{\circ}08'$, at S. apex of cornfield; 8 paces W. of centerline of paved rd.; 7 paces N. of N. face extended of two-story house; in concrete post; NGS standard reference mark disk stamped "BARBEE NO 2 1933" (Reported disturbed, 1972) 108.754
356.804

Reference mark No. 3; 62.6 ft from sta. in azimuth $353^{\circ}11'$ 5 paces W. of centerline of paved rd.; 4.7 ft E. of, and in line with N. face of wagon shed and corner; 1 ft NW. of mailbox; in concrete; NGS standard reference mark disk stamped "BARBEE NO 3 1933" 109.146
358.091

LINE 10.

By B. B. Chamblin, 1939; Book B7853

Carpenter, 6.7 mi NW. of; 1.4 mi S., thence 1.7 mi E. from Bland; 3.0 mi SW. of Lowes Grove; 65 ft N. and 32 ft W. from junction of T-rd. N.; 50 ft N. of wooden bridge 124; in concrete post; standard tablet stamped "19 DC 1939" (Reported not found, 1973) DON NC 751 THENCE 0.1 MI NE ON SR 1118, THENCE 1.0 MILE ON SR 1103
81.225
266.485

Reference mark; 50 ft S. of tablet; in NE. wingwall of wooden bridge; copper nail and washer 263.42

Bland, 2.1 mi W. of; 0.4 mi E. of Barbee Chapel; 7.6 mi NE. of Farrington; 45 ft S. and 45 ft E. from junction of NE.-SW. rd.; in concrete post; standard tablet stamped "20 BC 1939" (Reported destroyed, 1973) 71.260
233.792

Reference mark; 580 ft SW. of tablet; in NE. wingwall of wooden bridge over Little Creek; copper nail and washer 227.49

1939

NGVD 29
Elevations

LINE 11.

feet

By B. B. Chamblin, 1939; Book 87853

- Durham, 7.5 mi S. of 1.0 mi S. of Lowes Grove School; at first curve S. of D. & S. Ry. sta. at Lowes Grove; on line with W. rail N. of curve; 600 ft N. of rd. crossing; 55 ft N. of fourth telephone pole N. of crossing; 45 ft W. of centerline of track; in concrete; NGS standard triangulation station disk stamped "DURHAM SOUTH BASE 1932" - 1982 266.056
~~266.818~~
- Reference mark no 3; 0.15 mi from sta. in azimuth 339°41'12"; 18 ft E. of E. rail of track; 150 ft S. of centerline of dirt rd.; in concrete; NGS standard reference mark disk stamped "DURHAM SOUTH BASE NO 3 1932" 266.175
- U.E., Lowes Grove, 0.7 mi N. of; 1.7 mi S. of Oyama; at bridge 94 over Northeast Creek; on SW. concrete wingwall; chiseled square 267.02
- Durham, 5.0 mi S. of; 0.5 mi S. of Oyama; on W. edge of roadbed of D. & S. Ry., opposite only curve in base line; 24 ft W. of W. rail; at point of intersection of two tangents to W. rail; in concrete; standard triangulation station disk stamped "DURHAM MIDDLE BASE 1932" 311.043 NF
- Reference mark No. 1; 156.7 ft from sta. in azimuth 207°34', 75 ft S. of white milepost; 17 ft E. of edge of cut; 30 ft E. of E. rail; in concrete; NGS standard reference mark disk stamped "DURHAM MIDDLE BASE NO 1 1932" 317.933
- Reference mark No. 2; 180.9 ft from sta. in azimuth 359°15'; 8 ft E. of edge of cut; 22.5 ft E. of center of E. rail; NGS standard reference mark disk stamped "DURHAM MIDDLE BASE NO 2 1932" 315.793 ?
- Durham 3.0 mi SE. of; 1.8 mi N., thence 0.2 mi E. of Oyama; 22 ft N. of centerline of dirt rd.; 25 ft S. of S. rail of spur to loading trestle; in concrete; NGS standard triangulation station disk stamped "DURHAM NORTH BASE 1932" (Reported not found, 1973) 397.648
- Reference mark No. 1; 86.6 ft from sta. in azimuth 248°31'; 28 ft N. of centerline of dirt rd.; 25 ft S. of S. rail of spur line at first pier of loading trestle; in concrete; NGS standard reference mark disk stamped "DURHAM NORTH BASE NO 1 1932" NF 399.145
- Reference mark No. 2; approximately 0.5 mi from sta. in azimuth 14°31'03"; 23 ft W. of W. rail of RR. track; 33 ft E. of centerline of macadam rd.; in narrow strip of land between RR. and hwy.; 98 ft W. of grade crossing, in concrete; NGS standard reference mark disk stamped "DURHAM NORTH BASE NO 2 1932" 361.916
- Reference mark No. 3; 303.95 ft from sta. in azimuth 75°53'; 30 ft N. of centerline of dirt rd.; 38 ft S. of S. rail of main track; in concrete NGS standard reference mark disk stamped "DURHAM NORTH BASE NO 3 1932" 394.225
- U.E., Durham, 2.1 mi SE. of post office; 400 ft S. of city limits; at wooden bridge 93 over creek; on NE. concrete wingwall; chiseled square 298.72
- "151 1935" (NGS) 413.319

LINE 12.

Feet

- Durham, 2 mi S. of, along old Fayetteville rd.; near Keene; in SE. angle of rd. junction; 35 ft E. of centerline of old Fayetteville rd.; 105.9 ft NE. of NE. corner of residence of D. C. Upchurch; North Carolina Geodetic Survey standard disk stamped "N Δ C 862" (Reported not found, 1973) 388.227
- U.E., Durham, 1 mi S. of S. city limits; 2.5 mi NW. of Oyama; at NE. corner of Beechwood Cemetery; 20 ft S. and 30 ft W. from junction of rd. W.; on concrete base of corner fence post; chiseled square 332.37
- U.E., Beechwood Cemetery, 1.9 mi NW. of; 75 ft E. of E. drive to Hope Valley High School; 810 ft E. of junction of State Highway 751 with U. S. Highways 15 and 501; 15 ft S. of centerline of rd., on E. end of S. concrete headwall of culvert; chiseled square 358.88
- Durham, 6.1 mi SW. of post office; 0.8 mi SW. of Hope Valley High School; on U. S. Highway 15; midway between entrance to Hope Valley development and junction of State Highway 751 and U. S. Highway 15; 98.8 ft NE. of NE. corner of main body of one-story frame house of G. H. Prickett; 196.9 ft NW. of NW. corner of main body of one-story frame dwelling of Mrs. W. A. Cobb; 84.5 ft NW. of NW. corner of N. brick pillar of one-story frame house of Marshall Creighton; 25 ft W. of hwy., 5 ft S. of cross-tied telephone pole; North Carolina Geodetic Survey standard disk stamped "N Δ C 121" 369.644
- Durham, 6.3 mi SW. of, 1.0 mi SW. of Hope Valley High School; 0.2 mi SW. of NCGS standard disk 121; 30 ft E. of hwy.; 77.1 ft NE. from cross-tied telephone pole on opposite side of hwy.; 49.3 ft NW. of NW. corner of main body of Wells residence; North Carolina Geodetic Survey azimuth disk stamped "N + C 121" 358.435 *changed*
- Markham Chapel, 1.1 mi SW. of; 2.6 mi SW. of Hope Valley High School; 0.6 mi NE. of concrete bridge over New Hope Creek; in concrete post; standard tablet stamped "21 BC 1939" (Reported destroyed, 1960) 281.861
- Reference mark; 120 ft W. of tablet; 20 ft NW. of centerline of rd.; on NW. corner of NW. headwall of concrete culvert; 4 ft lower than rd.; chiseled square 275.26
- Durham, 7.5 mi SW. of post office; 2.8 mi SW. of Markham Chapel; 3.9 mi E. thence 2.9 mi N. of Chapel Hill; 0.5 mi E. of Durham-Orange County line; in NE. angle of intersection of U. S. Highway 15 and Mount Moriah rd. N. and rd. S. to Ephesus Church; on property of G. M. Pope; 124.4 ft N. of edge of pavement of hwy.; 31.8 ft E. of E. edge of Mount Moriah rd.; North Carolina Geodetic Survey standard disk stamped "N C 672" 342.035
- Reference mark; 200 ft S. of disk; 75 ft S. and 60 ft E. of crossroads; in root on W. side of 6-in. hickory tree; copper nail and washer 338.35
- Chapel Hill, 3.9 mi E. of; 40 ft S. and 45 ft E. of junction of State Highway 54; opposite New Hope Service sta.; in concrete post; standard tablet stamped "22 BC 1939" N F 329.735
- Reference mark; 560 ft SW. of tablet; at concrete bridge over fork of New Hope Creek; on SE. corner of SE. abutment; chiseled square 242.05

1939

LINE 13.

Feet

- West Durham, 3.5 mi SW. of; 40 ft N. and 40 ft W. of crossroads; 6 ft N. of cross-topped powerline pole; in concrete post; standard tablet stamped "24 BC 1939" (Reported destroyed, 1970) 328.253
- Reference mark; 160 ft SE. of tablet; 60 ft S. of rd.; on NW. corner of concrete well cover; chiseled square 320.53
- West Durham, 5.2 mi SW. of, thence 0.7 mi SE.; of 1.1 mi SW., thence 2.0 mi N., thence 0.9 mi W. of Markham Chapel; 0.5 mi E. of Durham-Orange county line; 35 ft N. and 140 ft E. of junction of T-rd. N.; in front yard of residence of John Markham, in concrete post; standard tablet stamped "23 BC 1939" (Reported not found, 1973) 305.485
- Reference mark; 490 ft W. of tablet; 30 ft S. of rd.; in root on W. side of 30-in. oak tree; copper nail and washer 294.62

LINE 14.

NGVD 29
Elevations

By B. B. Chamblin, 1939; Book 87854

- Bethesda, 200 ft N. of NW. corner of schoolhouse; 45 ft E. of centerline of U. S. Highway 70; opposite rd. W.; at W. edge of cemetery; at NW. corner of Wrenn burial lot; in concrete post; standard tablet stamped "25 BC 1939" 423.552
- Reference mark; 180 ft N. of tablet; 50 ft E. of U. S. Highway 70; in root on E. side of 12-in. oak tree; copper nail and washer 419.03
- Bethesda, 3.0 mi E. of; 1.4 mi W. of Andrews Chapel; 0.3 mi W. of NCGS standard disk 44; in S. angle of junction of rd. S.; on S. side of hwy.; 118.6 ft NE. of NW. corner of dwelling of A. I. Ross; North Carolina Geodetic Survey standard azimuth disk stamped "N + C 44" 442.767
- Bethesda, 3.3 mi E. of Bethesda School, 3.0 mi E. of junction of U. S. Highway 70 and State Highway 9, 2.3 mi W. of Durham-Wake county line, 1.1 mi E. of Andrews Chapel, 615.1 ft S. 82°15' E. of SE. corner of two-story dwelling of J. E. Ross, 26.3 ft S. of hwy.; North Carolina Geodetic Survey standard disk stamped "N Δ C 44" 439.423

LINE 15.

By B. B. Chamblin, 1939; Book 87854

There are no permanent marks in this line in this quadrangle.

LINE 16.

By B. B. Chamblin, 1939; Book 87854

- Carpenters store, 0.2 mi W. of; 1.7 mi SW. of NCGS standard disk 75; 24 ft N. of centerline of rd.; 320.2 ft S. 74° W. of blazed 30-in. pine tree on S. side of rd.; North Carolina Geodetic Survey azimuth disk stamped "N + C 75" 368.565

112.33°
368.565

1946

LINE 17.

feet

By B. B. Chamblin, 1946; Book V243a

There are no permanent marks in this line in this quadrangle.

LINE 18.

By B. B. Chamblin, 1946; Book V243a

There are no permanent marks in this line in this quadrangle.

NGVD 29
Elevations

LINE 19.

By B. B. Chamblin, 1946; Book V243a

There are no permanent marks in this line in this quadrangle.

LINE 20.

By D. R. Deane, 1960; Book AV 816

4	32	0.00	"FEYNER 1918 Q 20" (NGS)	500.409
4	34	2.08	Cary, 2.1 mi SW. of; 5.0 mi NE. of Apex; 26 ft N. and 43 ft W. of, 1 ft lower than center-line of rd. at RR. overpass; in N. wingwall of culvert; standard tablet stamped "50 DRD 1960 423"	128.832 422.676
4	34	2.07	Reference mark; 64 ft SE. of tablet; on S. headwall of culvert; chiseled square	128.336 421.050
4	36	3.10	U.E., on SW. corner of concrete base of signal post no. P 1683; chiseled square	136.38 447.45
4	38	4.03	Apex, 2.0 mi NE. of; 54 ft S. of, and 1 ft higher than rd.; 6 ft E. of gasoline pump at Seaboard Resturant; in concrete post; standard tablet stamped "51 DRD 1960 437"	133.292 437.310

LINE 21.

By D. R. Deane, 1960; Book AV 816

14	58	0.00	"FEYNER 1918 Q 20" (NGS) (Also in line 20)	500.409
14	61	2.94	U.E., 20 ft E. of, and level with rd.; on SE. headwall of culvert; chiseled square	101.82 334.05
14	63	3.77	U.E., 17 ft S. of, and level with rd.; on SW. headwall of culvert; chiseled square	97.08 318.51

DURHAM SOUTH QUADRANGLE
Book AV 816

180 NORTH CAROLINA

D. R. Deane

35-078-44

12

-1960

LINE 22.

By D. R. Deane, 1960; Book AV 816

4 36 0.00 "CARY HIGH NO 2 1933" (NGS)

520.176

LINE 23.

By D. R. Dean, 1960; Book AV 816

4 47 0.00 "CARY HIGH NO 2 1933" (NGS) (Also in line 22)

520.176

NGVD 29
Elevations

* NAD 83 * INVERSE PROGRAM		Copr 1988-90	Version 1.0
FROM STA => 11 BC 1938 (ORIGINAL)		TO STA => 11 BC 1938-2006 LOC	
LATITUDE => 35° 57' 18.00000"		LATITUDE => 35° 59' 56.00000"	
LONGITUDE => 78° 45' 18.00000"		LONGITUDE => 78° 41' 37.00000"	
North (Y) => 244635.087 M		North (Y) => 249520.061 M	
East (X) => 631702.690 M		East (X) => 637225.542 M	
ELEV (M) =>		ELEV (M) =>	
THETA θ + 0° 8' 29.06"		THETA θ + 0° 10' 36.62"	
SCALE FACTOR 0.99994780		SCALE FACTOR 0.99995749	
COMBINE FACTOR NOT AVAILABLE		COMBINE FACTOR NOT AVAILABLE	
N FORWARD GEO AZ 48° 38' 53.74"		N FORWARD GRID AZ 48° 30' 25.81"	
N BACKWARD GEO AZ 228° 41' 3.57"		N BACKWARD GRID AZ 228° 30' 25.81"	
GEODETTIC DISTANCE 7373.603 Meters		Another Inverse ?	
GRID DISTANCE 7373.253 Meters		Y or N	

→ = 4.6 MILES
(MOVED)

Destroyed 3/4/2006

11 BC 1938

SOUTHEAST DURHAM QUADRANGLE

NORTH CAROLINA

7.5 MINUTE SERIES (TOPOGRAPHIC)

NE/4 DURHAM SOUTH 15' QUADRANGLE

52261
(CRE)

SOURCES

47°30"

700

701

2 070 000 FEET

702

78°45'

36°00'



3986

3985

BM 301

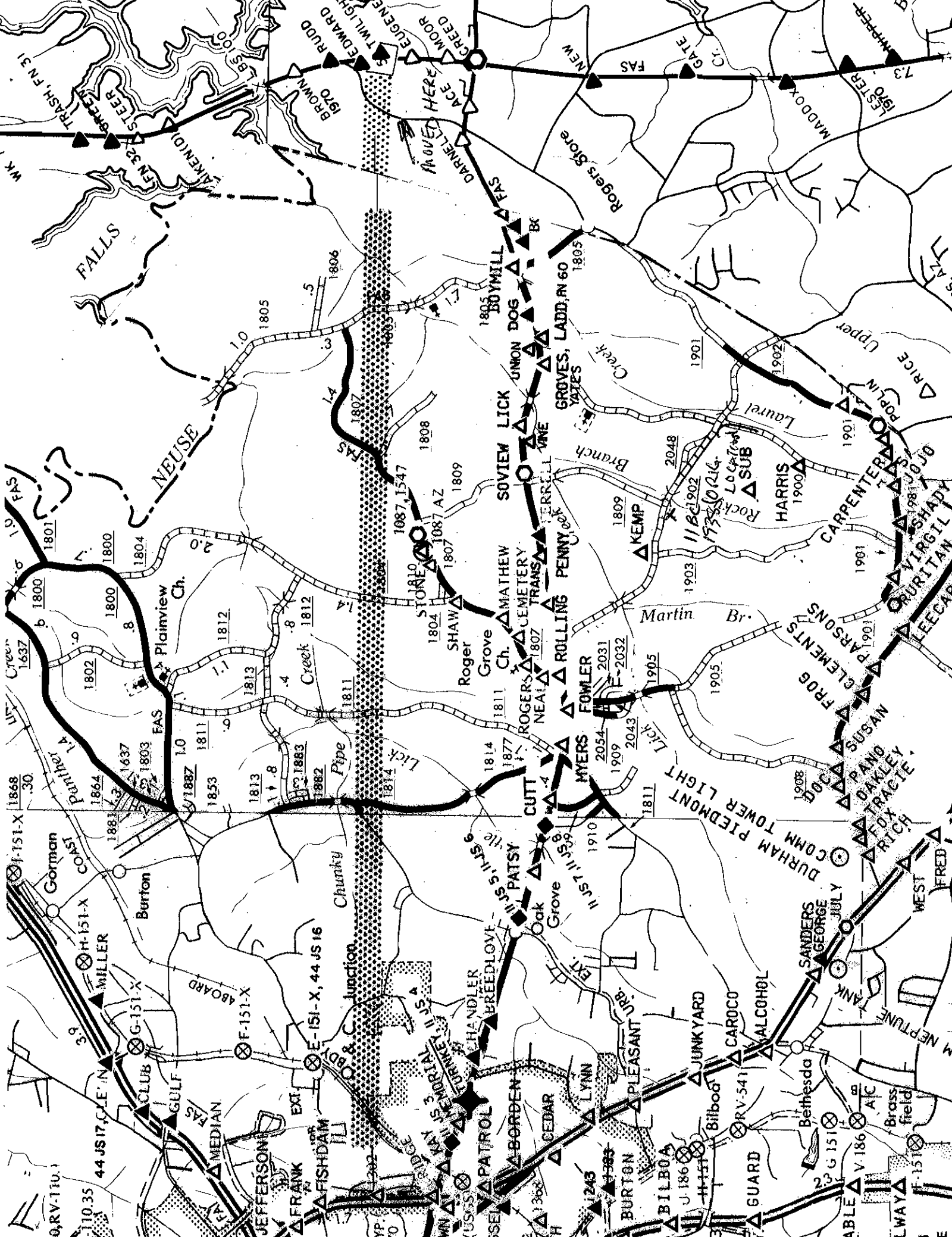
810 000
FEET

3983

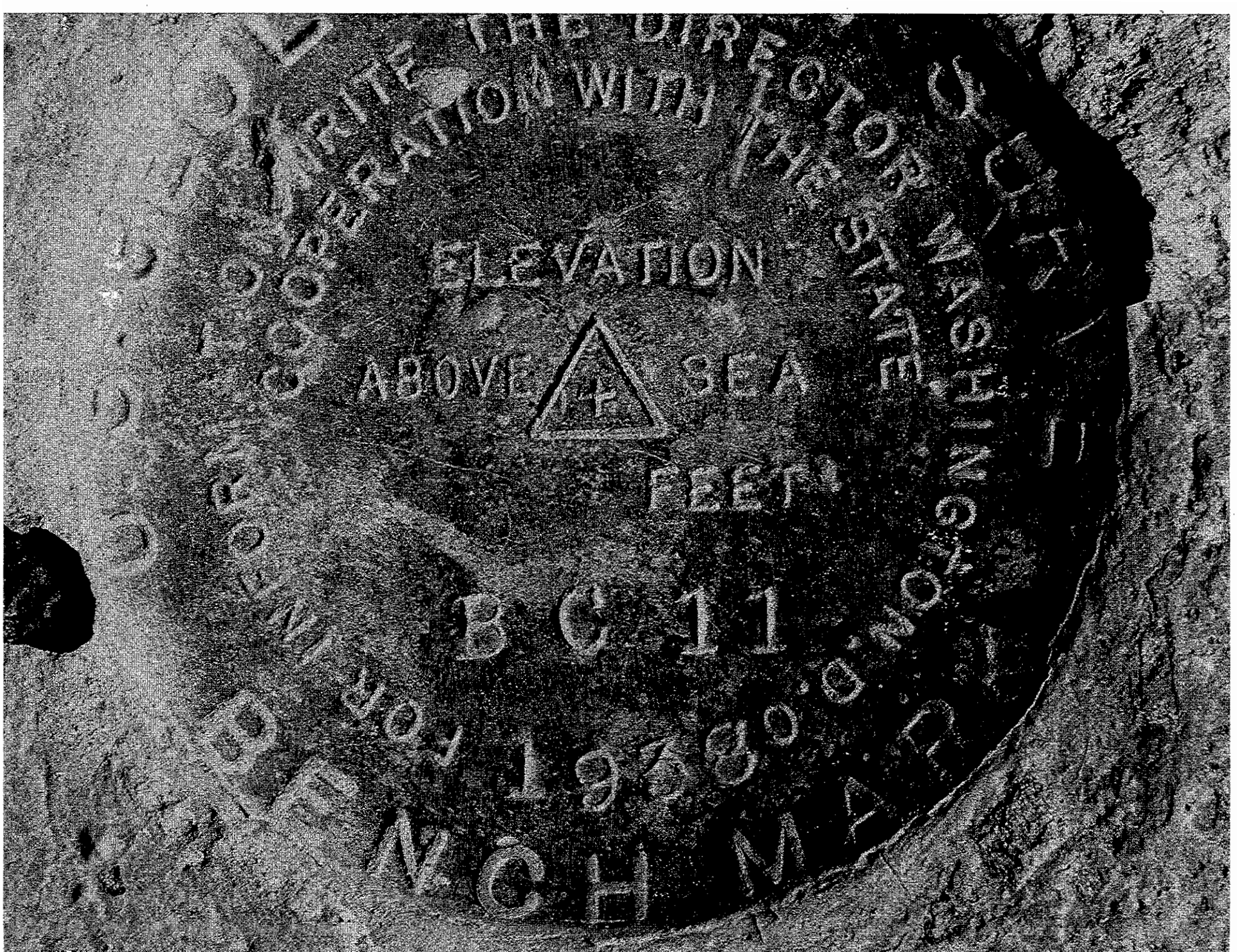
3982

57°30"

3981



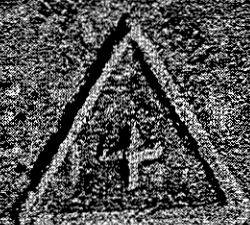




THE DIRECTOR OF THE BUREAU OF LAND MANAGEMENT

OPERATION WITH THE STATION

ELEVATION



ABOVE SEA LEVEL

FEET

B C 11

1948

M C H M