

**VALUABLE**
 RETURN TO  
 PUBLIC WORKS  
 OFFICE  
 CAMP LEJEUNE  
 NORTH CAROLINA

 SUBJECT Location of "K" Range  
1. T.R. Training Area  
Verona Loop Road  
Rhodes Point Road

## FIELD PARTY

Dillon IN CHARGE  
Kellum INSTRUMENT  
 \_\_\_\_\_ NOTES  
 \_\_\_\_\_ TAPE READ  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ INSTRUMENT NO.  
 \_\_\_\_\_ TAPE NO.

## WEATHER

 CLEAR \_\_\_\_\_ SNOW \_\_\_\_\_  
 CLOUDY \_\_\_\_\_ HOT \_\_\_\_\_  
 WINDY \_\_\_\_\_ MODERATE ✓  
 RAIN \_\_\_\_\_ COLD \_\_\_\_\_  
 FAIR ✓ FOG \_\_\_\_\_

 FILE No. \_\_\_\_\_  
 FLDR. No. \_\_\_\_\_  
 SHEET #1 of 10  
 DATE 4/20/1901

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>" " | + | H. I.<br>BEARING | VER. ANG.<br>DIFF. | ELEVATION |
|---------|-------|--------------|---|------------------|--------------------|-----------|
|---------|-------|--------------|---|------------------|--------------------|-----------|

 P.L. #1 = L/F of Range "K-301"  
 = U.S.M.C. Mon. # 735

578.22' - 0.11

 176.242 ✓ meters  
 Temp 44°

|     |     |              |
|-----|-----|--------------|
| "Y" | ①   | 171° 30' 30" |
|     | ②   | 243° 00' 45" |
|     | (M) | 171° 30' 22" |
| "X" | ①   | 120° 52' 30" |
|     | ②   | 241° 45'     |
|     | (M) | ✓            |
| "W" | ①   | 46° 27' 00"  |
|     | ②   | 92° 54' 15"  |
|     | (M) | 46° 27' 07"  |

|     |     |              |
|-----|-----|--------------|
| "Z" | ①   | 106° 20' 45" |
|     | ②   | 212° 42' 00" |
|     | (M) | 106° 21' 00" |

|     |              |
|-----|--------------|
| ①   | 259° 43' 00" |
| ②   | 59° 07' 30"  |
| ③   | 118° 15' 30" |
| (M) | 259° 42' 35" |

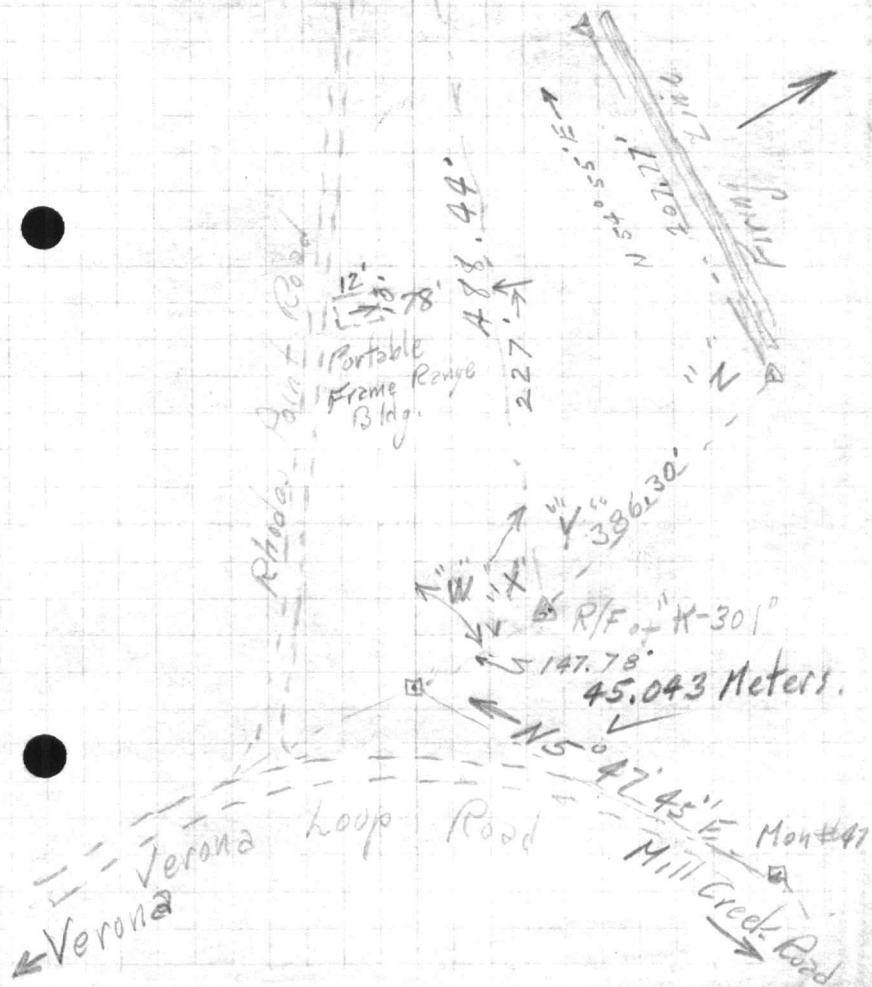
 U.S.M.C. Mon. # 46

For Range Lines  
 See # 1 of 3  
 Dated 6/12/61

Sight on U.S.M.C. # 47

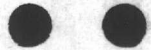
3.280833' = 1 Meter

4/8 Mon. # 735



259-43  
22  
779  
220  
59-

3 2 117  
59-07-30  
19-42-30  
6 115-16-30  
19-42-30



ВНИМАНИЕ  
ИЗМЕНЕНИЯ  
ПОСЛЕ  
ПОСЛЕДНЕГО  
ИЗМЕНЕНИЯ

ПОСЛЕ  
ПОСЛЕДНЕГО  
ИЗМЕНЕНИЯ  
ПОСЛЕДНЕГО  
ИЗМЕНЕНИЯ

**VALUABLE**

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NORTH CAROLINA

SUBJECT

Location of "K" Ranges  
I.T.P. Area.  
Rhoder Point Road

FIELD PARTY

\_\_\_\_ IN CHARGE  
\_\_\_\_ INSTRUMENT  
\_\_\_\_ NOTES  
\_\_\_\_ TAPE READ  
\_\_\_\_ TAPE OR ROD  
\_\_\_\_ TAPE OR ROD  
\_\_\_\_ INSTRUMENT NO.  
\_\_\_\_ TAPE NO.

WEATHER

CLEAR SNOW  
CLOUDY HOT  
WINDY MODERATE  
RAIN COLD  
FAIR FOG  
FIGURED BY \_\_\_\_\_  
NOTES CHECKED BY \_\_\_\_\_  
PLOTTED BY \_\_\_\_\_

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

DATE 4-20 1961

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>° ' " | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|---------|-------|----------------|---|------------------|--------------------|-----------|
|---------|-------|----------------|---|------------------|--------------------|-----------|

P.I. #4 = R/F of Range "K" - 303"

1009.78

- 0.10

307.782 meters

1-187°07'30"  
3-201°21'45"  
Mean-187°07'15"

P.I. #3

701.48'

- .07

213.812 meters

1-194°13'00"  
3-222°39'00"  
Mean-194°13'00"

P.I. #2

814.30

- 0.12

Temp 48° 248.199 meters

1-183°18'30"  
3-187°55'00"  
Mean-183°18'20"

Magn: 5 85°35'E

P.I. #1

1001.735

147-07-30

201-21-45

360

3 561  
187-07-15

151-07-00  
360  
20-15  
151-06-45

RECEIVED  
MAIL ROOM  
JUL 15 1951  
U.S. DEPARTMENT OF JUSTICE  
FEDERAL BUREAU OF INVESTIGATION  
WASHINGTON, D.C.

**VALUABLE**

RETURN TO  
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NORTH CAROLINA

SUBJECT

Location of "K" Ranges  
I. T. R. Area

Rhodes Point Area

FIELD PARTY

IN CHARGE \_\_\_\_\_  
INSTRUMENT \_\_\_\_\_  
NOTES \_\_\_\_\_  
TAPE READ \_\_\_\_\_  
TAPE OR ROD \_\_\_\_\_  
TAPE OR ROD \_\_\_\_\_  
INSTRUMENT No. \_\_\_\_\_  
TAPE No. \_\_\_\_\_

WEATHER

CLEAR \_\_\_\_\_ SNOW \_\_\_\_\_  
CLOUDY \_\_\_\_\_ HOT \_\_\_\_\_  
WINDY \_\_\_\_\_ MODERATE \_\_\_\_\_  
RAIN \_\_\_\_\_ COLD \_\_\_\_\_  
FAIR \_\_\_\_\_ FOG \_\_\_\_\_

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

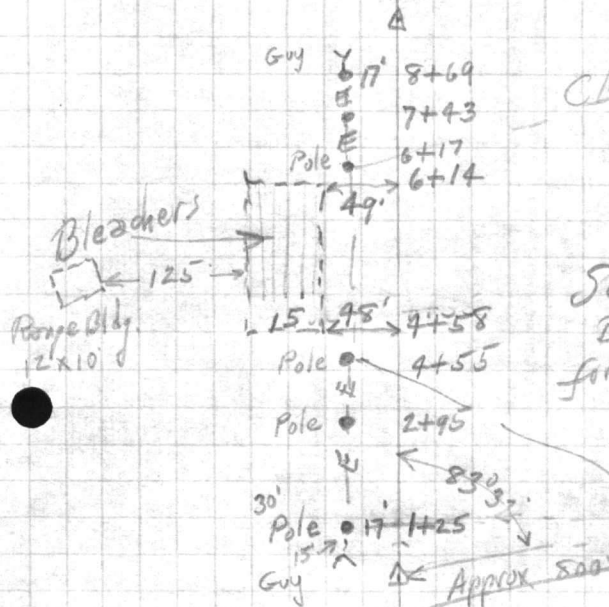
#3 of 10

DATE

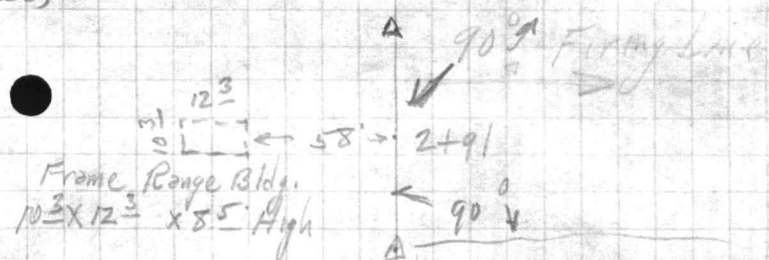
4-20 1961

Quad. No. \_\_\_\_\_

| STATION                      | DIST.    | ANGLE<br>" +      | H. I.<br>BEARING | VER. ANG.<br>DIFF. | ELEVATION |
|------------------------------|----------|-------------------|------------------|--------------------|-----------|
| P.I. #7 = R/F of Range K-305 | 1048.92' | -08               | 319.711 meters   |                    |           |
|                              |          | 1-192°32'15"      |                  |                    |           |
|                              |          | 3-187°36'30"      |                  |                    |           |
|                              |          | H.P.M. 182°32'10" |                  |                    |           |
| P.I. #6 = R/F of Range K-305 | 429.20'  | 04                | 130.820 meters   |                    |           |
|                              |          | 1-182°40'30"      |                  |                    |           |
|                              |          | 3-188°01'00"      |                  |                    |           |
|                              |          | H.P.M. 182°40'20" |                  |                    |           |
| P.I. #5 = R/F of K-303       | 406.68'  | 04                | 123.956 meters   | 56°                |           |
|                              |          | 1-151°07'00"      |                  |                    |           |
|                              |          | 3-93°20'15"       |                  |                    |           |
|                              |          | H.P.M. 151°06'45" |                  |                    |           |
| P.I. #4 R/F of "K-303"       |          |                   |                  |                    |           |



970  
39  
1009  
Clearing Line  
See Sheet 3 of 3  
Dated 6/4/61  
for Range Lines  
List of 4+55  
Clearing  
Range  
Line  
Markers



187-36-30  
182-32-10  
370-08-40  
10°08-40  
98-40  
83 82



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NORTH CAROLINA

SUBJECT

Location of "K" Ranges  
I. T. R. Area

Rhodes Point Road

**FIELD PARTY**

\_\_\_\_ IN CHARGE  
\_\_\_\_ INSTRUMENT  
\_\_\_\_ NOTES  
\_\_\_\_ TAPE READ  
\_\_\_\_ TAPE OR ROD  
\_\_\_\_ TAPE OR ROD  
\_\_\_\_ INSTRUMENT NO.  
\_\_\_\_ TAPE NO.

**WEATHER**

CLEAR  
CLOUDY  
WINDY  
RAIN  
FAIR  
SNOW  
HOT  
MODERATE  
COLD  
FOG

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

#4 of 10

DATE

4-20 1961

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>" " | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|---------|-------|--------------|---|------------------|--------------------|-----------|
|---------|-------|--------------|---|------------------|--------------------|-----------|

P.I. #10 = R/F of Range K-309  
= U.S.M.C. Mon. # 727

513.09

-.03

156.390 meters ✓

1- 231° 14' 30"

3- 333° 42' 00"

MEAN 231° 14' 30"

P.I. #9

842.47

-.05

256.785 meters ✓

1- 273° 58' 00"

3- 101° 54' 00"

MEAN 273° 58' 00"

P.I. #8

477.38

-.03

N 9° 45' W Magnetic

145 x 506 meters ✓

① 78° 32' 15"

② 235° 36' 30"

③ 78° 32' 10"

P.I. #7 = L/F Range K-305

78-32-15  
235-36-45





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SUBJECT

 Location of "K" Ranges  
 I. T. R. Area

Rhodes Point Road

## FIELD PARTY

 \_\_\_\_\_ IN CHARGE  
 \_\_\_\_\_ INSTRUMENT  
 \_\_\_\_\_ NOTES  
 \_\_\_\_\_ TAPE READ  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ INSTRUMENT NO.  
 \_\_\_\_\_ TAPE NO.

## WEATHER

 CLEAR SNOW  
 CLOUDY HOT  
 WINDY MODERATE  
 RAIN COLD  
 FAIR FOG

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

#5 of 10

FIGURED BY \_\_\_\_\_

NOTES CHECKED BY \_\_\_\_\_

PLOTTED BY \_\_\_\_\_

DATE 4-20 1961

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE | H. I.   | VER. ANG. | ELEVATION |
|---------|-------|-------|---------|-----------|-----------|
|         |       | ° ' " | BEARING | DIFF.     |           |

P.I. #12 = L/F of Range "K-311" ✓  
 566.00' 172.517 meters

1-180°44'15"  
 3-182°12'30"  
 MPBN-180°44'10"

P.I. #11 = L/F of Range K-309 and R/F of Range "K-311" ✓

334.01' 101.806 meters

1-145°40'00"  
 3-76°59'30"  
 MPBN-145°39'50"

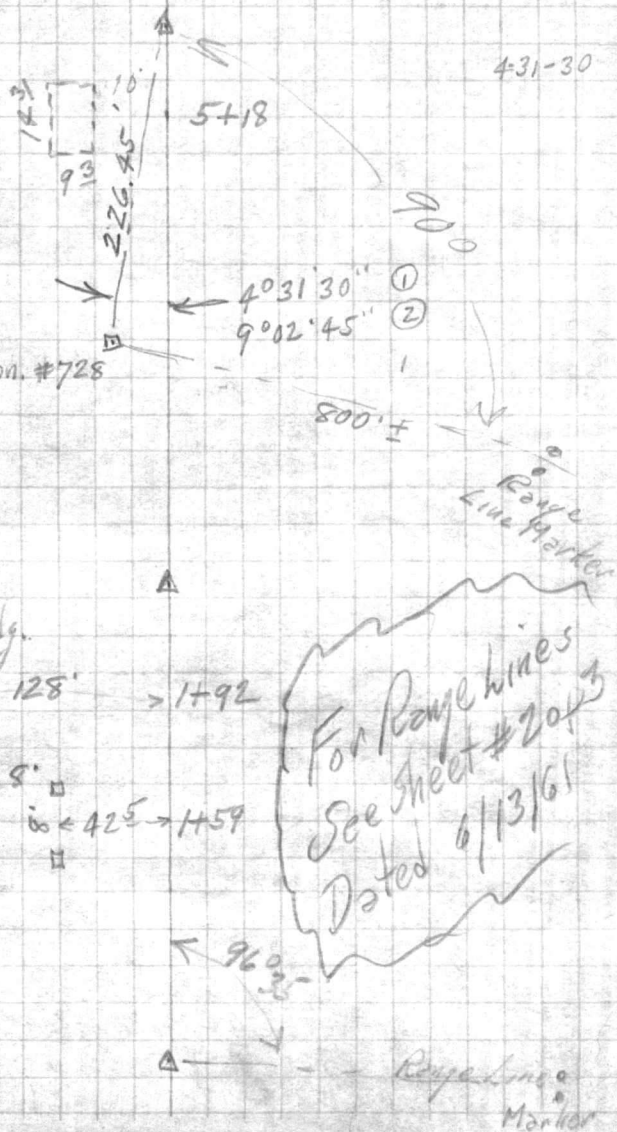
P.I. #10 = R/F of Range K-309  
 Mon. #727

Portable  
 Frame Range Bldg.  
 5' High

U.S.M.C. Mon. #728

portable  
 Frame Range Bldg.  
 123'

6' x 6' Top  
 Wood Obs. Tower  
 30' High  
 S-K-5-A



77°  
145° 40  
222° 40'  
319° 15  
96 35

SECTIONS D

SECTION

SECTION

SECTION

SECTION

SECTION

SECTION

SECTION

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SECTION

**VALUABLE**

SUBJECT

Location of "K" Ranges

RETURN TO  
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NORTH CAROLINA

L. T. R. Area

Rhodes Point Road

FIELD PARTY

IN CHARGE  
INSTRUMENT  
NOTES  
TAPE READ  
TAPE OR ROD  
TAPE OR ROD  
INSTRUMENT NO.  
TAPE NO.

WEATHER

CLEAR  
CLOUDY  
WINDY  
RAIN  
FAIR  
SNOW  
HOT  
MODERATE  
COLD  
FOG

FILE No.

FLDR. No.

SHEET #6 of 10

DATE 4-21 1961

Quad. No.

| STATION | DIST. | ANGLE | H. I.   | VER. ANG. | ELEVATION |
|---------|-------|-------|---------|-----------|-----------|
|         |       | " + " | BEARING | DIFF.     |           |

P.I. #16 L/F of Range "K-317" ✓  
492.31 150.056 meters

1-208°56'00"  
3-266°47'15"  
MEAN-208°55'40"

P.I. #15 R/F of Range "K-317" ✓  
303.22 92.422 meters

1-180°39'00"  
3-181°56'30"  
MEAN-180°38'50"  
S 80°10' E

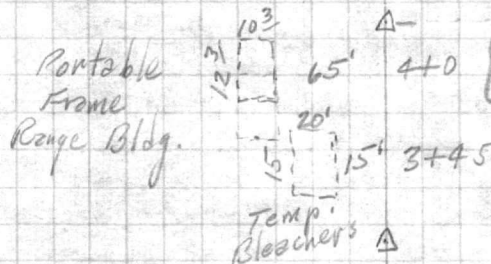
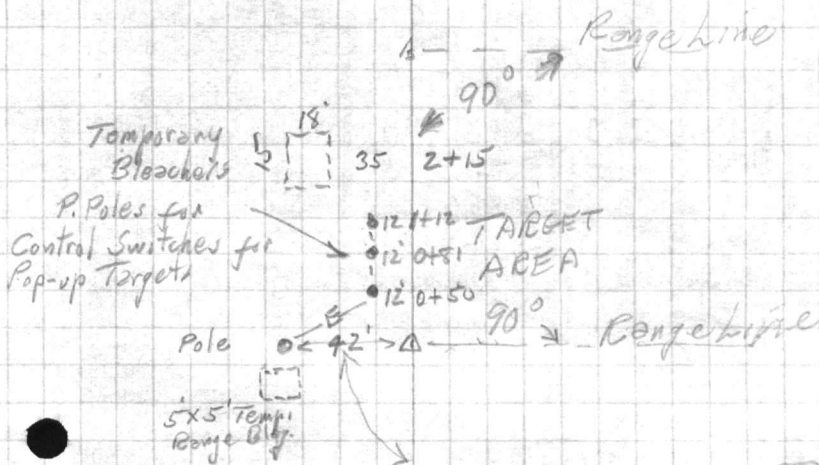
P.I. #14 L/F K-315 ✓  
445.92 135.917 meters

1-162°31'00"  
3-127°33'00"  
MEAN-162°31'00"

P.I. #13 = R/F of Range "K-315" ✓  
275.15' 83.866 meters

1-195°02'15"  
3-225°06'30"  
MEAN-195°02'10"

P.I. #12 = L/F of Range "K-311"



For Range Lines  
See Sheet #20 of 3  
Dated 6/13/61

195-02-15  
3

585-06-45

360

225-06-30

02-10

VALUABLE

SUBJECT

Location of "K" Ranges

RETURN TO  
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CAMP LEJEUNE  
NORTH CAROLINA

L. T. R. Areas

Rhodes Point Road

## FIELD PARTY

\_\_\_\_ IN CHARGE  
 \_\_\_\_ INSTRUMENT  
 \_\_\_\_ NOTES  
 \_\_\_\_ TAPE READ  
 \_\_\_\_ TAPE OR ROD  
 \_\_\_\_ TAPE OR ROD  
 \_\_\_\_ INSTRUMENT NO.  
 \_\_\_\_ TAPE NO.

## WEATHER

CLEAR  
 CLOUDY  
 WINDY  
 RAIN  
 FAIR

SNOW  
 HOT  
 MODERATE  
 COLD  
 FOG

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

#7 of 10

DATE

9-21-1961

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>" " | + | H. I.<br>BEARING | VER. ANG.<br>DIFF. | ELEVATION |
|---------|-------|--------------|---|------------------|--------------------|-----------|
|---------|-------|--------------|---|------------------|--------------------|-----------|

555.26'

169.244 meters

1-247°54'30"

3-23°42'45"

MEAN-247°54'15"

P.I. #9

698.72'

212.970 meters

1-121°52'15"

3-5°36'30"

MEAN-121°52'10"

P.I. #18 W/F of Range K-319

284.18

86.618 meters

1-189°09'45"

3-207°28'30"

MEAN-189°09'30"

P.I. #17 W/F Range K-319

491.52

149.816 meters

① 134°45'00"

② 44°15'00"

P.I. #16 W/F of Range "K-317"

WENTON  
WIND  
MOON  
TEMPERATURE  
HUMIDITY  
PRESSURE  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

DATE  
TIME  
PLACE  
OBSERVER  
VESSEL  
SOUNDING  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

STATION  
DATE  
TIME  
PLACE  
OBSERVER  
VESSEL  
SOUNDING  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

WENTON  
WIND  
MOON  
TEMPERATURE  
HUMIDITY  
PRESSURE  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

DATE  
TIME  
PLACE  
OBSERVER  
VESSEL  
SOUNDING  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

STATION  
DATE  
TIME  
PLACE  
OBSERVER  
VESSEL  
SOUNDING  
WIND DIRECTION  
WIND VELOCITY  
STATE OF SKY  
CLOUDS  
REMARKS

SK6A

VALUABLE

SUBJECT Location of "K" Ranges  
I. T. R. Area  
Rhodes Point Road

RETURN TO  
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CAMP LEJEUNE  
NORTH CAROLINA

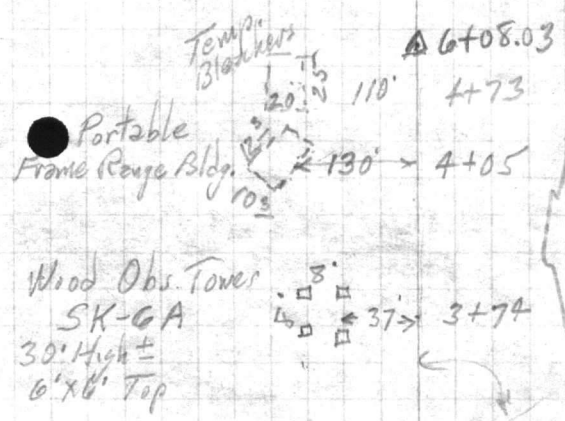
FIELD PARTY  
 \_\_\_\_\_ IN CHARGE  
 \_\_\_\_\_ INSTRUMENT  
 \_\_\_\_\_ NOTES  
 \_\_\_\_\_ TAPE READ  
 \_\_\_\_\_ TAPE OR ROD  
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 \_\_\_\_\_ INSTRUMENT NO.  
 \_\_\_\_\_ TAPE NO.

WEATHER  
 CLEAR \_\_\_\_\_  
 CLOUDY \_\_\_\_\_  
 WINDY \_\_\_\_\_  
 RAIN \_\_\_\_\_  
 SNOW \_\_\_\_\_  
 HOT \_\_\_\_\_  
 MODERATE \_\_\_\_\_  
 COLD \_\_\_\_\_  
 FOG \_\_\_\_\_  
 FIGURED BY \_\_\_\_\_  
 NOTES CHECKED BY \_\_\_\_\_  
 PLOTTED BY \_\_\_\_\_

FILE No. \_\_\_\_\_  
 FLDR. No. \_\_\_\_\_  
 SHEET 28 of 10  
 DATE 4-21-1961

Quad. No. \_\_\_\_\_

| STATION  | DIST.           | ANGLE<br>° ' " | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION      |
|----------|-----------------|----------------|---|------------------|--------------------|----------------|
| P.I. #23 |                 |                |   |                  |                    |                |
| P.I. #22 | 1-186°26'30"    |                |   |                  |                    |                |
|          | 3-199°18'25"    |                |   |                  |                    |                |
|          | MEAN 186°26'15" |                |   |                  |                    |                |
|          | 608.03'         |                |   |                  |                    |                |
|          |                 |                |   |                  |                    | 185.328 meters |
|          |                 |                |   |                  |                    |                |
|          |                 |                |   |                  |                    |                |
|          | 1-173°20'15"    |                |   |                  |                    |                |
|          | 3-160°00'30"    |                |   |                  |                    |                |
|          | MEAN 173°20'10" |                |   |                  |                    |                |
|          |                 |                |   |                  |                    | Mag: 542°35'E  |
| P.I. #21 |                 |                |   |                  |                    |                |
|          | 298.19'         |                |   |                  |                    |                |
|          |                 |                |   |                  |                    | 90.889 meters  |
|          | 1-121°29'00"    |                |   |                  |                    |                |
|          | 3-304°27'15"    |                |   |                  |                    |                |
|          | MEAN 121°29'05" |                |   |                  |                    |                |
| P.I. #20 |                 |                |   |                  |                    |                |
|          | 555.26'         |                |   |                  |                    |                |
|          |                 |                |   |                  |                    | 169.244 meters |



For Range lines  
 See sheet #20 of 3  
 Dated 6/13/21

FIELD PARTY \_\_\_\_\_  
 IN CHARGE \_\_\_\_\_  
 WEATHER \_\_\_\_\_  
 CLEAR \_\_\_\_\_  
 CLOUDY \_\_\_\_\_  
 RAIN \_\_\_\_\_  
 FOG \_\_\_\_\_  
 HAZE \_\_\_\_\_  
 SNOW \_\_\_\_\_  
 SMOKE \_\_\_\_\_  
 SAND \_\_\_\_\_  
 DUST \_\_\_\_\_  
 OTHER \_\_\_\_\_  
 TIME \_\_\_\_\_  
 DATE \_\_\_\_\_  
 PLACE \_\_\_\_\_  
 OBJECT \_\_\_\_\_  
 OBSERVER \_\_\_\_\_  
 DRAWING TO \_\_\_\_\_  
 PUBLIC WORKS \_\_\_\_\_  
 OFFICE \_\_\_\_\_  
 DISTRICT \_\_\_\_\_  
 NORTH BRANCH \_\_\_\_\_  
 STATION \_\_\_\_\_  
 DIST \_\_\_\_\_  
 INCHES \_\_\_\_\_  
 FEET \_\_\_\_\_  
 BEARING \_\_\_\_\_  
 ELEVATION \_\_\_\_\_  
 DATE \_\_\_\_\_  
 NAME \_\_\_\_\_

186-26-30

199-18-45  
360

3 | 559 74  
186-26-15

186-26-30

259-19-30

173-20360

199-

160-00-30

360

3 | 520 60  
173-20-10



**VALUABLE**

SUBJECT Location of "K" Ranges  
L. T. R. Area  
Rhodes Point Road

RETURN TO  
 PUBLIC WORKS  
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 NORTH CAROLINA

**FIELD PARTY**

\_\_\_\_\_  
 IN CHARGE  
 \_\_\_\_\_  
 INSTRUMENT  
 \_\_\_\_\_  
 NOTES  
 \_\_\_\_\_  
 TAPE READ  
 \_\_\_\_\_  
 TAPE OR ROD  
 \_\_\_\_\_  
 TAPE OR ROD  
 \_\_\_\_\_  
 INSTRUMENT NO. \_\_\_\_\_  
 TAPE NO. \_\_\_\_\_

**WEATHER**

CLEAR \_\_\_\_\_ SNOW \_\_\_\_\_  
 CLOUDY \_\_\_\_\_ HOT \_\_\_\_\_  
 WINDY \_\_\_\_\_ MODERATE \_\_\_\_\_  
 RAIN \_\_\_\_\_ COLD \_\_\_\_\_  
 FAIR \_\_\_\_\_ FOG \_\_\_\_\_  
 FIGURED BY \_\_\_\_\_  
 NOTES CHECKED BY \_\_\_\_\_  
 PLOTTED BY \_\_\_\_\_

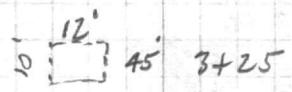
FILE No. \_\_\_\_\_  
 FLDR. No. \_\_\_\_\_  
 SHEET # 9 of 10  
 DATE 4/21/51

Quad. No. \_\_\_\_\_

| STATION        | DIST.   | ANGLE<br>° ' "     | + | H. I.<br>BEARING       | VER: ANG.<br>DIFF. | ELEVATION |
|----------------|---------|--------------------|---|------------------------|--------------------|-----------|
| P.I. #26       |         |                    |   |                        |                    |           |
| Center<br>Base | 412     | Stadia Distance    |   |                        |                    |           |
|                |         | Side Shot          |   |                        |                    |           |
|                |         | ① 190° 55' 30"     |   | Wood Observation Tower |                    |           |
|                |         | ② 21° 50'          |   | SK 25 A                |                    |           |
|                |         | 1- 148° 43' 45"    |   |                        |                    |           |
|                |         | 3- 86° 10' 30"     |   |                        |                    |           |
|                |         | MEAN 148° 43' 30"  |   |                        |                    |           |
| P.I. #25       | L/F     | Range K-325        | ✓ |                        |                    |           |
|                | 528.20' |                    |   | 160.996 meters         |                    |           |
|                |         | 1- 205° 41' 45"    |   |                        |                    |           |
|                |         | 3- 257° 05' 30"    |   |                        |                    |           |
|                |         | MEAN- 205° 41' 50" |   |                        |                    |           |
| P.I. #24       | R/F     | Range R-325        | ✓ |                        |                    |           |
|                | 919.80' |                    |   | 280.356 meters         |                    |           |
|                |         | 1- 159° 00' 00"    |   |                        |                    |           |
|                |         | 3- 116° 59' 45"    |   |                        |                    |           |
|                |         | MEAN- 158° 59' 55" |   |                        |                    |           |
| P.I. #23       |         |                    |   |                        |                    |           |
|                | 338.52' |                    |   | 103.181 meters         |                    |           |

6' 13 1/2 platform  
 4x4 Bldg.  
 on top

Portable  
 Frame  
 Range Bldg.



VALLEY

STATION  
DISTANCE  
ANGLE  
MAGNETIC  
DECLINATION

STATION

DISTANCE

ANGLE

MAGNETIC

DECLINATION

STATION

DISTANCE

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MAGNETIC

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DECLINATION

STATION

DISTANCE

ANGLE

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STATION

DISTANCE

ANGLE

MAGNETIC

DECLINATION

STATION

DISTANCE

ANGLE

MAGNETIC

DECLINATION

STATION

DISTANCE

ANGLE

MAGNETIC

DECLINATION

STATION

DISTANCE

ANGLE

MAGNETIC

FIELD PARTY

IN CHARGE

DATE

TIME

LOCATION

DESCRIPTION

REMARKS

SKETCH

MAP

SECTION

STRATIGRAPHY

PALEONTOLOGY

MINERALOGY

PETROLOGY

SEDIMENTATION

TECTONICS

GEOMORPHOLOGY

CLIMATE

SOILS

PLANT

WEATHER

TEMPERATURE

HUMIDITY

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

FIELD PARTY

IN CHARGE

DATE

TIME

LOCATION

DESCRIPTION

REMARKS

SKETCH

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PLANT

WEATHER

TEMPERATURE

HUMIDITY

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

PRECIPITATION

ATMOSPHERIC

PRESSURE

WIND

**VALUABLE**

SUBJECT

Location of "K" Ranges

I. T. R. Area

Rhodes Point Road

RETURN TO  
PUBLIC WORKS  
OFFICE  
CAMP LEJEUNE  
NORTH CAROLINA

**FIELD PARTY**

IN CHARGE \_\_\_\_\_  
INSTRUMENT \_\_\_\_\_  
NOTES \_\_\_\_\_  
TAPE READ \_\_\_\_\_  
TAPE OR ROD \_\_\_\_\_  
TAPE OR ROD \_\_\_\_\_  
INSTRUMENT NO. \_\_\_\_\_  
TAPE NO. \_\_\_\_\_

**WEATHER**

CLEAR \_\_\_\_\_  
CLOUDY \_\_\_\_\_  
WINDY \_\_\_\_\_  
RAIN \_\_\_\_\_  
FAIR \_\_\_\_\_  
SNOW \_\_\_\_\_  
HOT \_\_\_\_\_  
MODERATE \_\_\_\_\_  
COLD \_\_\_\_\_  
FOG \_\_\_\_\_

FILE No. \_\_\_\_\_

FLDR. No. \_\_\_\_\_

SHEET

10 of 10

FIGURED BY \_\_\_\_\_

NOTES CHECKED BY \_\_\_\_\_

PLOTTED BY \_\_\_\_\_

DATE 4-24 1961

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>° ' " | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|---------|-------|----------------|---|------------------|--------------------|-----------|
|---------|-------|----------------|---|------------------|--------------------|-----------|

MON. of Rhodes Point

551.49'

168.095 meters

1- 139° 51' 15"

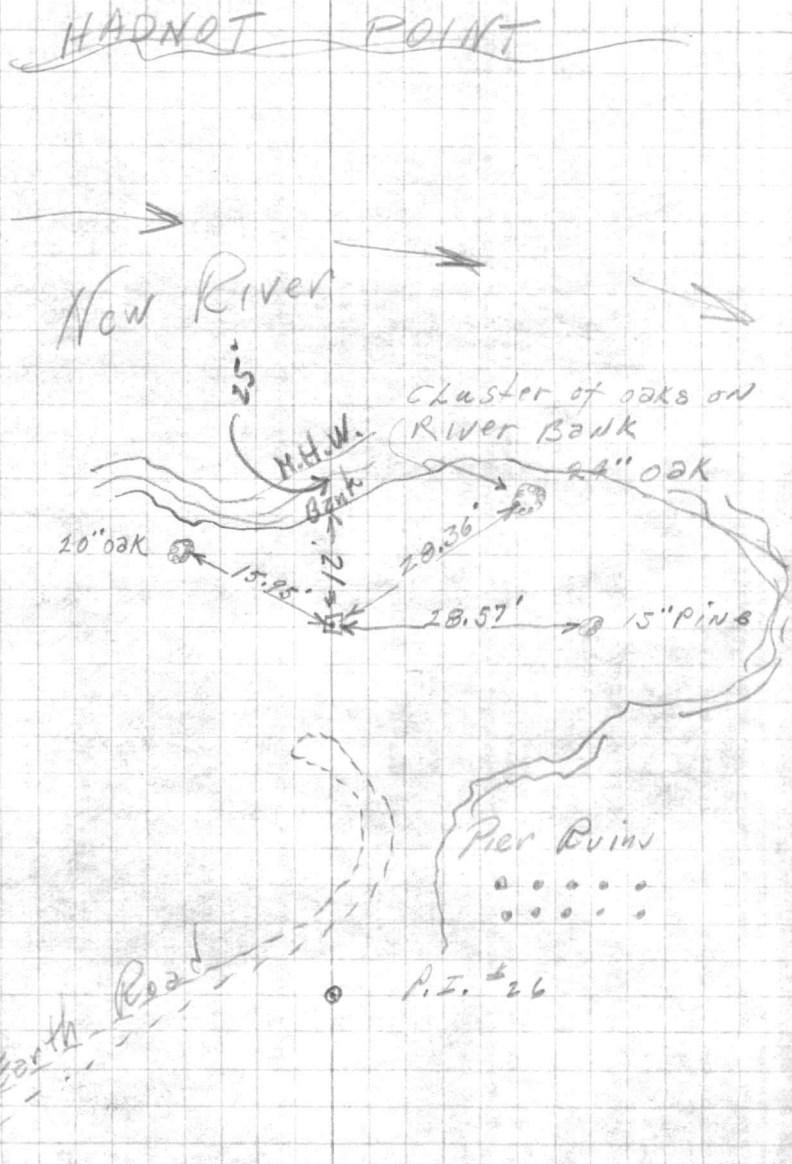
3- 59° 34' 00"

NOON- 139° 51' 20"

P.I. #26

737.65'

224.836 meters



AVAILABLE  
STATION TO  
STATION NO.  
OFFICE  
DEPARTMENT  
ROUTE CANTON

STATION NO.

ANGLE

STATION

BRANCH ELEVATION

FIELD PART

1. CHAIN

2. INSTRUMENT

3. NOTES

4. READ

5. TA-BURN

6. LINE OR

7. THRU

WEATHER

1. CLEAR

2. W. MO.

3. B. MO.

4. FOG

5. RAIN

6. SNOW

7. HAIL

11876

**VALUABLE**
 RETURN TO  
 PUBLIC WORKS  
 OFFICE  
 CAMP LEJEUNE  
 NORTH CAROLINA

SUBJECT

 Bearing Tie "  
 "Sime" - Mon #400 to Rhodes"

## FIELD PARTY

 \_\_\_\_\_ IN CHARGE  
 \_\_\_\_\_ INSTRUMENT  
 \_\_\_\_\_ NOTES  
 \_\_\_\_\_ TAPE READ  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ TAPE OR ROD  
 \_\_\_\_\_ INSTRUMENT NO.  
 \_\_\_\_\_ TAPE NO.

## WEATHER

 CLEAR SNOW  
 CLOUDY HOT  
 WINDY MODERATE  
 RAIN COLD  
 FAIR FOG

FILE No. \_\_\_\_\_

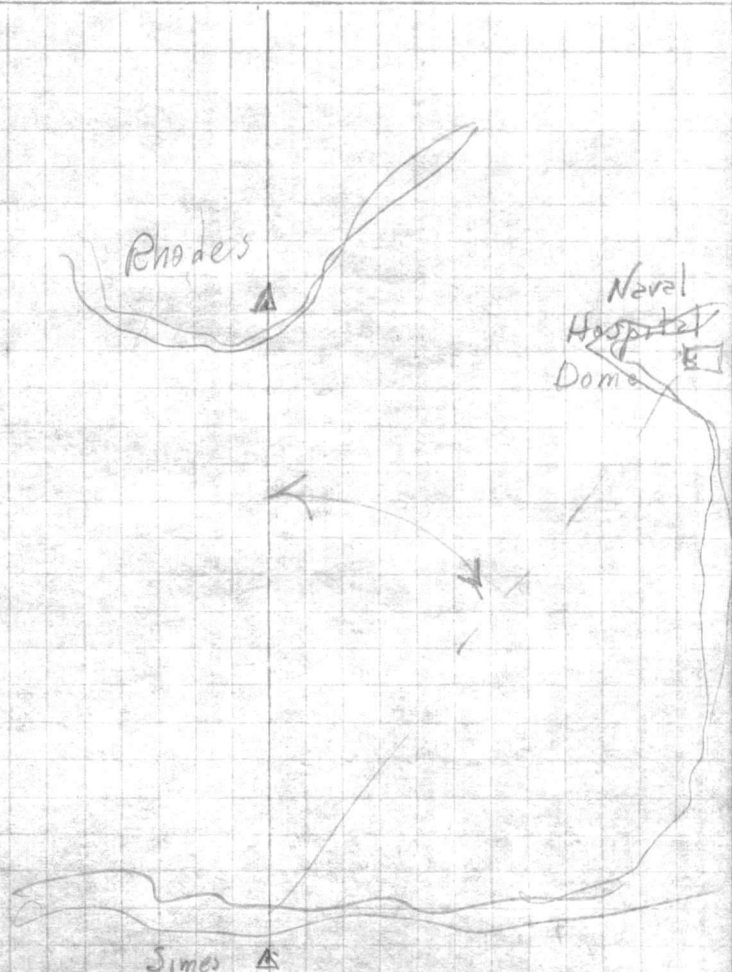
FLDR. No. \_\_\_\_\_

SHEET \_\_\_\_\_

DATE \_\_\_\_\_ 19\_\_

Quad. No. \_\_\_\_\_

| STATION  | DIST. | ANGLE<br>° ' " | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|--|-------|----------------|---|------------------|--------------------|-----------|
| To Water Tanks at Camp Geiger<br>Tent Camp No. 1 |       |                |   |                  |                    |           |
| ①  |       | 51° 52' 15"    |   |                  |                    |           |
| ③  |       | 155° 37' 15"   |   |                  |                    |           |
| ④  |       | 51° 52' 25"    |   |                  |                    |           |
| To Copala  |       |                |   |                  |                    |           |
| ①  |       | 57° 42' 15"    |   |                  |                    |           |
| ③  |       | 173° 07' 00"   |   |                  |                    |           |
| ④  |       | 57° 42' 20"    |   |                  |                    |           |
| T to "Sime" Mon #400                             |       |                |   |                  |                    |           |
| Sight on "Rhodes"                                |       |                |   |                  |                    |           |



51-52-15

2 3

155-36-45

37-

57-42-15

2 3

173-06-45

DIVISION OF INVESTIGATION  
 FEDERAL BUREAU OF INVESTIGATION  
 UNITED STATES DEPARTMENT OF JUSTICE  
 WASHINGTON, D. C. 20535  
 TELEPHONE ROOM 5412  
 TELETYPE UNIT 5410  
 MAIL ROOM 5409  
 RECORDS SECTION 5408  
 TRAINING CENTER 5407  
 IDENTIFICATION DIVISION 5406  
 LABORATORY 5405  
 COMMUNICATIONS SECTION 5404  
 CRIME LABORATORY 5403  
 OFFICE OF THE ATTORNEY GENERAL 5402  
 OFFICE OF THE ATTORNEY GENERAL 5401

**VALUABLE**

RETURN TO  
PUBLIC WORKS  
OFFICE  
CAMP LEJEUNE  
NORTH CAROLINA

SUBJECT

*Triangulation for  
Traverse Tie to  
"K" Series Range Traverse*

**FIELD PARTY**

*Dillon* IN CHARGE  
*Kellum* INSTRUMENT  
NOTES  
TAPE READ  
TAPE OR ROD  
TAPE OR ROD  
INSTRUMENT NO.  
TAPE NO.

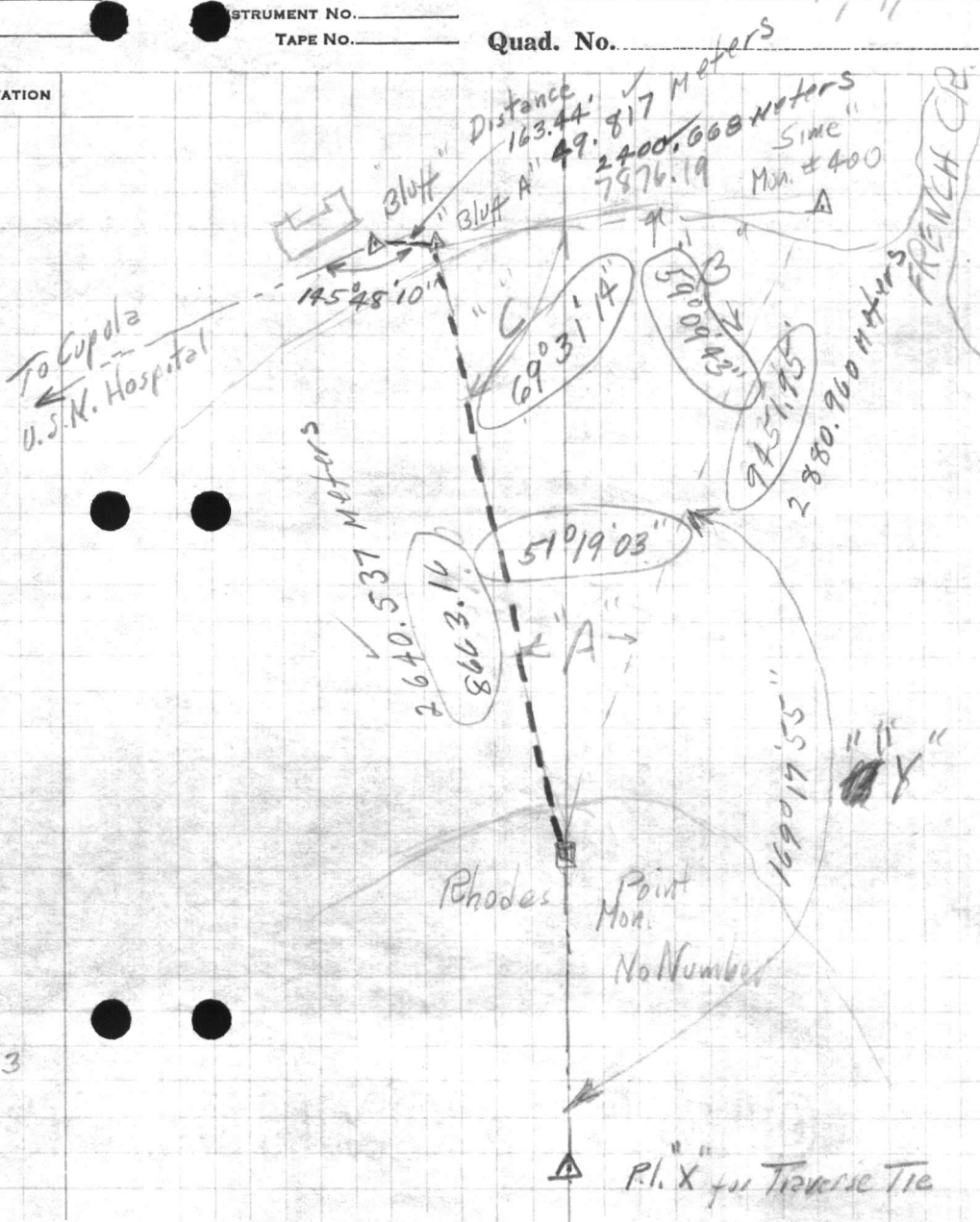
**WEATHER**

CLEAR  
CLOUDY  
WINDY  
RAIN  
FAIR  
SNOW  
HOT  
MODERATE  
COLD  
FOG  
FIGURED BY  
NOTES CHECKED BY  
PLOTTED BY

FILE No. \_\_\_\_\_  
FLDR. No. \_\_\_\_\_  
SHEET *#1 of 2*  
DATE *4/19/61*

Quad. No. \_\_\_\_\_

| STATION | DIST. | ANGLE<br>" "  | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|---------|-------|---------------|---|------------------|--------------------|-----------|
| "Y"     | ①     | 149° 18'      |   |                  | 359-59-60          |           |
|         | ③     | 147° 53' 45"  |   |                  | 169-17-55          |           |
|         | ④     | 169° 17' 55"  |   |                  | 190-42-03          |           |
|         | (M)   |               |   |                  |                    |           |
| "C"     | ①     | 69° 31' 15"   |   |                  |                    |           |
|         | ③     | 208° 34' 00"  |   |                  |                    |           |
|         | ④     | 57° 07' 30"   |   |                  |                    |           |
|         | (M)   | 69° 31' 15"   |   |                  | -01" = 69-31-14    |           |
| "B"     | ①     | 59° 09' 30" ± |   |                  |                    |           |
|         | ③     | 177° 29' 15"  |   |                  |                    |           |
|         | ④     | 354° 58' 30"  |   |                  |                    |           |
|         | (M)   | 59° 09' 45"   |   |                  | -02" = 59-09-43    |           |
| "A"     | ①     | 57° 19' 15"   |   |                  |                    |           |
|         | ③     | 153° 57' 30"  |   |                  |                    |           |
|         | ④     | 307° 54' 30"  |   |                  |                    |           |
|         | (M)   | 57° 19' 05"   |   |                  | -02" = 51-19-03    |           |



57-19-15  
307 55 30  
114  
6 307-54-30  
57-19-05

917  
360  
5 57-10  
157  
6 417-07-30  
69-31-30

113 53-45  
169-18  
507-54  
3 165  
3 149-53-45  
3 17-55

54-09-30  
3 6  
354-57-00  
220  
6 354-58-38  
59-09-45  
51-14-05  
110-28-50  
69-31-10

69-31-15  
3  
8 33-95

RECEIVED  
NOV 11 1957  
COMMUNICATIONS SECTION  
U.S. AIR FORCE  
MEMPHIS, TENNESSEE

RECEIVED  
NOV 11 1957  
COMMUNICATIONS SECTION  
U.S. AIR FORCE  
MEMPHIS, TENNESSEE



VALUABLE

SUBJECT Angle Ties for Resection Comp.  
Un-numbered monument on Rhodes Point

RETURN TO  
PUBLIC WORKS  
OFFICE  
CAMP LEJEUNE  
NORTH CAROLINA

FIELD PARTY

\_\_\_\_ IN CHARGE  
\_\_\_\_ INSTRUMENT  
\_\_\_\_ NOTES  
\_\_\_\_ TAPE READ  
\_\_\_\_ TAPE OR ROD  
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\_\_\_\_ TAPE NO.

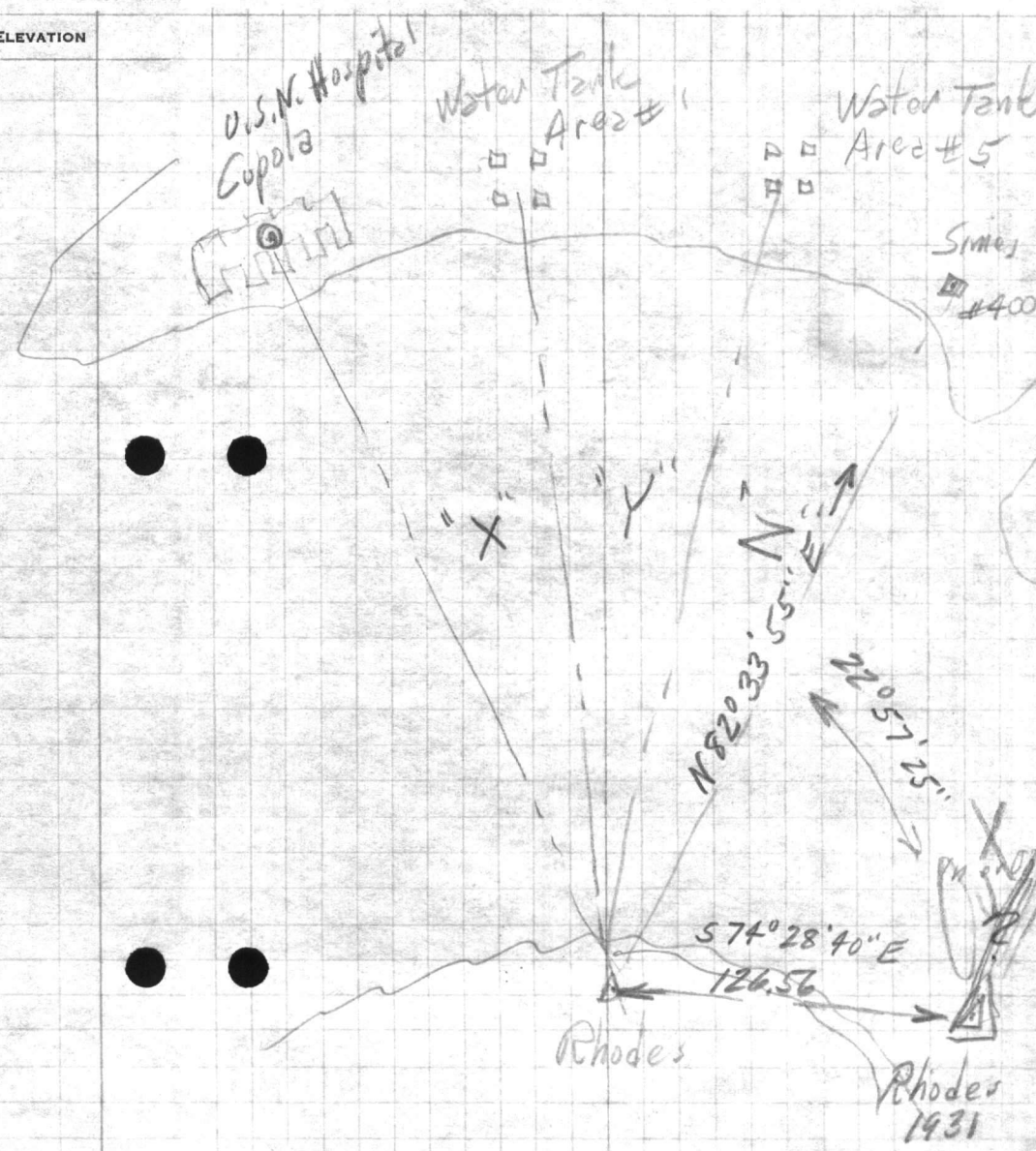
WEATHER

CLEAR \_\_\_\_\_  
CLOUDY \_\_\_\_\_  
WINDY \_\_\_\_\_  
RAIN \_\_\_\_\_  
FAIR \_\_\_\_\_  
SNOW \_\_\_\_\_  
HOT \_\_\_\_\_  
MODERATE \_\_\_\_\_  
COLD \_\_\_\_\_  
FOG \_\_\_\_\_

FILE No. \_\_\_\_\_  
FLDR. No. \_\_\_\_\_  
SHEET # 2 of 2  
DATE \_\_\_\_\_ 19\_\_

Quad. No. \_\_\_\_\_

| STATION   | DIST. | ANGLE<br>° ' "                            | + | H. I.<br>BEARING | VER: ANG.<br>DIFF. | ELEVATION |
|---|-------|---|---|------------------|--------------------|-----------|
| "Z"<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨<br>⑩ |       | 30° 09' 00"<br>90° 27' 00"<br>✓           |   |                  |                    |           |
| "Y"<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨<br>⑩ |       | 26° 46' 00"<br>80° 18' 00"<br>✓           |   |                  |                    |           |
| "X"<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨<br>⑩ |       | 28° 30' 00"<br>85° 30' 15"<br>28° 30' 05" |   |                  |                    |           |





PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

Traverse Computation  
Description

*Not so good. Worked from Resection Angles.*

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet \_\_\_\_\_ of \_\_\_\_\_

| Station                                 | Distance  | Bearing       | Cosine     | Sine        | Latitude  | Departure | Y Coordinate<br>North | X Coordinate<br>East |
|---|-----------|---------------|------------|-------------|-----------|-----------|-----------------------|----------------------|
| Cupola U.S.N. Hospital<br>"Rhodes 1961" |           | S80°41'54"E   | To Area #1 | Water Tank. |           |           | 340,861.44            | 2,489,326.06         |
|   | 13,303.51 | S2°47'02.5"E  | 9988197    | 0485713     | 13,287.81 | 646.17    | 327,573.63            | 2,489,972.23         |
| Area #5 Water Tank<br>"Rhodes 1961"     |           | N37°03'02"W   | To Area #1 | Water Tank  |           |           | 334,917.16            | 2,449,537.00         |
|   | 12,058.74 | S52°29'02.5"W | 6089826    | 7931836     | 7,343.56  | 9,564.79  | 327,573.60            | 2,489,972.21         |
| Area #1 Water Tank<br>Rhodes 1961       |           | S37°03'02"E   | To Area #5 | Water Tank  |           |           | 339,791.76            | 2,495,857.00         |
|   | 13,561.27 | S25°38'13"W   | 9015537    | 4326672     | 12,226.21 | 5,867.52  | 327,565.55            | 2,489,989.48         |
| Simes<br>Rhodes 1961                    |           | N1°38'40"E    | To Area #5 | Water Tank  |           |           | 328,790.42            | 2,499,361.09         |
|   | 9,451.34  | S82°33'13"W   | 1295984    | 9915666     | 1,224.88  | 9,371.63  | 327,565.54            | 2,489,989.46         |

X

|      |            |              |
|------|------------|--------------|
|      | 327,573.62 | 2,489,972.22 |
|      | 327,565.54 | 2,489,989.47 |
| 2    | 655,139.16 | 4,979,961.69 |
| Mean | 327,569.58 | 2,489,980.85 |
|      | 327,563.53 | 2,489,986.91 |
|      | +6.05      | -6.06        |

PHILLY POLICE DEPARTMENT

100 N. 2ND ST. PHILLY PA 19106

TEL: 215-977-1000

Case No.

Date

Time

Officer's Name

Rank

Report of \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

File 178-Gen  
Quadrangle 178-179  
Date \_\_\_\_\_  
Sheet #1 of 3

Traverse Computation  
Description

Location of "K" Ranges - I.T.R. Area - Verona Loop

| Station                    | Distance | Bearing     | Ccsine  | Sine    | Latitude | Departure | Y Coordinate North | X Coordinate East |
|----------------------------|----------|-------------|---------|---------|----------|-----------|--------------------|-------------------|
| U.S.M.C. Mon. #47          |          |             |         |         | 2266.05  |           | 326,998.16         | 2,476,585.81      |
| U.S.M.C. Mon. #46          | 2276.70  | N5°47'45"E  | 9948881 | 1009839 | 2265.06  | 229.91    | 329,264.21         | 2,476,815.76      |
| ⊕ P.I. #1 L/F Range K-301  | 578.11   | N85-30-08E  | 0784204 | 9969204 | 45.94    | 576.33    | 329,309.57         | 2,477,392.21      |
| P.I. #2                    | 814.18   | N88-48-16E  | 0208649 | 9997823 | 16.99    | 814.00    | 329,326.56         | 2,478,206.37      |
| P.I. #3                    | 701.41   | S76-58-57E  | 2252486 | 9743013 | 157.44   | 683.38    | 329,168.64         | 2,478,889.89      |
| * P.I. #4 R/F Range K-303  | 1009.68  | S69-51-54E  | 3442333 | 9388841 | 347.57   | 948.17    | 328,821.22         | 2,479,838.06      |
| * P.I. #5 L/F " K-303      | 406.64   | N81-14-39E  | 1522240 | 9883460 | 61.40    | 401.40    | 328,883.14         | 2,480,240.04      |
| * P.I. #6 R/F Range K-305  | 429.16   | N83-54-46E  | 1060423 | 9943616 | 45.51    | 426.74    | 328,928.67         | 2,480,666.87      |
| * P.I. #7 L/F Range K-305  | 1048.84  | N86-26-44E  | 0619970 | 9980763 | 65.02    | 1047.03   | 328,993.71         | 2,481,713.90      |
| P.I. #8                    | 477.35   | N15-01-18 W | 9658279 | 2591843 | 461.54   | 123.72    | 329,454.95         | 2,481,590.20      |
| P.I. #9                    | 842.42   | N78-56-29E  | 1918131 | 9814315 | 161.59   | 826.78    | 329,616.61         | 2,482,417.15      |
| ⊕ P.I. #10 R/F Range K-309 | 513.06   | S49-49-13 E | 6451873 | 7640244 | 330.88   | 392.07    | 329,285.73         | 2,482,809.22      |
| * P.I. #11 L/F Range K-309 | 334.00   | S84-09-35E  | 1017556 | 9948094 | 33.49    | 332.27    | 329,251.75         | 2,483,141.56      |
| * P.I. #12 L/F Range K-311 | 565.98   | S83-25-38E  | 1144652 | 9934273 | 64.74    | 562.26    | 329,186.99         | 2,483,703.93      |
| * P.I. #13 R/F Range K-315 | 275.15   | S68-23-40E  | 3682147 | 9297408 | 101.31   | 255.82    | 329,085.72         | 2,483,959.81      |

\* This position marked by Sgt. Borek of I.T.R. Range Office.  
⊕ Monument.

PUBLIC WORKS DEPARTMENT  
Camp Beemer, North Carolina  
Survey Department

Traverse Computation  
Description

| Station | Angle | Distance | Bearing | Latitude | Longitude |
|---------|-------|----------|---------|----------|-----------|
| 1       |       |          |         |          |           |
| 2       |       |          |         |          |           |
| 3       |       |          |         |          |           |
| 4       |       |          |         |          |           |
| 5       |       |          |         |          |           |
| 6       |       |          |         |          |           |
| 7       |       |          |         |          |           |
| 8       |       |          |         |          |           |
| 9       |       |          |         |          |           |
| 10      |       |          |         |          |           |
| 11      |       |          |         |          |           |
| 12      |       |          |         |          |           |
| 13      |       |          |         |          |           |
| 14      |       |          |         |          |           |
| 15      |       |          |         |          |           |
| 16      |       |          |         |          |           |
| 17      |       |          |         |          |           |
| 18      |       |          |         |          |           |
| 19      |       |          |         |          |           |
| 20      |       |          |         |          |           |
| 21      |       |          |         |          |           |
| 22      |       |          |         |          |           |
| 23      |       |          |         |          |           |
| 24      |       |          |         |          |           |
| 25      |       |          |         |          |           |
| 26      |       |          |         |          |           |
| 27      |       |          |         |          |           |
| 28      |       |          |         |          |           |
| 29      |       |          |         |          |           |
| 30      |       |          |         |          |           |
| 31      |       |          |         |          |           |
| 32      |       |          |         |          |           |
| 33      |       |          |         |          |           |
| 34      |       |          |         |          |           |
| 35      |       |          |         |          |           |
| 36      |       |          |         |          |           |
| 37      |       |          |         |          |           |
| 38      |       |          |         |          |           |
| 39      |       |          |         |          |           |
| 40      |       |          |         |          |           |
| 41      |       |          |         |          |           |
| 42      |       |          |         |          |           |
| 43      |       |          |         |          |           |
| 44      |       |          |         |          |           |
| 45      |       |          |         |          |           |
| 46      |       |          |         |          |           |
| 47      |       |          |         |          |           |
| 48      |       |          |         |          |           |
| 49      |       |          |         |          |           |
| 50      |       |          |         |          |           |
| 51      |       |          |         |          |           |
| 52      |       |          |         |          |           |
| 53      |       |          |         |          |           |
| 54      |       |          |         |          |           |
| 55      |       |          |         |          |           |
| 56      |       |          |         |          |           |
| 57      |       |          |         |          |           |
| 58      |       |          |         |          |           |
| 59      |       |          |         |          |           |
| 60      |       |          |         |          |           |
| 61      |       |          |         |          |           |
| 62      |       |          |         |          |           |
| 63      |       |          |         |          |           |
| 64      |       |          |         |          |           |
| 65      |       |          |         |          |           |
| 66      |       |          |         |          |           |
| 67      |       |          |         |          |           |
| 68      |       |          |         |          |           |
| 69      |       |          |         |          |           |
| 70      |       |          |         |          |           |
| 71      |       |          |         |          |           |
| 72      |       |          |         |          |           |
| 73      |       |          |         |          |           |
| 74      |       |          |         |          |           |
| 75      |       |          |         |          |           |
| 76      |       |          |         |          |           |
| 77      |       |          |         |          |           |
| 78      |       |          |         |          |           |
| 79      |       |          |         |          |           |
| 80      |       |          |         |          |           |
| 81      |       |          |         |          |           |
| 82      |       |          |         |          |           |
| 83      |       |          |         |          |           |
| 84      |       |          |         |          |           |
| 85      |       |          |         |          |           |
| 86      |       |          |         |          |           |
| 87      |       |          |         |          |           |
| 88      |       |          |         |          |           |
| 89      |       |          |         |          |           |
| 90      |       |          |         |          |           |
| 91      |       |          |         |          |           |
| 92      |       |          |         |          |           |
| 93      |       |          |         |          |           |
| 94      |       |          |         |          |           |
| 95      |       |          |         |          |           |
| 96      |       |          |         |          |           |
| 97      |       |          |         |          |           |
| 98      |       |          |         |          |           |
| 99      |       |          |         |          |           |
| 100     |       |          |         |          |           |

PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet # 2 of 3

Traverse Computation  
Description

| Station                    | Distance | Bearing    | Cosine  | Sine    | Latitude                                     | Departure  | Y Coordinate North | X Coordinate East |
|----------------------------|----------|------------|---------|---------|--|--|--------------------|-------------------|
| P.I. #13 R/F Range K-315   |          |            |         |         |  |  | 329,085.72         | 2,483,959.81      |
| * P.I. #14 L/F Range K-315 | 445.92   | S85-52-52E | 0718263 | 9974172 | 32.03 <sup>.02</sup><br><del>32.03</del>     | 444.77 <sup>.86</sup><br><del>444.77</del> .09     | 329,053.70         | 2,484,404.67      |
| * P.I. #15 R/F Range K-317 | 303.22   | S85-14-15E | 0830256 | 9965474 | 25.18 <sup>.17</sup><br><del>25.18</del>     | 302.17 <sup>.23</sup><br><del>302.17</del> .06     | 329,028.53         | 2,484,706.90      |
| * P.I. #16 L/F Range K-317 | 492.31   | S56-18-42E | 5546750 | 8320671 | 27.2.95 <sup>.17</sup><br><del>27.2.95</del> | 409.63 <sup>.71</sup><br><del>409.63</del> .08     | 328,755.58         | 2,485,116.61      |
| * P.I. #17 R/F Range K-319 | 491.52   | N78-26-06E | 2004795 | 9796979 | 98.57 <sup>.58</sup><br><del>98.57</del>     | 481.54 <sup>.64</sup><br><del>481.54</del> .10     | 328,854.16         | 2,485,598.25      |
| * P.I. #18 L/F Range K-319 | 284.18   | N87-35-23E | 0420549 | 9991153 | 11.95 <sup>.99</sup>                         | 283.43 <sup>.67</sup><br><del>283.43</del> .06     | 328,866.11         | 2,485,882.24      |
| P.I. #19                   | 698.72   | N29-27-21E | 8707350 | 4917525 | 608.40 <sup>.66</sup><br><del>608.40</del>   | 343.60 <sup>.67</sup><br><del>343.60</del> .07     | 329,474.77         | 2,486,225.91      |
| P.I. #20                   | 555.26   | S82-38-36E | 1280455 | 9917683 | 71.10 <sup>.07</sup><br><del>71.10</del>     | 550.69 <sup>.80</sup><br><del>550.69</del> .11     | 329,403.70         | 2,486,776.71      |
| * P.I. #21 R/F Range K-321 | 298.19   | S41-09-44E | 7528490 | 6581932 | 224.44 <sup>.39</sup><br><del>224.44</del>   | 196.27 <sup>.31</sup><br><del>196.27</del> .04     | 329,179.31         | 2,486,973.02      |
| * P.I. #22 L/F Range K-321 | 608.03   | S47-49-46E | 6713398 | 7411497 | 408.14 <sup>.02</sup><br><del>408.14</del>   | 450.64 <sup>.73</sup><br><del>450.64</del> .09     | 328,771.29         | 2,487,423.75      |
| P.I. #23                   | 338.52   | S41-23-43E | 7501656 | 6612500 | 253.75 <sup>.84</sup><br><del>253.75</del>   | 223.85 <sup>.89</sup><br><del>223.85</del> .04     | 328,517.45         | 2,487,647.64      |
| * P.I. #24 R/F Range K-325 | 919.80   | S62-24-01E | 4632917 | 8862058 | 425.96 <sup>.28</sup><br><del>425.96</del>   | 815.13 <sup>.30</sup><br><del>815.13</del> .17     | 328,091.49         | 2,488,462.94      |
| * P.I. #25 L/F Range K-325 | 528.20   | S36-42-23E | 8017090 | 5977145 | 423.46 <sup>.28</sup><br><del>423.46</del>   | 315.71 <sup>.77</sup><br><del>315.71</del> .06     | 327,668.21         | 2,488,778.71      |
| P.I. #26                   | 737.65   | S67-59-05E | 3748538 | 9270839 | 276.57 <sup>.38</sup><br><del>276.57</del>   | 683.86 <sup>.684.00</sup><br><del>683.86</del> .14 | 327,391.83         | 2,489,462.71      |





PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet 3 of 3

Traverse Computation  
Description

| Station                             | Distance                      | Bearing              | Cosine  | Sine    | Latitude                             | Departure                            | Y Coordinate North | X Coordinate East |
|-------------------------------------|-------------------------------|----------------------|---------|---------|--------------------------------------|--------------------------------------|--------------------|-------------------|
| P.I. # 26                           |                               |                      |         |         |                                      |                                      | 327,391.83         | 2,489,462.71      |
| Unnumbered Monument<br>Rhodes Point | 551.44 ✓                      | N71-52-02E           | 3112201 | 9503378 | 171. <sup>70</sup> <del>53</del> .07 | 524. <sup>20</sup> <del>70</del> .10 | 327,563.53         | 2,489,986.91      |
| P.I. near Bluff                     | <del>8663.16</del><br>8639.10 | N31-14-52E           | 8549320 | 5187401 | 7409.57<br><del>7406.41</del> 3.16   | 4494.84<br><del>4493.93</del>        | 334,973.10         | 2,494,481.75      |
| "Bluff" Mon. # 384                  | 163.44 ✓                      | N7-40-36W            | 9910377 | 1335826 | 162.05<br><del>161.78</del> .07      | 21.83                                | 335,135.15         | 2,494,459.92 ✓    |
| To Copola - U.S.N. Hospital         |                               | N41°52'39"W          |         |         |                                      |                                      | 335,128.73         | 2,494,456.25      |
|                                     |                               | Err. -00°06'10" Adj. |         |         |                                      |                                      | - 6.42             | - 3.67            |
| Mon. # 46                           |                               | N85°30'08"E          |         |         |                                      |                                      | 329,264.21         | 2,476,815.76      |
| R/F Range K-301                     | 147.78                        | S48-02-45E           | 6685359 | 7436798 | 98.80                                | 109.90                               | 329,165.41         | 2,476,925.66      |
|                                     |                               |                      |         |         |                                      |                                      |                    |                   |
|                                     |                               |                      |         |         |                                      |                                      |                    |                   |
|                                     |                               |                      |         |         |                                      |                                      |                    |                   |
|                                     |                               |                      |         |         |                                      |                                      |                    |                   |

$$26,342.29 = \sqrt{6.42^2 + 3.67^2} = \frac{1}{3565'}$$

$$\begin{array}{r}
 + 11,560.79 \\
 - 3,450.79 \\
 \hline
 + 8,110.00 \\
 + 20.57 \\
 \hline
 8,130.57
 \end{array}
 \quad
 \begin{array}{r}
 + 18,003.51 \\
 - 145.55 \\
 \hline
 + 17,857.96 \\
 + 12.48 \\
 \hline
 17,870.44
 \end{array}$$



PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

*Rhodes Point Road "K" Ranges*  
*U.T.M. Positions of I.T.R. Ranges - Verona Loop*

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet #1 of 3

Traverse Computation  
Description

| Station                   | Distance<br>Meters | Bearing    | Cosine                | Sine    | Latitude    | Departure   | Y Coordinate<br>North<br>Meters | X Coordinate<br>East<br>Meters |
|---------------------------|--------------------|------------|-----------------------|---------|-------------|-------------|---------------------------------|--------------------------------|
| U.S.M.C. Mon. # 47        |                    | N8°05'02"E | to U.S.M.C. Mon. # 46 |         |             |             | 3835,362.688                    | 278,583.484                    |
| U.S.M.C. Mon. # 46        | 693.940            | "          | 9900632               | 1406228 | 687.044,378 | 97.584,042  | 3,836,050.110                   | 278,681.110                    |
| ⊕ P.I.#1 L/F Range K-301  | 176.242            | N87-47-25E | 0385574               | 9992564 | 6.795,004   | 176.111,076 | 3,836,056.909                   | 278,857.297                    |
| P.I.#2                    | 248.199            | S88-54-27E | 0190666               | 9998182 | 4.732,003   | 248.154,107 | 3,836,052.180                   | 279,105.558                    |
| P.I.#3                    | 213.812            | S74-41-39E | 2639712               | 9645305 | 56.440,031  | 206.228,089 | 3,835,995.771                   | 279,311.875                    |
| * P.I.#4 R/F Range K-303  | 307.782            | S67-34-36E | 3814469               | 9243908 | 117.402,065 | 284.511,122 | 3,835,878.434                   | 279,596.508                    |
| * P.I.#5 L/F Range K-303  | 123.956            | N83-31-56E | 1126444               | 9936354 | 13.963,008  | 123.167,053 | 3,835,892.405                   | 279,719.728                    |
| * P.I.#6 R/F Range K-305  | 130.820            | N86-12-04E | 0662545               | 9978027 | 8.667,005   | 130.533,056 | 3,835,901.077                   | 279,850.317                    |
| * P.I.#7 L/F Range K-305  | 319.711            | N88-44-02E | 0220960               | 9997558 | 7.464,004   | 319.633,137 | 3,835,908.145                   | 280,170.087                    |
| P.I.#8                    | 145.506            | N12-44-00W | 9754065               | 2204137 | 142.005     | 32.072,014  | 3,836,050.150                   | 280,138.029                    |
| P.I.#9                    | 256.785            | N81-13-48E | 1524684               | 9883083 | 39.152,022  | 253.783,109 | 3,836,089.324                   | 280,391.921                    |
| ⊕ P.I.#10 R/F Range K-309 | 156.390            | S47-31-55E | 6751790               | 7376539 | 105.511,058 | 115.362,050 | 3,835,983.791                   | 280,507.333                    |
| * P.I.#11 R/F Range K-311 | 101.806            | S81-52-17E | 1413956               | 9899532 | 14.395,008  | 100.783,043 | 3,835,969.404                   | 280,608.159                    |
| * P.I.#12 L/F Range K-311 | 172.517            | S81-08-19E | 1540446               | 9880639 | 26.575,015  | 170.458,013 | 3,835,942.844                   | 280,778.690                    |

See sheet #3 for R/F

\* Position marked by Sgt. Borek, I.T.R. Range Office  
⊕ Concrete Marker



PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet #2 of 3

Traverse Computation  
Description

"K" Ranges - I.T.R. Area - Verona Loop

| Station                    | Distance<br>Meters | Bearing    | Cosine  | Sine    | Latitude                       | Departure                        | Y Coordinate<br>North | X Coordinate<br>East |
|----------------------------|--------------------|------------|---------|---------|--------------------------------|----------------------------------|-----------------------|----------------------|
| P.I. #12 L/F Range K-311   |                    |            |         |         |                                |                                  | 3,835,942.844         | 280,778.690          |
| * P.I. #13 R/F Range K-315 | 83.866             | S66-06-21E | 4050485 | 9142952 | <sup>951</sup><br>33.970 .019  | <sup>711</sup><br>76.778 .033    | 3,835,908.893         | 280,855.401          |
| * P.I. #14 L/F Range K-315 | 135.917            | S83-35-33E | 1115990 | 9937533 | <sup>160</sup><br>15.768 .008  | <sup>126</sup><br>135.668 .058   | 3,835,893.733         | 280,990.527          |
| * P.I. #15 R/F Range K-317 | 92.422             | S82-57-06E | 1229953 | 9924073 | <sup>335</sup><br>11.341 .006  | <sup>763</sup><br>91.724 .039    | 3,835,882.398         | 281,082.290          |
| * P.I. #16 L/F Range K-317 | 150.056            | S54-01-23E | 5874597 | 8092534 | <sup>103</sup><br>88.452 .049  | <sup>485</sup><br>121.433 .052   | 3,835,794.295         | 281,203.775          |
| * P.I. #17 R/F Range K-319 | 149.816            | N80-43-25E | 1611971 | 9869222 | <sup>163</sup><br>24.450 .013  | <sup>921</sup><br>147.857 .064   | 3,835,818.458         | 281,351.696          |
| * P.I. #18 L/F Range K-319 | 86.618             | N89-52-43E | 0021186 | 9999978 | 0.184                          | <sup>655</sup><br>86.618 .037    | 3,835,818.642         | 281,438.351          |
| P.I. #19                   | 212.970            | N31-44-41E | 8504007 | 5261356 | <sup>210</sup><br>181.110 .100 | <sup>099</sup><br>112.651 .048   | 3,835,999.852         | 281,550.450          |
| P.I. #20                   | 169.244            | S80-21-17E | 1675479 | 9858639 | <sup>340</sup><br>28.356 .016  | <sup>924</sup><br>166.852 .072   | 3,835,971.512         | 281,717.374          |
| * P.I. #21 R/F Range K-321 | 90.889             | S38-52-24E | 7785353 | 6276008 | <sup>721</sup><br>70.760 .039  | <sup>067</sup><br>57.842 .025    | 3,835,900.791         | 281,774.441          |
| * P.I. #22 L/F Range K-321 | 185.328            | S45-32-26E | 7004042 | 7137464 | <sup>733</sup><br>129.805 .072 | <sup>334</sup><br>132.277 .057   | 3,835,771.058         | 281,906.775          |
| P.I. #23                   | 103.181            | S39-06-23E | 7759761 | 6307623 | <sup>022</sup><br>80.066 .044  | <sup>111</sup><br>65.883 .028    | 3,835,691.036         | 281,971.886          |
| * P.I. #24 R/F Range K-325 | 280.356            | S60-06-40E | 4983196 | 8669934 | <sup>630</sup><br>139.707 .077 | <sup>171</sup><br>243.867 .104   | 3,835,551.406         | 282,215.057          |
| * P.I. #25 L/F Range K-325 | 160.996            | S34-25-03E | 8249409 | 5652190 | <sup>739</sup><br>132.812 .073 | <sup>91.037</sup><br>90.998 .039 | 3,835,418.667         | 282,306.094          |



PUBLIC WORKS DEPARTMENT  
Camp Lejeune, North Carolina  
Survey Department

File \_\_\_\_\_  
Quadrangle \_\_\_\_\_  
Date \_\_\_\_\_  
Sheet # 3 of 3

Traverse Computation  
Description

"K" Ranges - I.T.R. Area - Verona Loop

| Station                             | Distance<br>Meters | Bearing               | Cosine      | Sine    | Latitude                              | Departure                           | Y Coordinate<br>North | X Coordinate<br>East |
|-------------------------------------|--------------------|-----------------------|-------------|---------|---------------------------------------|-------------------------------------|-----------------------|----------------------|
| P.I. # 25 L/F Range K-325           |                    |                       |             |         |                                       |                                     | 3,835,418.667         | 282,306.094          |
| P.I. # 26                           | 224.836            | S65-41-45E            | 4115806     | 9113733 | <sup>.487</sup><br>92.538 .051        | <sup>.998</sup><br>204.910 .088     | 3,835,326.780         | 282,511.092          |
| Unnumbered Monument<br>Rhodes Point | 168.095            | N74-09-23E            | 2730126     | 9620105 | <sup>.917</sup><br>45.892 .025        | <sup>.778</sup><br>161.769 .069     | 3,835,372.097         | 282,672.870          |
| P.I. near "Bluff"                   | 2640.537           | N33-32-13E            | 8335298     | 5524746 | <sup>.2202177</sup><br>2200.966 1.291 | <sup>1459.457</sup><br>1458.830.627 | 3,837,574.274         | 284,132.327          |
| "Bluff" U.S.M.C. Mon. # 384         | 49.817             | N5-23-15 W            | 9955825     | 0938911 | <sup>.624</sup><br>49.597 .027        | <sup>675</sup><br>4.477 .002        | 3,837,623.898         | 284,127.652          |
| To Cupola - U.S.N. Hospital         |                    | N39°35'17" W          |             |         |                                       |                                     | - 2.509               | - 2.413              |
|                                     |                    | Err. - 00°06'05" Adj. |             |         |                                       |                                     |                       |                      |
| Mon. # 46                           |                    | N87°47'25" E          | To P.I. # 1 |         | Mon. # 735<br>L/F # K-301             |                                     | 3,836,050.110         | 278,681.110          |
| * R/F Range K-301                   | 45.043             | S45-45-28 E           | 6976932     | 7163967 | 31.426                                | 32.269                              | 3,836,018.684         | 278,713.379          |
| Bearing to L/F of Range K-301       |                    | N75°07'02" E          |             |         |                                       |                                     |                       |                      |

+ 3406.511 + 5578.504  
- 1147.810 - 36.744  
+ 2258.701 + 5541.755

