

019049

SURVEY NOTES & CALCULATIONS
FOR D.D.H.'s 80-VX-01, A-2, A-3

BY D. ARMSWORTHY
J MOROZ

DATE: JUNE 11/81

CLOSED TRAVERSE FOL.

B.D.H.'S 80-VX-01

A-2

A-3

BRUM & VANGORDA

DATE: June 11/81

BY: ARMY-MOTR

| | HORZ. Z | V. Z |
|-----------------------|-----------|-----------|
| SA. KS 41W 1460 | 00-01-00 | 92-00-00 |
| "A" | 290-05-34 | 267-54-14 |
| 564 "A" | 220-09-54 | 92-07-00 |
| | 150-14-21 | 267-54-08 |
| | 80-19-02 | |
| avg. | 290-04-31 | 92-06-23 |
| 41W 1459 | 00-01-00 | |
| "A" | 270-02-24 | 88-11-18 |
| 674 "B" | 180-03-28 | 271-49-59 |
| | 90-05-00 | 88-11-10 |
| | 00-06-04 | 271-50-04 |
| avg. | 270-01-16 | 88-10-36 |
| 41W 1459 | 00-01-00 | 01-49-24 |
| "A" | 335-00-20 | — |
| 4 60-VX-01 | 309-59-42 | — |
| avg. | 334-59-21 | |
| "A" | 00-01-00 | |
| | 244-04-30 | 80-45-06 |
| 4 "L" | 128-08-12 | 279-16-30 |
| | 12-11-30 | 90-45-02 |
| | 24-14-50 | 279-16-18 |
| avg. | 244-03-28 | 80-44-20 |
| | | 09-15-40 |

| | H.D | S.D. | V.D | HEPT. |
|------|----------|----------|---------|-------|
| | 1029.559 | 1030.262 | -1.115 | |
| | 1029.570 | 1030.264 | -37.874 | |
| | 1029.560 | 1030.260 | -37.976 | 1.594 |
| avg. | 1029.563 | 1030.262 | | |
| | 1135.210 | 1135.771 | +35.601 | |
| | 1135.186 | — | +36.266 | 1.508 |
| | 1135.188 | — | +36.261 | |
| avg. | 1135.195 | 1135.771 | | |
| | 19.998 | 20.071 | -1.692 | |
| | 19.999 | 20.069 | -1.693 | |
| | | | | 1.220 |
| | 104.359 | 105.713 | +16.862 | |
| | 104.354 | 105.711 | +16.987 | 1.355 |
| | 104.359 | 105.712 | +16.862 | |
| avg. | 104.357 | 105.712 | | |

(S) BS
 STA ES HZ < VERT <
 "A" 00-01-00
 "B" 18-10-42 —
 1524 A-3 36-20-36 —
 avg 18-09-48

"B" 00-01-00 87-25-34
 "C" 262-41-33 272-35-36
 1508 "D" 165-21-52 87-25-50
 60-02-06 272-35-50
 330-42-46
 avg 262-40-27 87-24-59
 02-35-01

"C" 00-01-00
 "D" 136-36-22 90-48-40
 1556 "E" 273-51-34 269-12-26
 50-47-04 90-48-46
 187-42-02 269-12-38
 avg 136-55-16 00-48-05

H.D. S.D. V.D. HPT. (4)
 31.196 31.577 -4.906 1.220
 31.198 31.560 -2.897

58.218 58.273 +2.550
 58.217 58.271 +2.525 ~~1.386~~
 58.218 58.273 +2.550 1.386
 avg 58.218 58.272

83.105 83.114 -1.252 1.565
 83.104 83.114 -1.292
 avg 83.105 83.114

5) 3.5
 STA. F.S. HORZ L VERT L

"D" 00-01-00 00-57-30

"E" 205-54-48 271-03-36

1.703 HIW 51-48-28 88-57-44
 1457

257-42-36 271-03-48

103-36-30

avg 205-53-53 88-56-55
 HIW

1457 00-01-00 01-03-01

"E" 65-35-48 —

"A-2" 131-10-36 —
 avg 65-34-48

"E" 00-01-00

HIW 21-08-16
 1457

HIW 42-10-48
~~1457~~
 1424

63-15-26

84-20-10

105-25-04

126-29-16

147-33-28

168-43-54

21-05-22

H.D. S.D. V.D. H.F. (C)

1994.105 994.271 +18.244

✓ ✓ +18.002 1.337

1994.271

57.211 - -2.778 1.220

57.209 - -2.766

D.D.H. LOCATIONS

CALCULATION SHEET.

D.D.H.'s 80-VX-01 A-2 A-3

DA

| | | | | | |
|-------------------|---------------|---------------|---------------|--|--|
| BACKSIGHT STATION | 1459 "A" | 1457 "E" | "A" "B" | | |
| FORESIGHT | 80-VX-01 | A-2 | A-3 | | |
| HORL. DIST. | 19.988 ✓ | 57.181 ✓ | 31.181 ✓ | | |
| H. I. | +1.674 ✓ | +1.703 ✓ | +1.524 ✓ | | |
| H. P. | -1.220 ✓ | -1.220 ✓ | -1.220 ✓ | | |
| DIFF. | -1.692 ✓ | -2.782 ✓ | -4.902 ✓ | | |
| STA. ELEV. | 1128.355 ✓ | 1183.437 ✓ | 1164.679 ✓ | | |
| DIFF. | -1.238 ✓ | -2.299 ✓ | -4.598 ✓ | | |
| COLLAR | 1127.117 ✓ | 1181.138 ✓ | 1160.081 ✓ | | |
| AZIMUTH FS. | 240-03-30 ✓ | | 380-04-39 ✓ | | |
| TOP 180° | 180-00-00 ✓ | | 180-00-00 ✓ | | |
| B.S. AZIMUTH | 60-03-30 ✓ | 99-37-15 | 150-04-39 ✓ | | |
| HORZ. < | 334-59-21 ✓ | 65-34-48 | 18-09-48 ✓ | | |
| AZIMUTH | 35-02-51 ✓ | 165-12-03 | 168-14-27 ✓ | | |
| BEARING | | | | | |
| STA. NORTHING | 6902660.566 ✓ | 6902772.211 ✓ | 6903423.855 ✓ | | |
| LAT. | 16.364 ✓ | -55.284 | -30.597 ✓ | | |
| EASTING | 6902676.924 ✓ | 6903671.927 | 6903613.328 ✓ | | |
| STA. EASTING | 593336.021 ✓ | 592960.170 ✓ | 59269.984 ✓ | | |
| DEP. | 11.478 ✓ | +14.606 | 6.955 ✓ | | |
| SOLE CO-ORD | 593347.499 ✓ | 592974.776 | 592776.279 ✓ | | |

SURVEY CALCULATION SHEET

DDH's 80-VX-01, A-2, A-3

| Station | Horiz. Angle | Azimuth | Slope Dist. | Vert. Angle | Horiz. Dist. | Lat. | Dep. | Calculated | | Adjusted | |
|---------|--------------|---------|-----------------|-------------|--------------|-------|-------|------------|------------|-----------|----------|
| | | | | | | | | Northings | Eastings | Northings | Eastings |
| | | | ADS BY .9995 | | V.D. | H.I. | H.P. | ELEVATION | ADJUSTMENT | ADS ELEV | |
| HW 1459 | | | | | | | | 1166.198 | | | |
| | | | | | | | | -37.878 | (+0.035) | | |
| A | | | 1029.747 | -02-06-23 | -37.848 | 1.564 | 1.594 | 1128.320 | | 1128.355 | |
| | | | | | | | | 36.286 | (+0.038) | | |
| B | | | 1135.203 | 01-49-24 | 36.120 | 1.674 | 1.508 | 1164.606 | | 1164.679 | |
| | | | | | | | | 17.173 | (+0.004) | | |
| C | | | 105.659 | 09-15-40 | 17.004 | 1.524 | 1.355 | 1181.779 | | 1181.856 | |
| | | | | | | | | 2.747 | (+0.002) | | |
| D | | | 58.243 | 02-35-01 | 2.625 | 1.508 | 1.386 | 1184.526 | | 1184.605 | |
| | | | | | | | | -1.171 | (+0.003) | | |
| E | | | 83.072 | 00-48-05 | -1.162 | 1.556 | 1.565 | 1183.355 | | 1183.437 | |
| | | | | | | | | 36.902 | (+0.066) | | |
| HW 1457 | | | 1993.274 | 01-03-01 | 36.536 | 1.703 | 1.337 | 1220.257 | | 1220.405 | |
| | | | 4405.198 | | | | | 1220.405 | | | |
| | | | | | | | | diff | -0.148 | | |

SURVEY CALCULATION SHEET

DDH's 80-VX-01 A2 A3

| Station | Horiz. Angle | Azimuth | Slope Dist. | Vert. Angle | Horiz. Dist. | Lat. | Dep. | Calculated | | Adjusted | |
|---------|--------------|---------------------------|-------------|-------------|-------------------------|----------|----------|-------------|------------|-------------|------------|
| | | | | | | | | Northings | Eastings | Northings | Eastings |
| | | | | | ADJUSTED TO UTM 21,9995 | | | | | | |
| HW 1460 | | | | | | | | | | | |
| HW 1459 | | 209-59-06 | | | | | | 6903174.255 | 594227.774 | 6903174.255 | 594227.774 |
| | | 380-04-31 ⁽⁵⁷⁾ | | | | | | (-.071) | (-.048) | | |
| A | | 240-03-30 | | | 1029.048 | -513.616 | -891.705 | 6902660.639 | 593336.069 | 6902660.560 | 593336.021 |
| | | 270-01-16 ⁽⁵⁷⁾ | | | | | | (-.087) | (-.053) | | |
| B | | 380-04-39 | | | 1134.627 | 983.382 | -565.984 | 6903644.021 | 592770.085 | 6903643.855 | 592769.984 |
| | | 04-03-23 ⁽⁵⁷⁾ | | | | | | (-.008) | (-.005) | | |
| C | | 24-08-00 | | | 104.305 | 86.337 | 58.528 | 6903730.358 | 592878.613 | 6903730.184 | 592828.507 |
| | | 38-10-27 | | | | | | (-.005) | (-.003) | | |
| D | | 116-48-20 | | | 58.189 | -26.241 | 51.936 | 6903704.117 | 592880.549 | 6903703.938 | 592880.440 |
| | | 33-55-16 | | | | | | (-.026) | (-.004) | | |
| E | | 73-43-29 | | | 83.063 | 23.279 | 79.734 | 6903727.396 | 592960.283 | 6903727.211 | 592960.170 |
| | | 205-52-52 | | | | | | (-.154) | (-.092) | | |
| HW 1487 | | 99-37-15 | | | 1993.108 | -333.103 | 1965.076 | 6903394.293 | 594925.359 | 6903393.954 | 594925.154 |
| | | 21-05-22 ⁽⁵⁷⁾ | | | 4402.240 | | | | | | |
| HW 1424 | | 300-42-30 | | | | | | | | | |
| | | act 300-42-30 | | | | | act | 6903393.954 | 594925.154 | | |
| | | | | | | | | (.339) | (.205) | | |
| | | | | | | | | 1 2 11,112. | | | |

CLOSED TRAVERSE FOR

D.D.H.'S 80-V~~X~~-01

A-2

A-3

SURVEYED BY: D. ARNEWORTHY

J. MORRIS

DATE: JUNE 11/81

SCALE: (not to scale)

HIW 1457

21-05-22

199A.105 m
(not to scale)

FORE SIGHT
HIW 1459

290-04-31

HIW 1459

FORE SIGHT
HIW 1457

1029.560 (not to scale)

270-01-16

"A"

1135.187 m
(not to scale)

"B"

244-03-28

104.357 m
(not to scale)

262-40-27

"C"

532.18
(not to scale)

136-55-16

83.105 m
(not to scale)

"D"

205-53-53

"E"