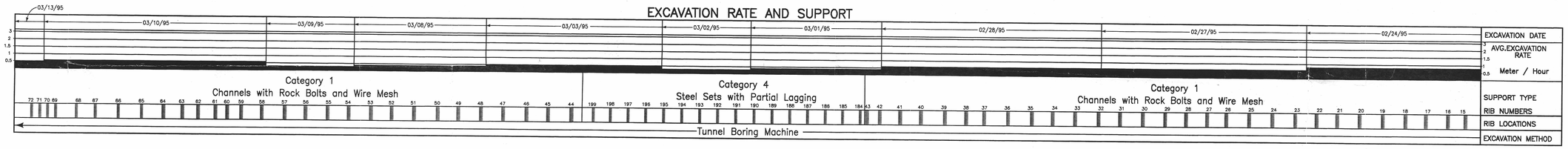
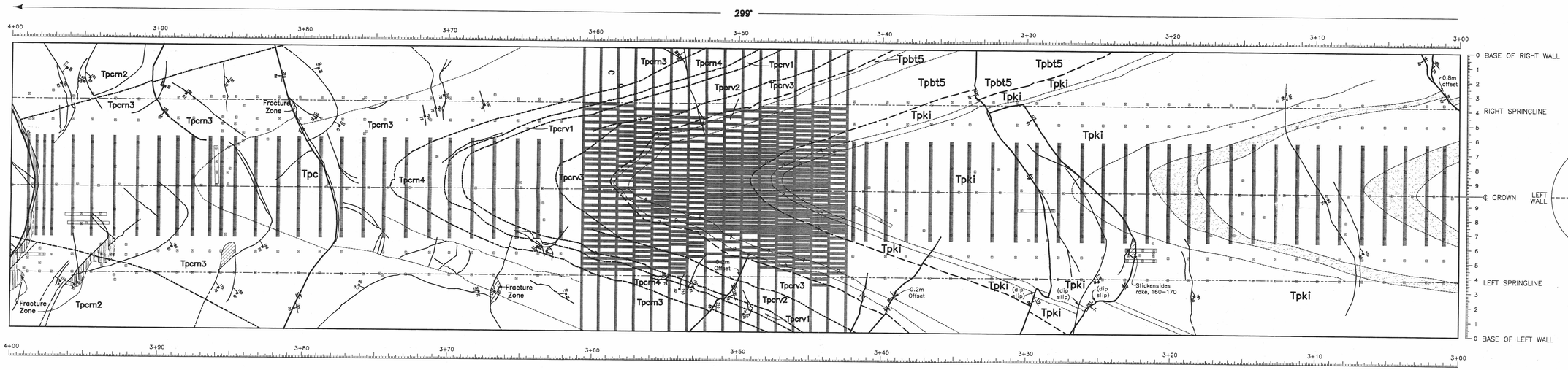
## ROCK–MASS CLASSIFICATION

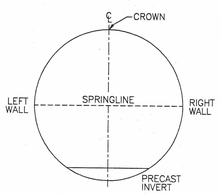
| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96% | 100% | 100% | 100% | 94% | 99% | 94% | 76% | 100% | 100% | 98% | 100% | 100% | 95% | 100% | 100% | 100% | 99% | 100% | 100% | R.Q.D. |
| 1.5 | 1.4 | 200. | 1.7 | .90 | 2.1 | 0.9 | 1.8 | 9.3 | 67. | NR | NR | 670. | 670. | 19. | 5.0 | 200. | 38. | 38. | 30. | SCANLINE Q |
| 1.8 | 19. | 75. | 3.3 | 2.1 | 15. | 1.6 | 1.3 | 20. | 30. | 15 | 2.0 | 25. | 24. | 13. | 25. | 100. | 41. | 42. | 42. | MAPPED Q |
| 0.08 | 1.1 | −0.4 | 0.3 | 0.4 | 0.9 | 0.2 | −0.2 | 0.3 | −0.4 | NA | NA | −1.4 | −1.4 | −0.2 | 0.7 | −0.3 | 0.0 | 0.0 | 0.2 | Δ Q * |
| POOR | EXT. GOOD | VERY GOOD | POOR | POOR | GOOD | POOR | | GOOD | GOOD | GOOD | POOR | GOOD | GOOD | GOOD | GOOD | VERY GOOD | VERY GOOD | VERY GOOD | VERY GOOD | DESCRIPTION |
| 55 | 66 | 80 | 64 | 80 | 60 | 57 | 71 | 69 | 90 | NR | NR | 87 | 87 | 49 | 50 | 74 | 68 | 68 | 66 | SCANLINE RMR |
| FAIR ROCK | GOOD ROCK | | | | FAIR ROCK | | GOOD ROCK | | VERY GOOD ROCK | NA | | VERY GOOD ROCK | | FAIR ROCK | | GOOD ROCK | | | | DESCRIPTION |

$$^{*}\Delta Q = \mathrm{LOG}_{10}\left(\frac{\text{MAPPED Q}}{\text{SCANLINE Q}}\right)$$

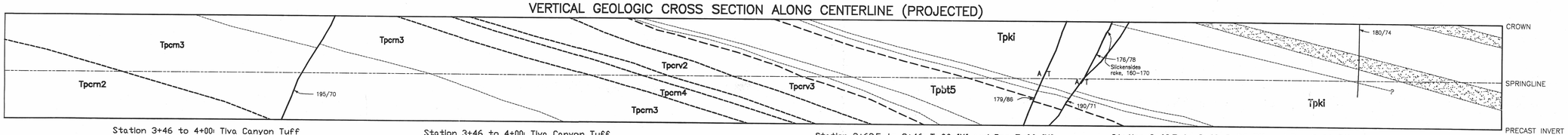
## EXCAVATION RATE AND SUPPORT




## VERTICAL GEOLOGIC CROSS SECTION ALONG CENTERLINE (PROJECTED)




NORTH RAMP 183 182 181 180

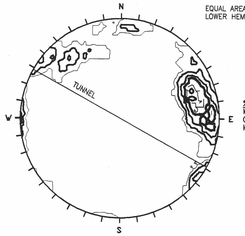
### Notes

For General Geologic Explanation and Notes, see Drawing OA–46–179.

Fracture data for stereo plots taken exclusively from detailed line surveys along right wall.

1 0 5
1:125 (METERS)

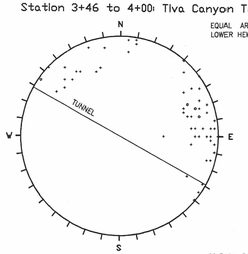
Station 3+46 to 4+00: Tiva Canyon Tuff




CONTOUR PLOT
SCHMIDT POLE CONCENTRATIONS
% of total per 1.7 % area
Minimum Contour = 3
Contour Interval = 3
Max. Concentration = 20

POLES OF PLANES
60 Poles Plotted
60 Data Entries

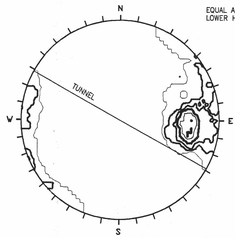
Station 3+46 to 4+00: Tiva Canyon Tuff




SCATTER PLOT
NUM. OF POLES
+ 1 pole
o 2 poles

POLES OF PLANES
60 Poles Plotted
60 Data Entries

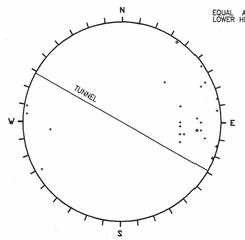
Station 2+63.5 to 3+46: Tuff "X" and Pre-Tuff "X"




CONTOUR PLOT
SCHMIDT POLE CONCENTRATIONS
% of total per 3.8 % area
Minimum Contour = 7
Contour Interval = 7
Max. Concentration = 42.3

POLES OF PLANES
26 Poles Plotted
26 Data Entries

Station 2+63.5 to 3+46: Tuff "X" and Pre-Tuff "X"




SCATTER PLOT
NUM. OF POLES
+ 1 pole
o 2 poles

POLES OF PLANES
26 Poles Plotted
26 Data Entries

ALWAYS THINK SAFETY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION / U.S. GEOLOGICAL SURVEY
YUCCA MOUNTAIN PROJECT
GEOLOGIC MAPPING OF THE ESF

D-11

# ESF – NORTH RAMP

STATION 3+00.00 TO STATION 4+00.00
AS BUILT GEOLOGY AND GEOTECHNICAL DATA

GEOLOGY USBR MAPPING TEAM PEER REVIEW MARK H. MCKEOWN
DRAWN USBR CADD TEAM PRINCIPAL INVESTIGATOR STEVEN C. BEASON
CHECKED ROBERT C. LUNG T.P.O. J. A. KRULIK

| | | |
|---|---|---|
| CADD SYSTEM AutoCadd 12.0 | CADD FILENAME TBM_300X | DTN GS950508314224.003 |
| MERCURY, NEVADA | SCP 8.3.1.4.2.2.4 | OA–46–183 |