

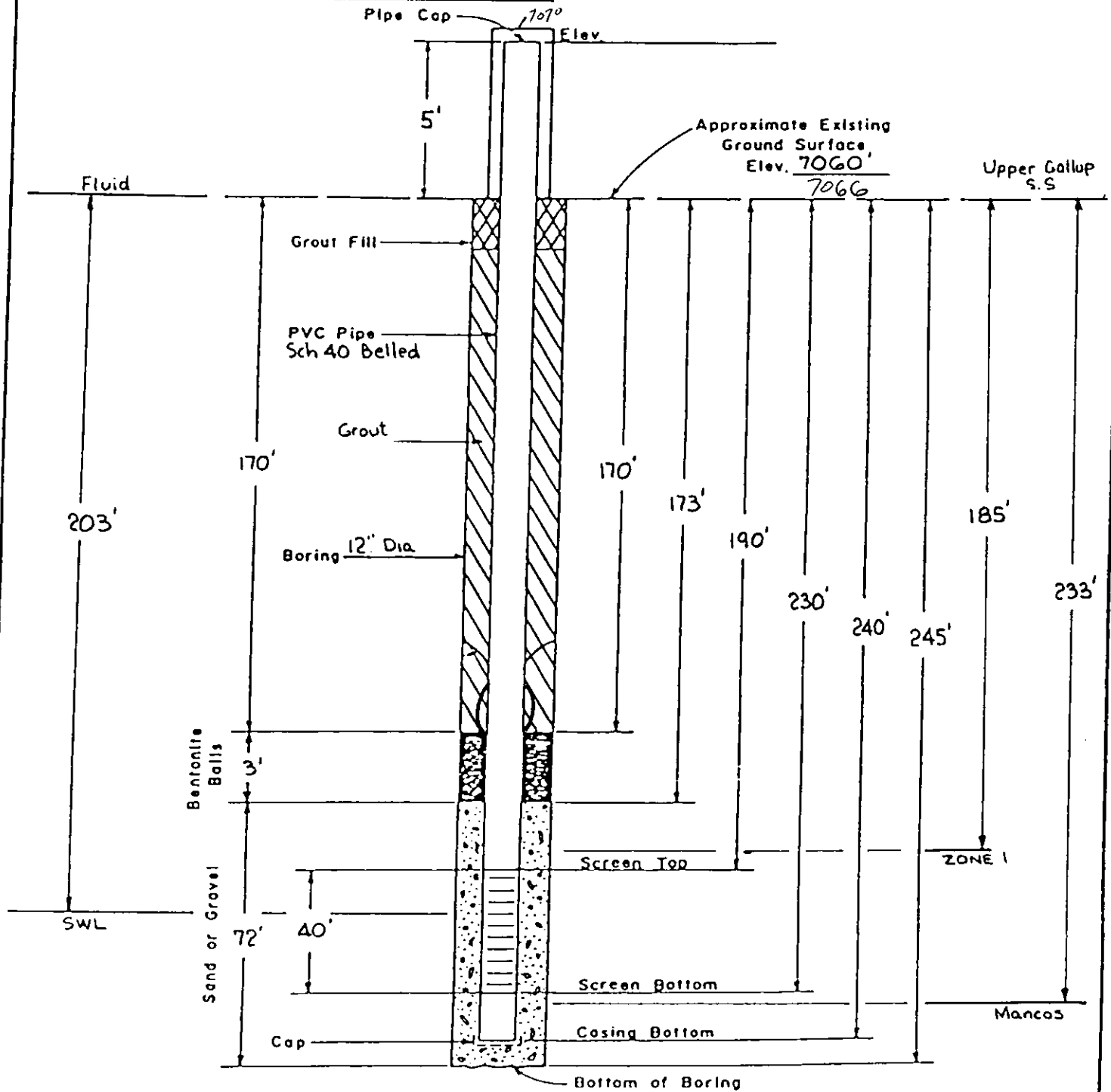
UNC NECR TAILINGS AREA :

WELL STATISTICS

| Well No. | Coordinates |           | Elevations  |          | Total Depth | Screen Interval | Remarks            |
|----------|-------------|-----------|-------------|----------|-------------|-----------------|--------------------|
|          | North       | East      | Top of Pipe | Ground   |             |                 |                    |
| EPA-1    | 78329.799   | 62920.737 | 7035.544    | 7033.644 | 250         |                 | Zone 3 Navajo Res. |
| EPA-2    | 75472.759   | 61621.362 | 7019.485    | 7016.905 | 200         |                 | Zone 1 Sec. 1      |
| EPA-3    | 75567.190   | 61642.044 | 7019.070    |          | 144         |                 | Zone 3 Sec. 1      |
| EPA-4    | 74989.453   | 61364.363 | 7069.798    | 7066.298 | 240         |                 | Zone 1 Sec. 1      |
| EPA-5    | 74230.639   | 61404.456 | 7011.444    |          | 142         |                 | Zone 1 Sec. 1      |
| EPA-6    | 74937.353   | 61314.441 | 7068.063    |          | 165         |                 | Zone 1 Sec. 1      |
| EPA-7    | 73875.424   | 61458.813 | 7011.662    | 7008.662 | 165         |                 | Zone 1 Sec. 1      |
| EPA-8    | 74939.892   | 61827.349 | 7076.402    | 7072.632 |             |                 | Zone 3 Sec. 1      |
| EPA-9    | 74917.436   | 61820.306 | 7076.612    | 7072.912 |             |                 | Zone 3 Sec. 1      |
| EPA-10   | 77764.119   | 62494.867 | 6996.696    | 6993.266 | 200         |                 | Zone 3 Sec. 36     |
| EPA-11   | 77408.011   | 62308.547 | 7001.982    | 6998.832 | 176         |                 | Zone 3 Sec. 36     |
| EPA-12   | 76976.574   | 62460.767 | 7029.215    | 7026.215 | 190         |                 | TOR? Sec. 36       |
| EPA-13   | 76030.598   | 62247.875 | 7032.917    | 7030.467 | 180         |                 | Zone 3 Sec. 36     |
| EPA-14   | 76463.983   | 61073.303 | 6965.611    | 6962.611 | 145         |                 | Zone 3 Sec. 36     |
| EPA-15   | 76469.342   | 61469.396 | 7002.932    | 6999.352 | 165         |                 | Zone 3 Sec. 36     |
| EPA-15A  | 76515.982   | 61451.828 | 6997.911    | 6994.641 |             |                 | Zone 3 Sec. 36     |
| EPA-15B  | 76434.974   | 61375.866 | 7001.715    | 6998.505 |             |                 | Zone 3 Sec. 36     |

### PIEZOMETER INSTALLATION SKETCH

|                            |  |
|----------------------------|--|
| Casing Diameter <u>4"</u>  | Development Method <u>TSP. BAIL. SURGE. PUMP</u> |
| Screen Diameter <u>4"</u>  | Drilling Method <u>MUD ROTARY</u>                |
| Screen Slot Size <u>30</u> | Drilling Mud Used <u>BAROID E-Z MUD</u>          |
| Developing Time <u>-</u>   | Pump Size: <u>1/2 H.P. 10 G.P.M.</u>             |
| Nom. Prod <u>2 GPM</u>     | Pump Depth: <u>230'</u>                          |



Installed By GB-CWH-LA MADERA-FREEMAN

Project WG6215.00

Piezometer No. (#4) 16-631

File \_\_\_\_\_

Date 1/12/85

ZONE 1



|                      |                                    |
|----------------------|------------------------------------|
|                      | PROJECT NUMBER<br><b>WG6215.00</b> |
| <b>ROCK CORE LOG</b> |                                    |

PROJECT United Nuclear Corporation LOCATION Church Rock, New Mexico  
 DRILLING METHOD Mud Rotary, Fairing 1250 DRILLERS & EQUIPMENT LaMack Services, Albuquerque, N.M.  
 ELEVATION ~7060' ORIENTATION vertical BORE HOLE: 16-631  
 WATER LEVEL \_\_\_\_\_ DATE: \_\_\_\_\_ START: 1/2/85 FINISH: \_\_\_\_\_ INSPECTOR CLH

| DEPTH (ft) | COMMENTS<br>TESTS<br>INSTRUMENTATION<br>CORING RATE AND<br>SMOOTHNESS<br>CORING FLUID LOSS                                    | CORE RUN<br>LENGTH AND<br>RECOVERY (%) | CORE LOSS<br>ZONE | BOX NUMBER | DISCONTINUITIES   |                       | LITHOLOGY   |   | GRAPHIC LOG |   |
|------------|---|--|-------------------|------------|-------------------|-----------------------|---|---|-------------|---|
|            |   |  |                   |            | ROD               | FRACTURES<br>PER FOOT | DESCRIPTION<br>TIGHTNESS<br>PLANARITY<br>SMOOTHNESS<br>FILLING, STAINING<br>ORIENTATION   | MINERALOGY<br>CLASSIFICATION<br>COLOR<br>GRAIN SIZE<br>ALTERATION   |             | CEMENTATION<br>HARDNESS<br>WEATHERED<br>STATE |
|            | Well was damaged - run<br>coring bit on last string<br>7 1/8" down bit then<br>coring 1/2" for rock core<br>Cased from 140 to |  |                   |            |                   |                       | Geologic Log from 0 to 140'<br>0-8: ls. yellow, fractured, fine-grained<br>8-9: Coal or carbonaceous shale<br>9-16: Sandstone, yellow, fractured, fine grained<br>16-24: shale, dark gray, sandy<br>24-27: Sandstone, greenish gray, fine-grained<br>27-30: shale, medium gray<br>30-33: Sandstone, fine-grained, light gray, includes<br>some brownish gray shale<br>33-40: Shale and sandstone, interbedded<br>40-41: shale black, fine<br>41-57: Shale and sandstone, medium to dark gray<br>and brownish gray; about 6% shale / 40%<br>57-70: Sandstone, medium gray, fine grained contains<br>oil, includes some shale; thin seams of<br>coal at 67 feet<br>70-81: Shale, medium gray, includes some black<br>carbonaceous shale or coal<br>81-116: Sandstone, gray, fine to medium-grained,<br>locally silty, light hydrocarbon oxidation<br>noticed @ 88 feet<br>116-117: shale and/or coal, black, carbonaceous<br>117-128: shale, brownish gray, includes some<br>black fissile shale<br>128-140 Sandstone, light gray, fine-grained,<br>some orange-sandstone at very top, pos-<br>sibly a paleosol |   |             |   |
| 140        | Begin to see some<br>fractures  | NX-1<br>95%                            |                   | 1          | 3.6<br>100<br>36% | 3<br>5<br>4           | Fractures are mainly<br>vertical some w<br>minor to 40° non vertical<br>fractures, open, no infilling<br>observed, occasional<br>Fossils  | Sandstone, predominantly fine grained<br>at local core - good to excellent<br>rock @ 141-142 and 145 to 148, sand<br>stone smaller than 140, includes w/ some<br>cross-bedding, orange sandstone @ 142,<br>uncemented or, mostly to moderately<br>well-cemented, was cemented from<br>149-150; material is core 3<br>5' up from |             |   |



|               |                             |
|---------------|-----------------------------|
|               | PROJECT NUMBER<br>W66215-00 |
| ROCK CORE LOG |                             |

PROJECT United Nuclear Corporation LOCATION \_\_\_\_\_  
 DRILLING METHOD Mud Rotary Drilling 135D DRILLERS & EQUIPMENT La Madera Service, Albuquerque, N.M.  
 ELEVATION ~1000' ORIENTATION Vertical BORE HOLE: 16-631 (2)  
 WATER LEVEL \_\_\_\_\_ DATE: \_\_\_\_\_ START: 1/2/85 FINISH: 1/ INSPECTOR CW14

| DEPTH (FC) | COMMENTS      | CORE RUN LENGTH AND RECOVERY (%) | CORE LOSS ZONE | BOX NUMBER | DISCONTINUITIES |                    | LITHOLOGY   |  | GRAPHIC LOG |
|------------|---------------|----------------------------------|----------------|------------|-----------------|--------------------|---|--|-------------|
|            |               |                                  |                |            | ROD             | FRACTURES PER FOOT | DESCRIPTION   | MINERALOGY CLASSIFICATION  |             |
| 145        |               | NX-1<br>150.0                    |                | 1          |                 | 5                  | Fractures mostly near vertical to top of 5' interval. No filling except at 140' where thin sandy silty material occurs. | Sandstone, see sheet 1 for description. Zone 3 of Upper Gallup Fm.   |             |
| 150        | NO CORE CORRS | NX-2<br>150.0                    |                | 2          | 3.4             | 1                  | Fractures mainly horizontal open, no infilling.   | SANDSTONE. Light gray, fine grained, massive to bedded, well sorted, quartz rich moderately hard; Zone 3 of Upper Gallup Fm. |             |
| 1          |               |                                  |                | 3          |                 | 3                  |   |  |             |
| 2          |               |                                  |                | 2          |                 | 2                  |   |  |             |
| 3          |               |                                  |                | 2          |                 | 2                  |   |  |             |
| 4          |               |                                  |                |            |                 | 1                  |   |  |             |
| 6          |               |                                  |                |            |                 | 24                 |   |  |             |
| 7          |               |                                  |                |            |                 |                    |   |  |             |
| 8          |               |                                  |                |            |                 |                    |   |  |             |
| 9          |               |                                  |                |            |                 |                    |   |  |             |
| 100        |               |                                  |                |            |                 |                    |   |  |             |



PROJECT NUMBER  
WG6215-00

ROCK CORE LOG

PROJECT United Nuclear Corporation LOCATION Church Rock, New Mexico  
 DRILLING METHOD Mud Rotary, 5 1/2" x 250 DRILLERS & EQUIPMENT La Mudecia Services, N.M.  
 ELEVATION ±706.0 ORIENTATION Vertical BORE HOLE: 16-631(14)  
 WATER LEVEL \_\_\_\_\_ DATE: \_\_\_\_\_ START: 1/2/85 FINISH: \_\_\_\_\_ INSPECTOR CWT

| DEPTH | COMMENTS   | CORE RUN LENGTH AND RECOVERY (%) | CORE LOSS ZONE | BOX NUMBER | DISCONTINUITIES |                    | LITHOLOGY  |  | GRAPHIC LOG |
|-------|--|----------------------------------|----------------|------------|-----------------|--------------------|--|--|-------------|
|       |  |                                  |                |            | ROD             | FRACTURES PER FOOT | DESCRIPTION  | MINERALOGY CLASSIFICATION  |             |
|       | <i>Note: Hole was geophysically logged from 0 to 183'.</i> |                                  |                |            |                 |                    | 160-167 Sandstone, light gray, fine-grained<br>167-177 Shale, med gray, some black carbonaceous shale or coal at very top<br>177-181 Sandstone, medium gray, fine-grained, hard<br>181-182 Shale, black, fissile<br>182-190 Sandstone, medium to dark gray, fine grain |  |             |
| 190   |  | 100                              |                | A          | 59              | 1                  | Str are primarily horizontal, occasionally up to 20° horizontal, open, no infilling, except for zone @ 195.4' which has about 0.1' of dark gray silt infilling   | Sandstone medium to dark gray, fine-grained, has considerable amount of silty material cemented into matrix that gives upper 8' of core a marbled appearance, lower 1.2' is medium gray w/ faint greenish tone, quartz rich overall; bedding not readily evident, unweathered medium, moderately well-cemented; zone 1 of Upper Goshute Fm |             |
| 1     |  | 92%                              |                | E          | 100             | 1                  |  |  |             |
| 2     |  | 100                              |                | S          | 59%             | 1                  |  |  |             |
| 3     |  | 92%                              |                |            |                 | 3                  |  |  |             |
| 4     |  |                                  |                |            |                 | 1                  |  |  |             |
| 5     | Driller notes coal chips in cutting                        |                                  |                |            |                 | 1                  |  |  |             |
| 6     |  |                                  |                |            |                 | 2                  |  |  |             |
| 7     |  |                                  |                |            |                 | 2                  |  |  |             |
| 8     |  |                                  |                |            |                 | ≤6                 |  |  |             |
| 9     |  |                                  |                |            |                 | ≤6                 | } badly fractured zone<br>1/4" coal or carbonaceous shale @ ± 198'   |  |             |
| 10    |  |                                  |                |            |                 |                    |  |  |             |



|               |                             |
|---------------|-----------------------------|
|               | PROJECT NUMBER<br>W66215.00 |
| ROCK CORE LOG |                             |

PROJECT United Nuclear Corporation LOCATION Church Rock, New Mexico  
 DRILLING METHOD Mud Rotary, Frilling 1250 DRILLERS & EQUIPMENT La Madona Service  
 ELEVATION ~7060' ORIENTATION Vertical BORE HOLE: 16-631 (#4)  
 WATER LEVEL \_\_\_\_\_ DATE: \_\_\_\_\_ START: 1/2/85 FINISH: \_\_\_\_\_ INSPECTOR CWH

| DEPTH (ft) | COMMENTS<br>TESTS<br>INSTRUMENTATION<br>CORING RATE AND<br>SMOOTHNESS<br>CORING FLUID LOSS   | CORE RUN<br>LENGTH AND<br>RECOVERY (%) | CORE LOSS<br>ZONE | BOX NUMBER | DISCONTINUITIES |                       | LITHOLOGY   |   | GRAPHIC LOG |
|------------|--|--|-------------------|------------|-----------------|-----------------------|---|---|-------------|
|            |  |  |                   |            | RQD             | FRACTURES<br>PER FOOT | DESCRIPTION<br>TIGHTNESS<br>PLANARITY<br>SMOOTHNESS<br>FILLING, STAINING<br>ORIENTATION                         | MINERALOGY<br>CLASSIFICATION<br>COLOR<br>GRAIN SIZE<br>ALTERATION   |             |
| 200        |  | NX-4<br>Top                            |                   | 5          | 1.3<br>10.0     | 3                     |   | Sandstone, light gray, fine grained,<br>Qtz rich, well sorted, unweathered, poorly<br>cemented, bedding not apparent from<br>200.0 to 202.0, but is dominant from<br>202.0 to 210.0; bedding <sup>planes</sup> range from 1/8 to<br>1/2 inch thick, and give core an appearance<br>like a stack of crackers; rock is zone 1 of<br>Upper Gallup Em |             |
| 1          |  | 10.0<br>10.0<br>100%                   |                   | 6          | 13%             | 4                     |   |   |             |
| 2          |  |  |                   | 7          |                 |                       | Discontinuities from 202.0<br>to 210.0 are solely bedding<br>planes which are abun-<br>dant, open, and unfilled |   |             |
| 3          |  |  |                   |            |                 |                       |   |   |             |
| 4          |  |  |                   |            |                 |                       |   |   |             |
| 5          |  |  |                   |            |                 |                       |   |   |             |
| 6          |  |  |                   |            |                 |                       |   |   |             |
| 7          |  |  |                   |            |                 |                       |   |   |             |
| 8          |  |  |                   |            |                 |                       |   |   |             |
| 9          |  |  |                   |            |                 |                       |   |   |             |
| 10         |  | Bot<br>210.0                           |                   |            |                 |                       |   |   |             |
|            | Note: Missed contact<br>between zone 1 and<br>Mancos shale during<br>logging of cuttings;<br>drilling characteristics<br>were similar to sandstone,<br>and color change of cuttings<br>from light gray to<br>grayish green was<br>gradational; probably<br>drilled 15'-20' into<br>Mancos; Geophysical<br>log should help pick<br>contact. |  |                   |            |                 |                       | Geologic Log from 20-246<br>210 to ± 230 (max) --<br>230 to 246 --  | Sandstone, light gray, fine-grained<br>Shale sandy and silty, grayish green,<br>slightly sticky and gummy   |             |
|            |  |  |                   |            |                 |                       | TD 246  |   |             |

STRATIGRAPHIC PICKS

HOLE NUMBER: EPA-4

SCALE: 1"=40'

