List ✓
Lin ✓
d

M-d

U.S. BUREAU OF RECLAMATION-HOLBROOK #28
NE/NE Sec 28-T18N-R15E, Coco Co. 3-7

List ✓
LM ✓
✗

M-d

U.S. BUREAU OF RECLAMATION-HOLBROOK #28
NE/NE Sec 28-T18N-R15E, Coco Co. 3-7

County ~~Navajo~~ Coconino

Area Holbrook

Lease No.

Well Name Bureau of Reclamation - ~~Holbrook~~ WINSLOW Test Well #28aad

Location NE NE Sec 28 Twp 18N Range 15E Footage est. 990 fnl 330 fel

Elev 5180' Gr KB Spud Date Completed Abandon Total Depth 1210

Contractor

Drilled by Rotary
Cable Tool

| Casing Size | Depth | Cement |
|---|---|---|
| | | |
| | | |

Production Horizon

Initial Production

REMARKS Larry Mann (USGS) shows Pc + 5070

Condensed Graphic Log; Dual Induction-Laterolog; Borehole Compensated Sonic Log-Gamma Ray (2)

Elec Logs (2) Borehole Compensated Sonic Log - Gamma Ray;

Applic. to Plug ___ Plugging Record ___ Completion Report ___

Sample Log
Sample Descript.
Sample Set 1665
Core Analysis
DSTs

Water well accepted by

Bond Co. & No.

Bond Am't $ Cancelled Date Organization Report

Filing Receipt Dated Well Book ___ Plat Book ___

API No. 02-005-05090 Loc. Plat ___ Dedication

Permit Number None Date Issued

#3-7

Strat (Mineral) Test

~~WATER WELL INFORMATION SHEET~~

VOID

File No. 217

Same as No. 3/7

County Coconino

Area

Well Owner USBR Winslow Test (Strat test)

## LOCATION

| T R S | Quadrangle, District, and Field Number or Name | Miles West and South of Northeast Corner of Quadrangle |
|---|---|---|
| 18N-15E-28 SE NE NE | | |

| Total Depth 1210' 500 | Elevation 5180 GL KB | Samples of Drill-Bit Cuttings and/or Cores No Yes Sample File No. |
|---|---|---|
| Lat 34-56-03 Long 110-45-03 | | (@ 8-29-64) |

## LOGS

| Elec Logs | Lithologic | Driller's |
|---|---|---|
| | | |

## GEOLOGICAL

| Formation Tops | Depth | | | Remarks |
|---|---|---|---|---|
| | Elec Logs | Lithologic | Driller's | |
| Moenkopi | | Surface | | USBR — Bond Hagstrom |
| Kaibab | | 40 | | Sig — Hole Caved |
| Coconino | | 150 | | |
| | | | | |
| | | | | |
| | | | | |

Source of Formation Top Data: USGS WIPD Hyg.

## GENERAL

5180
150
+5030

FORM A-4
(JUNE '66)

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF WATER DATA COORDINATION
INVENTORY OF HYDROLOGIC DATA STATIONS
QUALITY OF WATER

APPROVED.
Budget Bureau No. 42-R1485
Approval Expires June 30, 1968

| 1. AGENCY CODE | 2. TYPE | 3. LATITUDE | 4. LONGITUDE | 5. |
|---|---|---|---|---|
| BR | Q. | 35° 55' 58" N | 110° 45' 06" W | |

| 6. AGENCY STATION NO. | 7. STATION NAME |
|---|---|
| (A-18-15) 28aad | Winslow Test Well |

| 8. DRAINAGE BASIN CODE No. | Letter | 9. STATE CODE | 10. COUNTY CODE | 11. COUNTY NAME |
|---|---|---|---|---|
| 61 | W | 04 | 03 | Coconino |

| 12. PERIOD OF RECORD Began | Discontinued | Continuous Interruption Exceeds 1 Year | 13. | 14. |
|---|---|---|---|---|
| 9-69 | | Y ☐ | | |

**15. SITE**

- ☐ 101 Stream
- ☐ 102 Canal
- ☐ 103 Lake
- ☐ 104 Reservoir
- ☐ 105 Estuary
- ☐ 106 Spring
- ☒ 107 Well
- ☐ 110 Other

**16. FREQUENCY OF MEASUREMENT**

- ☒ 201 Continuous Recorder
- ☐ 202 Telemetered
- ☐ 203 Daily
- ☐ 204 Weekly
- ☒ 205 Monthly
- ☐ 206 Quarterly
- ☐ 207 Seasonal
- ☐ 208 Annual
- ☐ 209 Other Periodic
- ☐ 210 Occasional

**17. TYPES OF DATA AVAILABLE**

*Physical*

- ☒ 311 Temperature
- ☒ 312 Specific Conductance
- ☐ 313 Turbidity
- ☐ 314 Color
- ☐ 315 Odor
- ☐ 316 Radioactivity
- ☐ 317 pH (field)
- ☒ 318 pH (lab)
- ☐ 319 Eh
- ☐ 320 Other

*Chemical*

- ☒ 331 Dissolved solids
- ☐ 332 Chlorides Only
- ☐ 333 Nutrients (Nitrogen and phosphorus compounds)
- ☒ 334 Common ions
- ☐ 335 Hardness
- ☐ 336 Radiochemical
- ☐ 337 Dissolved oxygen
- ☐ 338 Other Gases
- ☐ 339 Other

*Organic*

- ☐ 351 Pesticides (insecticides, herbicides, etc.)
- ☐ 352 Synthetic detergents
- ☐ 353 Other

*Biologic*

- ☐ 361 Coliforms
- ☐ 362 Other Micro-organisms
- ☐ 363 BOD
- ☐ 364 Other

*Sediment*

- ☐ 371 Concentration
- ☐ 372 Particle size
- ☐ 373 Other

**18. SUPPLEMENTARY DATA FOR SITE**

- ☐ 421 Surface Water Station
- ☒ 422 Ground Water Station
- ☐ 423 Water Stage or Level
- ☐ 424 Water discharge
- ☐ 425 Time of Travel
- ☐ 426 Drainage Area

**19. STORAGE OF DATA**

- ☐ 501 Periodic Report
- ☐ 502 Areal Report
- ☒ 503 Not Published
- ☐ 504 Data on Punchcard
- ☐ 505 Data on Magnetic Tape
- ☐ 506 Other

**20. OFFICE AT WHICH DATA AVAILABLE** DATA ARE AVAILABLE TO PUBLIC ON REQUEST ☒ YES ☐ NO

Office: U.S. Bureau of Reclamation, Phoenix Development Office

Street No.: 135 North Second Avenue, Room 524

City, State, Zip: Phoenix, Arizona 85003

City Code:

**21. OFFICE COMPLETING FORM**

Same.

**22. COMPILER'S NAME**

E. E. Komie, Chief, Geology Division

**23. DATE** Month: 9 Year: 1969

FORM A-3

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF WATER DATA COORDINATION
INVENTORY OF HYDROLOGIC DATA STATIONS
GROUND WATER

| 1. AGENCY CODE | 2. TYPE | 3. LATITUDE | 4. LONGITUDE | 5. |
|---|---|---|---|---|
| BR | G | 35° 59' 58"N | 110° 45' 06"W | |

6. AGENCY STATION NUMBER AND NAME
(A-18-15)28 aad Winslow Test Well

| 7. DRAINAGE BASIN CODE No. | Letter | 8. STATE CODE | 9. COUNTY CODE | 10. COUNTY NAME |
|---|---|---|---|---|
| 61 | W | 04 | 03 | Coconino |

11. PERIOD OF RECORD (YEAR)
Began 1969 Discontinued
Y☐ Interruption Excess 1 Year

12. ALTITUDE AT STATION DETERMINED BY
☐1 Spirit Level or Transit ☒3 Topographic Map
☐2 Altimeter or Hand Level ☐4 Not Determined

13. TYPE OF STATION
☒105 Well ☐107 Spring

14a. MEASUREMENT OF WATER LEVEL OR PRESSURE HEAD
☒381 Nonpumping ☐382 Pumping

b. MEASUREMENT OF DISCHARGE OR RECHARGE
☐425 Natural Flow
☐426 Pumpage
☒427 Recharge

15. FREQUENCY
☒432 Continuous Recorder ☐437 Quarterly
☐433 Telemetered ☐438 Semiannual
☐434 Daily ☐439 Annual
☐435 Weekly ☐440 Other Periodic
☒436 Monthly

16. DOES MEASUREMENT CHECKED IN BLOCK 14 REFLECT OUTSIDE, SHORT-TERM, CYCLIC OR INTERMITTENT WITHDRAWAL OR RECHARGE
☒445 Yes ☐446 No

17. SUPPLEMENTARY DATA AVAILABLE FOR STATION
☐451 Total Annual Pumpage or Flow
☐452 Specific Capacity
☐453 Water Quality, Recurring Measurement
☒454 Water Quality, Non-Recurring Measurement
☒455 Depth of Well
☒456 Casing Record
☒457 Screen Record
☒458 Driller's Log
☒459 Geologic Log
☒460 Instrument Log
☐461 Coef. of Permeability, Transmissibility or Storage (By Field Methods)

☐462 Nonpumping Water Level or Pressure Head Measurement (Leave blank if 381 checked)
☒463 Pumping Water Level or Pressure Head Measurement (Leave blank if 382 checked)
☐464 Natural Flow or Pumpage Measurement (Leave blank if 425 or 426 checked)
☐465 Recharge Measurement (Leave blank if 427 checked)

18. STORAGE OF DATA (REFERS TO ITEM 14)
☐501 Published ☐503 Data on Punchcard ☐505 Other
☒502 Not Published ☐504 Data on Magnetic Tape

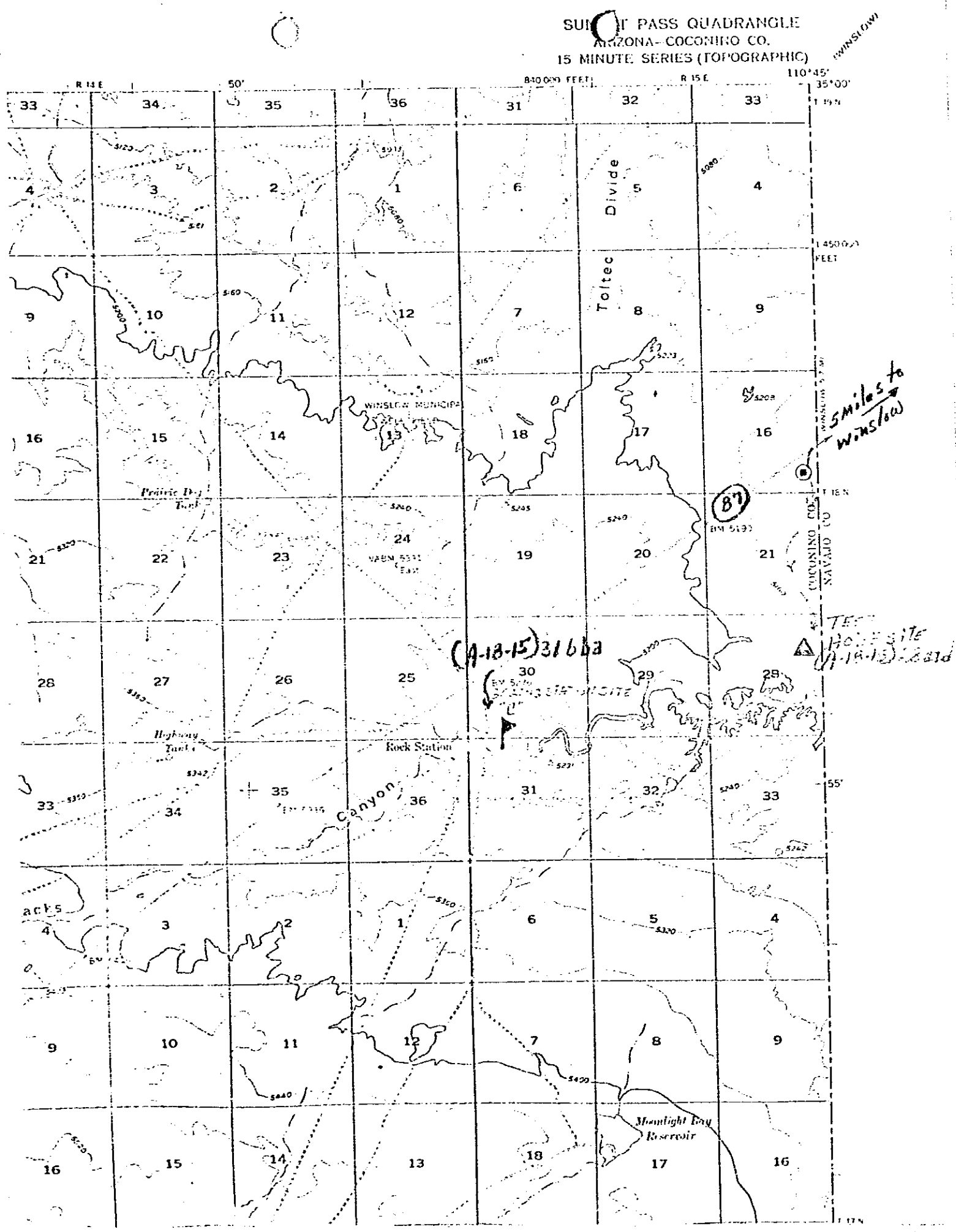
19a. INQUIRIES ABOUT DATA SHOULD BE SENT TO:
Office U.S. Bureau of Reclamation, Phoenix Development Office
Street No. 135 North Second Avenue, Room 524
City, State, Zip Phoenix, Arizona 85003
City Code
b. DATA ARE AVAILABLE TO PUBLIC ON REQUEST ☒Yes ☐No

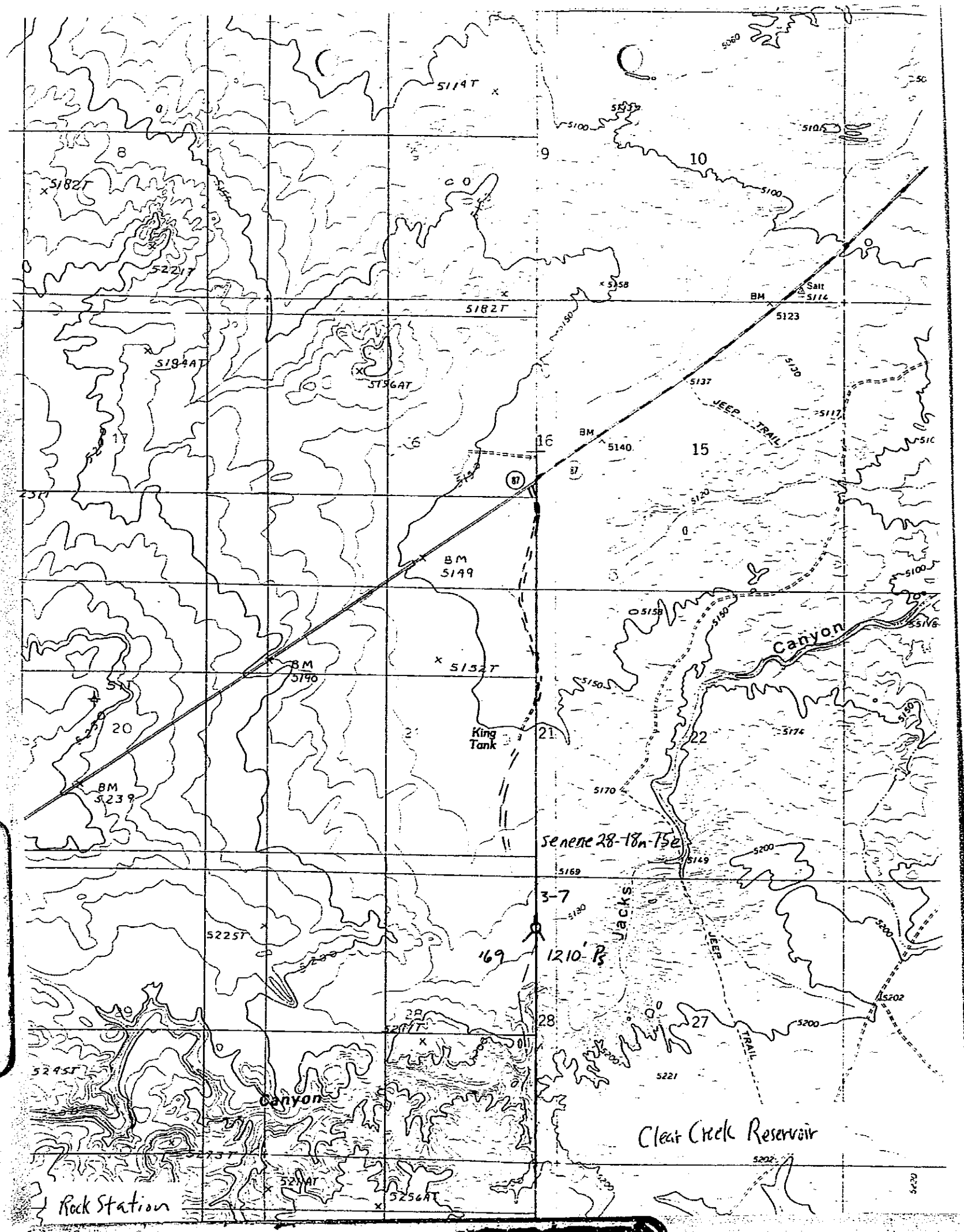
20. OFFICE COMPLETING FORM
Same.

21. COMPILER'S NAME
E. E. Komie, Chief, Geology Division

22. DATE Month 9 Year 1969

GPO-835-304


SUNSET PASS QUADRANGLE
ARIZONA-COCONINO CO.
15 MINUTE SERIES (TOPOGRAPHIC)
WINSLOW
R 14 E
50'
R 15 E
110°45'
35°00'
T 19 N
Toltec
Divide
WINSLOW MUNICIPAL
Prairie Dog
Tank
Highway
Tank
Rock Station
Canyon
Moonlight Bay
Reservoir
COCONINO CO.
NAVAJO CO.
87
5 miles to Winslow
(A-18-15)31bba
TEST HOLE SITE
(A-18-15)28aid


5114T
5182T
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BM 5123
BM 5140
BM 5149
BM 5190
BM 5239
Salt
JEEP TRAIL
King Tank
Canyon
Canyon
Jacks
JEEP TRAIL
se nene 28-18n-15e
1210' Ps
169
3-7
Clear Creek Reservoir
Rock Station
8
9
10
15
16
20
21
22
27
28

Form No. PHD-22
July 1963

3-1

3-7

# CONDENSED GRAPHIC LOG OF GROUND WATER TEST HOLE

PROJECT MOGOLLON MESA, WINSLOW - HOLBROOK DIVISION — STATE ARIZONA

HOLE NO. (A-16-15)23 aad - WINSLOW TEST HOLE — GROUND ELEVATION 5180±

BEGUN MAY 5-1969 — FINISHED JULY 22, 1969 - SEPT. 2, 1969 — TOTAL DEPTH 1210

DEPTH OR ELEVATION OF WATER TABLE 265.5' ± 7/29/69 — HOLE LOGGED BY G. D. Ford

| TYPE OF SAMPLE | DEPTH | PIEZOMETER DATA | SAMPLES FOR TESTING | LOG | CLASSIFICATION AND PHYSICAL CONDITION |
|---|---|---|---|---|---|
| CT & D | | | | | 0' - 40' MOENKOPI FORMATION: reddest brown to red toward bottom, fine grained sandstone, firmly cemented with siliceous cement, slight reaction to acid. |
| | 100 | | | | 40' - 150' KAIBAB LIMESTONE: pale gray to pale yellow, yellow colored zone sandy fine grained, cemented with calcareous cement, slight to moderate reaction to acid, cherty and iron stained in bottom 10 feet. |
| CR | 200 | | | | 150' - 1020' COCONINO SANDSTONE: white to tan, spotted and streaked with orange iron staining, well sorted, fine grained, subangular to rounded quartz with scattered magnetite, moderately to firmly cemented with siliceous or calcareous cement, slight to no reaction to HCl. Bedding is often massive or very poorly defined, cross bedding usually dips 2° to 22° to core normal, irregularly spaced joints dip from 60° to vertical to core normal, some are well healed by silica and are tight, others are iron stained indicating open joints while some have no stains and may have been opened during drilling. |
| DOTTED 100 | 300 | | | | Detailed Log of Cored Interval: |
| | | | | | 200 - 242 Core recovered in lengths from .1 to 1.0 ft, with most between .3 and .6 ft. Core breaks are mostly mechanical along the bedding planes. Open joints are at 200' dipping 60° to core normal with some iron staining and at 210' dipping 70° to core normal with no staining. |
| | | | | | 242 - 250' Core recovered in broken pieces [illegible] |

CORE RECOVERY

CT & D

400

500

600

700

800

900

1000

[illegible] large length 7 ft. long. Breaking is along planes mostly from horizontal to dipping 4° to core normal. Iron staining is spotty throughout and is present on most of the break planes. The core from 240' to 248' is badly eroded from drilling and some of the break planes are rounded.

250' – 288' Core recovered in lengths from .2 to 2.8 ft. with most between .5 and 1.0 ft. Most breaks are along the bedding planes dipping 18° to 22°. The breaks along the 2° to 4° dipping planes appear to be mostly mechanical. Open joints at 252' dipping 60° to core normal and a vertical joint from 254' to 254.5 ft. show no staining.

288' – 29[illegible] Core recovered in lengths from .1 to .3 ft. Breaks are along the bedding planes. This interval is mottled with iron staining with quite heavy staining along some of the break planes.

29[illegible] – 44[illegible] Core recovered in lengths from .2 to 3.0 ft. with most from .3 to .5 ft. Most breaks are along the bedding planes; some are slightly iron stained, others show no staining. Open joints are at 297' dipping 75° to core normal and a vertical joint from 310.5' to 311.2' both with heavy iron staining. A joint at 334' dipping 70° to core normal has no staining and may have [illegible]. There is a color change at [illegible] from predominately white to predominately tan.

441.6' – 450.3' Core recovered in lengths from .1 to .5 ft. with most from .3 to .4 ft. Breaks along bedding planes dipping 18° to 22° to core normal are most prominent. Some partings along these bedding planes are poorly healed with heavy iron deposits. Breaks on the planes dipping 2° to 4° to core normal are probably mostly mechanical.

450.3' – 567.5' Core recovered in lengths from .2 to 2.0 ft. with most from .3 to .5 ft. Breaks along bedding planes. The bedding is accentuated by iron staining below 520'. At 550' there is a break which has been badly rounded by drilling action.

CR = CORE
CT = CUTTINGS
D = DRILLERS LOG

CLAY & CEMENT PACKER

BOTTOM OF PIEZOMETER TUBE & SUFFIX NUMBER

D DENSITY SAMPLE
P PERMEABILITY SAMPLE
M MOISTURE SAMPLE

Sandstone
Limestone
Siltstone

HOLE NO (A-18-15) 28 ad

# CONDENSED GRAPHIC LOG OF GROUND WATER TEST HOLE

PROJECT MOGOLLON MESA - WINSLOW - HOLBROOK DIVISION STATE ARIZONA

HOLE NO. (A-19-15)28 aad - WINSLOW TEST HOLE GROUND ELEVATION 5180±

BEGUN MAY 5, 1969 FINISHED JULY 23, 1969 - SEPT. 3, 1969 TOTAL DEPTH 1210'

DEPTH OR ELEVATION OF WATER TABLE 265.5'± 7/29/69 HOLE LOGGED BY B.D. Ford

| TYPE OF SAMPLE | DEPTH | PIEZOMETER DATA | SAMPLES FOR TESTING | LOG | CLASSIFICATION AND PHYSICAL CONDITION |
|---|---|---|---|---|---|
| CT & D | | | | | 567.5 - 594.5' Core recovered in lengths from .06 to .8 ft. with most from .15 to .3 ft. Breaks along bedding planes with a predominance of breaks dipping 2° to 4° to core normal. |
| | 100 | | | | 594.5' - 510' Core recovered in lengths from .1 to 1.3 ft. with most from .4 to .8 ft. Breaks along iron stained bedding planes dipping predominately from 2° to 4° from core normal. Surface of core has grain sized, iron stained pits. |
| | 200 | | | T.D. | 1020' - 1210' SUPAI FORMATION: light brown to orange and red, uniform fine grained sandstone and siltstone very weakly cemented, lower portion predominately red siltstone, slight to no reaction to acid. |
| | 300 | | | | |

REMARKS: Drilling equipment

Failing 1500

Drilling:

Drilled 9" rock bit to 200'

Set 200' of 6" casing, cemented

Cored (NC) 200' to 610'

Reamed to 4 3/4" - 200' to 610'

Rock bit 4 3/4" 610' to 1210'

Tested water quality and took sample for analysis
Reamed to 9 5/8" from 610' to 1120'
Ran "E" logs to 1120
Backfilled with gravel from 1210' to 900'
Cemented from 900' to 500' with type 5 cement

**Casing:**

0' to 200' 9" casing
200' to 500' open hole

**Development:**

Drilling mud washed from hole 310' to 500'
by jetting and airlift pump

**Water level:**

M.P. to W.S. = 265.9 (7-28-69)
265.9' (8-4-59)

**Water samples:**

Used packers to isolate intervals sampled

| Interval tested (ft.) | Depth of intake valve (ft.) |
|---|---|
| 1,076 to 1,210 | 1,176 |
| 846 to 940 | 934 |
| 826 to 920 | 914 |
| 726 to 820 | 914 |
| 616 to 710 | 704 |
| 508 to 606 | 584 |
| 396 to 496 | 492 |
| 353 to 424 | 410 |

CORE
CUTTINGS
DRILLERS LOG

CLAY & CEMENT PACKER
BOTTOM OF PIEZOMETER TUBE & SUFFIX NUMBER
D DENSITY SAMPLE
P PERMEABILITY SAMPLE
M MOISTURE SAMPLE
Sandstone
Limestone
Siltstone

HOLE NO. (A-18-15) 28aad