



# WATER-RIGHT DOCKET

## Guadalupe Mountains National Park

Docket No: 3

SIGNAL PEAK WELL.

Other Supporting Information

08-07-1978: letter to nps from ed l. reed and associates regarding drill cutting examination culberson & val verde counties

**E. L. Reed and Associates**  
Consulting Hydrologist  
1109 N. BIG SPRING  
MIDLAND, TEXAS 79701  
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AUG 10 1978

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1700 SHERWOOD WAY  
SAN ANGELO, TEXAS 76901  
915 944-2120  
V. STEVE REED

August 7, 1978

Mr. Garland Moore  
National Park Service  
1100 Old Santa Fe Trail  
P. O. Box 728  
Santa Fe, New Mexico 87501

Re: Drill Cutting Examination  
Culberson & Val Verde  
Counties, Texas

Dear Mr. Moore,

Enclosed please find the sample descriptions of drill cuttings from the Guadalupe Mountain area of Culberson County, Texas and the Amistad Dam area of Val Verde County, Texas.

An attempt has been made to categorize the formation names by lithology and drill site locations as follows:

| LOCATION                  | WELL NAME           | FORMATIONS                                               |
|---------------------------|---------------------|----------------------------------------------------------|
| Val Verde Co., Texas      | "Rough Canyon"      | Cretaceous; Georgetown (Salmon Peak Limestone)           |
| Culberson Co., Texas      | "McKittrick Canyon" | Permian-Guadalupean                                      |
| (Guadalupe Mountain Area) |                     | Carlsbad Formation 0-76'                                 |
| Culberson Co., Texas      | "Friole Well"       | Quaternary deposits 0-150'                               |
|                           |                     | Delaware Mountain Group                                  |
|                           |                     | Bell Canyon Formation 150-725'                           |
| Culberson Co., Texas      | "Glover Well"       | Quaternary 0-200'                                        |
|                           |                     | Guadalupean Age: Delaware Mountain Group - Cherry Canyon |
|                           |                     | 200 to 300'+; Brushy Canyon                              |
|                           |                     | 300 to 1660'+                                            |
|                           |                     | Leonard Age: Bone Springs 1660' to 2570'+                |
| Culberson Co., Texas      | "Signal Peak Well"  | Permian-Guadalupean Age:                                 |
| (Guadalupe Mountains)     |                     | Delaware Mountain Group                                  |
|                           |                     | Brushy Canyon 0-900'                                     |
|                           |                     | Leonard Age                                              |
|                           |                     | Bone Spring 900-1240'                                    |

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Mr. Garland Moore  
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If you have any further questions concerning these descriptions  
or formation identifications, please advise.

Very truly yours,

ED L. REED & ASSOCIATES

*Chester F. Skrabacz*

Chester F. Skrabacz

CFS/cm

Enclosures

ED L. REED & ASSOCIATES  
CONSULTING HYDROLOGISTS

CLIENT \_\_\_\_\_ S.W.L. \_\_\_\_\_  
LOCATION \_\_\_\_\_ CASING \_\_\_\_\_  
DATE \_\_\_\_\_ PERFORATIONS \_\_\_\_\_  
WELL NUMBER *Signal Peak No. 1* \_\_\_\_\_ DRILLER \_\_\_\_\_

## SAMPLE DESCRIPTION

| TERVAL  | DESCRIPTION                                                                                         | POR |
|---------|-----------------------------------------------------------------------------------------------------|-----|
| 70-840  | 80% light gray to white very fine quartzitic sandstone 20% gray-black shaley dense sandstone        |     |
| 70-850  | 100% gray-black laminated dense shale & sandstone                                                   |     |
| 70-860  | 100% white-gray tightly cemented quartzitic sandstone                                               |     |
| 70-870  | Missing                                                                                             |     |
| 70-880  | 100% gray-white clean cemented sandstone w/gray black sandy shale lamination trace soft gray clay   |     |
| 70-890  | 100% black dense slightly calcareous - siliceous siltstone trace black chert                        |     |
| 70-900  | 100% as above                                                                                       |     |
| 70-910  | 60% black siliceous-shaley siltstone 20% gray dense sandstone 20% ls; tan chalky to brown siliceous |     |
| 70-950  | 100% black to deep brown siliceous limestone                                                        |     |
| 70-1000 | 100% black to light brown dense siliceous limestone                                                 |     |
| 70-1050 | 100% light brown dense slightly siliceous limestone s/pyritic inclusions                            |     |
| 70-1080 | 70% as above 30% light brown vitreous dolomitic ls some 2nd xfts in fracture planes                 | T.  |
| 70-1100 | 60% light brown dense to siliceous ls some fractured 40% light brown dense fossiliferous limestone  | T.  |
| 70-1150 | 100% light brown to black siliceous limestone trace pyrits                                          |     |
| 70-1200 | 100% as above some light tan colors                                                                 |     |
| 70-1240 | 100% black siliceous limestone                                                                      |     |
| TD      | 1240                                                                                                |     |
|         | Above formations are Delaware Mountain Group - Brushy Canyon<br>and Bone Spring limestone.          |     |

ED L. REED & ASSOCIATES  
CONSULTING HYDROLOGISTS

CLIENT National Park Service S.W.L. \_\_\_\_\_  
 LOCATION Guadalupe National Park  
Guadalupe Mountains CASING \_\_\_\_\_  
 DATE June 7, 1978 PERFORATIONS \_\_\_\_\_  
 WELL NUMBER Signal Peak Well DRILLER \_\_\_\_\_

## SAMPLE DESCRIPTION

| ERVAL | DESCRIPTION                                                                                                                 | POROSITY |
|-------|-----------------------------------------------------------------------------------------------------------------------------|----------|
| 1-10  | 75% white-cream-pink siliceous fossiliferous lms 25% tan cemented sdst.                                                     | None     |
| 1-20  | 80% sandstone; dirty yellow to brown, tightly cemented s/calcareous<br>20% siltstone (streaks)                              | None     |
| 1-80  | 100% as above w/dark streaks of siltstone some mica & pyrite                                                                | None     |
| 1-90  | 75% sandstone; white coarse grained quartz, rounded, yellow stained s/calc<br>25% sandstone and fine gravel                 | Fair     |
| 1-95  | 75% sandstone; dark gray, yellow, brown tightly cemented 20% ls white to tan<br>fossiliferous and siliceous - 5% loose sand | Slight   |
| 1-100 | 100% sandstone and sand white to yellow some clay inclusions                                                                | Slight   |
| 1-120 | 90% sandstone; white coarse quartz grains, round cemented w/calcareous<br>matrix and clay 10% dark sandstone & limestone    | Fair     |
| 1-130 | 70% sandstone as above 30% mixture limestone & cherts                                                                       | Slight   |
| 1-150 | 100% sandstone white coarse loose to cemented                                                                               | F-G      |
| 1-170 | 70% silty sandstone; gray black tightly cemented 30% sandstone gray to ylw                                                  | Slight   |
| 1-180 | 100% sandstone; white to gray slightly cemented, slightly calcareous & mica                                                 | S-F      |
| 1-220 | 100% silty sandstone; gray to black tightly cemented to siliceous                                                           | None     |
| 1-240 | 100% sandstone; white medium to coarse quartz grains, slightly cemented                                                     | F-G      |
| 1-250 | 70% tan-brown silty sandstone (streaked) 30% sandstone s/porosity                                                           | Slight   |
| 1-300 | 100% sandstone; white coarse grain quartz slightly cemented streaked with<br>black siltstone slightly micaceous and shaley  | Slight   |
| 1-310 | 100% black silty shales some mica, pyrite and streaked w/coarse sandstone                                                   | None     |
| 1-330 | 90% sandstone; tight to loose, medium to coarse grain, s/calcareous<br>10% white limestone                                  | Good     |
| 1-400 | 70% gray-black silty shale 30% white gray tight fine grained sandstone                                                      | None     |
| 1-410 | 100% gray-white fine sandy siltstone                                                                                        | None     |
| 1-500 | 70% as above w/micaceous and pyritic inclusions 30% gray sandstone streaks                                                  | None     |
| 1-530 | 100% sandstone - white medium to coarse grain quartz                                                                        | S-F      |
| 1-550 | 100% black silty micaceous, pyritic shale                                                                                   | None     |
| 1-570 | 100% sandstone; coarse white s/calcareous                                                                                   | F-G      |
| 1-580 | 100% black to gray silty shale                                                                                              | None     |
| 1-600 | 100% sandstone; white medium to coarse quartz grains s/calcareous                                                           | F-G      |
| 1-610 | 60% gray-black siliceous silty shale 40% sandstone white tight                                                              | None     |
| 1-650 | 100% black silty shales some white medium sandstone streaks                                                                 | None     |
| 1-670 | 90% sandstone; white coarse grained 10% black silty shale                                                                   | S-F      |
| 1-680 | 100% shale; black silty, micaceous etc.                                                                                     | None     |
| 1-730 | 70% sandstone; gray fine s/calcareous & micaceous 30% black shale                                                           | N-S      |
| 1-740 | 100% sandstone; white coarse                                                                                                | Fair     |
| 1-790 | 100% shale; black silty & micaceous 30% black shale                                                                         | N-S      |
| 1-800 | 70% sandstone; gray tight 30% black silty shale                                                                             |          |
| 1-810 | 75% black-gray very fine quartzitic sand in shaley matrix 25% white-gray<br>very fine cemented sandstone s/calcareous       | N-S      |
| 1-820 | 30% black-gray very fine dense shaley sandstone (as above) 70% gray-white<br>very fine sandstone tr/pyrite                  | VS       |
| 1-830 | 100% gray black dense laminated shale & sandstone some pyritic inclusions                                                   | None     |

OPTIONAL FORM NO. 10  
MAY 1962 EDITION  
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

# Memorandum

TO : Chief of Maintenance

DATE: 4/26/76

FROM : Hydraulic Engineer, Water Resources

SUBJECT: Water Supply, Signal Peak, Guadalupe Mountains

For the past year we have been drilling a well at Signal Peak residential area. The total depth of well is 1500 feet below land surface and yields an estimated 60 gpm according to the driller Leroy Perry of Dell City, Texas.

The well needs to be test pumped to determine the yield of the aquifer to properly locate the depth of and to determine the size of the pump required to deliver a minimum of 15 gpm to the two above ground storage reservoirs located 25 feet from the well.

In order to meet the above requirements the following needs to be done:

1. Get \$14,000 and spend it on:
  - a) \$9,886.08 for a 20HP submersible pump and related equipment as shown on Table 1. ✓
  - b) Purchase and install an Add-A-Phase. Total estimated cost \$3,500.
  - c) Installation of pump and electrical hookup \$600.00. ✓  
I recommend Leroy Perry do this section as his drilling rig is on location and he is competent in this area of work.
2. Test pump the well to determine aquifer characteristics and obtain water sample for additional verification of samples being analyzed by Environmental Consultants.
3. If required, provide treatment. <sup>addition</sup> A water softener may be required - estimated cost \$2000. Recharge water estimated quantity to vary between 100-250 gallons to be discharged into an evaporation pond located adjacent to the water softening unit. Evaporite can be hauled to dump at Salt Flats area and disposed.
4. Hook-up to system and use the water.
5. ~~Have money will proceed.~~



Enclosure (Table 1)

Garland Moore

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

## Docket Information

Number of Documents in Docket 5  
Documents Dated from 4/26/1976 to 8/7/1978  
Docket Compiled: 4/7/2011