

Log # 27162

24 July 1962

SP12-0

MEMORANDUM FOR: RECORD

SUBJECT: Nellis Air Force Base, Nevada, Exploratory Well

1. General. A geologic investigation was made to determine the most favorable location of a exploratory well. As a result of the investigation the exploratory well was drilled in the SW 1/4, SE 1/4, Section 9 T 20S R 62E. The work, which was done from 12 June to 10 July 1962, included drilling, casing, gravel packing, development, and test pumping.

2. Drilling. The pilot hole was drilled to a depth of 814 feet and reamed to 26-inch diameter to a depth of 802 feet with a reverse circulation rotary rig. Materials encountered consisted of alternate layers of clay, fine sandy clay, clayey fine sand, caliche and limestone. Groundwater was first encountered at a depth between 105 and 110 feet. Static water level was subsequently found at a depth of 84 feet. For electric log and electric log interpretation see inclosures No. 1 and 2.

3. Casing. Twenty eight-inch diameter surface casing was set from about 2 feet above ground surface to a depth of 50 feet below ground surface. The annular space between the hole wall and the casing was sealed with grout. Twelve-inch diameter well casing, blank and perforated, was set from about 2 feet above ground surface to a depth of 802 feet. Blank casing was set to 302 feet and the preperforated casing was set from 302 feet to 776 feet. Blank casing was set in the lowest 24 feet of the hole. The total footage of 12 inch blank casing was 328 feet and the perforated casing was 476 feet. After the casing was set in hole a 6-inch gravel

envelope was placed around the casing. The log of the well and pertinent information on the casing are presented on inclosure No. 3.

4. Development and test pumping. The well was developed by swabbing and pumping. The data obtained from the test pumping indicate that the well will furnish 350 gallons per minute with a drawdown of 115.0 feet. The temperature of pumped water was 74° F. The drawdown curve for the test pumping period is presented on inclosure No. 4.

5. Quality of water. The chemical analysis of the water taken from the well at end of test pumping period is presented on inclosure No. 5.

6. Completed well. The completed well was cleaned of all accumulated sediment, and the bottom of the well casing has a steel "bull nose" plug. The well was left with approximately 2 feet of the 28 and 12-inch diameter casings extended above the ground surface. The casing was capped with a welded steel plate.

7. Contract data.

|                   |  |
|-------------------|--|
| Specification No: | ENG-04-353-62-70   |
| Contract No:      | DA-04-353-ENG-8095   |
| Contractor:       | Beylik Drilling Co.<br>11118 S. Luitwieler Ave.<br>Whittier, California  |
| Equipment:        | Custom built reverse circulation rotary rig built by Howard-Turner Co., Long Beach, Calif. Turbin test pump with peerless drive head powered by G.M.C. diesel motor. |
| Work started:     | 12 June 1962   |
| Work completed:   | 10 July 1962   |
| Job cost:         | \$17,860.35  |

5 Incl  
as

*George H. Kiefer*  
GEORGE H. KIEFER  
Geology Section  
Foundation & Materials Branch

**ELECTRIC LOG INTERPRETATION**

**74 UBLIN**

WELL LOGGING CORP.  
P. O. Box 819, Bakersfield, Calif.

FOR Nellis A.F. B.

WELL No. Exploratory Well

APEA South End 0 2 R Runway

SEC. 9 - 20S - 62E

COUNTY Clark

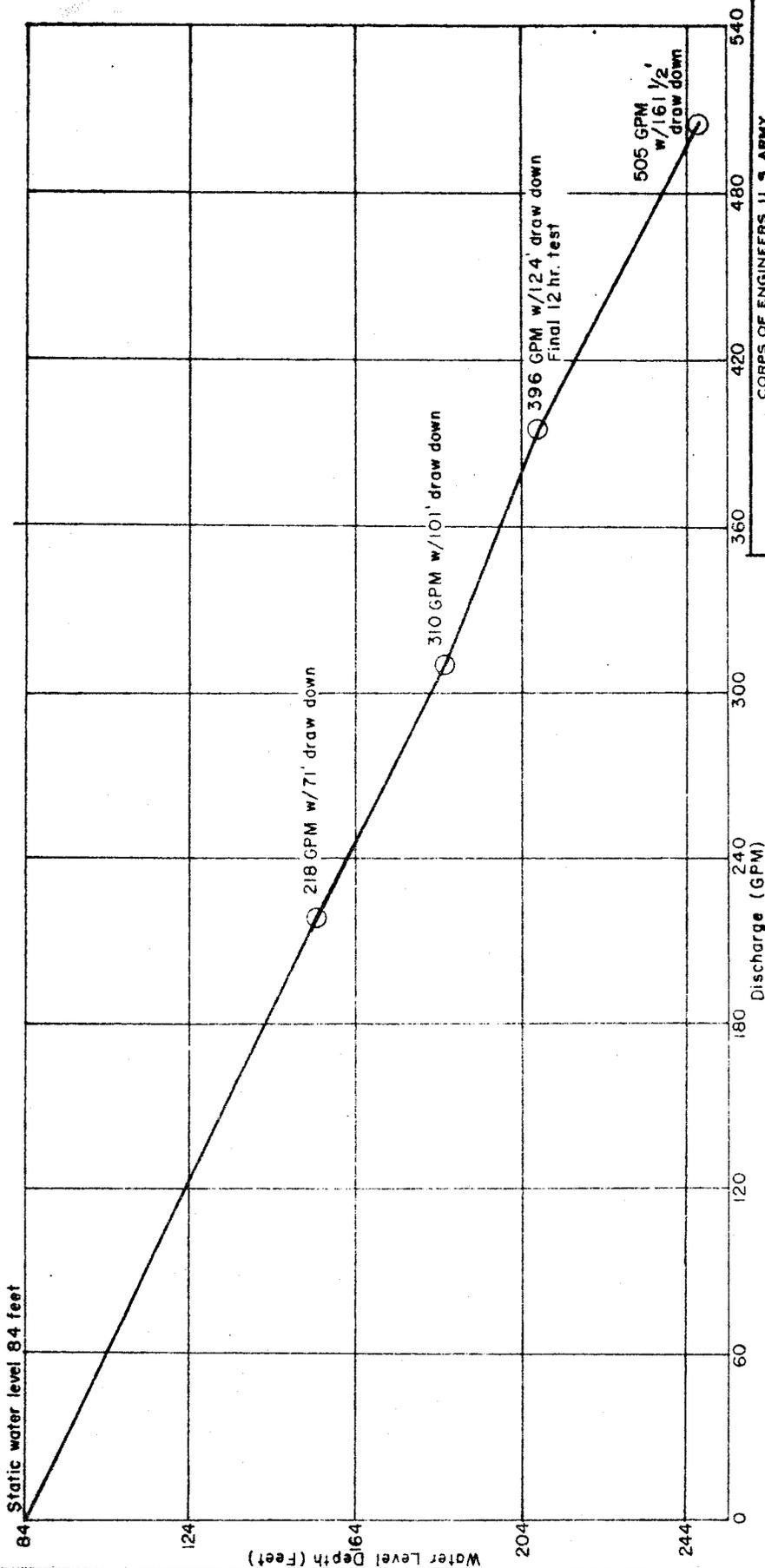
STATE Nevada

| DEPTH        | FORMATION      |      |      |       | WATER   |                                |
|--------------|----------------|------|------|-------|---------|--------------------------------|
|              | Gravel or Sand | Clay | Silt | Shale | Quality | Relative Quantity (% of Total) |
| 50' to 102'  | X              | X    | X    |       |         |                                |
| 102' to 111' | X              |      |      |       | Fair    | 11%                            |
| 111' to 193' |                | X    | X    |       |         |                                |
| 193' to 290' | X              | X    | X    |       |         |                                |
| 290' to 298' | X              |      |      |       | Fair    | 8%                             |
| 298' to 383' | X              | X    | X    |       |         |                                |
| 383' to 389' | X              |      |      |       | Fair    | 6%                             |
| 389' to 412' |                | X    | X    |       |         |                                |
| 412' to 435' | X              |      |      |       | Fair    | 23%                            |
| 435' to 470' |                | X    | X    |       |         |                                |
| 470' to 482' | X              |      |      |       | Fair    | 12%                            |
| 482' to 590' | X              | X    | X    |       |         |                                |
| 590' to 607' | X              |      |      |       | Fair    | 17%                            |
| 607' to 750' | X              | X    | X    |       |         |                                |
| 750' to 776' | X              | X    |      |       | Fair    | 23%                            |
| 776' to 814' | X              | X    | X    |       |         |                                |
| to           |                |      |      |       |         |                                |
| to           |                |      |      |       |         |                                |

**GENERAL REMARKS:**

Sand Count - 85' Clean  
40' Dirty

Water Quality is the same as surrounding producers



Pump setting 347'  
 6" J.D. column & 8" discharge pipe  
 Peerless turbine pump head 1 5/8" Bows - 12 Stages  
 Water measurement - Air Line & gauge, setting of 250:  
 Depth of Well 802  
 Perforations: 302' - 778'  
 Recovery: Water level recovered to 118' in 5 mins.

CORPS OF ENGINEERS, U. S. ARMY  
 OFFICE OF THE DISTRICT ENGINEER  
 LOS ANGELES, CALIFORNIA

**NELLIS A. F. B. NEVADA**  
 EXPLORATORY WELL  
 TEST PUMPING DATA

DRAWN BY: G.H.K.  
 TRACED BY: R.P.A.  
 CHECKED BY: F.T.  
 SUBMITTED BY:

APPROVAL RECOMMENDED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHIEF ENGINEER BY: \_\_\_\_\_

PREPARED UNDER THE DIRECTION OF: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_

SCALE: As Shown SPECIFICATIONS NO. \_\_\_\_\_

D. O. SERIES