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HEINRICHS



GEOEX PLORATION COMPANY

WALTER E. HEINRICHS, C.P.G.S. 688

REGISTERED PROFESSIONAL GEOLOGICAL ENGINEER
AND GEOPHYSICIST

D-17-19-8-2

**806 West Grant Road, P.O. Box 5984,
Tucson, Arizona 85703, Phone (802) 623-0578**

MINERAL, ENERGY AND GROUND-WATER PROSPECTING
SERVICES - PRODUCTS - SYSTEMS - SITE ENGINEERING

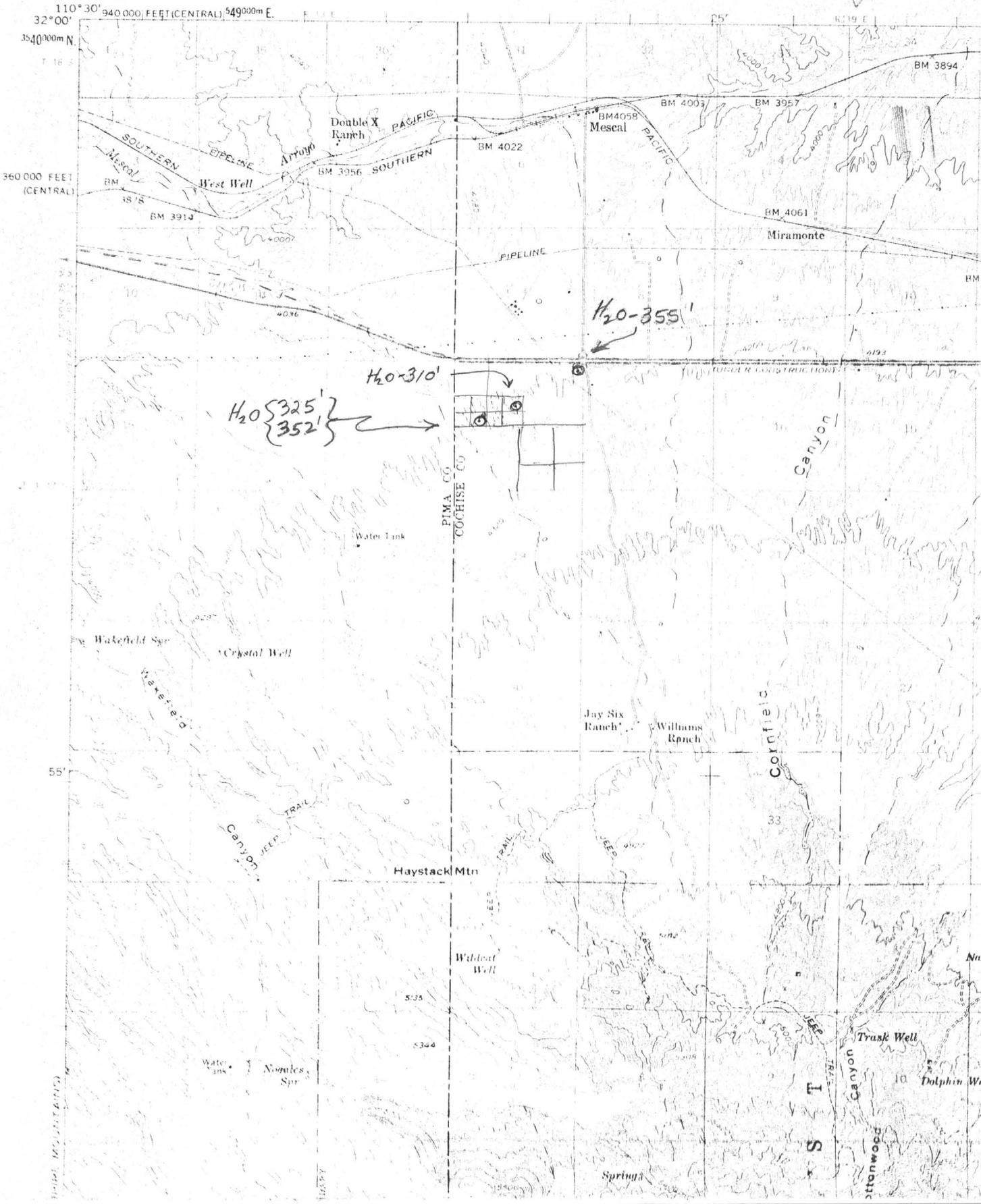
Mrs. Louise Mofflett
Star Route Box 315
Benson, Ariz. 85602

400' Well? } a, a, c?

175-19E PCB }

IRINCON VALLEY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

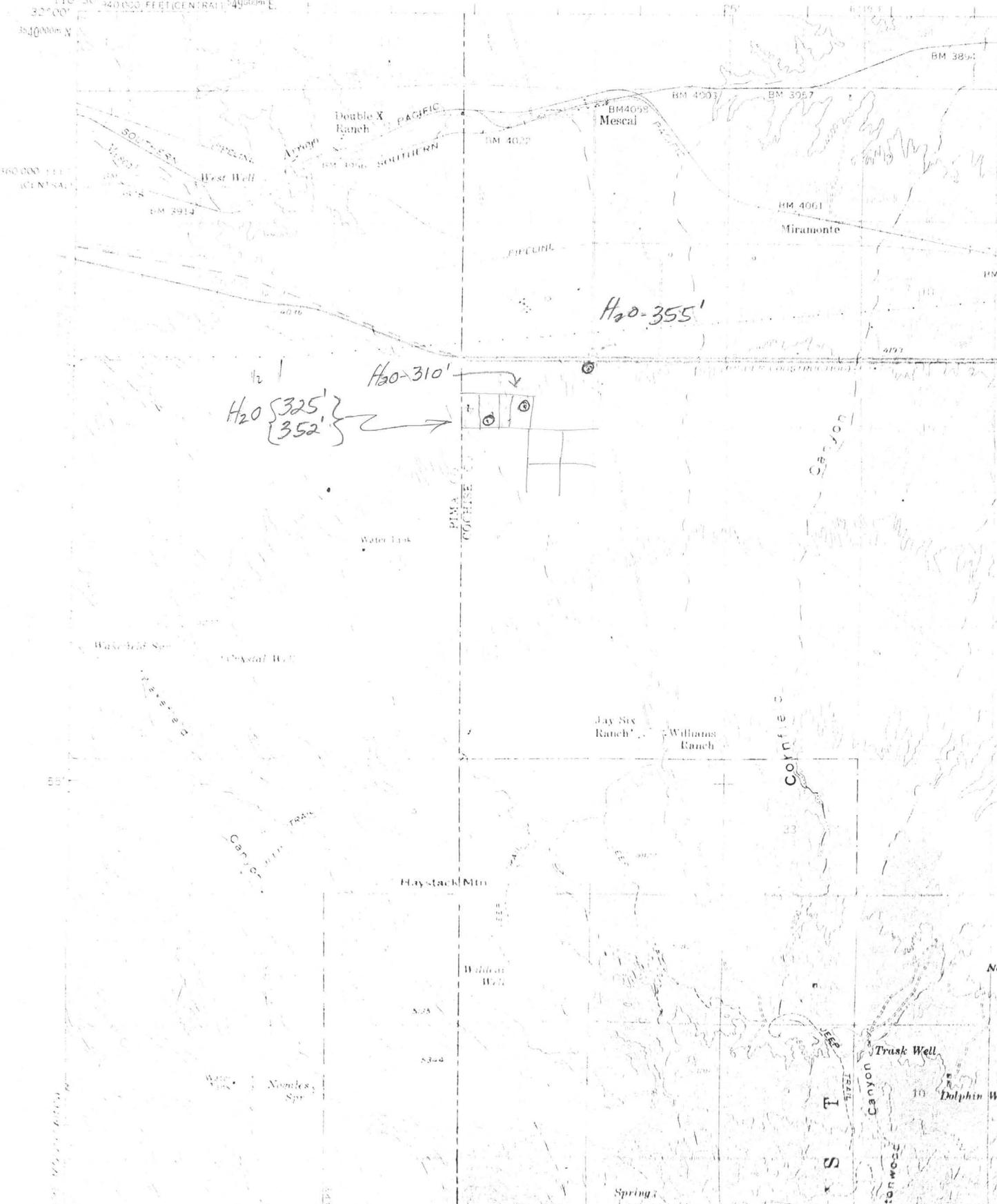


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

110° 30' 40 000 FEET (CENTRAL) 549 000m E.
32° 00' 35 000m N

360 000 FEET (CENTRAL)

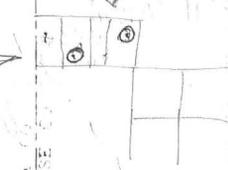
WINCON VALLEY



H2O {325'
352'}

H2O-310'

H2O-355'



Water Tank

Washford Spr

Crystal W.C.

Jay Six Ranch

Williams Ranch

Haystack Mtn

Williams W.C.

Water Tank

Noodles Spr

Trask Well

Dolphin W.

Spring

749-4558

May 10, 1979

Mr. and Mrs. Clyde Buntin
10913 E. Tanque Verde Road
Tucson, Arizona 85715

Re: Water Well Considerations
Lot 14, J-6 Ranchettes,
Section 18 T17S, R19E
Cochise County, AZ
GEOEX #1345

Dear Mr. and Mrs. Buntin:

Pursuant to your earlier telephone request I spent part of yesterday on the premises and investigating the situation in the nearby vicinity.

In general, the conditions are quite favorable for obtaining a domestic well almost anywhere in the immediate area. Locally, differences in recorded and measured depths to the water table below the ground surface appears to be mainly due to differences in surface elevation and variations in time, technique and conditions in the wells at the time of measurement. In talking personally to three private domestic well owners in the vicinity, all were quite satisfied with their well experiences to date. Two of these owners had submersible electrical pumps and one had a windmill with a gasoline engine driven pump jack for emergencies. Although the owners seemed to know the approximate depth of their wells as presumably originally drilled, none seemed to know very much about the depth to the water table or the depth at which the pump or lift valve was set in any respective hole. Unfortunately, all of the wells I inspected were either capped or were in current use and therefore, I was unable to measure a present depth to water table. However, a number of measurements are recorded and fairly reliably documented.

Shallowest and most recent (1971) water table measurement reported by the U.S. Geological Survey, Tucson, Arizona, is 244' below the collar at the J-6 Ranchettes' well about 1000' northeast of your lot, located near I-10 and the southerly interchange off ramp. The nearest well to your property at present is owned by Mrs. Louise Norfleet, Star Route Box 315, Benson AZ 85602. This well is located about five or six hundred feet south of your property. Mrs. Norfleet remembered the well as being drilled about 400' deep, but could not provide any

Mr. & Mrs. Clyde Buntin
May 10, 1979
Page Two

records for my inspection. Driller's logs obtained from the U. S. Geological Survey's office here in Tucson indicate logged depths at time of drilling below the respective collars of three wells, all within 1000' to 3000' from your property, at 310' for the shallowest and 355' for the deepest. These depths are more or less confirmed by the memory of the B. B. Quinners who are at Star Route Box 325 on the corner of Navajo Trail and Arapaho and the owners of the property with the windmill closest to your property east of J-6 Ranch Road, whose names I did not get because they were leaving in a hurry for town.

Summarizing, this indicates that a well drilled on your property should encounter water at somewhere between roughly 310' to 355' below the surface. On this basis, I do not believe you need to consider programming or planning a well on your property in excess of 500' deep. Conceivably, if economically necessary, you probably could get by with as little as 400', but of course this increases the risk attendant with a predictable dropping water table in the future. Another way to percentage-wise decrease the total hole depth necessary, would be to drill at the lowest elevation point on your property. That is, near the wash along your eastern property line and the Navajo Trail access road. This simply means that you would encounter the water table that much shallower than you would in a hole drilled on the higher elevations of your property. One disadvantage of drilling in or near the wash is having to protect the well collar from any surface run-off infiltration or damage caused by high water coming down the wash at flash flood times.

As explained to Mrs. Buntin on the telephone this morning, I am unable at the present time to give a totally unqualified recommendation of any particular drilling company, except perhaps for Venture Drilling Corporation here in Tucson, but they are extremely busy and very expensive. Unfortunately, many drilling crews are highly variable in experience and ability from time to time and commonly you get the best crew and the best job done when the drillers are the least busy. Venture Drilling Corporation does exclusively rotary drilling. Churn drillers or cable tool drillers, with which we have had satisfactory experience in the past, are A. A. McDaniel and Cotton Boring, both of Tucson. Also, there is a driller by the name of Johnson who works out of Benson with a satisfactory reputation. There are also other rotary drillers besides Venture that would probably be satisfactory. Cotton Boring estimated \$8,000 to \$10,000 for a 500' well, cased with either 6" or 8" steel casing, cutting torch perforated between somewhere near the static water level and above the hole bottom (to allow for sluffing) and fitted with a 1 to 2 horse power submersible pump and pressure tank system at the surface. In addition would be the power pole and suitable metered service outlets. Mr. Boring also quoted \$12.00 per foot to ~~drill~~ drill and case with 6" casing or \$15.00 per foot to only drill and case with 8" casing. I really believe 6" is adequate for your needs. Venture quoted \$180.00 per hour plus 6" casing at \$3.80 per foot, but they are fast and probably would complete the hole in about two or three days round trip.

Ideally, we recommend getting at least two or three firm drilling quotes if at all possible and, to the extent feasible, it is always best to try and

Mr. & Mrs. Clyde Buntin
May 10, 1979
Page Three

get all of the technical features spelled out as detailed as possible. If you would care to have us assist you in any of this we would be happy to do so.

I may not have covered everything discussed this morning with Mrs. Buntin and if not please do not hesitate to ask me about it. Also, you may have other questions which I did not cover. In any event, it is always a pleasure for us to be of service in any way that we can.

Faithfully,

Heinrichs GEOEXploration Co.


Walter E. Heinrichs, Jr.
Geol. Engr. - Geophysicist
P. E. & C. P. G.
Registered Professional Engineer
DEC. 31, 1979
ARIZONA, U. S. A.
838
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
NATIONAL SOCIETY OF GEOPHYSICAL ENGINEERS

WEH:mt
Enclosure: Statement

STATEMENT

May 10, 1979

Mr. and Mrs. Clyde Buntin
10913 E. Tanque Verde Road
Tucson, Arizona 85715

Re: Water Well Considerations
Lot 14, J-6 Ranchettes,
Section 18 T17S, R19E
Cochise County, Arizona
GEOEX #1345

PROFESSIONAL FEES & SERVICES

Professional Services, Walter E. Heinrichs, Jr.
Geol. Engr. - Geophysicist
P.E. & C.P.G. #688

April-May 1979, Field Inspection, Relevant Research,
Letter Report and Expenses-----\$300.00

(301)