

Fitzwater-Thayer #1 2-6
SE/4-NE/4 Sec 31-twp 13S-R 31E
Cochise, County No Permit

P-W

26

STATE ARIZONA
COUNTY COCHISE
AREA

COMBANY M. D. K. FITZWATER
NEW WELL NO.
DAISY THAYER

SURVEY COMPLETED
SEC. 31
PRODUCTION

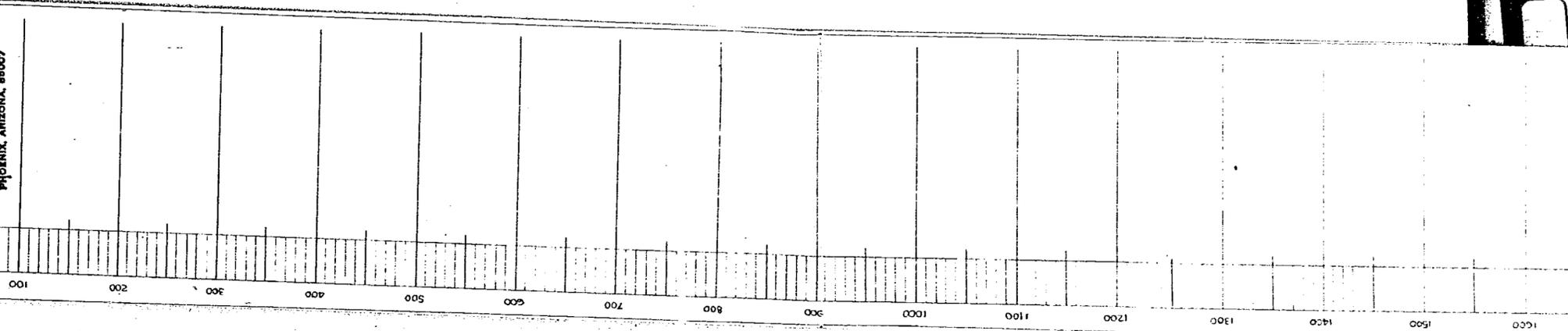
LOG NO. 117
DENVER SAMPLE LOG SERV.

REMARKS

*Fitzwater #1
Daisy Thayer*

ELEVATION
3600 ±

OIL & GAS CONSERVATION COMMISSION
STATE OF ARIZONA
1624 WEST ADAMS - SUITE 202
PHOENIX, ARIZONA, 85007



SAMPLE NO. 2 17281
TEMPERATURE MC ATTC
& VOLCANIC GLASS
Cong composed of well ch. pebble
fragments, earthy & sd, f to
m, sub-old to old, & some crs!
traces igneous rocks

County Cochise

2-6

800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000

SAMPLES START @ 1728!
TERTIARY CONGLOMERATE
& VOLCANIC ROCKS
Cong composed of vcl ch, pbb, pebbles
fragments, early sd, ss, sub-p, and some ch;
traces igneous rocks

Igneous rock
Ch cong w/ some ss & cons igneous rock

Sd ss above w/ some ch
Vcl ch w/ cons igneous material

Some ss

Mostly sd
Cong of mostly ch, vcl, & cons

Some igneous rock

Mostly sd

Vcl ch & igneous rock, some sd

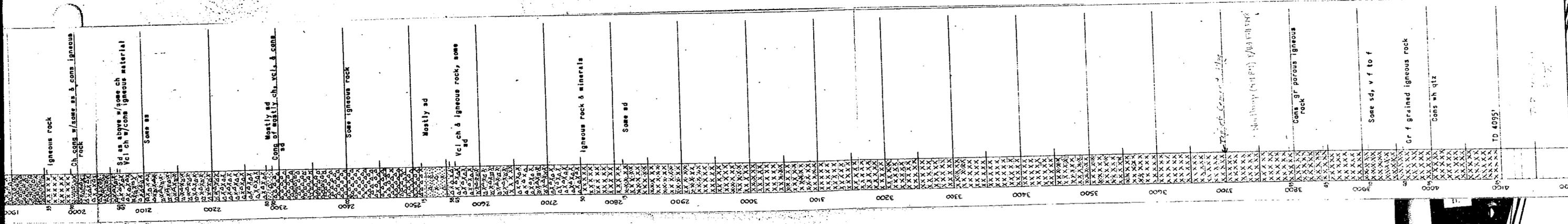
Igneous rock & minerals

Some sd

2-6

County Coahuila

15518 77 11110



Igneous rock

Ch cong. w/ some ss & cons igneous rock

Sd as above w/ some ch vcl ch w/ cons igneous material

Some ss

Mostly sd
Cons. of mostly ch. vcl. & cons. sd

Some igneous rock

Mostly sd

vcl ch & igneous rock, some sd

Igneous rock & minerals

Some sd

Gr f grained igneous rock

Cons wh qtz

Report from ...
Newberry (supp) V. 13 p. 114

TD 4095

2-6

County Cochise

1890 77 1000



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795

December 1, 1994



Larry D. Fellows
Director and State Geologist

Mr. David W. Sullivan
11072 Folkstone
Yukon, Oklahoma 73099

file 2-6

Dear Mr. Sullivan:

Please excuse the delay in this response to your letter of November 4. You see, I did not receive your letter until I returned from vacation on November 28.

I field checked the Fitzwater-Thayer well in October. It is located south of San Simon in Sec. 31, T. 13 S., R. 31 E. The actual location of the Bowie well, however, is more problematic. I intended to field check the Bowie well on the same trip to New Mexico that I checked the Fitzwater well on but did not because it would have required some hiking in mesquite brush to several possible locations and I did not have time to do that.

The lithology log for the Bowie well that you mailed to me notes that that well is four miles east of Bowie. This would put the well in Sec. 16, T. 13 S., R. 29 E. This is also the location noted on the enclosed map 3-5 from the 1953 New Mexico Geological Society Guidebook of southwestern New Mexico. Our file on the Bowie well shows it to be in Sec. 16, T. 13 S., R. 28 E. This location would put the well about 2 miles due south of the town of Bowie. The enclosed pages from the old Canfield report (a USGS scout report on Arizona dated May 1, 1928) shows the Bowie well to be in Sec. 18, T. 13 S., R. 28 E. This location would put the Bowie well a few miles southwest of the town of Bowie. Thus, I admit, there is a three-way discrepancy on the actual location of the Bowie well. Until I get into the field to check as to which of the three locations is the correct one, I tend to think that the Bowie well is located about four miles east of Bowie in Sec. 16, T. 13 S., R. 29 E. as is reported on the lithology log that you enclosed in your letter of November 4 and which is in agreement with the location shown on map 3-5 referenced above.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosures

October 9, 1961

Mr. K. M. Fitzwater
485 South Stone Street
Tucson, Arizona

Dear Mr. Fitzwater:

Your letter addressed to the Arizona State Land Commission, Land Building, Phoenix, Arizona has been referred to us for answering.

We note that you say in your letter that you are opening up the Fitzwater-Thayer well in Section 1, SE NE T 14 S, R 31 E, containing 40 acres. Our records indicate that the FITZwater-Thayer #1 well was drilled in Section 31, T 13 S, R 31 E, Cochise County.

Your letter does not indicate for what purpose you would re-open this well. I should like to suggest that if it is your intention to re-enter the well in Section 31, T 13 S, R 31 E, Cochise County for the purpose of oil and gas exploration, then it would be necessary for you to file with this department a Notice of Intention to Drill, which is a re-entry in your case, a Bond and an Organization Report. We are taking the liberty of sending you these forms which you should fill out and return to this department together with a \$25.00 fee prior to commencing operations.

In several weeks we hope to have a brochure on Arizona and it will include data on the San Simon valley. We will send you a copy of this, but we do not have any other specific information on this area.

Yours very truly,

D. A. Jerome
Executive Secretary

DAJ:hme
encs

No Permit

K. M. Fitzwater
485 S. Stone Ave.
Tucson, Arizona

October - 1961?

Arizona State Land Commission
Land Building
Phoenix, Arizona

Dear Sirs:

We are opening up the Fitzwater-Thayer well in the San Simon Valley and would appreciate any information you could furnish us with.

The description of the land is as follows:

Section 1 SE $\frac{1}{4}$ NE $\frac{1}{4}$ T14S R31E and containing
40 acres.

If also you could give us all the information on the San Simon Valley it would be greatly appreciated.

Thanking you for all your time and trouble.

Sincerely yours

K. M. Fitzwater
K. M. Fitzwater

KMF/ag

RECEIVED
OCT 20 1961
ARIZONA STATE LAND COMMISSION
PHOENIX, ARIZONA

470 Permit

RECEIVED
SEP 29 1961
STATE LAND
DEPT.
14041



OBED M. LASSEN
STATE LAND COMMISSIONER

OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

October 2, 1961

Mr. D. A. Jerome
Executive Secretary
Oil & Gas Conservation Comm.
Suite 221, 3500 N. Central
Phoenix, Arizona

Dear Mr. Jerome:

I am transmitting an inquiry apparently concerning the old M.D.K. Fitzwater-Daisy Thayer #1 which you will note Mr. Fitzwater locates in Section 1 of Township 14 South, Range 31 East, even though State records are calling it in Section 31 of Township 13 South, Range 31 East. Neither section is State land.

Yours very truly,

F. C. Ryan
F. C. RYAN, Supervisor
Mineral, Oil & Gas
Production Division

FCR:yda
Enc.

No Permit

October 10, 1951

Mr. Charles Wineman
San Simon, Arizona

Dear Mr. Wineman:

We are in receipt of a letter from Mrs. A. B. Hulsey, stating that you have information concerning the deepening of the Fitzwater-Thayer #1 well, located in Sec. 31, Twp. 13 S., Rge. 31 E. This office would be interested in securing the information as to the exact amount that the well was deepened, the casing record and whether or not any samples or cuttings were collected.

Your cooperation in this matter will be greatly appreciated.

Very truly yours,

Phillip W. Johnson, Geologist
State Land Department

PWJ:k

No Permit

Citywater - Hayer

October 9, 1951

Mrs. A. B. Hulsey
804 South 7th
Tucson, Arizona

Dear Mrs. Hulsey:

Your letter addressed to Mr. Heindl was given to me to answer as Mr. Heindl is no longer taking care of the well investigation for the State Land Department. He is, however, continuing his work with the U. S. Geological Survey while attending the University of Arizona.

This office wishes to thank you for your letter and for the return of the requested well data; and also for the name of the one having the information with regard to the deepening of your well.

I should be very happy to help Mr. Harry Hines in any way I can in the work he is doing on the San Simon well.

Very truly yours,

Phillip W. Johnson,
Geologist
State Land Department

PWJ:k

No Permit

September 27, 1951

Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mrs. Hulsey:

This office has been informed that the Fitzwater-Thayer No. 1 well was deepened during the months of May and June, 1951.

Our office would like to be assured of the existence of a driller's log of the drilling that was done this summer and, further, that samples of the drilling are being saved for the State.

I should also like to request the return of our file copy of a letter loaned to Mr. Don Fitzwater. You will recall that in our conversation in June you promised to give this matter your attention.

Very truly yours,

L. A. Heindl, Geologist
State Land Department

LAH/kh

No Permit

June 13, 1951

Mrs. A. B. Hulsey
San Simon
Arizona

Dear Mrs. Hulsey:

This office is not as yet in receipt of your "Intention to Drill" form on your new well west of San Simon. Copies of the form are enclosed, and should be returned, filled out, with a check for \$25, in compliance with the new oil and gas law.

A supply of O&G Forms #3 are also enclosed. These should be filled out in duplicate to cover a summary of each calendar month's operations and mailed to this office to arrive by the 5th. of the following month.

Very truly yours,

L. A. Heindl
Geologist

LAH/mwl
Enclosure

No Permit

REPORT OF TESTS
FITZWATER DRLG. CO. THAYER #1
COCHISE COUNTY, ARIZONA

April 23, 1951 to May 3, 1951

On April 20, 1951, the writer was contacted by Midland, Texas by Mrs. Gertrude S. McClenaghan and Mr. Charles P. Wineman regarding testing the above well. The only definite information available was a partial Schlumberger electrical log which indicated porosity and permeability in the sections from 3500' to 3700' and from 4040' to the logged total depth (4070'). Verbal information indicated that substantial oil shows had not been previously tested and that crude oil had covered the pits during a previous cleaning out attempt. We were further informed that a drilling rig was on the location, completely rigged up and ready to start immediate operations.

An estimate of the cost of performing a test of the section from 3600' to 3700' was made and, this being acceptable to the principals in this venture, the writer was instructed to hire two drilling crews and commence these operations immediately.

Drilling crews were hired in Midland, Texas, and work was commenced at 7:00 AM April 23, 1951.

The rig was found to be intact and at 4:00PM on the 23rd we started running drill pipe in the hole. Some fresh gel mud was mixed and the drill pipe was run to the indicated total depth (4070') with little difficulty. A few light bridges were encountered in the lower 200' of hole.

Because of the length of an anchor which would be required to set a packer at 3600', it was deemed necessary to set a cement bridge immediately below the interval to be tested. Original plans were to mix and spot this cement bridge with equipment at the rig. At the insistence of well owner, Halliburton was ordered from Hobbs, N. M. and the plug spotted by this method. Cost of Halliburton equipment for this job was \$710.00 and in addition, approximately 24 hours rig time was lost.

Plug was successfully spotted from 3695' to 3850' and allowed to set 36 hours. Top of plug was dressed off to 3700' where good firm cement was found.

Drill stem test #1 was run from 3583' to 3700'. Tool open two hours 35 minutes. Good blow air for one hour and died. Recovery was 2520' fresh water and mud. No shows of oil or gas. Flowing pressure 325# initial, 1082# final. No shut in pressure was taken as fluid in drill pipe had reached equilibrium.

Decision was made to test the lower portion of the hole. We were then informed by a previous employee on the well that the actual total depth was 4107' in 6 1/4" cored hole.

Cement plug was drilled and the hole reamed to 4107'. To assure the elimination of any rat hole, new hole was drilled to 4137'.

Cement contamination and lack of proper chemicals destroyed the value of the mud in the hole. All old mud was discarded and fresh gel mud was mixed for reaming and drilling operations.

W. C. Permut

- 2 -

After circulating six hours, it was found that the hole was taking some fluid and was caving sufficiently to make a drill stem test hazardous. Gel mud was mixed and circulated for an additional 12 hours without materially improving conditions.

Permian Mud Service of Odessa, Texas, was called for additional mud, chemicals and mud engineering supervision. Sixteen hours were required to bring the mud up to proper characteristics and hole condition for a drill stem test.

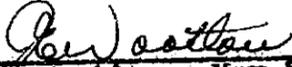
✓ Drill stem test #2 was run from 4030' to 4137'. Tool was open 2 hours 15 minutes. Good blow air throughout test. Recovery was 1350' mud and 1350' fresh water. No shows of oil or gas. Flowing bottom hole pressure was 350# initial, 1600# final. Shut in for 15 minutes, build up to 1885#.

Job was completed at 10:AM May 3, 1951.

Conclusion

It is the opinion of this writer that had all information regarding this well been made available, considerable expense could have been saved in conducting these tests. The tests might have been decided against and more constructive work performed in making new hole for the same cash outlay.

It is my understanding that the above mentioned Mrs. McClenaghan and Mr. Wineman agreed to finance the expense of a test of this hole for certain acreage and interest considerations. In this respect they have more than fulfilled their obligation. Two complete drill stem tests were made of different sections of the hole and results showed conclusively that no oil or gas in commercial quantities exist at this location to this depth.



J. E. Wootten, May 5, 1951

San Simon, Arizona

No Permit

STATE LAND DEPARTMENT
Phoenix, Arizona

March 26, 1951

Mr. Don Fitzwater
c/o Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mr. Fitzwater:

In compliance with your telephone request I am forwarding you a personal file copy of a sample analysis of cuttings from the Fitzwater-Thayer well and a copy of a letter written to Mrs. A. B. Hulsey in regard to the general geology of the San Simon Basin in the vicinity of the town of San Simon.

Your prompt return of these copies would be very much appreciated.

If there is any other way in which I can be of assistance please let me know.

Very truly yours,

Leopold A. Heindl
Geologist

McPermet

March 13, 1951

Mr. and Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mr. and Mrs. Hulsey:

We are enclosing two copies of the Oil and Gas Form #2. This information regarding the well drilled by you in Sec. 31, T. 13 S., R. 31 E., is necessary for our files in compliance with the regulations governing drilling for oil and gas in Arizona.

It is requested that this information be submitted to this office prior to April 2, 1951.

Very truly yours,

L. A. Heindl
Geologist

LAH:kb
encls.

No Permit

March 13, 1951

Mr. and Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mr. and Mrs. Hulsey:

We are enclosing two copies of the Oil and Gas Form #2. This information regarding the well drilled by you in Sec. 31, T. 13 S., R. 31 E., is necessary for our files in compliance with the regulations governing drilling for oil and gas in Arizona.

It is requested that this information be submitted to this office prior to April 2, 1951.

Very truly yours,

L. A. Hindl
Geologist

LAH:kb
encls.

No Permit

Rough Draft

Mr. and Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mr. and Mrs. Hulsey:

As of this date we still have not received any monthly reports covering activity on the Fitzwater-Thayer No. 1 well. Our records show that there has been no appreciable activity on this well since January of 1947.

Unless we hear to the contrary, we will assume that this information is correct, and this information will be used to evaluate your state leases when they come up for renewal.

Very truly yours,

L. A. Heindl
Geologist

No Permit

January 10, 1951

Mr. and Mrs. A. B. Hulsey
San Simon, Arizona

Dear Mr. and Mrs. Hulsey:

This office would like to close its 1950 file regarding the Fitzwater-Thayer #1 well, and the following information is requested: The date the well was commenced, and the date last shut down. Information in this office shows that no active drilling has been done on this well since January, 1947 when the well attained a depth of 4107 ft.

~~This information will be used to evaluate renewals of permits and will be considered correct unless further information is received from you.~~

We would also like to have the details of any activity other than drilling that has occurred at the well since January, 1947.

Very truly yours,

L. A. Heindl
Geologist

LAH:ldb

No Permit

January 17, 1951

Mrs. A. B. Hulsey,
San Simon,
Arizona.

Dear Mrs. Hulsey:

The State Land Department has prepared the enclosed recapitulation of exploratory drilling in Arizona during the years 1949 and 1950.

This information is prepared from what is considered reliable sources, but we would appreciate your bringing any errors to our attention.

Very truly yours,

L. A. Heindl,
Geologist

LAH/lec
Encl.

400 Permit

September 19, 1950

Mrs. A. B. Hilsey
San Simon, Arizona

Dear Mrs. Hilsey:

This office is as yet not in receipt of your monthly report of drilling operations for July and August.

These reports are required for our files regardless of whether there is any actual drilling going on at the well. It is our only means of keeping tab on the month to month activity necessary to maintain the lease, and is consequently necessary for our records.

Your immediate cooperation in this matter will be greatly appreciated.

Very truly yours,

L. A. Heindel
Geologist

LAH:kb

No Permit

San Simon Ariz.

Sept 22nd 1950

Mr L.A.Heindl,

Phoenix Ariz.

Dear Mr Heindl.

Well well old boy we are sure glad to hear from you,
We are sure proud you are back in the land office.
Because I feel you can be a lot of help to us when we get started to
drilling,
You have showed in the past a lot of interest in this valley.
Now as to these report you are asking for I guess I have neglected
making them. But Rember old boy I got married so you see I have been
~~very~~
very buisy.
We havnt done any more drilling but wanted to get started drilling by
Oct 15th if possible.if you should be coming this way stop by and see
us.Let us know if you can as we are out of town so much.
We are still 4100 ft.

Thank you.

Your Friend

Mr + Mrs A B Hulsey

August 15, 1950

Mrs. Nellie Fitzwater
Kid McCoy Oil Company
San Simon, Arizona.

Dear Mrs. Fitzwater:

The July monthly report of drilling operations (Form O. & G. No. 5, Lessee's Monthly Report) due in this office by August 6, 1950, has not been received. The necessity of forwarding this information was brought to your attention in a letter dated June 21, 1950.

We would like to remind you that this report is due, regardless of what the current operations may be, until such time as the drilling permit is terminated.

Very truly yours,

W. W. Lane
State Land Commissioner

IAH:
WHL:bm

No Permit

June 21, 1950

Mrs. Nellie Fitzwater
Kid McCoy Oil Company
San Simon, Arizona

Dear Mrs. Fitzwater:

As of July 1, 1950 the State Land Department will require monthly reports of operations of oil and gas drilling activities in compliance with Section 6 of the operating regulations governing oil and gas drilling permits in the State of Arizona.

The form of the report will be Form O. & G. No. 3, Lessee's Monthly Report of Operations, copies of which are enclosed. Only ~~one copy~~ *two copies* will be required by this office, printed notice on the form to the contrary. The report is required for each calendar month and is due the 6th of the succeeding month. Section 6 states, "The report * * * constitutes a general summary of the status of operations on the property, and whatever such status may be, the report must be submitted each month until the permit or lease is terminated."

Specifically, the following items of information will be entered:

- 1) Total depth.
- 2) Shutdowns, length of and reasons for.
- 3) Tests, type of and dates.
- 4) Any other noteworthy information regarding operation.

The first report is due August 6, 1950 covering operations from July 1st to 31st, 1950.

An acknowledgment of this letter is requested.

Your cooperation in this matter will be appreciated.

Very truly yours,

W. W. Lane
State Land Commissioner

WWL:LAH:kb
encls.

No Permit

March 21, 1950

Kidd McCoy Oil Co.,
c/o John C. Gung'l,
711 Valley National Bldg.,
Tucson, Arizona.

Gentlemen:

The State Land Department finds it advisable at this time in the best interests of the State of Arizona to obtain information as required by law pertaining to drilling for oil and gas on all patented and State lands.

It is recognized under Article 14, Arizona Code Annotated 1939 (11-1403) that all such reports are to be considered confidential. In this part of our request it is desired that you send all reports requested hereinafter in this letter direct to the State Land Commissioner and marked "confidential".

Enclosed is a copy of the Oil and Gas Statutes, together with rules and regulations as revised June, 1948. Under Article 14 (Arizona Code Annotated 1939) we request compliance with 11-1401, "and all persons drilling or operating such wells upon patented or State lands shall comply with the said rules and regulations; shall file with the Commissioner all logs of wells and other reports requested thereby, and cease, control and plug all wells as therein described."

Under Operating Regulations to govern the production of oil and gas, Articles 13-14, Arizona Code Annotated 1939, reference is had to Section 6. All parts of Section 6 are to be complied with by all parties responsible for drilling and production of oil or gas on patented or State owned land in the State of Arizona.

Your prompt attention to this request will be greatly appreciated.

Very truly yours,

W. W. Lane,
State Land Commissioner.

WWL/ged
Encl.

No Permit

July 20, 1949

Mr. Richard C. Northup
New Mexico Bureau of Mines
Socorro, New Mexico

Dear Dick:

Thanks a lot for the carbon copy of your letter regarding the Fitzwater well. In essence I agree with you. However, the very existence of a remote possibility of any oil production would naturally force me to write a somewhat less pessimistic letter than yours. I notice that you pick the bottom of the valley fill at 3748'. We have picked it somewhat higher between 2800 and 3000. The basis of our pick was a series of core fragments which were identified for us from memory by the driller. Of course such evidence is highly open to question and our picking of the bottom of the valley fill is tentative. The amount of weathered fragments found below 3,000 feet could well be the reason of contamination forming an incased wall. If we had had at our disposal only the well samples, as you did, we would have picked a point for the base of the valley fill at about the same place as you.

The notes on the information given us by the driller, as well as our own analysis of the core, is in Tucson. A copy will be forwarded you.

The Argo Well samples are under my table in Tucson and it is with some shame that I say that I will ship them to you upon my return to the office Friday.

Regards.

Sincerely,

L. A. Heindl
Geologist

P.S. You may be interested to know that Mrs. Fitzwater, the widow of the man who started the Fitzwater well, has asked me for a geological report of the San Simon Valley as encouragement to potential investors. You will understand what my problem was.

No Permit

July 18, 1949.

ARIZONA CORPORATION COMMISSION,
Phoenix, Arizona.

Re: Kidd McCoy Oil Company,
Tucson, Ariz.

RECEIVED
JUL 19 1949

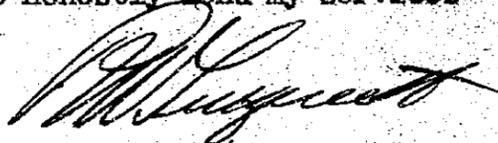
STATE LAND DEPT.
OF ARIZONA

Gentlemen:

Please be advised that I have resigned as Manager and Director of the above company effective July 15th, 1949.

It is my honest opinion that it would be useless to further explore for oil at the Fitzwater-Thayer #1 location, and any moneys that are raised for this purpose would be strictly promotional, therefore I cannot honestly lend my services further to the venture.

Respectfully,



R. W. Turquette,
2401 E Montana St
El Paso, Texas.

RWT/s

CC: Mr. L. A. Heindl,
Arizona State Land Office,
Phoenix, Ariz.
Geo. Ebsen,
San Simon, Ariz.

No Permit

Form 3811
Rev. 1-4-40

RETURN RECEIPT

Received from the Postmaster the Registered or Insured Article, the original number of which appears on the face of this Card.

1 Nellie Fitzwater
(Signature of name of addressee)

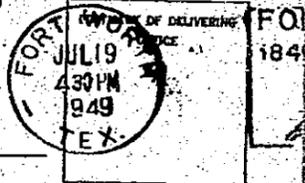
2 _____
(Signature of addressee's agent—Agent should enter addressee's name on line ONE above)

Date of delivery JUL 19 1948, 1948

No Permit

Post Office Department
OFFICIAL BUSINESS

PERALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, \$300
(GPO)



FOI
184

Return to L. A. Heindl
(NAME OF SENDER)
Street and Number, or Post Office Box. State Land Dept.

REGISTERED ARTICLE

No. 21368 Post Office Phoenix

INSURED PARCEL

No.

16-12421

State Arizona



OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

O. C. WILLIAMS
STATE LAND COMMISSIONER

July 18, 1949

Mrs. Nellie Fitzwater
c/o Texas Hotel
Fort Worth, Texas

Dear Mrs. Fitzwater:

In compliance with your verbal request of July 14, 1949, the following summary of the geology of the San Simon Valley, and the adjacent mountains, centering on the town of San Simon, has been prepared. Appended are 2 copies of sample analysis of the Fitzwater-Thayer #1 well.

Location

That portion of San Simon Valley and the adjacent mountains considered in this summary is located in Cochise and Graham Counties, Arizona, roughly between T. 11 S. and T. 16 S., and between R. 26 E. and the New Mexico border. It is an area of about 1000 square miles.

San Simon Valley, within Arizona, is an intermontane valley of the basin-range type about 90 miles long and about 25 miles wide at its widest. It is flanked by the Chiricahua, Dos Cabezas, and Pinaleno Mountains on the west and the Peloncillo Mountains on the east. Drainage is to the northwest. Elevations on the valley floor in the vicinity of San Simon are at 3600' above sea level. The surrounding mountains on either side rise to elevations of about 8000'.

GEOLOGY

General

San Simon Valley is a large structural trough formed by downfaulting between two nearly parallel mountain chains. The valley is broad synclinal basin composed of a thick series of alluvial and lacustrine (lake) deposits overlying volcanic tuffs, breccias and flows, which in turn overlie older sedimentary beds. The Pinaleno, Dos Cabezas and Chiricahua Mountains have granitic, gneissic and schistose cores upon which have been unconformably deposited sedimentary and metamorphic rocks of Paleozoic age consisting principally of limestone, sandstone, shale and quartzite. Lavas of probable Tertiary age are widely distributed over these ranges. The Peloncillos on the east are composed of igneous and volcanic rock, probably Tertiary. No older sedimentary formations are known to be exposed in the Peloncillos. All the surrounding mountains have been extensively faulted.

Sedimentary Rocks

Overlying the basement complex of granites, schists and gneisses of probable Pre-Cambrian Pinal age is a thick section of Paleozoic sediments. These sediments consist of Bolsa quartzite (Cambrian age - about 350' thick), Abrigo limestone (Cambrian age - 350' thick maximum), Martin limestone and shale (Devonian, 200' thick), and Escabrosa limestone (Mississippian, 600-800' thick), and Haco limestone (Pennsylvanian, over 2000' thick). Not all of these formations are exposed in one locality nor to the total thicknesses listed. There are some sandstone, shale and gypsiferous beds between the Mississippian Escabrosa and the Martin (?) shales at Mine Hill about 16 miles south of San Simon.

No Permit

Mesozoic sediments in the area are limited to exposures in the Dos Cabezas Mountains. They consist of undifferentiated impure sandstones, shales and limestone of possible Cretaceous age. These may be over 3000' thick.

Tertiary-Quaternary sediments consist of conglomerates, notably the Gila conglomerate which outcrops extensively at the north of San Simon Valley, alluvial deposits made up of clays, silts, sands and gravels and lake beds along the center of the valley. The Gila conglomerate is not believed to be over 1000' thick and the alluvial and lacustrine deposits are known to be between 2500 and 3000' thick in the center of the basin.

Metamorphics, Intrusives and Volcanics

The schists and gneisses which form the cores of the mountains along the west side of San Simon Valley as discussed are designated as the Pinal schist and are believed to be metamorphosed sediments. These are cut by granites, some of which are pre-Cambrian and others of Mesozoic or Tertiary age.

The volcanic rocks in this area consist of breccias, tuffs, felsite, rhyolite and andesite flows, many of them exceedingly fine grained. These flows may be of Mesozoic or Tertiary age and in some places attain a thickness of over 3500'. Quaternary basalt flows cap certain areas. At the southern end of San Simon Valley Quaternary volcanics are interbedded with alluvial deposits.

Deep Well Data

The deep well data from the three deepest wells in the San Simon area is here summarized.

Bowie Oil Syndicate Well SW $\frac{1}{4}$ sec. 18, T. 13 S., R. 29 E.

Quaternary-Tertiary	0 - 1010'	Clay, sand, gravel and boulders. Stream and flood deposits with interbedded lake deposits
Tertiary?-Cretaceous?	1010' - 4110'	Consolidated shales, hard sandstones and limy shales. These beds may be a continuation of the Quaternary-Tertiary alluvial and lacustrine deposits

Funk Benevolent Corp. Well sec. 27, T. 13 S., R. 30 E.

Quaternary-Tertiary	0 - 2595'	Valley fill
Tertiary?-Cretaceous?	2595' - 6184'	Volcanics
Cretaceous?	6184' - 6668'	Volcanic and lime conglomerates

Fitzwater-Daisy Thayer #1 sec. 31, T. 13 S., R. 31 E. ←

Quaternary-Tertiary	0 - 2800'	Valley fill
Tertiary?-Cretaceous?	2800' - 4107'	Volcanics

T.D. 4197 - E.R.K.

The Funk well samples are incomplete but the available data indicates a thickness of 3600' of volcanics below the bottom of the valley fill. Both the Bowie and Funk wells reported numerous gas and oil shows. The Funk well reported considerable warm water under light artesian pressure.

Generalized Column

The following stratigraphic column is only suggested as a possible generalization of the formations underlying the center of San Simon Valley. The thicknesses shown are only estimated. Faulting, lateral changes and unconformities could materially change the column suggested.

Age	Formation	Thickness
Quaternary - Tertiary	Valley fill	2800' ±
Tertiary - Cretaceous†	Volcanics	3500' ±
Mesozoic sediments	Cretaceous† undifferentiated shales, sandstones, limestones	3000' ±
Paleozoic sediments		
Pennsylvanian	Haco limestone	2000' ±
Mississippian	Escabrosa limestone	700' ±
Devonian	Martin limestone and shale	200'
Cambrian	Abrigo limestone	350'
Cambrian	Bolsa quartzite	350'
	Total	12,900' ±
Basement complex		

Structure

Peloncillo Mts.

The Peloncillos, on the east side of San Simon Valley, are composed of a slightly tilted and warped considerable thickness of volcanics that has been extensively faulted. Part of the early alluvial deposits lying on the west flank of these mountains have participated in this tilting and faulting.

Chiricahua Mts.

The Chiricahuas, the southernmost of the mountain ranges on the west side of the valley, consists of a great thickness of volcanics that has been step-faulted up in relation to the valley. The dips are moderate to high dipping to the southwest. Along the edge of the fault zone blocks of Paleozoic sediments have been faulted up and exposed. These Paleozoic beds also dip south to southwest.

Dos Cabezos Mts.

The Dos Cabezos consist of a complicated series of Paleozoic and Mesozoic sediments, volcanics, and granitic intrusions. Very generally the Dos Cabezos consist of two large blocks with the westerly block thrust up to bring granite and schist into contact with Paleozoic and Mesozoic sediments of the east block. The southeast end of the Dos Cabezos consist in part of a large faulted anticline. The Paleozoic and Mesozoic sediments of the east block were deposited on Pre-Cambrian schist and granite and both the Mesozoic sediments and early schists and granites are believed to have been intruded by post-Mesozoic granites. There are considerable quantities of volcanics on the west side of the Dos Cabezos.

no permit

Pinaleno Mts.

The Pinaleno Mountains are made up of volcanics deposited on a large granite mass.

San Simon Valley

The San Simon Valley is a shallow synclinal basin of the usual basin range structure. Dips in the alluvium are nearly horizontal with very slight dips in the direction of drainage. While some of the earlier valley fill deposits have angles of dip which indicate they have participated in some of the movements which have involved the mountains, there is no direct geological evidence on the surface to indicate any structure in the center of the basin.

Geologic History

The oldest exposed rocks about San Simon Valley are schists which were sedimentary rocks before being metamorphosed. The schists were intruded by granite and both were possibly involved in a period of mountain building. Following this the region was eroded to a low relief and then submerged beneath ocean waters. The Paleozoic sediments, a series essentially conformable sandstones, shales and limestones were then laid down. Most of these were deposited during late Paleozoic time.

The Paleozoic sedimentation was followed by folding, faulting and intrusion and a period of uplift after which the region was subject to erosion. Following the erosion the region was again submerged and Cretaceous clastic sediments were laid down upon the older rocks.

The region was then again subjected to folding, faulting and intrusion. A great thickness of volcanic rocks were then deposited as flows, tuffs and tuffaceous sediments. After the volcanic rocks were deposited, a period of intense movement ensued and older rocks were thrust over younger rocks.

The region was then faulted along its northwest-southeast trend and the major features of the area with its upthrown mountains and downthrown valley were developed.

Erosion was coincident with the building of the mountain and since the faulting the downfaulted valley has received a great thickness of alluvial material from the adjacent upfaulted mountains. The valley was occupied at least once by a lake.

Petroliferous Possibilities

The San Simon Valley may be considered as a possible petroliferous area because of the Paleozoic and Mesozoic marine sediments known in the surrounding mountains. These same formations are believed to underlie the valley fill. In that these formations consist of limestones, sandstones and shales they may be considered as possible source, reservoir and cap rocks.

It is doubtful whether the valley fill itself has any petroliferous possibilities because of the lack of organic source beds above the volcanics and the apparent lack of stratigraphic or structural traps.

See page X

The entrapment of oil or gas below the volcanics would depend on structural and stratigraphic conditions which cannot be determined by surface geology. This is not to say that such traps may not exist. However, they will have to be located by the combined use of geophysical methods and actual drilling or by drilling alone.

No test in San Simon Valley can be said to have fully exploited the petroliferous possibilities of the area until it has penetrated the full thickness of unmetamorphosed sediments.

X X X X X X

I hope that the above summary of San Simon Valley geology contains the information you desire.

Very truly yours,

L. A. Heindl
Geologist,
State Land Department

Fitzwater-Thayer #1
San Simon Valley
Sec. 6, T. 14 S., R. 31 E.
by L. A. Heindl

Sample -
Washed ditch
Samples from 200'-1750'

50% under 2 mm. 50% over 2 mm.
Under 2 mm: generally well rounded.
Sand grains, also some angular fragments,
probably broken by drilling.
Over 2 mm: No well rounded, some subangular,
mostly sharply angular. Occasional pebble
fragments with one surface rounded, the rest
angular. Material predominantly volcanic,
few granitic, few Paleozoic.
Alluvial fill - volcanic wash.

Core samples-unknown depth.

- | | |
|-------------------|--|
| #1 | Yellow gray, volcanic tuff, some fragments up to 1". Bedding horizontal? |
| #2 | Yellow gray volcanic tuff. |
| #3 | Pinkish, yellowish volcanic tuff. |
| #4 | Pinkish volcanic tuff-many coarse fragments. |
| #5 | Pink volcanic breccia, some quartzite. |
| #6 | Pink volcanic breccia. |
| #7 | Gray-brown volcanic breccia, much secondary crystalline calcite. 2" max. |
| #8 | Volcanic breccia underlying coarse gray tuff. Contact dip about 10°. |
| #9 | Pink gray breccia. |
| #10 | Pink gray breccia, no calcite. |
| #11 | Pink gray breccia, no calcite. |
| #12 | Pink gray breccia, no calcite. |
| #13 | Tightly cemented gray breccia, some epidotization. |
| #14 | Dark gray vesicular basalt, calcite zeolites. |
| #15 | Dark gray vesicular basalt, calcite zeolites. |
| #16 | Coarsely fractured dark gray felsite with heavy calcite veining along fractures. May be a coarse breccia. |
| #17 | Volcanic breccia, dark gray or coarsely fractured felsite. |
| #18 | Fractured dark gray felsite. |
| #19 | Coarse pale reddish brown breccia. (Fractured rhyolite porphory?). |
| #20 | Pale reddish brown rhyolite porphory. |
| #21 | Pale reddish brown rhyolite porphory. |
| #22 | Pale reddish brown rhyolite porphory. |
| #23 | Sample from 4100' depth.
Fractured dark gray felsite. Some evidence of very high angle. (75-80°) flow lines, if cores vertical. |
| #24 - 4100' | Same as #23. |
| Sample from 4100' | Same as #23. |

to Permian

See next page

Fitzwater-Thayer #1-Cont.

Note: These samples were checked by "Red" LaMance, of San Simon Petroleum Co., Douglas, who was the driller on the Fitzwater well. From memory, he indicated the following, along with his interpretation of the cores.

Above 2800' $\frac{+}{-}$	Cores 3 and 4	"Valley fill".
2800' $\frac{+}{-}$	Core #8	"Bottom of valley fill".
Between 2800' and 3000'	Core #15	"First solid formation".
About 3100'	Core #19	"Cemented gravel".
3100' $\frac{+}{-}$ to 3200' $\frac{+}{-}$	Core #18	"Massive shale".
3200-3300	Core #21	"Light brown shale".
3300 to near bottom	Core #18	"Shales".
Bottom of hole	Core #23	"Shale".

June 15, 1949

RECEIVED

JUN 17 1949

STATE LAND DEPT.
OF ARIZONA

Mr. R. W. Turquette
2401 E. Montana Street
El Paso, Texas

Dear Mr. Turquette:

I hope you will pardon my somewhat tardy reply to your letter of June 7, but I wanted to finish running the samples on the Fitzwater well and have something definite to report.

As I promised during our phone conversation, and as requested again in your letter, we are enclosing a copy of the sample description on the Fitzwater No. 1, Thayer from 1728-4095 feet. Total depth as we have it is 4108 feet. I regret that the findings are not at all encouraging. A thick section of valley fill was drilled from surface to 3745 feet. The fill consists almost entirely of a coarse gravel or conglomerate composed of volcanic material. Various degrees of angularity and roundness occur, and the pebbles vary from being fairly fresh in appearance to considerably kaolinized or otherwise altered. A distinct change was noted at 3745 feet and from there to total depth, light gray to pink rhyolite with some darker gray volcanic rock was drilled. This lower section is definitely fresh appearing and does not show the alteration or evidence of being transported, as found in the overlying fill. I feel safe in stating that the well is bottomed in volcanic rock (probably a rhyolite), of late Tertiary, though possibly more recent, age.

It is my own opinion that any deepening of the Fitzwater well would be useless. The Peloncillo Hills to the northeast of the location consist entirely of volcanics, while the Dos Cabezas Range to the southwest is composed mostly of pre-Cambrian (or later) igneous and metamorphic rock types. Some Cambrian and Ordovician rocks are shown on the Arizona geologic map in this range along with a thin belt of lower Cretaceous rocks. These beds would be about the only ones in which oil or gas could reasonably be expected to be found. I have heard that these rocks are badly broken up and dip in almost every direction, so it is impossible to predict what their attitude would be (if present at all) beneath the well location. In all probability the volcanic rocks continue to a considerable depth, possibly several thousand feet. Drilling of this type of rock would be very costly, and there would always be the uncertainty of any good sediments below.

W. Bennett

Mr. R. W. Turquette

Page 2

June 15, 1949

We will be glad to discuss this matter with you in person should you care to visit our office, and if we can be of any further service please let us know.

Very truly yours,

NEW MEXICO BUREAU OF MINES

By Richard C. Northup
Geologist

RCN/bd

cc: Mr. L. A. Heindl
Arizona State Land Office
Phoenix, Arizona

Dear Leo:-
Thought you might like a copy of my letter to Mr. Turquette. Hope I didn't get too pessimistic, but the more I study the situation, the less hopeful it looks. Would like to know where you picked the base of the valley fill. I won't feel a bit insulted if you don't agree with me.

Best regards.

Sincerely,
Dick.

W. L. P. ...

June 10, 1949

Mr. R. W. Turquette
Santa Rita Hotel
Tucson, Arizona

Dear Mr. Turquette:

Enclosed please find three copies of our Oil and Gas Form #1. These forms are to be made out in full at such time as you are ready to resume work on the Fitzwater well.

We would appreciate having this made out in full, as our records do not disclose a previous intention to Drill on this well.

We are looking forward to your early resumption of operations on this well, and wish you every success.

Very truly yours,

L. A. Heindl
Geologist

LAH:kb
encls.

McBerrin

May 27, 1949

Leo, (Heinl?)

Yesterday I completed the thin-section of the sample of drill core from bottom of Fitzwater well. Our first impression proves to have been correct.

Despite hand-specimen appearance of granularity, the slide clearly shows very fine-grained igneous texture. Minute feldspar laths are abundant, making up about 90% of visible mineral in the rock. A few phenocrysts of feldspar and probably of olivine are present.

In view of the color and especially of the pronounced linear texture, the rock might be considered a trachyte. The presence of olivine as phenocrysts (if identification is accurate) suggests a basalt. In any event, there is no reasonable doubt that it is volcanic in origin.

I spoke to McKee about getting over to Snowflake by June 10. He will make every effort to do so.

He is ready to put his son, Bill, to work on sorting and sacking samples as soon as you furnish him with the sacks and plastic sample containers. I told him I understood you to be planning to pick up the material Ellsworth is working on here, about May 30 or 31, and that you then planned to deliver materials in Flagstaff about June 1 or 2. Hope I had my information right.

I shall be interested to know what you found at Snowflake on this trip. I mentioned "meta-chert" to McKee. His eyebrows went up, but he said nothing.

If I don't see you before you take off for the strip, have a good time. And prepare to offer me a detailed verbal account when you return. I shall begin work for the Survey on June 5, according to present plans, and will spend either that week or the week following in the office.

Adios,

Jack

Van Buren

SOUTHERN ARIZONA OIL CO. INC.

PHONE 0411R3 P. O. BOX 394 R

TUCSON, ARIZONA

DAILY DRILLING REPORT

Date 5-12 1951 Company _____

Rig No. _____ Lease _____ Well No. _____ Sec. _____ Twp. _____ Rng. _____

INSTRUCTIONS: Report actual hours, Laying Lines, Rigging Up, Running, Shut Down, Circulating, Reaming, Coring, Drill Stem Test, Electrical Survey. Report Bit Number, Make, Size and Cone Number, Slope Test. State reasons for shut down. Mud Used. Report all injuries in detail. Report Social Security numbers on all new employees.

MORNING TOUR (Midnight to 8 a. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		
			D. M. <u>M. V. HENSLEY</u>
			M. M. <u>W. F. AMY</u>
			H. <u>E. S. MAYERS</u>
			H. <u>C. W. MCCOY</u>
			H. _____
			Driller <u>H. E. MEGASON</u>

REMARKS: BIT PULLED: NO. _____ AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME: _____ SLOPE TEST: _____

WGT.	VIS.

DAY TOUR (8 a. m. to 4 p. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		
			Driller _____

REMARKS: BIT PULLED: NO. _____ AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME: _____ SLOPE TEST: _____

WGT.	VIS.

EVENING TOUR (4 p. m. to Midnight)

DRILLED		FORMATION	EMPLOYEES
From	To		
			Driller _____

REMARKS: BIT PULLED: NO. _____ AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME: _____ SLOPE TEST: _____

WGT.	VIS.

No Permit

SOUTHERN ARIZONA OIL CO. INC.
 PHONE 0411R3 P. O. BOX 394 R

TUCSON, ARIZONA

DAILY DRILLING REPORT

Date 5-11 1945 Company _____

Rig No. _____ Lease _____ Well No. _____ Sec. _____ Twp. _____ Rng. _____

INSTRUCTIONS: Report actual hours, Laying Lines, Rigging Up, Running, Shut Down, Circulating, Reaming, Coring, Drill Stem Test, Electrical Survey. Report Bit Number, Make, Size and Cone Number, Slope Test. State reasons for shut down. Mud Used. Report all injuries in detail. Report Social Security numbers on all new employees.

MORNING TOUR (Midnight to 8 a. m.)

DRILLED		FORMATION	EMPLOYEES	
From	To		D. M.	M. M.
			<u>M. V. HENSLEY</u>	
			<u>W. H. ADY</u>	
			<u>C. S. MYERS</u>	
			<u>C. W. MCCOY</u>	
			H.	
			Driller <u>H. C. MEGGASON</u>	

REMARKS: BIT PULLED: NO. AT FT. BIT RUN: NO. SERIAL NO.

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

DAY TOUR (8 a. m. to 4 p. m.)

DRILLED		FORMATION	EMPLOYEES	
From	To		D. M.	M. M.
				Driller

REMARKS: BIT PULLED: NO. AT FT. BIT RUN: NO. SERIAL NO.

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

EVENING TOUR (4 p.m. to Midnight)

DRILLED		FORMATION	EMPLOYEES	
From	To		D. M.	M. M.
				Driller

REMARKS: BIT PULLED: NO. AT FT. BIT RUN: NO. SERIAL NO.

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

No Permit

SOUTHERN ARIZONA OIL CO., INC.

PHONE 0411R3 P. O. BOX 394 R

TUCSON, ARIZONA

DAILY DRILLING REPORT

Date 5-9 1951 Company Hickman Drilling Co

Rig No. _____ Lease _____ Well No. _____ Sec. _____ Twp. _____ Rng. _____

INSTRUCTIONS: Report actual hours, Laying Lines, Rigging Up, Running, Shut Down, Circulating, Reaming, Coring, Drill Stem Test, Electrical Survey. Report Bit Number, Make, Size and Cone Number, Slope Test. State reasons for shut down. Mud Used. Report all injuries in detail. Report Social Security numbers on all new employees.

MORNING TOUR (Midnight to 8 a. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		
4137	4187	Sandy Lime + shale	D. M. M. V. HENSLEY M. M. W. J. DRY H. C. S. MYERS H. C. W. MCCOY H.
		234-22-9492	Driller H. C. MEGASON

REMARKS: BIT PULLED: NO. AT 4137 FT. BIT RUN: NO. 1 SERIAL NO. 5528

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

DAY TOUR (8 a. m. to 4 p. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		

REMARKS: BIT PULLED: NO. AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

EVENING TOUR (4 p.m. to Midnight)

DRILLED		FORMATION	EMPLOYEES
From	To		

REMARKS: BIT PULLED: NO. AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME:		SLOPE TEST:	
		WGT.	VIS.

No Permit

SOUTHERN ARIZONA OIL CO., INC.
 PHONE 0411R3 P. O. BOX 394 R
 TUCSON, ARIZONA

DAILY DRILLING REPORT

Date 5-8 1951 Company Fitzwater Drilling Company

Rig No. _____ Lease _____ Well No. _____ Sec. _____ Twp. _____ Rng. _____

INSTRUCTIONS: Report actual hours, Laying Lines, Rigging Up, Running, Shut Down, Circulating, Reaming, Coring, Drill Stem Test, Electrical Survey. Report Bit Number, Make, Size and Cone Number, Slope Test. State reasons for shut down. Mud Used. Report all injuries in detail. Report Social Security numbers on all new employees.

MORNING TOUR (Midnight to 8 a. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		
4137	4137	Sandy shale	D. M. M. W. HENSLEY M. M. C. S. MYERS H. M. FITZWATER H. H. Driller H. C. MEGASON

REMARKS: BIT PULLED: NO. _____ AT 41.37 FT. BIT RUN: NO. 1 SERIAL NO. 5525

COMPANY TIME: _____ **SLOPE TEST:** _____

WGT.	VIS.

DAY TOUR (8 a. m. to 4 p. m.)

DRILLED		FORMATION	EMPLOYEES
From	To		

REMARKS: BIT PULLED: NO. _____ AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME: _____ **SLOPE TEST:** _____

WGT.	VIS.

EVENING TOUR (4 p.m. to Midnight)

DRILLED		FORMATION	EMPLOYEES
From	To		

REMARKS: BIT PULLED: NO. _____ AT _____ FT. BIT RUN: NO. _____ SERIAL NO. _____

COMPANY TIME: _____ **SLOPE TEST:** _____

WGT.	VIS.

No Permit

2-6

USGS TD 4440

County Mochoise

Area San Simon

Lease No. _____

USGS Location

Well Name Fitzwater Thayer #1

Location SW SE Sec 31 Twp 13S Range 31E Footage 1960 FEL

Elev 3620 Gr _____ KB Date _____ Complete 5-12-51 Total 4187'

Contractor: _____ Abandon 5-3-51 Depth 4137'

Approx. 4440 per USGS
Cost \$ _____

Drilled by Rotary _____
Cable Tool _____

Casing Size _____ Depth _____ Cement _____

Production Horizon _____

Initial Production I & A

D.D. 5-9-51 to 4107' last Daily Report 5-12-51

Also: Fitzwater Thayer #1 located 6-14-51-31E

REMARKS: IST #1: 3583-3700. Open 2 hrs. 35 min. Good blow air

one hr. & died. Rec. 2520' fresh water & mud. No show of gas or oil.

IFP 325#; FFP 1082#.

IST #2 4030-4137. Open 2 hrs. 15 min. Good blow throughout

test. Rec. 1350' M & 1350' Fresh water; IFP 350#; FFP 1600#. Build up 1885#

Elec. _____ 15 min.

Logs Driller's
Applic _____ Plugging _____ Completion _____
to Plub _____ Record _____ Report _____

Sample Log Am Strat
Sample Descript _____
Sample Set P-1632 T-670
Cores _____

Water well - accepted by _____

Bond Co. _____
& No. _____

Bond Am't \$ _____ Cancelled _____ Date _____
Organization Report _____

Filing Receipt _____ dated _____ Well Book _____ Plat Book _____

Loc. Plat _____ Dedication _____

API # 02-003-05000

PERMIT NO. None Date Issued _____

2-6

2-6
Artesian well in town of San Simon. Northeast corner $\frac{1}{2}$
NW $\frac{1}{4}$ Section 31, T. 13 S., R. 31 E., G. & S.M. Drilled to depth of
860 feet. (Date drilled not available).

from ww-38-Cochise Co. Park

Log of Well.

0	65	Soil and clay
65	70	Clay
70	145	Sand and gravel; water rising to within 65 feet of surface.
145	575	Blue clay and shale foul water
575	576	Fine sand small flow of water to surface
576-	660	Joint clay, gray
660	662	Fine sand small flow of water to surface
662	700	Yellow clay with caliche pebbles.
700	705	Coarse sand
705	730	Caliche and clay
770	778	Coarse sand - no water
845 778	845	Hard clay and conglomerate
845	860	Coarse sand flowing 125 gal. water per min.

8-5/8 inch casing in hole.

REPORT OF TESTS
B. F. WATER DRILLING CO. THAYER #1
C. YAVAPAI COUNTY, ARIZONA

April 23, 1951 to May 3, 1951

On April 20, 1951, the writer was contacted in Midland, Texas by Mrs. Gertrude S. McClenaghan and Mr. Charles P. Wineman regarding testing the above well. The only definite information available was a partial Schlumberger electrical log which indicated porosity and permeability in the sections from 3600' to 3700' and from 4040' to the logged total depth (4070'). Verbal information indicated that substantial oil shows had not been previously tested and that crude oil had covered the pits during a previous cleaning out attempt. We were further informed that a drilling rig was on the location, completely rigged up and ready to start immediate operations.

An estimate of the cost of performing a test of the section from 3600' to 3700' was made and, this being acceptable to the principals in this venture, the writer was instructed to hire two drilling crews and commence these operations immediately.

Drilling crews were hired in Midland, Texas, and work was commenced at 7:00 AM April 23, 1951.

The rig was found to be intact and at 4:00 PM on the 23rd we started running drill pipe in the hole. Some fresh gel mud was mixed and the drill pipe was run to the indicated total depth (4070') with little difficulty. A few light bridges were encountered in the lower 200' of hole.

Because of the length of an anchor which would be required to set a packer at 3600', it was deemed necessary to set a cement bridge immediately below the interval to be tested. Original plans were to mix and spot this cement bridge with equipment at the rig. At the insistence of well owner, Halliburton was ordered from Hobbs, N. M. and the plug spotted by this method. Cost of Halliburton equipment for this job was \$710.00 and in addition, approximately 24 hours rig time was lost.

Plug was successfully spotted from 3695' to 3850' and allowed to set 36 hours. Top of plug was dressed off to 3700' where good firm cement was found.

Drill stem test #1 was run from 3583' to 3700'. Tool open two hours 35 minutes. Good blow air for one hour and died. Recovery was 2520' fresh water and mud. No shows of oil or gas. Flowing pressure 325# initial, 1082# final. No shut in pressure was taken as fluid in drill pipe had reached equilibrium.

Decision was made to test the lower portion of the hole. We were then informed by a previous employee on the well that the actual total depth was 4107' in 6 1/2" cored hole.

Cement plug was drilled and the hole reamed to 4107'. To assure the elimination of any rat hole, new hole was drilled to 4137'.

Cement contamination and lack of proper chemicals destroyed the value of the mud in the hole. All old mud was discarded and fresh gel mud was mixed for reaming and drilling operations.

- 2 -

After circulating six hours, it was found that the hole was taking some fluid and was caving sufficiently to make a drill stem test hazardous. Gel mud was mixed and circulated for an additional 12 hours without materially improving conditions.

Permian Mud Service of Odessa, Texas, was called for additional mud, chemicals and mud engineering supervision. Sixteen hours were required to bring the mud up to proper characteristics and hole condition for a drill stem test.

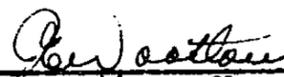
Drill stem test #2 was run from 4030' to 4137'. Tool was open 2 hours 15 minutes. Good blow air throughout test. Recovery was 1350' mud and 1350' fresh water. No shows of oil or gas. Flowing bottom hole pressure was 350# initial, 1600# final. Shut in for 15 minutes, build up to 1885#.

Job was completed at 10:AM May 3, 1951.

Conclusion

It is the opinion of this writer that had all information regarding this well been made available, considerable expense could have been saved in conducting these tests. The tests might have been decided against and more constructive work performed in making new hole for the same cash outlay.

It is my understanding that the above mentioned Mrs. McClenaghan and Mr. Wineman agreed to finance the expense of a test of this hole for certain acreage and interest considerations. In this respect they have more than fulfilled their obligation. Two complete drill stem tests were made of different sections of the hole and results showed conclusively that no oil or gas in commercial quantities exist at this location to this depth.


J. E. Wootten, May 5, 1951

San Simon, Arizona



OFFICE OF
State Land Department
STATE OF ARIZONA
Phoenix, Arizona

O. C. WILLIAMS
STATE LAND COMMISSIONER

July 18, 1949

Mrs. Nellie Fitzwater
c/o Texas Hotel
Fort Worth, Texas

Dear Mrs. Fitzwater:

In compliance with your verbal request of July 14, 1949, the following summary of the geology of the San Simon Valley and the adjacent mountains, centering on the town of San Simon, has been prepared. Appended are 2 copies of sample analysis of the Fitzwater-Thayer #1 well.

Location

That portion of San Simon Valley and the adjacent mountains considered in this summary is located in Cochise and Graham Counties, Arizona, roughly between T. 11 N. and T. 16 N., and between R. 26 E. and the New Mexico border. It is an area of about 1000 square miles.

San Simon Valley, within Arizona, is an intermontane valley of the basin-range type about 90 miles long and about 25 miles wide at its widest. It is flanked by the Chiricahua, Dos Cabezas, and Pinaleno Mountains on the west and the Palencillo Mountains on the east. Drainage is to the northwest. Elevations on the valley floor in the vicinity of San Simon are at 3600' above sea level. The surrounding mountains on either side rise to elevations of about 8000'.

Geology

San Simon Valley is a large structural trough formed by downfaulting between two nearly parallel mountain chains. The valley is broad synclinal basin composed of a thick series of alluvial and lacustrine (lake) deposits overlying volcanic tuffs, breccias and flows, which in turn overlie older sedimentary beds. The Pinaleno, Dos Cabezas and Chiricahua Mountains have granitic, gneissic and schistose cores upon which have been unconformably deposited sedimentary and metamorphic rocks of Paleozoic age consisting principally of limestone, sandstone, shale and quartzite. Layers of probable Tertiary age are widely distributed over these ranges. The Palencillos on the east are composed of igneous and volcanic rock, probably Tertiary. No older sedimentary formations are known to be exposed in the Palencillos. All the surrounding mountains have been extensively faulted.

Sedimentary Rocks

Overlying the basement complex of granites, schists and gneisses of probable Pre-Cambrian Pinal age is a thick section of Paleozoic sediments. These sediments consist of Balcon quartzite (Cambrian age - about 350' thick), Abrigo limestone (Cambrian age - 350' thick maximum), Martin limestone and shale (Devonian, 200' thick), and Escobedo limestone (Mississippian, 600-800' thick), and Hoco limestone (Pennsylvanian, over 2000' thick). Not all of these formations are exposed in one locality nor is the total thickness listed. There are some sandstone, shale and siltstone beds between the Mississippian Escobedo and the Martin (?) shales at Hoco Hill about 15 miles south of San Simon.

W. Bennett

Mesozoic sediments in the area are limited to exposures in the Dos Cabezas Mountains. They consist of undifferentiated impure sandstones, shales and limestone of possible Cretaceous age. These may be over 3000' thick.

Tertiary-Quaternary sediments consist of conglomerates, notably the Gila conglomerate which outcrops extensively at the north of San Simon Valley, alluvial deposits made up of clays, silts, sands and gravels and lake beds along the center of the valley. The Gila conglomerate is not believed to be over 1000' thick and the alluvial and lacustrine deposits are known to be between 2500 and 3000' thick in the center of the basin.

Metamorphics, Intrusives and Volcanics

The schists and gneisses which form the cores of the mountains along the west side of San Simon Valley as discussed are designated as the Pinal schist and are believed to be metamorphosed sediments. These are cut by granites, some of which are pre-Cambrian and others of Mesozoic or Tertiary age.

The volcanic rocks in this area consist of breccias, tuffs, felsite, rhyolite and andesite flows, many of them exceedingly fine grained. These flows may be of Mesozoic or Tertiary age and in some places attain a thickness of over 3500'. Quaternary basalt flows cap certain areas. At the southern end of San Simon Valley Quaternary volcanics are interbedded with alluvial deposits.

Deep Well Data

The deep well data from the three deepest wells in the San Simon area is here summarized.

Bowie Oil Syndicate Well SW $\frac{1}{4}$ sec. 18, T. 13 S., R. 29 E.

Quaternary-Tertiary	0 - 1010'	Clay, sand, gravel and boulders. Stream and flood deposits with interbedded lake deposits
Tertiary?-Cretaceous?	1010' - 4110'	Consolidated shales, hard sandstones and limy shales. These beds may be a continuation of the Quaternary-Tertiary alluvial and lacustrine deposits

Punk Benevolent Corp. Well sec. 27, T. 13 S., R. 30 E.

Quaternary-Tertiary	0 - 2595'	Valley fill
Tertiary?-Cretaceous?	2595' - 6184'	Volcanics
Cretaceous?	6184' - 6668'	Volcanic and lime conglomerates

Fitzwater-Daisy Thayer #1 sec. 31, T. 13 S., R. 31 E.

Quaternary-Tertiary	0 - 2800'	Valley fill
Tertiary?-Cretaceous?	2800' - 4107'	Volcanics

The Funk well samples are incomplete but the available data indicates a thickness of 3600' of volcanics below the bottom of the valley fill. Both the Bowie and Funk wells reported numerous gas and oil shows. The Funk well reported considerable warm water under light artesian pressure.

Generalized Column

The following stratigraphic column is only suggested as a possible generalization of the formations underlying the center of San Simon Valley. The thicknesses shown are only estimated. Faulting, lateral changes and unconformities could materially change the column suggested.

Age	Formation	Thickness
Quaternary - Tertiary	Valley fill	2800' ±
Tertiary - Cretaceous?	Volcanics	3500' ±
Mesozoic sediments	Cretaceous? undifferentiated shales, sandstones, limestones	3000' ±
Paleozoic sediments		
Pennsylvanian	Naco limestone	2000' ±
Mississippian	Escabrosa limestone	700' ±
Devonian	Martin limestone and shale	200'
Cambrian	Abrigo limestone	350'
Cambrian	Bolsa quartzite	350' -
	Total	12,900' ±
Basement complex		

Structure

Palencillo Mts.

The Palencillos, on the east side of San Simon Valley, are composed of a slightly tilted and warped considerable thickness of volcanics that has been extensively faulted. Part of the early alluvial deposits lying on the west flank of these mountains have participated in this tilting and faulting.

Chiricahua Mts.

The Chiricahuas, the southernmost of the mountain ranges on the west side of the valley, consists of a great thickness of volcanics that has been step-faulted up in relation to the valley. The dips are moderate to high dipping to the southwest. Along the edge of the fault zone blocks of Paleozoic sediments have been faulted up and exposed. These Paleozoic beds also dip south to southwest.

Dos Cabezos Mts.

The Dos Cabezos consist of a complicated series of Paleozoic and Mesozoic sediments, volcanics, and granitic intrusions. Very generally the Dos Cabezos consist of two large blocks with the westerly block thrust up to bring granite and schist into contact with Paleozoic and Mesozoic sediments of the east block. The southeast end of the Dos Cabezos consist in part of a large faulted anticline. The Paleozoic and Mesozoic sediments of the east block were deposited on Pre-Cambrian schist and granite and both the Mesozoic sediments and early schists and granites are believed to have been intruded by post-Mesozoic granites. There are considerable quantities of volcanics on the west side of the Dos Cabezos.

Pinaleno Mts.

The Pinaleno Mountains are made up of volcanics deposited on a large granite mass.

San Simon Valley

The San Simon Valley is a shallow synclinal basin of the usual basin range structure. Dips in the alluvium are nearly horizontal with very slight dips in the direction of drainage. While some of the earlier valley fill deposits have angles of dip which indicate they have participated in some of the movements which have involved the mountains, there is no direct geological evidence on the surface to indicate any structure in the center of the basin.

Geologic History

The oldest exposed rocks about San Simon Valley are schists which were sedimentary rocks before being metamorphosed. The schists were intruded by granite and both were possibly involved in a period of mountain building. Following this the region was eroded to a low relief and then submerged beneath ocean waters. The Paleozoic sediments, a series essentially conformable sandstones, shales and limestones were then laid down. Most of these were deposited during late Paleozoic time.

The Paleozoic sedimentation was followed by folding, faulting and intrusion and a period of uplift after which the region was subject to erosion. Following the erosion the region was again submerged and Cretaceous clastic sediments were laid down upon the older rocks.

The region was then again subjected to folding, faulting and intrusion. A great thickness of volcanic rocks were then deposited as flows, tuffs and tuffaceous sediments. After the volcanic rocks were deposited, a period of intense movement ensued and older rocks were thrust over younger rocks.

The region was then faulted along its northwest-southeast trend and the major features of the area with its upthrown mountains and downthrown valley were developed.

Erosion was coincident with the building of the mountain and since the faulting the downfaulted valley has received a great thickness of alluvial material from the adjacent upfaulted mountains. The valley was occupied at least once by a lake.

Petroliferous Possibilities

The San Simon Valley may be considered as a possible petroliferous area because of the Paleozoic and Mesozoic marine sediments known in the surrounding mountains. These same formations are believed to underlie the valley fill. In that these formations consist of limestones, sandstones and shales they may be considered as possible source, reservoir and cap rocks.

It is doubtful whether the valley fill itself has any petroliferous possibilities because of the lack of organic source beds above the volcanics and the apparent lack of stratigraphic or structural traps.

The entrapment of oil or gas below the volcanics would depend on structural and stratigraphic conditions which cannot be determined by surface geology. This is not to say that such traps may not exist. However, they will have to be located by the combined use of geophysical methods and actual drilling or by drilling alone.

No test in San Simon Valley can be said to have fully exploited the petroliferous possibilities of the area until it has penetrated the full thickness of unmetamorphosed sediments.

X X X X X X

I hope that the above summary of San Simon Valley geology contains the information you desire.

Very truly yours,

L. A. Heindl
Geologist,
State Land Department

RETURN RECEIPT

Received from the Postmaster the Registered or Insured Article, the original number of which appears on the face of this Card.

William Fitzwater

(Signature)

Date of delivery: JUL 1 1944

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K. D. K. Pitzerter Dajay Quarry #1 - NW. 31-13S-31E

Depth	Color	Angularly	Over 2mm.	Composition	Under 2mm.	Remarks
2050-2055	Brownish grey	Subangular & few rounded	25% Volcanics 25% quartz 25% sedimentary 25% Miscellaneous	90% quartz 10% miscell. (pyrite (salt)	quartz volcanic Alluvial deposit-sedimentary	
2060-2065	do.	do.	feldspar quartzite	do. most small grains are well rounded	do.	
2070-2075	do.	do.	do.	do.	do.	
2080-2085	do.	do.	do. more feldspar	do.	do.	
2090-2095	do.	do.	do. ls. prominent	do.	do.	Some calc. cementing is noticeable.
2100-2105	do.	do.	do.	do.	do.	
2110-2115	do.	do.	do.	do.	do.	
2120-2125	do.	do.	do.	do.	do.	Volcanics still principal constituent.
2130-2135	do.	do.	do. more epidote	do.	do.	
2140-2145	do.	do.	do.	do.	do.	
2150-2155	do.	do.	do. Some limy	do.	do.	
2160-2165	do.	do.	do. material	do.	do.	
2170-2175	do.	do.	do.	do.	do.	Soft, limy material still present-salc.

No Permit

M. D. K. Riverwater Delay Thayer #2-Cont.

Depth	Color	Angularity	Over 2mm.	Composition	Under 2mm.	Remarks
2180-2185	gray	Subangular	25% volcanics 25% quartz 25% sedimentary 25% miscellaneous	90% quartz 10% miscellaneous	magnetite pyrite sand grains, some metamorphosed rocks.	Aluvial do. limy water with calc. cement
2190-2195	do.	do.	do. some limy water	do.	do.	do.
2200-2205	tand sh gray	do.	do. quartzite, ls., epidote	do.	do.	do.
2210-2215	do.	do.	do.	do.	do. more rounded than big ones	do.
2220-2225	do.	Subangular & some rounded	do.	do.	do.	do.
2230-2235	do.	do.	do.	do.	do.	do.
2240-2245	do.	do.	do.	do.	do.	do.
2250-2255	do.	do.	do.	do.	do.	do.
2260-2265	do.	do.	do.	do.	do.	do.
2270-2275	do.	do.	do.	do.	do.	do.
2280-2285	do.	do.	do.	do.	do.	do.
2290-2295	do.	do.	do.	do.	do.	do.
2300-2305	do.	do.	do.	do.	do.	do.
2310-2315	do.	do.	do.	do.	80-90% quartz (magnetite pyrite 10% miscell. (salt)	Aluvial
2320-2325	do.	Subangular	do.	do.	do.	do.
2330-2335	do.	do.	do.	do.	do.	do.
2340-2345	do.	do.	do.	do.	do.	do.

No Permit

M. D. K. Pitwater Daisy Shaver #1-Cont.

Depth	Color	Angularity	Over 2mm.	Composition		Remarks	
				Under 2mm.			
2350-2355	tanish grey	subangular	25% volcanics 25% quartz 25% sedimentary 25% miscell.	60-90% quartz 10% miscell. (magnetite pyrite arsenite)	do.	Alluvial	
2360-2365	do.	do.	do.	do.	do.	do.	do.
2370-2375	do.	do.	do.	do.	do.	do.	do.
2380-2385	do.	do.	do.	do.	do.	do.	do.
2390-2395	do.	do.	do.	do.	do. - more silt	do.	do.
2400-2405	do.	do.	do.	do.	do.	do.	do.
2410-2415	do.	do.	do.	do.	do.	do.	do.
2420-2425	do.	do.	do.	do.	do. some loosely cemented ss.	do.	do.
2430-2435	do.	do.	do.	do.	do.	do.	do.
2440-2445	do.	do.	do.	do.	do.	do.	do.
2-50-2455	do.	do.	do.	do.	Volcanics quartzite quartz	do.	do.
2460-2465	do.	do.	do.	do.	do.	Quartz grains, some magnetite pyrite some volcanics	do.
2470-2475	do.	do.	do.	do.	do.	do.	do.
2480-2485	do.	do.	do.	do.	do.	do.	do.
2490-2495	do.	do.	do.	do.	do.	do.	do.
2500-2505	do.	do.	do.	do.	do.	do.	do.

No Permit

M. D. K. Pitwater Daley Enayer #1-Cont.

Depth	Color	Angularity	Composition		Remarks
			Over 2mm.	Under 2mm.	
2510-2515	tanish gray	Subangular	Volcanics quartzite material quartz	quartz grains, some magnetite pyrite some volcanics	Alluvial - limy material again
2520-2525	do.	do.	do.	more silt, limy do. material coats and sometimes consolidates grains	Limy material beginning do. to coat volcanics and other larger rocks
2530-2535	do.	Subangular to rounded	do. no limy material	do. no limy material	Small grains well- rounded. - No limy material
2540-2545	do.	do.	do.	do.	do.
2550-2555	do.	do.	do.	do.	do.
2560-2565	do.	do.	do.	do.	do.
2579-2584	do.	do.	Volcanics quartzite quartz	Principally quartz, some magnetite, pyrite, and volcanics	Alluvial Smaller grains are well-rounded
2590-2595	do.	do.	do.	do.	do.
2600-2605	do.	do.	do.	do.	do.
2610-2615	do.	do.	do.	do.	do.
2620-2625	do.	do.	do.	do.	do.
2630-2635	do.	do.	do.	do.	do.
2640-2645	do.	do.	do.	do.	do.
2650-2655	do.	do.	do.	do.	do.
2660-2665	do.	do.	do.	do.	do.

No Permit

M. D. E. Pittenger Daisy Freyer #1-Cont.

Depth	Color	Angularity	Over 2mm.	Composition	Under 2mm.	Remarks
2670-2675	gray	Subangular to rounded	quartzite	some lb. quartz	volcanics	do. Alluvial smaller grains are well-rounded
2680-2685	do.	do.	do.	do.	do.	do. Alluvial smaller grains are sometimes rounded
2690-2695	do.	do.	do.	do.	do.	do.
2700-2705	do.	do.	do.	do.	do.	do.
2710-2715	do.	do.	do.	do.	do.	do.
2720-2725	do.	do.	do.	do.	do.	do.
2730-2735	do.	do.	do.	do.	do.	do.
2740-2745	pink sh	do.	do.	do.	do.	do.
2750-2755	gray	do.	do.	do.	do.	do.
2760-2765	do.	do.	do.	do.	do.	do.
2770-2775	do.	do.	do.	60%	do.	do.
2780-2785	do.	do.	do.	do.	do.	do.
2790-2795	do.	Subangular to	do.	do.	do.	Mostly volcanic! small grains, often rounded.
2800-2805	do.	rounded	do.	do.	do.	do.
2810-2815	do.	do.	do.	do.	do.	do.
2820-2825	do.	do.	do.	do.	do.	do.

No Permit

M. D. K. Webster Daley Quarry #1-Cont.

Depth	Color Finish	Angularity Angular to Angular	Over 2mm. Volcanics quartzite	Composition		Remarks
				Under 2mm.		
2840-2845	do.	do.	do.	do.	do.	do.
2845-2855	do.	do.	do.	do.	do.	do.
2860-2865	do.	do.	do.	do.	do.	do.
2870-2875	do.	do.	do.	do.	do.	do.
2880-2885	do.	do.	do.	do.	do.	do.
2890-2895	do.	do.	do.	do.	do.	do.
2900-2905	do.	do.	do.	do.	do.	do.
2910-2915	do.	do.	do.	do.	do.	Mostly volcanics, small grains show roundness, dark gray radiolar basalt
2921-2926	do.	do.	do.	do.	do.	do.
2926-2936	do.	do.	do.	do.	do.	do.
2936-2945	do.	do.	do.	do.	do.	do.
2945-2955	do.	do.	do.	do.	do.	do. smaller amount of tiny material
2955-2965	do.	do.	do.	do.	do.	do. no tiny material
2965-2975	do.	do.	do.	do.	do.	do.
2975-2985	do.	do.	do.	do.	do.	do.
2985-2985	do.	do.	do.	do.	do.	do.

No Permit

M. D. K. Pitwater Daisy Thayer #1-Cont.

Depth	Color	Angularity	Over 2mm.	Composition	Under 2mm.	Remarks
2990-2995	Pinkish gray	Subangular to angular	Volcanics quartzite quartz		Principally quartz, some magnetite, pyrite and volcanics	Mostly volcanics, small grains show roundness, dark gray vesicular basalt.
3000-3005	do.	do.	do.	do.	do.	do.
3010-3015	do.	do.	do.	do.	do.	do.
3020-3025	do.	do.	do.	do.	do.	do.
3030-3035	do.	do.	do.	do.	do.	do.
3040-3045	do.	do.	do.	do.	do.	do.
3050-3055	do.	do.	do.	do.	do.	do.
3060-3065	do.	do.	do. some limy material	do.	do.	do.
3070-3075	do.	do.	do. no limy material	do.	do.	do.
3080-3085	do.	do.	do.	do.	do.	do.
3090-3095	do.	do.	do.	do.	do.	Fractured rhyolite, porphyry, Mostly volcanics, small grains show roundness.
3100-3105	do.	do.	do.	do.	do.	do.
3110-3115	do.	do.	do.	do.	do.	do.
3120-3125	do.	do.	do.	do.	do.	do.
3130-3135	do.	do.	do. some limy material	do.	do.	do.
3140-3145	do.	do.	do. no limy material	do.	do. some limy material	do. limy material has shown up only in small quantities.

No Perm

H. D. K. Pitwater Daley Thayer #1-Cont.

Depth	Color	Angularity	Over 2mm.	Under 2mm.	Remarks
3950-3955	Pinkish gray	Subangular to angular	Volcanics quartzite	no calc. material	Principally quartz, some magnetite, pyrite and volcanics
3960-3965	do.	do.	do.	do.	do.
3975	do.	do.	calc. material	do. more silt	do.
3980-3985	do.	do.	not so much calc. material	do. not so much silt	do.
3990-3995	do.	do.	quite a bit of quartzite	do.	do.
4000-4005	do.	do.	10% limy material	do. 90% no limy material	do. fractured gray foliate calc. material
4010-4015	do.	do.	35% over 2mm.	do. 65% under 2mm.	do. some limy
4020-4025	do.	do.	a lot of calc. material	do. more silt	do. calc. material coats both small and large grains
4030-4035	do.	do.	not much calc. material	do.	do. calc. material, no
4040-4045	do.	do.	some limy material	do. not much silt	do. larger coating grains
4050-4055	do.	do.	more quartzite	do.	do. calc. coating on
4060-4065	do.	do.	calc. coating again	do. more silt	do. calc. coating
4070-4075	do.	do.	no calc. coating	do. more limy material	do. no coating
4080-4085	do.	do.	more limy material	do.	do. small grains, dark gray foliate
4090-4095	do.	do.	some calc material	do. more silt	do. show roundness

W. D. K. Pitwater

Fitzwater-Thayer #1
 San Simon Valley
 Sec. 31/8, T. 14 S., R. 31 E.
 By L. A. Heindl

COCHISE COUNTY

Sample -
 Washed ditch
 Samples from 200' - 1750'

50% under 2 mm. 50% over 2 mm.
 Under 2 mm: generally well rounded.
 Sand grains, also some angular fragments,
 probably broken by drilling.
 Over 2 mm: No well rounded, some subangular,
 mostly sharply angular. Occasional pebble
 fragments with one surface rounded, the rest
 angular. Material predominantly volcanic,
 few granitic, few Paleozoic.
 Alluvial fill - volcanic wash.

Core samples-unknown depth.

#1	Yellow gray, volcanic tuff, some fragments up to 1". Bedding horizontal?
#2	Yellow gray volcanic tuff.
#3	Pinkish, yellowish volcanic tuff.
#4	Pinkish volcanic tuff-many coarse fragments.
#5	Pink volcanic breccia, some quartzite.
#6	Pink volcanic breccia.
#7	Gray-brown volcanic breccia, much secondary crystalline calcite. 2" max.
#8	Volcanic breccia underlying coarse gray tuff. Contact dip about 10°.
#9	Pink gray breccia.
#10	Pink gray breccia, no calcite.
#11	Pink gray breccia, no calcite.
#12	Pink gray breccia, no calcite.
#13	Tightly cemented gray breccia, some epidotization.
#14	Dark gray vesicular basalt, calcite zeolites.
#15	Dark gray vesicular basalt, calcite zeolites.
#16	Coarsely fractured dark gray felsite with heavy calcite veining along fractures. May be a coarse breccia.
#17	Volcanic breccia, dark gray or coarsely fractured felsite.
#18	Fractured dark gray felsite.
#19	Coarse pale reddish brown breccia. (Fractured rhyolite porphory?).
#20	Pale reddish brown rhyolite porphory.
#21	Pale reddish brown rhyolite porphory.
#22	Pale reddish brown rhyolite porphory.
#23	Sample from 4100+ depth. Fractured dark gray felsite. Some evidence of very high angle. (75-80°) flow lines, if cores vertical.
#24 - 4100+	Same as #23.
Sample from 4100+	Same as #23.

Note: These samples were checked by "Red" LaMance, of San Simon Petroleum Co., Douglas, who was the driller on the Fitzwater well. From memory, he indicated the following, along with his interpretation of the cores.

Above 2800' ±	Cores 3 and 4	"Valley fill".
2800' ±	Core #8	"Bottom of valley fill".
Between 2800' and 3000'	Core #15	"First solid formation".
About 3100'	Core #19	"Cemented gravel".
3100' ± to 3200' ±	Core #18	"Massive shale".
3200-3300	Core #21	"Tight brown shale".
3300 to near bottom	Core #18	"Shales".
Bottom of hole	Core #23	"Shale".

Fitzwater-Thayer #1
 San Simon Valley
 Sec. 36, T. 14 S., R. 31 E.
 By L. A. Heindl

COCHISE COUNTY

Sample -
 Washed ditch
 Samples from 200' - 1750'

50% under 2 mm. 50% over 2 mm.
 Under 2 mm: generally well rounded.
 Sand grains, also some angular fragments,
 probably broken by drilling.
 Over 2 mm: No well rounded, some subangular,
 mostly sharply angular. Occasional pebble
 fragments with one surface rounded, the rest
 angular. Material predominantly volcanic,
 few granitic, few Paleozoic.
 Alluvial fill - volcanic wash.

Core samples-unknown depth.

- | | |
|----------------------------------|--|
| #1 | Yellow gray, volcanic tuff, some fragments up to 1". Bedding horizontal? |
| #2 | Yellow gray volcanic tuff. |
| #3 | Pinkish, yellowish volcanic tuff. |
| #4 | Pinkish volcanic tuff-many coarse fragments. |
| #5 | Pink volcanic breccia, some quartzite. |
| #6 | Pink volcanic breccia. |
| #7 | Gray-brown volcanic breccia, much secondary crystalline calcite. 2" max. |
| #8 | Volcanic breccia underlying coarse gray tuff. Contact dip about 10°. |
| #9 | Pink gray breccia. |
| #10 | Pink gray breccia, no calcite. |
| #11 | Pink gray breccia, no calcite. |
| #12 | Pink gray breccia, no calcite. |
| #13 | Tightly cemented gray breccia, some epidotization. |
| #14 | Dark gray vesicular basalt, calcite zeolites. |
| #15 | Dark gray vesicular basalt, calcite zeolites. |
| #16 | Coarsely fractured dark gray felsite with heavy calcite veining along fractures. May be a coarse breccia. |
| #17 | Volcanic breccia, dark gray or coarsely fractured felsite. |
| #18 | Fractured dark gray felsite. |
| #19 | Coarse pale reddish brown breccia. (Fractured rhyolite porphory?). |
| #20 | Pale reddish brown rhyolite porphory. |
| #21 | Pale reddish brown rhyolite porphory. |
| #22 | Pale reddish brown rhyolite porphory. |
| #23 | Sample from 4100± depth.
Fractured dark gray felsite. Some evidence of very high angle. (75-80°) flow lines, if cores vertical. |
| #24 = 4100±
Sample from 4100± | Same as #23.
Same as #23. |

Note: These samples were checked by "Red" LaMance, of San Simon Petroleum Co., Douglas, who was the driller on the Fitzwater well. From memory, he indicated the following, along with his interpretation of the cores.

Above 2800' ±	Cores 3 and 4	"Valley fill".
2800' ±	Core #8	"Bottom of valley fill".
Between 2800' and 3000'	Core #15	"First solid formation".
About 3100'	Core #19	"Cemented gravel".
3100' ± to 3200' ±	Core #18	"Massive shale".
3200-3300	Core #21	"Tight brown shale".
3300 to near bottom	Core #18	"Shales".
Bottom of hole	Core #23	"Shale".

Fitzwater-Thayer #1
 San Simon Valley
 Sec. 6, T. 14 S., R. 31 E.
 3/ By L. A. Heindl

COCHISE COUNTY

Sample -
 Washed ditch
 Samples from 200' - 1750'

50% under 2 mm. 50% over 2 mm.
 Under 2 mm: generally well rounded.
 Sand grains, also some angular fragments,
 probably broken by drilling.
 Over 2 mm: No well rounded, some subangular,
 mostly sharply angular. Occasional pebble
 fragments with one surface rounded, the rest
 angular. Material predominantly volcanic,
 few granitic, few Paleozoic.
 Alluvial fill - volcanic wash.

Core samples - unknown depth.

#1	Yellow gray, volcanic tuff, some fragments up to 1". Bedding horizontal?
#2	Yellow gray volcanic tuff.
#3	Pinkish, yellowish volcanic tuff.
#4	Pinkish volcanic tuff - many coarse fragments.
#5	Pink volcanic breccia, some quartzite.
#6	Pink volcanic breccia.
#7	Gray-brown volcanic breccia, much secondary crystalline calcite. 2" max.
#8	Volcanic breccia underlying coarse gray tuff. Contact dip about 10°.
#9	Pink gray breccia.
#10	Pink gray breccia, no calcite.
#11	Pink gray breccia, no calcite.
#12	Pink gray breccia, no calcite.
#13	Tightly cemented gray breccia, some epidotization.
#14	Dark gray vesicular basalt, calcite zeolites.
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#17	Volcanic breccia, dark gray or coarsely fractured felsite.
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#19	Coarse pale reddish brown breccia. (Fractured rhyolite porphory?).
#20	Pale reddish brown rhyolite porphory.
#21	Pale reddish brown rhyolite porphory.
#22	Pale reddish brown rhyolite porphory.
#23	Sample from 4100' depth. Fractured dark gray felsite. Some evidence of very high angle. (75-80°) flow lines, if cores vertical.
#24 - 4100'	Same as #23.
Sample from 4100'	Same as #23.

Note: These samples were checked by "Red" LaMance, of San Simon Petroleum Co., Douglas, who was the driller on the Fitzwater well. From memory, he indicated the following, along with his interpretation of the cores.

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