

Commissioners' Meeting 9/25/63

11/27/63 10/23/63

JULY REPORT TO THE COMMISSIONERS
FROM N. A. LUDEWICK, EXECUTIVE SECRETARY

July 22, 1963

The results of the sale of the Navajo leases were somewhat disappointing; however, the parcels sold will be developed soon.

I visited the Mountain States Exploration Co. State #1-A in Pima County. The small rig was down and another was being moved in. I understand that rigging up is being continued.

Henry Fullop, Eastern Petroleum Co. was in the office and indicated that he thought that his company's violation should be considered minor in the light of its operations in the past.

Shoshone Oil Co. had trouble getting a bond for their operation in Coconino County; however, they deposited a \$2,500 Cashier's Check on July 10 which allowed them to proceed with their operations.

I visited the Pinta Dome - Navajo Springs area on July 11 - 12. Met with Mr. Otto Barton, Superintendent of Kerr-McGee, visited the proposed location in Sec. 32, 20N, 27E. I later on went to the Shoshone location in Coconino County - they were at a depth of 90 feet at that time.

On Wednesday, July 17, I attended the Arizona Oil and Gas Association meeting and met Mr. Henry Pohlmann, the engineer for the Navajo Tribal Council, who gave a very enlightening talk on the Tribal lease sales and policy.

I have had no reply to my letter of June 27 to Mr. Raymond Nakai, Chairman of the Tribal Council, which suggested a meeting during the weeks of July 15 - 20 or July 29 - August 2.

I have not been able to develop information that would detail income from the various leaseholdings in Arizona as was requested by Mr. Lewis; however, the Land Dept. advises that the state's royalty income from helium gas production, for the fiscal year 1962-63, totaled \$14,317.84.

Numerous operators, having shut-down operations have been notified that our regulations require permission to temporarily abandon. We have had a reply from one operator who assures us that proper procedure will be followed.

You have been furnished copies of the report of the U. S. Attorney General's office regarding the I. O. C. C.

I have not yet received production reports from Shell Oil Co. so cannot give you complete production information. We are requesting that company to speed up their reporting so that this information will be available for this report.

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Executive Secretary's Report

As directed, I have notified Miss Lydia Johnson, at her last known address indicated in the files of the commission, that the Aztec Land and Cattle Co. well No. 2 should be plugged and that we would appreciate receiving a well completion report and an application to plug and abandon this well.

A copy of John Petty's report is attached.

June 21, 1963

MEMO TO OIL AND GAS CONSERVATION COMMISSIONERS
FROM: N. A. LUDEWICK, EXECUTIVE SECRETARY

No meeting was held in May, 1963 since a quorum was not available. Senator Lockhart, Dr. Kalil, Senator Simms, John Petty and I had a very enjoyable informal meeting.

Subsequent to my last report to you, permits have been assigned to Franklin, Aston and Fair for No. C-1 New Mexico-Arizona Land Company Fee, Section 27-T18N-R23E, Navajo County a proposed 500' test. Eastern Petroleum Company #17 Eastern-Santa Fe Fee, Section 4, T19N-R27E and #18 Eastern-Santa Fe Fee, Section 13, T20N-R27E are designated as wild-cats though the possible objective is the Coconino sandstone.

Visitors to the office during the past month have included Larry Curtis, assistant chief geologist, Kerr-McGee Oil Industries, plus the usual local people interested in the industry.

The printing of the new booklets containing our rules and regulations was completed and a mailing list of 175 was compiled, who were furnished with copies of the new booklets. In addition, numerous copies have been distributed individually.

The new car for John Petty was purchased from Fletcher-Jones Chevrolet, the low bidder, and is in service.

I attended the mid-year meeting at the Interstate Oil Compact Commission at New Orleans from June 13th through 15th. A verbal report will be given you of my impressions of that meeting at our session on June 26.

The sale by Navajo tribe of leases scheduled for June 27th is creating wide spread interest. Although some speculation was that some companies would boy-cott the sale, because of the drilling restriction, I am sure that any company interested will be a bidder.

The Eastern Petroleum Company drilled a well in Section 31-T20N-R28E, without a permit. This was called to the attention of this office, and was immediately conveyed to the Commission Chairman. On advice of the chairman, The Attorney General's office was requested to give the Commission an opinion as to what action should be taken against the company. This will be discussed at the regular meeting.

In 1962 Cities Service Oil Company were issued permits to drill several strat tests. The company reported the completion of one of these tests. John Petty found out that two or more had been drilled. We have asked Cities-Service to provide us information on the wells drilled and not reported.

The withdrawal of state lands for oil and gas leasing has been furnished you.

Copies of John Petty's reports are attached.

It is the policy of this Commission to create an atmosphere that will interest as many in exploration for oil and gas as is possible.

As a part of this policy, the Commission is firmly of the opinion that some form of incentive should be offered to the initial discoverer of oil in Arizona if any legal manner can be found to make this possible. It is the Commission's thought currently that such incentive should take the form of a cash bonus.

The question of incentives to encourage the development of oil and gas in Arizona is constantly before this Commission. It has always been the policy of the Commission to encourage the development of oil and gas in every manner at its disposal. While it is not possible to be specific at this time because Senator Simms' bill is under consideration by the Attorney General and as the law on this subject is not known to the Commission, the Commission does feel that the occasion requires a comment on its part with respect to its attitude to incentives of that nature.

The Commission is of the opinion that some such incentive will do much toward advancing the date of the discovery of oil in the state and will do much to further the development of oil and gas all of which is of major importance as it will be a wholly new source of income to the State and its residents and hence a great offsetting factor with respect to the tax problems that are inherent in growth such as ours.

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TO: Commissioners, Oil and Gas Conservation Commission,
State of Arizona
FROM: John K. Petty, Acting Executive Secretary and Petroleum
Geologist
SUBJECT: Additions to November 22 Report and Summation of Well Activity.

Bert Haigh, in charge of The University Lands at Midland, Texas in a semi retired capacity visited the Commission last Friday and was enthusiastic over Arizona prospects. He will speak favorably of the State to people in West Texas, and it is hoped he will influence some operators to open some fields here. He has been connected with the University Lands since 1926, and has possibly as many friends among the oil operators as anyone in the business.

Duval Corporation and U.S. Borax are drilling mineral tests for Potash in Apache and Navajo Counties. As stated in another report, the Commission has been promised the information on these tests at such time as they can release it without concern of their competitors.

Apache County

1. The Zoller & Danneburg # 1 Navajo CSWSW Action 7-T41N-R31E spud 10-24-63 D&A 11-13-63, was a 5689 foot Pennsylvanian Test near the 20 MM cubic foot Bita Peak field area. The well had no shows and was plugged and abandoned. Full data will be reported later. This was a farmout from El Paso Natural Gas Company.

2. The Pan American Corporation # Navajo - Q Section 8 T40N-R24E. Spudded in 6-29-63. Contractor is Cactus Drilling Compant. This was a Four Corners Area Basement Test and has been plugged and abandoned. Operator wishes to keep the information tight for awhile. It is possible they may drill another test in the nearby area. They topped the Devonian at 5985 and stopped at a total depth of 6617.

3. The MacDonald Oil #1 Navajo Sec. 31-T41N-R26E - a 6800 foot is a Devonian Test and drilling below 3000 feet. It is a farmout from British American Oil Co. and is SE of Mexican Water in the Four Corners Area. Contractor is Cactus Drilling Company.

4. The Gulf Oil Company #1 Garnet Ridge Navajo Section 16-T41N-R24E is drilling below 4500 feet. They should be in Pennsylvanian line. This is a Four Corners Area Basement Test West of Mexican Water and is a 5350 Devonian Test and is a tight hole.

5. Great Western Drilling Co. and W A Moncrief #1 El Paso-Navajo NE 20-T41N-R25E, Contractor Loffland, D&A at 7099 feet, data tight. Spud 9-19-63. Csg. 13-3/8" 174' W/190 SX. El-4874 K.B. Sample Tops Honaver Trail 4000, Ismay 4710, Desert Creek 4810, Akah 4925, Barker Creek 5050, Molas 5475, Mississippian 5640. Ouray 6010, Elbert 6090,

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Crd. 6360-80 Rec. 20' dolo. hard & tight; crd. 6380-90 rec. 10' dolo-sdy. tight-crd 6390-6410 rec. 20 dolo., tight sandy in part. I understand the devonian thickened to the southwest.

6. Eastern Petroleum Company #32 Eastern - Santa Fe Section 28-T20N-R27E 3½ miles east of Navajo is a Coconino Test, drilled tight and on the northern edge of the Eastern Petroleum proposed Unitization Unit. This is on the northern edge and an attempt to extend the Navajo Springs Helium field a mile northward. Eastern reports they have 12 out of pay and a well but do not have any further details at this time.

7. Eastern Petroleum Company #31 Santa Fe Sec. 29-T20N-R27E 2½ mi. east of Navajo. It is a Coconino Test and an attempt to extend the Navajo Springs field one mile north. This is on the north side of the proposed Eastern Petroleum Unitization acreage. It is a tight hole. Eastern reports this well has poor cement job on the casing and it will have to be rerun. They report it has 38 feet of pay and will make a good well. This is all the information I have on it now. They haven't measured the flow of gas.

8. Eastern Petroleum Company #33 Eastern - Santa Fe A section 30-T20N-R27E, 2½ miles Southeast of Navajo and an attempt to extend the Navajo Springs Helium Field a mile northward. This well has not been spudded in as yet.

9. The Fletcher #1 Fletcher-Spurlock in Sections 21-T19N-R26E, 8 miles south and 3 miles west of Navajo, Arizona. This well was drilled to below 900 feet in the Shinarump, casing was set, and no frac material was recovered. It showed Helium gas and over 100 pds. pressure. Operator decided to drill on to the Coconino for Helium possibilities. This looks promising for Coconino production.

10. The Ram Oil Company #1-5 Hortenstine in Section 5-19N R26E, 5 miles SW of Navajo, Arizona and adjacent to Pinta Dome Helium Field is a 1200 foot Coconino Test and was drilled in 1962, showed some Helium gas, was fraced and operator shut it in when he couldn't recover any appreciable amount of frac material. A rig was moved on it early this year and at present is still on it. The drilling contractor, owner of the rig is experiencing legal difficulties so the well information is at a standstill.

11. The Ram Oil Company #1 State SE SE Section 29 T11 N-R31E, Elevation 6260 feet is an 880 foot test which showed some Helium in blows but volume is weak and its presently capped for possible future work.

12. The Ram Oil Company #1-9 Hortenstine Section 9-T19N-R26E, 5 miles NW Navajo, has tested around 82,000 CFGPD from the Shinarump and operator still plans to try to increase this, consequently has not completed the well.

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13. Eastern Petroleum Company #1 Coyote Creek, Section 27-T19N-R30E is a "below-vacuum" 660 foot deep well which has been experimented with and while the gas analysis showed around 2% Helium the volume is low and unstable. Eastern said they'd keep trying to do something with it.

14. Desert Drilling Company #1 State. Sec. 32-T19N-R29E, 16 mi. SE Navajo at a T.D. of 1620 feet in chindle and shut in. A metal cap was welded over casing and operator wants to wrk on it later. The Coconino will be about 2150 feet and it is to be about a 2500 foot Ft. Apache lime test.

Navajo County

15. Franklin, Aston & Fair # C-1 New Mexico and Arizona Land Co. Section 27-T18N-R28E. This well had a show of gas in the Shinarump which when analyzed showed Helium content. They set casing at around 300 feet and perforated, swabbed and worked on it considerably. They asked to be allowed to withhold the information to continue to work on it. This it is not completed.

16. New Mexico & Arizona Land Co. #3 Test Hole C E/2 Section 27-T17N-R22E. This test has not been reported as having any more gas blows since it was first said to have blows out at a depth of 1004-21 feet in the upper Supai. It was treated and failed to respond. It is hoped it will respond on future treatment. I have not been able to obtain a sample for testing. Total depth is 1065 ft.

Coconino County

17. James R. Pickett #1 Pickett-Government 660 FS& E lines Section 20-T41N-R2E 6 SRM - This is a projected 5300 foot Basement Test located 18 miles east of Fredonia. At present it is a location only.

18. Allen et al #1 O'Haco, 1980 fS&W.L. - Section 29-T16N-R14E, 38 miles SW Winslow. T. D. 510 feet in Coconino. Has a blow. One gas analysis by operator showed no Helium. Top of Coconino is reported around 250 and a motel has been rented in Winslow by operators since the well began in 1962, however has asked to be allowed to cease the operation for some months in order to satisfy some lease requirements in Wyoming. He discovered the Bonanza Field in Montana some years ago. He did some surface mapping in the Winslow Area in 1915 and this is why he came back. It is hoped such a fellow may bring the vicinity some good luck as he did in the Rockies.

19. James R. Pickett #1 Padre Canyon State, 1980 fS & ELs Sec. 26-T20N-R10E, El. 6200 feet. Tight hole, complete information will be reported in due time. They had two good oil shows in the Devonian and stopped in granite at 3596 feet. They plan to let the Rancher take over the project of a water well.

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Yavapai

20. Harless #1 Federal
Section 4-T17N-R4E just north of the Sedona-Cottonwood ~~highway~~ ^{we have} is a tight hole, so only general information: Reported testing on pump. Since last report they've reportedly perforated and fraced this well and attempted to shut off the water. Several company geologists have visited the well having phoned this office several times as to the veracity of reports. All have been told to visit the well and decide for themselves since its a tight hole and operator has asked to continue testing the well. They've been working on the well most every time I've visited the site, consequently all Commission requirements are being satisfied.

21. Harless #18 M. K. Alsbury. Federal
NE SW 32 - T18N-R4 is to be a 3000 foot test to basement. Elev. is 3998 feet G. L. and it is drilled to 310 feet where they set 10 inch casing with a reported 255 sacks (doubtful) of cement. They are waiting on a rotary rig to drill deeper. - Tight hole. They moved the rig back to the Harless #1 Federal to work on it.

Maricopa County

22. The Montezuma Oil & Gas Company #1-X Federal
NWSW 30-2S-9W - 33 miles North of Sentinel. It has been reported that some dynamite was placed in this well by persons unknown and the explosion which resulted damaged the well considerably. The operator was of course highly perturbed over someone doing this. They have it about ready to drill ahead at a depth of 435 feet.

Yuma County

23. Desert Drilling Co. #1 State 6604N & 660FE
Lines of Section 16-T7S-R13W. A few miles NW Dateland. This is at a total depth of 6767 feet now and shut down. The operator is indisposed but it is believed this well will be drilled deeper. Many persons inquire about D.H. Roe.

Pima County

24. Mountain States Exploration Company
#1-A State NENE Section 29-T19S-R18E.
This well is under new operations management but still is supported and directed by Ted Lewis and his brother, owner of Ross Dog Food Company in California.

After moving the other rig off the hole and securing another Rotary they plan to drill to 7000 feet on production. They began drilling about 10 days ago and were at a depth of 4430 when they had a "twist off". (The drill pipe twisted into and severed itself just above the bit.) They fished most of this out but presently are whipstocking and making new hole. They are drilling around the junk they couldn't fish out of the hole and will by-pass it and drill ahead.

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This has been done before in other wells quite successfully so very likely the deviation will cause no unreasonable delay in accomplishing this project.

Graham County

25. Ram Oil Company #1 Ram-Sierra Bonita - Fee
Located in SESE section 2-T11S-R22E, 22 miles North of Wilcox is a project 5000 Foot Devonian Test.

They are drilling and carrying 16 inch casing at 350 feet in red beds. Boulders were at the surface. They may carry this 16 inch casing to as much as 700 feet before setting it, then reducing the hole to drill deeper to 5000 feet.

Washington County, Utah

26. Four Boy's Company #1 Four Boys Federal
NWSW Sec 24-T43S-R15W. This was drilled to 200 feet with operator's rig and was shut down for several months, finally being abandoned. There is shallow production just across the State line in Utah near St. George in the Virgin Limestone. This is small but is around 700 feet average depth. Consequently it is disappointing that this project was abandoned. They were striving for production in the Kaibab.

TO: The Commissioners, Oil and Gas Conservation Commission
State of Arizona

FROM: John K. Petty, Acting Executive Secretary and Petroleum Geologist

SUBJECT: Geological Field Trips from October 23 - November 27, 1963

FIELD TRIP #1, October 31, 1963

Purpose of trip: To visit drilling well sites and abandoned well sites as well as to learn of new information pertaining to mineral drilling.

October 31, 1963

The Mountain States Exploration Company #1-A State, NE NE Section 29-T19S-R18E, located in Pima County 10 miles northeast of Sonoita is on the verge of drilling ahead. The operator, Tex Lewis, said he was having a little difficulty conditioning the drilling mud and stopping the lost circulation zones. These zones "thiefed" the drilling mud from the well bore hole while operations have been at a standstill.

The total depth is 4410 instead of the 4413 I have been reporting. I suppose some junk has accumulated in the bottom of the hole. At any rate, from all appearances, I believe they'll be able to begin drilling most any day as Lewis has always been very reliable. This project he says will be drilled to 7000 feet or deeper. Then he says they'll run sufficient logs to determine the locations of the small intervals of possible shows of oil they've already drilled through plus the ones they hope to encounter while drilling to 7000 feet. I have asked him and Pixley et al to do this, but this is the first and only time I've actually been told they'd do it.

Cochise County:

The R. B. Moncrief et al #1 W. J. Davis, 1980 f N and E Lines, Section 25-T21S-R25E, 10 miles northeast of Bisbee was visited and the Great Western Drilling Company rig which was reported drilling in the Four Corners area was still stacked over the project; thus I cannot release the drilling bond. The cellar is not filled in and until the rig is moved from over the hole, I won't know if the marker will still be standing as it is or not.

This is the only one of the three Moncrief projects in Cochise County on which the bond has not been released, and since the bond is a blanket one, the Davis project keeps it in force.

I studied the Sulfur Springs Valley geological province while in the area.

November 1, 1963

Graham County

The Ram Oil Company #1 Ram-Sierra Bonita Fee, center of SE SE, Section 2-T11S-R22E, 29 miles north of Willcox, Arizona, was visited and they were just about ready to spud in. They had 700 feet of 16 inch casing ready to put in as their first string of casing. This project is planned to drill to 5000 and deeper if necessary to penetrate and test the Devonian formation. There have been several shows of oil reported in wells in the area drilled in the past.

This is to be drilled with a cable tool rig and the Harden Drilling Company from Boise, Idaho is the contractor. It seems in good condition, superficially.

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Geological Field Trips from October 23 - November 27, 1963

The project is located on the Hooker Ranch in the northern part of Sulfur Springs Valley, a feature which extends the length of Cochise County and on southward into Old Mexico. I met Mr. Bill Hughes, owner of the ranch, and he seemed enthusiastic about the project.

Surface geology is impossible to determine at the well site; however I study it wherever it's possible to do so.

I studied the surface geology on through Safford, Globe, up Salt River Canyon, to Show Low. This has been described previously, but a geologist cannot review or study the surface geology too many times for it always can offer something new if one searches.

November 2, 1963

I checked the Cities Service Stratigraphic Tests which were plugged and abandoned and some were left as water wells. At the time these wells were drilled, it was just after the Commission began requiring strat test information and C. S. O. said they were not told they had to turn in the information on all of them. Then their Albuquerque office was closed, their records and personnel distributed to Bartlesville, Oklahoma, Shreveport, Louisiana, and Roswell, New Mexico. Consequently when I went to check the well sites for bond release early this year and found no markers but more drill sites than permits were issued for I had to do some further investigating. Results of several phone calls, letters and trips are as follows all in Apache County:

1. C.S.O. #202 Strat Test M. A. Hall 1290 f W & 1650 f NL, Section 15-T8N-R28E, T.D. 1186, accepted by land owner on proper Commission form as water well.

NOTE: Frank Riney, District Landman, wrote that Permit Numbers 198, 199 200 and 201 were not drilled and gave notice of abandonment of locations September 20, 1962. (Later I received contradictory information which can be seen as I list the well sites checked).

2. C.S.O. #202 Strat Test Babbitt Brothers Trading Company & V. O. English, 1480 f N & 470 f E Lines, Section 33-T11N-R25E, G & S R M. This stratigraphic test was not drilled. It is believed that the M. A. Hall Strat Test was drilled instead because of a change in exploration plans.

3. C.S.O. #201 Strat Test J. H. Colter, 720 f S & 850 f W Lines, Section 22-T9N-R27E, G & S R M. Total depth 1353. P & A.

4. C.S.O. #203 Utah State Lease #6450, 680 f N & 750 f E Lines, Section 28-T11N-R25E, G & S R M. Not drilled.

5. C.S.O. #203 Strat Test State Lease #6462, 100 f S & 250 f E Lines, Section 26-T9N, R27E. Total depth 1193. Taken over as water well on Commission forms by land owner,

6. C.S.O. #204 Strat Test State Lease #6450, 3670 f W & 250 f S Lines of Section 2-T10N-R25E. Total depth 287 feet. P & A.

7. C.S.O. #204A Strat Test State Lease #6450, 3810 f S & 210 f W Lines Section 2-T10N-R25E. Total depth 637. Taken over as water well on Commission forms by land owner.

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Geological Field Trips from October 23 - November 27, 1963

8. C.S.O. #205 Strat Test Arizona State Lease #5693, 3140 f W & 240 f S Lines, Section 17-T9N-R27E, G & S R M. Not drilled.
9. C.S.O. #4 Strat Test State Lease #6458, 3170 f W & 80 f N Lines, Section 6-T8N-R28E. Total depth 976. P & A.
10. C.S.O. #13 Strat Test State Lease #6460, 4800' f S & 1080' f W Lines, Section 34-T9N-R27E. Total depth 1230 feet. P & A.
11. C.S.O. #10 Strat Test State Lease #6460, 680 f S & 1130 f W Lines of Section 35-T9N-R27E. Total depth 428 feet. P & A.

Thus eleven tests were reported on. Sample descriptions were sent to the Commission, as well as the electric logs when run. In review of the situation, I believe we are fortunate in obtaining as much information as we have and I think C.S.O. is fortunate that the Commissioners took a broadminded view of their discrepancies.

Most of the tests were commenced in volcanics by an inexperienced contractor and thus the expense was probably 35 or 40 percent more than if they'd employed a water well drilling contractor on the eleven projects with an experienced geologist.

The Commission requirements have been fulfilled and a letter which will effect bond release has been sent to the operator.

Navajo County

The Lydia Johnson #1 and #2 Section 33-T14N-R20E, located 11 miles west of Snowflake. The Commissioners agreed some time ago that this well could be plugged and abandoned. Mr. Carleton called in regard to do so and the bonding company wrote the Commission requesting release of bond. I went by the well and no effort to plug and abandon it is noticeable except the lock and chain has been removed from the gate valve on the casing.

I've written a letter to the bonding company saying the well sites are not properly prepared for bond release per Paragraph 101 as regards BOND in Commission Rules and Regulations, Page 5.

The New Mexico & Arizona Land #3 Fee, C E/2 Section 27-T17N-R22E, Navajo County, located approximately 10 miles east of Holbrook, has no signs of any activity around the site. This was reported as a gas blow out in the Supai with some helium content. I think they have drilled some more in the area and have phoned Lee Gorsuch a time or so without being able to contact him.

The James R. Pickett #1 Padre Canyon State, SE Section 26-T20N-R10E, Coconino County, located 26 miles east of Flagstaff is shut down at 2950 feet. They are reported in the top of the Pennsylvanian and have a lost circulation problem.

This is a proposed basement project which the operator believes he will drill to approximately 3750 feet. It is on a farmout from El Paso Natural Gas Products Company.

Page Four

Geological Field Trips from October 23 - November 27, 1963

Yavapai County

The Richard Harless #1 Federal, Section 4-T17N-R4E, 10 miles southeast of Sedona has a pump set on the site with one approximately 50 barrel storage tank. It was not in operation when I arrived on the site about dusk. They are making pump tests on it and haven't been able to shut the water off yet. Total depth is 1762½ feet and it's a tight hole. Operator phoned and asked if he could test it with a pump for a month or so while drilling another well nearby and possibly a third well.

The Yavapai Oil Company #18 M. K. Alsbury Federal, 1980 f S & 1980 f W Lines, Section 32-T18N-R4E, Yavapai County, was staked about two weeks ago when the operator called here about staking it out and moving a rig on it possibly before he applied for a permit as he didn't know exactly when his rig men would be available to work. I told him to go ahead but to be sure to apply for the permit immediately after the surveyor gave him the exact location.

The permit is being processed now and the cable tool rig, which was moved from the other Harless well is digging the hole. They are below 100 feet at this writing and it will be a 3000 foot basement project. It is located a mile northwest of the Harless #1 Federal.

November 3, 1963

I studied the surface geology around Sedona for a few hours. Then on the way to Phoenix, went on some side roads looking at formations.

At Black Canyon, just east of town, there are some mud springs very similar to those at Navajo Springs in Apache County. These at Black Canyon are on a northwest-southeast trend and I went to several groups of them. These are the later stages of geysers. I do not think there is any connection with helium possibilities, but it all is worthy of observation.

TO: The Commissioners
Oil and Gas Conservation Commission, State of Arizona

FROM: John K. Petty
Acting Executive Secretary, and Petroleum Geologist

SUBJECT: New Drilling Permits and General Report of Activities from
October 23, 1963 - November 27, 1963.

Four drilling permits have been issued and another application is on its way to this office:

Yavapai County

Permit #257 - Yavapai Oil Corporation #18 M. K. Alsbury Federal, 1980' f S and W Lines of Section 32-T18N-R4E, one mile northwest of the Harless #1 Federal. This will be a 3000 foot rotary basement test.

Apache County

Permit #258 - Eastern Petroleum Company #32 Eastern-Santa Fe Fee, 1650' f S and W Lines of Section 28-T20N-R27E, 3½ miles southeast of Navajo in the Navajo Springs field. This will be a 1200' Coconino test for helium drilled with a rotary rig. Ground elevation: 5755'.

Permit #259 - Eastern Petroleum Company #33 Eastern Santa Fe Fee, 1650' f S and E Lines of Section 30-T20N-R27E, 2½ miles southeast of Navajo in the Navajo Springs field. This will be a 1200 foot Coconino test for helium, drilled with a rotary rig. Ground elevation is 5660'.

Permit #260 - Macdonald Oil Corporation #1 Navajo Indian Reservation, 520' f S and 610' f W Lines of Section 31-T41N-R26E, in the Four Corners area. This will be a 6500 foot basement test (especially for Devonian production). Ground elevation is 5114'. Cactus Drilling Company is the contractor and will drill the project with a rotary rig.

1. The Commission is to appear before the Senate Appropriations Committee at 8:30 a.m., December 16, 1963, prepared to explain any appropriation request item which differs in amount from the previous year.
2. Senator Lockhart is in the Springerville, St. Johns, Show Low, McNary area showing the movie film loaned by the IOCC Executive Secretary, Lawrence Alley. Title of film is "More Oil and Gas for Today and Tomorrow".
3. About two months ago, Lawrence Alley, Executive Secretary of the IOCC, Oklahoma City, Oklahoma, wrote this Commission and sent some standardized oil and gas report forms designed for use by oil and gas operators in states where reports and records on wells must be filed with both state and federal agency offices. They are excellent forms and eleven states have adopted them. These forms are entitled "Notice of Intention to Drill, Deepen, or Plug Back", "Sundry Notices and Reports on Wells", and "Well Completion or Recompletion Report and Log".

Since these forms are very thorough and cover the necessary information, I recommend the Commission adopt them. In this case the "Oil and Gas Conservation Commission, State of Arizona" would appear at the heading instead of "United States Department of the Interior, Geological Survey". I think to adopt them would simplify the paperwork and be appreciated by the operators. If considered favorably by the Commissioners, we could

3. (Continued) use the supply of printed forms on hand, then begin using the new ones.
4. The Interstate Oil Compact Commission's Annual Meeting will be at Santa Fe, New Mexico, December 9-11, and two room reservations have been made at the LaFonda Hotel (convention headquarters) for Senator Lockhart and myself. If there are any more who care to attend, I can obtain reservations for you. I would like to obtain some well data in New Mexico near the Arizona boundary while there.
5. Since the October Commissioners Meeting, we have had a great many inquiries by phone and visits in regard to the bonus for the first oil well off the Indian Reservation, and the Dick Harless well in Yavapai County. Some oil company representatives have come to see the Harless well and then visited this office either by phone or in person. There has been a great increase in interest in the state during the past month.
6. Several hundred more brochures, "Oil, Gas and Helium in Arizona" have been sent to companies, operators and consultants in the Four Corners, Albuquerque, and Intermountain Geological Society members in Salt Lake City who live in many areas.
7. Report to IOCC prepared for semi-annual report: (This is reported every six months and usually the one at this time mentions activities for the whole year.)

ARIZONA

Twenty-seven drilling permits have been issued since the last report through May. This is an increase of 80% over the fifteen permits issued during the December, 1962 - May, 1963, period and reported at midyear.

Basement tests are being drilled in the southeast, southwest and over the northern half of the state. Seventeen wells are presently being drilled and tested.

Several mining companies drilling in the Holbrook salt basin in the helium area for potash could possibly discover an oil or gas field at any turn of the bit.

In addition to an early 1963 Devonian oil discovery with which Texaco Inc. opened the Walker Creek Oil Field, Pan American Petroleum completed a gas condensate well, thus opening another field in the northeastern part of the state.

Eastern Petroleum Company and Kerr-McGee Oil Industries, Inc. completed more helium wells and the former company, majority interest owner, has requested that Navajo Springs Fieldwide Unitization be approved in order for a new helium plant to be built to separate the helium to be produced from the presently six shut-in helium wells comprising the proposed unit. This is 8% helium gas, same as nearby Pinta Dome helium gas.

7. (Continued)

The Arizona Oil and Gas Conservation Commission denied the proposed unitization of the Navajo Springs unit proposed by Eastern Petroleum Company because of the Arizona Revised Statutes' clearly stating that the boundaries of a unit must be delineated by drilled wells. Consequently, surface and subsurface geological data was not sufficient.

The Navajo Helium Plant, owned and operated by Kerr-McGee Oil Industries, Inc., and being the only privately owned helium extraction plant in the United States, is processing over one million cubic feet of raw gas per day. Several plants process more gas per day, but none have gas as rich in helium content (8%).

Helium has been found in wells near Holbrook; thus extending the area of helium possibilities westward fifty miles.

A \$250,000.00 bonus offering for the first oil well produced off the Indian Reservations is being processed.

8. The Eastern Petroleum Company wells being drilled as a northern extension to the Navajo Springs field and purported to delineate the structure have not been completed as yet.
9. I have been informed that there have been about six tests drilled which are drilling for potash and other minerals south and west of the Pinta Dome Helium Area. It is believed that some logs run on at least two of these projects have been shared with owners of oil and gas leases on the same property. I believe this gives the Commission the right to demand that the oil and gas leaseholder take out a permit and file copies of whatever information he obtains from the well. I have said nothing of this to anyone, but believe something should be done about it.
10. I have been obtaining as much geological information over the whole state as I can and will continue to do so in order that I can be more helpful to prospective operators who come to the office to talk over their problems.
11. Mrs. Mary K. Cooper, secretary-bookkeeper, typed letters of acknowledgement to all Arizona applicants for the position of Executive Secretary per Chairman R. Keith Walden's instructions at the November 13th Commissioners meeting.



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

October 18, 1963

The Oil and Gas Conservation Commission
State of Arizona
3500 North Central, Suite 221
Phoenix 12, Arizona

Gentlemen:

The attached press release describes certain new standardized oil and gas report forms designed by the Geological Survey and the Interstate Oil Compact Commission, and states that the starting date for joint use of the forms for both Federal and State offices will be determined by the States concerned.

Sample copies of the following described forms are attached to this letter:

- 9-330 Well Completion or Recompletion Report and Log
- 9-331 Sundry Notices and Reports on Wells
- 9-331C Application for Permit to Drill, Deepen, or Plug Back

The Southwestern Region of the Branch of Oil and Gas Operations, Geological Survey, commenced the distribution and use of the above described forms on October 1, 1963.

The forms were designed to enable oil and gas operators to file reports on the same form with the Geological Survey and State regulatory bodies. It is hoped that they can be adopted for use in oil and gas operations under your jurisdiction.

Sincerely yours,


JOHN A. ANDERSON
Regional Oil and Gas Supervisor

Copy to: Mr. Lawrence Alley, I.O.C.C.
Oklahoma City, Oklahoma

UNITED STATES DEPARTMENT of the INTERIOR

*****news release

GEOLOGICAL SURVEY

Forrester - Interior 4646

For Release AUGUST 13, 1963

NEW STANDARDIZED OIL AND GAS REPORT FORMS DISTRIBUTED

The first distribution of standardized oil and gas report forms designed by the Geological Survey in cooperation with the Interstate Oil Compact Commission was announced today by the Department of the Interior.

The forms, one new, and two revised, are for the use of oil and gas operators in States where reports and records on wells must be filed with both State and Federal agency offices.

H. G. Barton of the Survey's Branch of Oil and Gas Operations, which supervises operations on Federal and most Indian oil and gas leases, said that the standardized forms "are expected to result in substantial savings to the operators as well as bring definite improvements in the quality and use of the reports."

"Eleven States have already agreed to accept reports on the new forms," said the Survey spokesman.

"As the advantages of using one form instead of several become obvious," added Barton, "other States, where applicable, will probably follow the new procedure."

The three forms are entitled: "Notice of Intention to Drill, Deepen, or Plug Back," "Sundry Notices and Reports on Wells," and "Well Completion or Recompletion Report and Log."

A supply of these forms bearing the Department of the Interior, Geological Survey, heading may be obtained from the offices of the Regional Oil and Gas Supervisors, Geological Survey, and from any Geological Survey District offices in those Regions. Requests for supplies of the forms bearing State agency headings should be directed to the appropriate State agency.

The starting date for use of the forms as to Federal and Indian land operation will be set by the Oil and Gas Supervisor in each Geological Survey Region. The starting date for joint use of the forms for both Federal and State offices will be determined by the States concerned.

P.N. 33165-63

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BOOKS & BULLETINS

National Supply Division of Armco Steel Corp. has issued a 4-page brochure covering the National series C-245 hydraulic torque converter, which is the latest addition to National's line of torque converters designed especially for oil field service.

Included in Bulletin No. 543 are design and operation features and a torque converter selection chart for the National Line. For details, write National Supply, Chamber of Commerce Bldg., Houston 2, Texas.

FLAC cement additive, to control fluid loss and induce turbulent flow, is discussed in a new product data sheet by Dowell Division of Dow Chemical Co. FLAC provides good fluid loss control plus a dispersant action which helps achieve turbulent flow of cement slurry at practical pump rates.

The fluid loss control and turbulent flow obtained with FLAC provides the necessary slurry properties for improved primary and squeeze cementing. For information, write Dowell, 1579 East 21st St., Tulsa 14, Okla., or contact your nearest Dowell representative.

VFH-Chemelectric Treater, a new unit utilizing new applications and highly flexible concepts for economic crude oil dehydration, is explained in detail in a 4-page bulletin released by National Tank Co., Drawer 1710, Tulsa 1, Okla. Ask for Tank Topics, Vol. 25, No. 3.

This treater utilizes the Petreco electrical coalescing and precipitating system combined with the National VFH Oil Processor for difficult emulsion heating.

Lightning Code, a newly revised code for the protection of lives and property from lightning hazards, is now available for 75 cents a copy from the National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass. The 58-page book is extensively revised and updated from earlier editions.

Preliminary Geologic Map of the Cumberland Quadrangle, King County, Washington, Division of Mines and Geology Geological Map GM-2, may be purchased for \$1.00, prepaid, from the Department of Conservation, 335 General Administration Bldg., Olympia, Wash.

Oklahoma Political Handbook, a guide to effective citizen participation in grass-roots government, by Phil Dessauer, associate editor of the Tulsa Daily World, is now

available at 25 cents a copy by writing 2151 S. 77 E. Ave., Tulsa 29, Okla.

The 23-page booklet offers a handy means for persons in Oklahoma, and in other states as well, to encourage and inspire citizens to take an active part in politics, and thus encourage and inspire public officials to provide better government.

Engineering Consultants, Directory of the American Institute of Consulting Engineers, third edition, can now be purchased from the AICE, 345 East 47th St., Suite 303, New York 17, N.Y., at \$3.50 per copy. It presents listings of AICE members and their affiliated firms in all fields of consulting engineer.

Colorado Fuel and Iron Corp. has just released its new 40-page CF&I-Wickwire Wire Rope catalog, which covers oil and other industry applications. No. WR-759 gives thorough coverage to wire rope cross sections, characteristics and tolerances, variety of ropes available, plus other data.

For information, contact The Colorado Fuel and Iron Corp., Box 232, Palmer, Mass.

Cleaning with Foam Solvent is the title of a new booklet published by Dow Industrial Service Division of The Dow Chemical Co. For data, write the division, Abbott Road Bldg., Midland, Mich. Cleaning of process equipment with foam solvents is one of the newest techniques in chemical cleaning.

Codex Book Co., Inc., has issued a new booklet explaining approaches to charting, including types of charts and the choosing of the proper chart paper. Booklet and sample sheets may be obtained

free from the company, Dept. C, Norwood, Mass., 02062.

Standard for the Installation of Oil Burning Equipment has been issued by the National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass. The 72-page book costs 75 cents.

Geochrone, an economical, portable seismic unit, is discussed in an 8-page bulletin by Thiokol Chemical Corp. The Geochrone can be used for quick determination of subsurface conditions. It operates on a modified sounding principal. For details, write Dept. G, Bristol Division, Thiokol Chemical Corp., Bristol, Pa.

Kobe's Triplex Pumps are described in a 12-page color bulletin. Designed for high pressure power source in hydraulic oil well pumping systems, Kobe pumps are capable of displacements up to 3,450 BPD and pressures to 5,000 PSI. Write Kobe, Inc., 3040 E. Slauson Ave., Huntington Park, Calif., for details.

Cooper-Bessemer Jet Gas Turbines are the subject of a 16-page booklet. The jet gas turbine launches a new era in industrial power, the company said. Employing a modified aircraft jet engine, the units are factory assembled, thoroughly tested and ready for service to reduce installation time and expense.

For the first time in history, the company said, complete, finished compressor stations go from factory to field site by truck. Three models are in 2,500, 10,500, and 15,000 hp. For Bulletin No. 112, contact the Cooper-Bessemer branch office in your area.

Encouraging Signs In Arizona Industry

Six encouraging reasons for the immediate expansion of oil and gas exploration in Arizona were cited by James R. Pickett, president of the Oil and Gas Association of Arizona, in a recent address.

These reasons are: 1) The Navajo Indian Tribal policy toward the oil industry has softened in granting more and more land for leasing; 2) the Kaibab Plateau has been opened for limited leasing and exploration by the federal government; 3) the Flagstaff-Winslow area will get two major "basement" tests

this year (one now drilling at 1788 feet, the Padre Canyon well, is on its way to 3850 feet.); 4) the Hopi-Navajo land dispute has been settled in the heart of the geologically promising Black Mesa Basin; 5) the New Mexico-Arizona Land and Cattle Co. has changed its policy regarding oil exploration from retarding to encouraging development; and 6) the state has a strong and progressive Oil and Gas Conservation Commission armed with the best set of rules and regulations in the country.

The Legend of Scurry's Missed Reef

A LEGEND HAS GROWN up in West Texas about how the state's second largest oil field — Scurry County's Kelly-Snyder (Canyon Reef) pool — was drilled through and missed two years before its discovery.

Many stories in the Permian Basin tell about the role played by luck, faith and fate in finding a field, but Scurry Reef is one of the few stories that concentrates upon a failure.

Taken in the context of 1946 West Texas exploration, it is easy to see why the discovery was overlooked when Humble Oil & Refining Co. drilled its No. 1 Davis wildcat.

The Pennsylvania formation was in disrepute at that time, Edmund Borys, former Standard Oil Co. of Texas exploration superintendent, and G. H. Stoddard, Borys' successor with Stanotex, recall. Both are now consulting geologists in Midland.

(The two men in 1948 handled phases of Standard's Scurry discovery wildcat — No. 1 Brown — which found the big field 3½ miles northeast of Humble's wildcat.)

"Humble presumably was looking for an Ellenburger structure," Borys said. "Reefs weren't talked about at that time."

STODDARD SAID: "Drilling procedure at that time was to look at the San Andres formation — possibly the Clear Fork — and then go on to the Ellenburger." Humble drilled No. 1 Davis to test a structure in the Ellenburger.

Of all the stories about what happened after the well bore passed through the Canyon reef, each contains a basic key event — a high level decision was made not to test the zone. Where was the decision made?

Some stories imply it was made in Humble's Midland district office. But it is generally agreed now that the key decision came from the regional office in Houston. Both Humble's well-sitting geologist and Midland office wanted to test the Canyon show.

Existing information available on Pennsylvanian formations in the Permian Basin in 1946 showed they were universally poor producers. The Houston office decided the zone was a poor risk; money shouldn't be wasted to test it.

How big a show was there in the Canyon Reef? Some say it was found only when samples were analyzed; others that oil was in the pits.

Stoddard said Stanotex was aware of the show and intended to test the Canyon if their wildcat got a similar oil indication. The Stanotex wildcat was scheduled to test six zones from the San Andres to the Ellenburger, including the Canyon, Borys said.

H. D. TEEL, with Pan American Petroleum Corp. in Lubbock, recalls that a few days after Humble made its fateful decision, a Pan Am scout — a good friend of Humble's well-sitting geologist — reported that the Canyon samples had good oil stain and fluorescence, and there was actually oil in the pits.

He said Humble's Midland office wanted to test the show. The test decision dragged on for several days. Word finally came: Since the Pennsylvanian always had a show in the basin, just as the San Andres did, drill ahead to the target Ellenburger formation.

Borys, remembering a conversation with a friend at Humble several years after the field was found, said the Humble geologist on the well analyzed the sample shows after the zone was drilled through. He doubted the well actually had oil in the pits. Borys said Humble's Midland office wanted to test, but was not given permission to do so because the Pennsylvanian was not recognized as a producing zone at that time.

Stoddard supports Borys. He said the well was drilled shortly after World War II, when trained technical help was in very short supply. He said the geologist on the well probably watched several other wells and was not at the wellsite at the time of the Canyon show.

However, a roughneck working on the well at the time, now a dispatcher in Gaines County for J. B. Gibbons, oil field service firm, agreed with the Pan Am scout. "There was oil in the pits," he said. "I stood there and watched it flow in."

Borys pointed out another sidelight to Humble's error. It generally is believed that the show was actually missed by a mud logging unit assigned to the well. Mud loggers are special geologists with equipment which permits them to analyze all samples and drilling fluid for the presence of oil and/or gas.

Borys said the mud logging unit went on below the Pennsylvanian to look for Ellenburger shows, not above the Penn zones as popularly is supposed.

Humble drilled on to the Ellenburger. The hoped-for structure was not there. The firm did get a show in its deep target zone and set a liner to test it, but it proved uncommercial.

Humble, however, wasn't the only firm that missed the huge oil field, although it had the best chance to find it before Stanotex. Mobil Oil Co. drilled the No. 1 Winston and Sun Oil Co. its No. 1 Lemon, which were completed in the reef zone a short time before the Standard discovery. Both wells, however, were on the edges of the field — poor producers — and not recognized as reef wells at the time.

Fate wasn't through playing tricks. The field wound up with its name spelled wrong. It was named in part after Frank Kelley of Colorado City, prominent West Texas civic leader, rancher, horse and cattle breeder, and Mobil's now retired senior staff landman.

Kelley was certain that Scurry County contained a big oil pool other than the aging, shallow Sharon Ridge field.

He fought a long, hard battle with his company to retain lease holdings in Scurry County. Because of his fight, Mobil had properties in the field.

Not only Mobil, but other firms suggested the field be named after him.

But when the Texas Railroad Commission approved the name, it was spelled wrong, Kelly-Snyder.