

OIL & GAS CONSERVATION COMMISSION
Meeting: November 17, 1972
John Bannister, Exec. Sec.

Petro Wells Library
Les Duckett.



OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

4515 NORTH 7TH AVE.

PHOENIX, ARIZONA 85013

PHONE: (602) 271-5161

A G E N D A

Meeting
November 17, 1972
4515 N. 7th Avenue, Phoenix, Arizona

10:00 a.m.

✓ Call to order

✓ 1. Approval of minutes of meeting of
July 21, 1972

✓ 2. Report of Executive Secretary

✓ 3. Report of Enforcement Section

✓ 4. Report of Geology Section

✓ 5. Old business

6. New business

7. Adjourn

IF YOU ARE UNABLE TO ATTEND THIS MEETING, PLEASE NOTIFY
THIS OFFICE AS SOON AS POSSIBLE.

DEC Meeting - 15th

TRIP to ALBQ - Indians

Thes P

Micro Filming of Records.
\$4500 for machine



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

November 8, 1972

Memo: Commissioners
From: John Bannister

There is little to report since my last communication on October 11, 1972.

The Geology Section has prepared and will soon have published the subsurface temperature map of which you have previously been advised. This map should prove to be of extreme interest to those people interested in geothermal occurrences in the State, as well as a somewhat more limited application in the location of oil and gas deposits. It is anticipated that this map will find continuous use and it is our intent to put it on an open filing, that is we will run copies as orders are requested after the initial limited mailing.

In addition, the Commission's map of the Yuma area, showing stratigraphically significant tests, including some water wells, has been readied for publication. I am sure Mr. Conley will make some comments on both of these.

The December meeting of the Interstate Oil Compact Commission will commence on December 3rd. This meeting will be in Houston. This is one of the meetings we annually budget for and permission to attend is hereby requested.

Humble, in its well southeast of Tucson, has again requested permission to go to greater depth. The last depth requested was 12,000'. We do not know at this time if they have secured significant information, however the area in which they are drilling apparently has a deeper column than they anticipated.

Mr. Conley and I went to Northern Arizona University on October 31st. The occasion of this was Mr. Conley's speech to a class of advanced geologists concerning the activities of this Commission. Mr. Bledsoe was able to join us on this occasion. We were very well received by the Geology Department and they really gave us the red carpet treatment. I hope many more occasions such as this will arise.



OFFICE OF
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ACTIVITY REPORT

November 8, 1972

Memo from W. E. Allen, Director
Enforcement Section

Activity has been very slow during the past month. Only one permit has been issued, and that was to Eastern Petroleum Company to drill a 1200' Coconino test in NW/SE, Section 11-T20N-R28E of Apache County.

We have had several requests for our Geothermal Resources Rules and Regulations. Whether these requests indicate a real interest in prospecting for geothermal resources or merely a cursory interest is difficult to determine. Several states have requested these rules and in at least two instances have commended our efforts in the drafting of the regulations.

Gulf Oil Company has acquired an additional 34,000 acres of leases in Pima County and Cochise Limited has taken an additional 17,000 acres in Cochise County. Cochise Limited now has some one million acres under lease in the Pedrogosa Basin of Arizona and New Mexico. My contacts advised me that Cochise Limited has plans for at least three wells to be drilled in Hidalgo County, New Mexico and one in Cochise County. In all probability the first well will be drilled this year and will be in Hidalgo County.

Humble Oil has been experiencing some difficulties in drilling their State 32 No. 1, located in the NE/SW Section 5-T16S-R15E, Pima County.

They have had a total of three fishing jobs to date. At the last report they were drilling at 10,005'. Their plans now call for this well to go to 12,000'.

Universal Resources Navajo Tribal No. 1-15, NW/SW Section 15-T40N-R29E, Apache County is still waiting on the rotary rig. This test is to go to the Pre-cambrian for an estimated depth of 5800'. This location is approximately one-half mile northwest of Cities Service Mississippian gas discovery in Section 21-T40N-R29E.

P & H Development Inc., P & H Federal No. 1, NW/SE Section 30-T2S-R9W is still fishing for the drill stem at 1700'.

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Activity Report
W. E. Allen

Astro-Tex has resumed operations on their Astro-Tex Federal No. 1 NW/NE
Section 31-T5N-R17E, Gila County. At the last report they were fishing
for a lost core barrel at 2,025'.



OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA
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PHONE: (602) 271-5161

November 6, 1972

ACTIVITY REPORT

J. N. Conley
Director, Geology Section

PUBLICATIONS

The Maricopa County Well Location Map and Records Tabulation was printed in October. A composite map and records tabulation for Yuma County will be printed this month. The subsurface temperature map of Arizona has been completed. The small-scale of the map precluded showing all of the data in Apache and Navajo Counties. We are now preparing a tabulation of the data in these two counties to accompany the map. Barring unforeseen drafting problems, the pipeline map of the State will be completed this month.

EXPLORATION ITEMS

A side-looking radar survey of southeastern Arizona was completed recently by Goodyear Aerospace Corporation. The survey was performed primarily for the account of mining companies. The surveyed area, containing 30,000 square miles, is shown on the attached map.

The imagery is now available through Aero Service Corporation to companies and state agencies at a cost of \$1.00 to \$1.50 per square mile, depending upon the volume of coverage desired. It covers an area in which major petroleum companies have some exploration interest.

The uniform illumination of broad areas of the earth's surface furnished by SLAR (Side-Looking Airborne Radar) enables minor features and lineaments to be traced over long distances. This imagery in southeastern Arizona should show some previously unrecognized geologic lineaments and lithologic indications that could be of significant exploratory interest.

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Activity Report
November 6, 1972
Page Two

Humble Oil and Refining Company's third stratigraphic test hole, located in 5-16S-15E, at last report was fishing for a surveying instrument at a depth of 9,595 feet. This depth indicates that the local basin has several thousands more feet of sedimentary rocks than envisioned by many geologists.

* * * * *

The side-looking airborne radar imagery requested for Dr. C. W. Barnes, Northern Arizona University, was delivered this past week. Barnes thinks that it will be very useful in current and future geologic investigations in the Gray Mountain - Coconino Point area in Coconino County. This particular area is adjacent to a larger area possibly offering untested petroleum accumulations in lower Paleozoic reservoirs.

* * * * *

In my report on the geological symposium I attended in Durango, Colorado, mention was made of a probable late Permian uplift in Mohave and western Coconino Counties. Recent work by a graduate student at Northern Arizona University has furnished more evidence tending to support such an uplift. We had already tentatively semi-isolated a large area in Coconino County suggesting a positive feature present in Mississippian time that appeared to have been partially re-uplifted in Laramide time. The Mississippian and Devonian rocks probably offer the best potential for oil accumulations in this particular area.

* * * * *

Mobil Oil Corporation apparently is still interested in southeastern Arizona. This company has had a geologist working with Dr. Dick Rush, a consultant, for over a month. The Houston office has made some inquiries about the availability of samples of wells drilled subsequent to publication of our sample index.

* * * * *

Other recent inquiries about availability of well samples were received this past month from Texaco, Inc., and Kerr-McGee Corporation. Texaco wanted a set of samples of an old well in Yuma County, which the Arizona Bureau of Mines has in its library. We had in our sample library the two sets Kerr-McGee wanted: a water well, 32-11N-20E and the Tenneco 1 Federal in 15-10N-19E.

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Activity Report
November 6, 1972
Page Three

A Louis A. Pessina, Jacksonville, Illinois, based on mail inquiries, is apparently very interested in the Pinta Dome - Navajo Springs - East Navajo Springs area. We have been able to supply him with most of the information requested. His stationery indicates that he is a geologist or engineer interested in oil and gas exploration.

* * * * *

V. B. West, an oil and gas investments firm in Amarillo, Texas, has requested geologic/geophysical information relative the State and particularly the Kanab-Fredonia area. This firm informed us that it is making a "very careful research investigation of the State of Arizona". We have been able to furnish much of the information requested.

* * * * *

Word has got out that we are going to publish a subsurface temperature map of Arizona, based primarily on bottom-hole temperatures recorded on electric logs. We have received inquiries from several companies, including Phillips Petroleum, as to its availability. This named company has established an office in California concerned wholly with geothermics. A staff of 32 geologists and scientists has been assembled.

W. K. Summers, New Mexico Institute of Mining and Technology, has successfully approximated thermal gradients in southeastern New Mexico using bottom-hole temperatures from electric logs. There is insufficient control of this nature to attempt thermal gradient approximations in this State's presently known thermal areas.

GENERAL

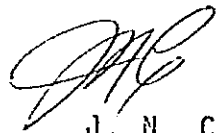
A report on the Cretaceous and Tertiary of the Colorado Plateau Symposium, October 12 - 14, 1972, in Durango, Colorado, which I attended, was submitted October 19th.

A brief report on the field trip the staff made with Drs. Peirce and Wright the latter part of this past week is being submitted today.

October 31st I gave an informal paper before a Geology 600 meeting, consisting of faculty and graduate students, at Northern Arizona University in Flagstaff. My paper dealt primarily with what the Geology Section of this Commission has accomplished since November 1, 1970, what we are doing now, and what we hope to do in the future to help earth scientists in their search for hydrocarbon

Activity Report
November 6, 1972
Page Four

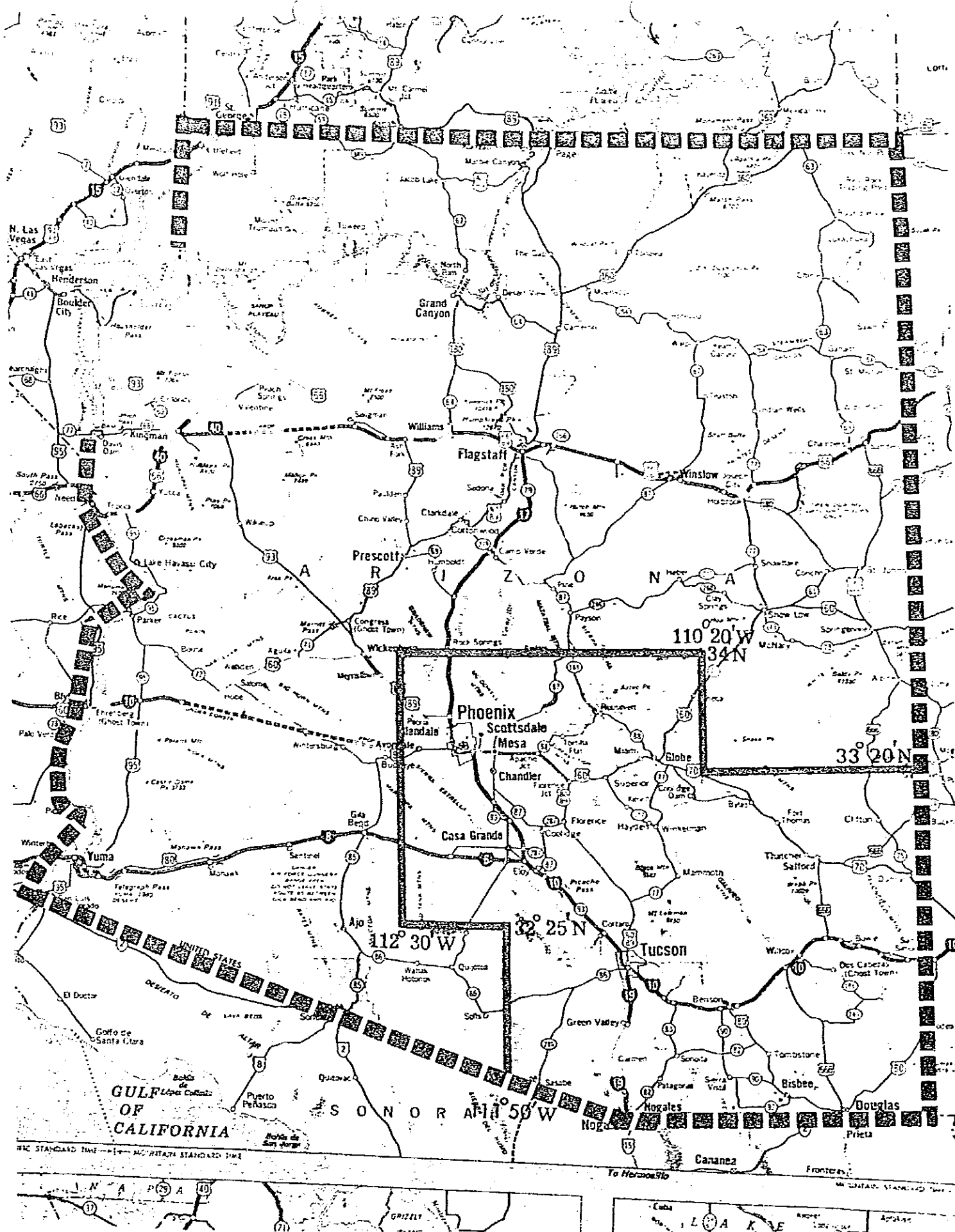
and geothermal resources. Secondary aspects included a brief review of past exploration in the State, presently known and conjectural potentialities, and comments about some of our ideas concerning areas in which N.A.U. faculty and graduate students have been doing extensive work. Messrs. Robert Bledsoe and John Bannister attended the meeting.


J. N. C.

JNC:st

Attachments

SIDE-LOOKING AIRBORNE RADAR IMAGERY AVAILABLE FROM AERO SERVICE CORPORATION



October 9, 1972

MONTHLY FINANCIAL REPORT

RECEIPTS MONTH OF	CLASSIFICATION	RECEIPTS	APPROPRIATED RECEIPTS	UNAPPROPRIATED RECEIPTS	TOTAL ALL RECEIPTS YEAR TO DATE
October 1972	1 Permits to Drill				350.00
25.00	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
25.00	TOTAL CURRENT MONTH RECEIPTS			25.00	XXXXXX
XXXXXX	TRANSFERS IN				
XXXXXX	BALANCES BROUGHT FORWARD			2,701.83	XXXXXX
25.00	TOTALS - MONTH AND YEAR TO DATE			2,726.83	350.00
CLAIMS PAID MONTH OF	EXPENDITURES FUND TITLES	TOTAL AMOUNT AVAILABLE YEAR TO DATE	CLAIMS PAID YEAR TO DATE	OUTSTANDING ENCUMBRANCES	UNENCUMBERED BALANCE
October 1972	1 Personal Services	47,120.00	30,270.96		16,849.04
7,507.74	2 Emp. Related Exp.	5,513.00	2,473.93		3,039.07
510.23	3 Professional Services	1,100.00	545.00		555.00
90.00	4 Travel - State	4,276.00	1,216.67	1,800.00	1,259.33
188.54	5 Travel - Out of State	3,500.00	698.95		2,801.05
464.99	6 Other Operating Exp.	19,000.00	14,839.70	3,017.28	1,142.52
4,510.65	7 Capital Outlay-Equip.	4,310.00	-	96.54	4,213.46
-	8				
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	28				
	29				
	30				
13,272.75	TOTALS	84,819.00	50,045.21	4,914.32	29,859.47

1 CLAIMS PAID YEAR TO DATE	2 OBJECT CODE NO.	3 DISTRIBUTION OF EXPENDITURES CLASSIFICATION	4 CLAIMS PAID MONTH OF <i>October 1972</i>
240.00	7111	1 Per Diem: Commission Members	1
30,030.96	7112	2 Salaries: Employees	2 7,502.74
	7151	3 Industrial Insurance	3
896.92	7153	4 F.I.C.A.	4 135.39
1,501.76	7155	5 Retirement	5 375.44
	7156	6 Health Insurance	6
75.25	7159	7 Personnel Commission	7
		8	8
	7215	9 Professional Services: Engineer	9
545.00	7219	10 Professional Services: Other	10 90.00
		11	11
176.80	7221	12 Travel - State: Mileage	12
491.00	7222	13 Subsistence	13 29.00
	7223	14 Public Transp.	14
546.87	7224	15 Vehicle Expense	15 159.54
2.00	7225	16 Reg. Fees; Parking; etc.	16
		17	17
251.00	7232	18 Travel - Out of State: Subsistence	18 190.00
443.95	7233	19 Public Transp.	19 272.29
	7234	20 Airport Parking	20
4.00	7235	21 Reg. Fees; Telephone; etc.	21 2.00
		22	22
11,096.76	7251	23 Occupancy: Office Rent	23 3,698.92
	7261	24 Warehouse Rent	24
	7263	25 Warehouse Mtn. & Repair	25
268.00	7272	26 Mtn. & Repairs: Furn. & Equip.	26 90.00
903.41	7280	27 Office Supplies	27 221.62
664.05	7300	28 Field Supplies; Film; Am.Strat; P.I., etc.	28 284.00
661.15	7331	29 Printing: Reports; Large Maps; etc.	29
	7332	30 Legal Advertisement	30
24.50	7333	31 Court Reporter, Notary Commission, etc.	31
190.35	7334	32 Postage	32
664.21	7335	33 Telephone	33 216.11
	7337	34 Drayage; Express; etc.	34
67.27	7349	35 Rental, Misc.	35
50.00	7360	36 Dues & Subscriptions	36
		37	37
	7431	38 Capital Outlay: Office Equip; Tpr; etc.	38
	7434	39 Spec. Equip. (Geol.)	39
	7436	40 Automobile	40
		41	41
250.00	7913	42 Revolving Fund	42
		43	43
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		45	45
		46	46
		47	47
		48	48
		49	49
		50	50
		51	51
		52	52
		53	53
		54	54
		55	55
50,045.21		TOTAL	13,272.75



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
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PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

October 20, 1972

Memo: Commissioners
From: John Bannister

I attended the Independent Petroleum Association of America (IPAA) meeting held in Dallas on October 16-18, 1972. This meeting was well attended by both independents and company people. In addition, many of the State regulatory bodies and federal bodies interested in oil and gas attended.

The prime topic of this meeting was the natural gas situation as it affects the independent producer and the increasing oil shortages. The general feeling seemed to be that both the natural gas and oil shortages would continue, and that only substantial price increases at the wellhead would help to alleviate this situation. It is interesting to note that Commissioner Nassikas, Chairman of the Federal Power Commission, in speaking to the group admitted that some of the past policies of the FPC have contributed to the current gas shortage, and that it did not allow sufficient economic return to encourage further gas exploration. Much of its policy encouraged the producers of gas to go into intra-state outlets rather than inter-state outlets. He further pointed out that while the FPC was loosening price control and allowing a greater return for wellhead gas, it was doing so on an individual case basis and that with the terrific backlog it would be some time before substantial relief could be felt here.

Information developed by the Supply and Demand Committee of the IPAA indicates that this country is now importing 4.5 million barrels of crude per day. This constitutes almost one third of our total consumption. It is anticipated that this reliance on foreign oil will continue to increase. It is anticipated that an additional 6.2 per cent of our needs will be imported in 1973. This Committee indicated that in 1972 the United States produced approximately 11.178 million barrels of oil and products per day while importing 4.729 million barrels per day. In 1973 it is anticipated that the United States production will drop to 11.09 million barrels per day and imports will increase to 5.882 million barrels per day.

Memo to Commissioners
October 20, 1972
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The IPAA Committee on Import Policy was unable to reach an agreed upon recommendation to the federal government as to the proper distribution of additional import quotas. Opinions ranged from allowing any additional quota to go to those traditionally receiving same to giving new import quotas only to the producers of crude oil. Inasmuch as the Committee was unable to reach a concurred upon recommendation, it was agreed to do further study.

The number of stripper wells (one of the more important sources of United States production, a stripper well is generally identified as one producing less than ten barrels of oil per day) has decreased approximately 6,000 wells due to increasing costs and low wellhead prices. This represents a decrease in production of approximately five million barrels per year.

As usual, much interest was shown in Arizona and particularly in Humble's oil activity. It is certainly my recommendation that this Commission continue to be represented at these meetings.

INNER OFFICE MEMORANDUM

October 19, 1972

TO: John Bannister
FROM: J. N. Conley
SUBJECT: Cretaceous and Tertiary of the Colorado Plateau
Symposium, October 12-14, 1972, Durango, Colorado

This symposium was organized and sponsored by the Four Corners Geological Society. Meeting facilities were provided by the Geology Department of Fort Lewis College.

Attendance was good; 117 geologists registered. All of the major oil companies, many small oil companies, geophysical companies, and coal companies were represented.

Most of the papers were devoted to correlation and exploration problems involving Tertiary and Cretaceous rocks in southwest Colorado, southeast Utah, northeast Arizona, and northwest New Mexico. Emphasis was on the San Juan basin in New Mexico. The papers were primarily technical in nature. There were several, however, dealing with the economic aspects of oil, gas, coal and water in the Four Corners region.

One paper covered in considerable detail the geology and technology of the Wagon Wheel nuclear stimulation project on the Pinedale Anticline in the northwest portion of the Green River basin in Wyoming. Plans call for sequential detonation of five explosives spaced at intervals from 9,220 to 11,570 feet, to produce a more or less continuous chimney from 9,000 to 11,650 feet. The Pinedale Anticline is potentially gas-productive from nearly 10,000 feet of Cretaceous sandstones. Attempts to produce the gas conventionally have proved uneconomical because of low permeability. Reserves in this interval are calculated at 207 billion cubic feet of gas in place per square mile.

The technical knowledge gained from this project may be useful at some future date in developing storage caverns in Arizona's salt masses and hopefully for the stimulation of oil, gas and geothermal resources.

Of more immediate usefulness to this Commission I learned more from conversations about Arizona with geologists than I did from the papers. Several informational items in particular were of interest to us.

1. Pan American Production Company (now Amoco) drilled 42 shallow stratigraphic wells in the general area between Snowflake and Heber in the 1950's, in conjunction with an extensive surface structure mapping project. Several anomalous structures possibly warranting drilling exploration were mapped. I doubt that Amoco will give us the structural information developed, but we may be able to obtain copies of the electric logs of the stratigraphic holes.

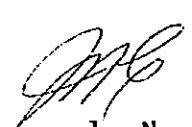
John Bannister
October 19, 1972
Page Two

2. In Hacks Canyon, about 20 miles south of the town of Kaibab, there is a very small anticline with oil-saturated Permian Toroweap Sandstone exposed. Oil shows have also been reported in this sandstone in some of the few wells drilled in the Strip Country. This portion of the State certainly warrants more drilling exploration.

3. In much of the Strip Country the Permian Kaibab Formation is sharply deformed structurally; the overlying Triassic Moenkopi rocks are not deformed. This supports Don Marshall's (graduate student at Northern Arizona University) work in the Gray Mountain area, Coconino County, indicating a late Permian uplift in this part of the State. Such an uplift might have created structural traps favorable for the entrapment of oil.

4. A geologist with the Navajo Tribe told me that the Council is considering abandoning its present leasing policy in favor of some exploration type of concession, whereby companies could explore for oil, gas, helium, coal and uranium, and the Tribe getting a participating working interest after pay-out in the event of discoveries. Adoption of such a policy would certainly encourage exploration for hydrocarbons on the Reservation.

I wish to express my thanks to you and the Commission for permitting me to attend the symposium.


J. N. C.

JNC:st



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STATE OF ARIZONA
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PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

Cancelled

A G E N D A

Meeting
October 20, 1972
4515 N. 7th Avenue, Phoenix, Arizona

10:00 a.m.

Call to order

1. Approval of minutes of meeting of July 21, 1972
2. Report of Executive Secretary
3. Report of Enforcement Section
4. Report of Geology Section
5. Old business
6. New business
7. Adjourn

IF YOU ARE UNABLE TO ATTEND THIS MEETING, PLEASE NOTIFY
THIS OFFICE AS SOON AS POSSIBLE.



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October 11, 1972

Memo: Commissioners
From: John Bannister

Re: Report of Activity

As you will recall, at our July meeting in Nogales you approved a proposed budget for the 1973-74 fiscal year. This budget was submitted as approved by you. On October 3rd, a representative of the Joint Legislative Budget Committee called at the office to go over our proposed budget in detail prior to their acceptance and recommendation. As far as known, our budget has been approved by him and will be recommended as submitted. In our discussions of the budget, I mentioned the critical need of money for printing information being developed by the Commission. I discussed this point with the budget analyst and it was his feeling that we might be wise to request an additional sum of money for this purpose in January. However, this can be discussed at a later date.

On October 2nd, Mr. Conley and I had a discussion with Dr. John Sumner of the University of Arizona concerning the project he is undertaking for us. At the time of this meeting we discussed his program in detail and, in general, are satisfied with the work done to date. At that time, we took our check for \$5,000 to the University. This sum of money was presented to the Commission from the Four Corners Regional Commission to finance this project. According to the contract, this Commission is required to make a progress report to the Four Corners Regional Commission after January 1st, at which time an additional sum of \$5,000 will be paid to the Commission and, on June 30, 1973 a final report will be made to the Four Corners Regional Commission, at which time the last \$4,000 will be paid. These sums will be transferred to the University of Arizona as soon as possible after our receipt. We are very pleased with the progress at this time.

On October 3rd, the Assistant Manager of Humble Oil Company's Midland office spoke to the Petroleum Development Association

Memo: Commissioners
10-11-72
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of Arizona. As anticipated, not much specific information was given to us concerning Humble's plans in Arizona, however the speaker definitely asserted that Humble feels there are significant deposits of oil and gas in southern Arizona and that these deposits are specific targets. He indicated that Humble will continue to drill in Arizona until completely satisfied as to the existence or non-existence of these deposits.

Humble's current effort southeast of Tucson has encountered difficulties in that they dropped some of their pipe and drill bits into the hole. To date, the fishing for this equipment has been initially successful, with all drill pipe recovered but some three drilling cones are still in the hole. These will possibly be recovered by use of a magnet. Humble will probably continue drilling the hole after recovery and clean-out.

I am extremely pleased to inform you that Bulletin 185, ARIZONA WELL INFORMATION, has finally been published by the Bureau of Mines. This is an effort conceived by the Commission and completed by the wonderful cooperation of Dr. Wes Peirce and the use of the Arizona Bureau of Mines publishing facilities. This bulletin is a compilation of geological information from the oil and gas test wells in Arizona, together with information on significant water wells and stratigraphic tests. This information has been put into form useful in geology and undoubtedly will become one of the basic reference books on geology in the State of Arizona. By proper use of this book, you will be able to determine geological tops, the results of any drill stem tests taken on logs and samples available, and where they are located, as to the majority of the wells under the jurisdiction of this Commission. For your information, the Commission secured financial support in the amount of \$1,200 from the Department of Economic Planning and Development for this project and, in addition, we contributed the sum of \$200 of our own funds. I feel that both Wes Peirce and Jim Scurlock, who worked endless hours to compile this, should be extended our most sincere congratulations.

There has been no further development on the proposed Department of Natural Resources. As previously reported, a meeting was attended by me wherein a proposed bill concerning the development of such department was discussed. The overall effect of the bill seemed to be to create a new level of government between the various commissions and the Governor. It is my personal feeling that the proposed bill, even as amended, will not be totally satisfactory.

The State Land Department has adopted its rules and regulations

Memo: Commissioners
10-11-72
Page 3

and lease form concerning the development of geothermal potential on state land. As previously reported, a hearing was held for this purpose, at which this Commission was represented. Bill Allen, Jack Conley and I have held numerous meetings with Mr. Doss of the Land Department to develop these regulations and lease form. It is my feeling the Land Department has done a most commendable job.

Mr. Conley is continuing to show excellent leadership in the development of geological information in forms useful to exploration geologists. We are in the process of putting out a series of county maps showing, in large detail, the location of wells drilled for oil and gas, helium, geothermal, stratigraphic information, and significant water wells, with an accompanying listing of basic geological information. These maps are intended as necessary within themselves and also as a desirable companion and reference with Bulletin 185.



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October 11, 1972

Memo from W. E. Allen, Director
Enforcement Section

It has been previously mentioned that tentative plans were in the making for an LPG storage project in conjunction with Southwest Salt Company's salt mining endeavors in the Glendale area. Fenix & Scisson, an engineering and construction firm, recently had two of their engineers in the office to discuss plans for building a storage project in the area. The initial plans are to investigate the possibilities of using the reservoir that had been created during the salt mining process. Prior to using this reservoir extensive tests to determine the suitability and safety of this procedure would be necessary. This office will be watching the testing operation very closely.

Suburban Companies have advised that they plan to establish two more LPG storage reservoirs in the Adamana area in the very near future.

An extensive field trip was recently made to check all drilling and producing operations and also to check all the recently abandoned locations.

Humble Oil & Refining Company have started their third test. This is located in the NE/SW Section 5-T16S-R15E, Pima County. The present total depth is 6007'. They have been fishing for the past 13 days. There had been approximately 3500' of drill pipe and drill collars lost in the hole. At this writing all the drill pipe and drill collars have been recovered. There are still three cones from the bit in the hole. The retrieval of these cones should not pose much of a problem. The original proposed total depth on this well was 8000'; however, a new total depth of 10,000' has been requested.

P & H Development, Inc., P & H Federal No. 1, NW/SE Section 30-T2S-R9W, was attempting to recover their drilling tools from the hole at the last report.

Eastern Petroleum Company have plugged their two wildcat oil tests, the Chuska Mountain Fuel No. 1, NW/NE Section 15-T35N-R29E, and their Chuska Mountain Fuel No. 2, Section 32-T36N-R29E; both of these tests were in Apache County.

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Activity Report - October 11, 1972
W. E. Allen

St. Mary Parish Land Company have also plugged their two tests. No. 1-30 Navajo, NE/SW Section 30-T37N-R30E, Apache County and their No. 2-16 Navajo, NW/SE Section 16-T37N-R29E, Apache County.

Tesoro Petroleum Company No. 1 Navajo-Davis, SW/SE Section 13-T38N-R23E, Apache County, has been plugged and abandoned.

Clinton Oil Company have temporarily abandoned their No. 2 Navajo-"0" in the NW/SE Section 23-T41N-R30E, Apache County. This well had several oil and gas shows; however, each zone tested an excessive amount of water. Altogether, September was not too good a month for the oil and gas industry in Arizona.

Gulf Oil Company have recently acquired some 1,570 acres in Pima County and approximately 28,000 acres in Yuma County. This Yuma County acreage is approximately 14 to 20 miles south of the recently completed Brown & Thorpe well in Yavapai County and some 36-40 miles north of Humble's abandoned test in Yuma County.



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

October 10, 1972

ACTIVITY REPORT

J. N. Conley
Director, Geology Section

PUBLICATIONS

ARIZONA WELL INFORMATION, by H. Wesley Peirce and James R. Scurlock, The Arizona Bureau of Mines, Bulletin 185, has been printed and is now available. The principal purpose of this publication was to provide a ready reference to facilitate basic research by earth scientists searching for energy and other resources in Arizona. Along with Bulletin 182, COAL, OIL, NATURAL GAS, HELIUM AND URANIUM IN ARIZONA, published in 1970, it will provide a vast amount of information of value to individuals and companies looking for petroleum and helium resources.

* * * * *

There are many areas in the State, particularly in the Basin and Range province, where the only subsurface control available is that furnished by water wells. Edward Koester this past June prepared a booklet entitled, PRELIMINARY TABULATION OF STRATIGRAPHICALLY SIGNIFICANT WATER WELLS IN BASIN AND RANGE PROVINCE. Since then we have completed the drafting of a series of maps in this province that will show all wells drilled for petroleum or stratigraphic information, plus selected water wells. We have also completed accompanying tabulations presenting information concerning the name of the wells, location, elevation, total depth, geologic age of the rock at total depth, and the availability of geophysical logs, graphic lithologic logs, sample descriptions, and drill-bit cuttings. The first map to be published, Maricopa County, is now at the printers, and should be available for distribution prior to the end of this month.

This series of maps will be useful not only to the oil geologist, but also to the mining geologist, hydrologist, and perhaps other earth scientists.

* * * * *

Activity Report
October 10, 1972
Page Two

The subsurface temperature map of Arizona is ready for drafting. It will present temperature data obtained from electrical and other types of logs of wells drilled in the State. It will also present some data on hot springs, obtained from Dr. J. J. Wright.

Some of the information assembled has been sent to the Department of Geology, Oklahoma State University, for incorporation in the geothermal survey of North America. This is a project sponsored by the American Association of Petroleum Geologists.

EXPLORATION ITEMS

Humble Oil and Refining Company's (new name, Exxon) third stratigraphic test hole, Section 5, Township 16 South, Range 15 East, Pima County, has recovered the drill pipe, drill collars and bit lost in the hole at a depth of 6,007 feet.

* * * * *

Harry Martin, assistant exploration manager of Exxon's Midland Division, presented a talk on the company's exploration program in southwestern Arizona October 3rd to the Arizona Petroleum Development Association and guests.

* * * * *

A conference was held October 2nd with Dr. John Sumner and some of his staff relative the geophysical investigative projects financed by the Four Corner Regional Commission through this Commission. A preliminary report of the project in the Holbrook area in Apache and Navajo Counties has been completed. Maps of the gravity and magnetic data show strongly the intrabasement anomalies. Utilization of the drill hole information available permits an analysis of the gravity with respect to depth to basement. It presently appears that the gravity may be indicating some favorable untested structure not apparent on the currently available surface and subsurface control.

Satisfactory progress has been achieved in the investigations being conducted in the valleys in Cochise County.

* * * * *

The side-looking radar imagery requested for Dr. C. W. Barnes, Northern Arizona University, for geologic studies in the Coconino Point-Gray Mountain area in Coconino County has been received by the Arizona Resources Information Systems.

* * * * *

Activity Report
October 10, 1972
Page Three

In northeastern Arizona Edward Koester has prepared preliminary isopachous maps of the Permo-Penn interval, and the top of Mississippian to the basement interval, plus a map showing the topographic attitude of the basement. The last-named map shows steep west dip off the west flank of the Defiance uplift tapering off to a less severe but uniform dip into the projected center of the Black Mesa basin. The current interpretation suggests that the Precambrian basement surface could occur at a sea level datum of minus 3,000 feet or more (approximately 9,500 feet below ground surface) in the deepest part of the Black Mesa basin.

On the west flank of the basin the basement surface rises toward the crest of the Kaibab upwarp. On this feature the basement surface may reach an elevation of 3,500 feet above sea level (approximate depth of 5,000 feet below ground surface).

Of possible structural and future exploration significance are two northwest-plunging spurs or noses on the basement surface in the general Dineh-bi-Keyah field area. Thin or missing sections of Cambrian rocks have been reported in some wells drilled on these anomalous features. Koester comments that some of this thinning may be the result of mis-correlations of subsurface units by different workers.

Some variance in correlations may exist. But some of my cursory examinations of gravity, magnetic and drill hole information earlier this year in the same area suggest strongly that the large "spur" southwest of the small one upon which the Dineh-bi-Keyah field is situated is possibly a west-northwest-plunging Precambrian basement ridge. It is a strong gravity meter minimum anomaly that extends for a distance of about 50 miles westerly from the New Mexico boundary. If it is a high basement ridge, its geographic position suggests that it marks the boundary between the Black Mesa basin and the Paradox Shelf. The inverse gravity correlation north of Holbrook on the west flank of Defiance uplift, established by Carlos Akin, Geophysical Laboratory, University of Arizona, in connection with the current geophysical investigation initiated by this Commission, further suggests that the gravity anomaly is reflecting a ridge extending westerly off of the main Defiance uplift mass. The vertical component of the anomaly, however, may be accentuated by the absence of strong density contrasts. This might be the case if Devonian heavy carbonates directly overlie Precambrian granites, or a thin veneer of Cambrian rocks.

The presence of such a basement ridge would enhance the possibilities of undiscovered petroleum accumulations in this area. Such ridges elsewhere in the United States have been good "hunting-ground" for stratigraphically and structurally controlled oil and gas fields.

Activity Report
October 10, 1972
Page Four

CURRENT COMMISSION PROJECTS

In addition to the projects discussed under PUBLICATIONS and EXPLORATION, the Geology Section has:

1. Completed drafting the grid and posting of wells on the geological base map of the general Holbrook area;
2. Completed adding to our well completion files information on Arkla Exploration Company's core holes in the Holbrook area that we previously lacked;*
3. Completed a preliminary map showing oil, gas, petroleum products and coal slurry pipelines in Arizona; and
4. Established a numeric identification system for non-permitted wells drilled for hydrocarbon and helium resources and selected water wells.

(*An analysis of Arkla's program shows that a total of 6,010 feet of hole was cored. We have, in storage provided by A.S.U., the cores recovered.)

GENERAL

Visitors were few last month. One of the visitors, however, was a seismologist for Delta Exploration Company. This is a large seismic exploration firm with world-wide operations. Their representative, a Gale Wetmore from the Midland, Texas office, reported that his company might be interested in doing some "speculative" seismic work in Arizona. In this case, the company would pay all the costs involved, with the hope that it could subsequently sell the results to several companies for a net profit.

* * * * *

Frequent reference in State Agency and press reports refer to various commissions and projects by letters. Listed below are some of those commonly mentioned:

AAEC	Arizona Atomic Energy Commission
TAC-80	Technical Advisory Committee - 1980
ARETS	Arizona Regional Test Site
ARIS	Arizona Resources Information System

Activity Report
October 10, 1972
Page Five

ERETS Earth Resources Technology Satellite
EROS Earth Resources Observations Systems
GSNA Geothermal Survey of North America
NASA National Aeronautic and Space Administration

This Commission is directly or indirectly involved in several of these projects.

* * * * *

October 31st, 1:00 P.M., I am scheduled to give a talk to a group of geological department faculty and students at Northern Arizona University in Flagstaff. The group is interested primarily in hearing about the geological phases of this Commission's endeavors.

I have also been requested to present a paper on Arizona's energy resources at the oil and gas session of the American Institute of Mining Engineers' meeting here in Phoenix next April.



J. N. C.

JNC:st

OIL AND GAS CONSERVATION COMMISSION
4515 N. 7th Avenue
Phoenix, Arizona 85013

Minutes of Meeting
July 21, 1972
Americana Motor Hotel
850 Grand Avenue
Nogales, Arizona

Present:

Mr. Ralph W. Bilby, Chairman
Mr. Robert A. Bledsoe, Member
Mr. F. Keith Benton, Member
Mr. W. Roger Hafford, Member

The regular Commission meeting for the month of July, 1972 was called to order by Chairman Ralph Bilby at 10:00 a.m.

Minutes of the meeting of June 16, 1972 were approved as written.

Reports of Executive Secretary, Enforcement Section and Geology Section were accepted.

Executive Secretary advised that the most recent publication compiled by the Commission is now ready for distribution. It is titled "Preliminary Tabulation of Stratigraphically Significant Water Wells in the Basin and Range Province of Arizona" and was prepared by Edward A. Koester of the Geology Section. This will be distributed at no charge within the industry and should prove of value because the depths of the water wells involved will add much geological information to oil locations.

Executive Secretary advised that a proposed agreement has been received from the Four Corners Regional Commission for the \$14,000 technical assistance grant for geophysical and geological exploration to be conducted by the University of Arizona under the direction of the Commission. The agreement has been returned for some minor changes, and will be approved on its return. The Finance Department has established an account for the fund, which will be handled by the Commission. The first of the three payments will be made into the fund the latter part of August, 1972.

Chairman Bilby introduced Dr. Edgar J. McCullough, Jr., Head of the Department of Geosciences, College of Earth Sciences, University of Arizona; and Dr. William H. Dresher, Dean of the College of Mines and Director of the Arizona Bureau of Mines at the University of Arizona.

Minutes of Meeting
July 21, 1972
Page 2

Budget for the Fiscal Year 1973-1974 was discussed. As part of the budget, a statement of the Commission policy regarding the use of State-owned vehicles is required. It was moved and approved that the policy as set forth below be adopted as the official policy of the Commission:

Commission shall maintain four vehicles, one of which shall be assigned to the Executive Secretary, one of which shall be assigned to the Geology Section under the specific control of the Director, one of which shall be assigned to the Enforcement Section under the specific control of the Director, and the fourth vehicle shall be maintained as a pool car.

In the event the Commission is housed at the Capitol Complex, the pooled vehicle will be declared surplus and released.

The vehicles assigned to the Executive Secretary and to the Enforcement Section shall be considered as undercover vehicles and licensed as such, the remaining two vehicles shall be licensed as State vehicles and so marked.

The Commission recognizes it is State policy that vehicles specifically assigned to individuals shall be for official use, only, but that travel to and from place of residence is included.

The budget, as recommended, was approved and adopted by the Commission. It is noted that such minor changes and additions as may be necessary upon receipt of final instructions from the Finance Department may be made.

Commissioner W. R. Hafford was elected Vice Chairman of the Commission.

It was indicated that a quorum might not be present for the meeting of August 18, 1972. Executive Secretary was instructed to cancel the August meeting should a quorum not be available.

It was noted that two members of the Commission will not be available at the regular meeting in September, consequently the Commission meeting of September 15, 1972 was cancelled.

Minutes of Meeting
July 21, 1972
Page 3

Chairman Bilby requested that the record show the Commission's appreciation for the hospitality extended at this meeting by Mr. Zellie Capin and Mr. Robert Stuchen of the Americana Motor Hotel. Executive Secretary was instructed to send the necessary letters of appreciation.

Meeting adjourned at 11:45 a.m.

APPROVED

Ralph W. Bilby, Chairman

MONTHLY FINANCIAL REPORT

RECEIPTS MONTH OF Sept. 1972		CLASSIFICATION	RECEIPTS	APPROPRIATED RECEIPTS	UNAPPROPRIATED RECEIPTS	TOTAL ALL RECEIPTS YEAR TO DATE
100	00	1 Permits to Drill			100 00	325 00
		2				
		3				
		4				
		5				
		6				
		7				
		8				
		9				
		10				
		11				
		12				
		13				
		14				
		15				
		16				
		17				
100	00	TOTAL CURRENT MONTH RECEIPTS			100 00	XXXXXX
XXXXXX	XXXXXX	TRANSFERS IN				
		BALANCES BROUGHT FORWARD			2,601 83	XXXXXX
		TOTALS - MONTH AND YEAR TO DATE			2,701 83	325 00

CLAIMS PAID MONTH OF Sept. 1972	EXPENDITURES FUND TITLES	TOTAL AMOUNT AVAILABLE YEAR TO DATE	CLAIMS PAID YEAR TO DATE	OUTSTANDING ENCUMBRANCES	UNENCUMBERED BALANCE
7,507 74	1 Personal Services	23,561 00	22,763 22	-	797 78
734 80	2 Emp. Related Exp.	2,757 00	1,963 10	-	793 90
290 00	3 Professional Services	550 00	455 00	-	95 00
316 28	4 Travel - State	2,139 00	1,028 13	826 46	284 41
233 96	5 Travel - Out of State	3,500 00	233 96	281 48	2,984 56
1,293 96	6 Other Operating Exp.	10,875 00	10,329 05	530 10	15 85
-	7 Capital Outlay-Equip.	4,310 00	-	-	4,310 00
	8				
	9				
	10				
	11				
	12				
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	16				
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	26				
	27				
	28				
	29				
	30				
10,376 74	TOTALS	47,692 00	36,772 46	1,638 04	9,281 50

CLAIMS PAID
YEAR TO DATE

OBJECT
CODE NO.

DISTRIBUTION OF EXPENDITURES

CLASSIFICATION

CLAIMS PAID
MONTH OF

Sept. 1972

240.00	7111	1	Per Diem: Commission Members	1	
22,523.22	7112	2	Salaries: Employees	2	7,507.74
	7151	3	Industrial Insurance	3	
761.53	7153	4	F.I.C.A.	4	284.11
1,126.32	7155	5	Retirement	5	375.44
	7156	6	Health Insurance	6	
75.25	7159	7	Personnel Commission	7	75.25
		8		8	
	7215	9	Professional Services: Engineer	9	
455.00	7219	10	Professional Services: Other	10	290.00
		11		11	
176.80	7221	12	Travel - State: Mileage	12	
462.00	7222	13	Subsistence	13	108.00
	7223	14	Public Transp.	14	
387.33	7224	15	Vehicle Expense	15	208.28
2.00	7225	16	Reg. Fees; Parking; etc.	16	
		17		17	
61.00	7232	18	Travel - Out of State: Subsistence	18	61.00
170.96	7233	19	Public Transp.	19	170.96
	7234	20	Airport Parking	20	
2.00	7235	21	Reg. Fees; Telephone; etc.	21	2.00
		22		22	
7,397.84	7251	23	Occupancy: Office Rent	23	
	7261	24	Warehouse Rent	24	
	7263	25	Warehouse Mtn. & Repair	25	
178.00	7272	26	Mtn. & Repairs: Furn. & Equip.	26	
681.79	7280	27	Office Supplies	27	277.26
380.05	7300	28	Field Supplies; Film; Am.Strat; P.I., etc.	28	18.60
661.15	7331	29	Printing: Reports; Large Maps; etc.	29	661.15
	7332	30	Legal Advertisement	30	
24.50	7333	31	Court Reporter, Notary Commission, etc.	31	
190.35	7334	32	Postage	32	108.12
448.10	7335	33	Telephone	33	178.83
	7337	34	Drayage; Express; etc.	34	
67.27	7349	35	Rental, Misc.	35	
50.00	7360	36	Dues & Subscriptions	36	50.00
		37		37	
	7431	38	Capital Outlay: Office Equip; Ipr; etc.	38	
	7434	39	Spec. Equip. (Geol.)	39	
	7436	40	Automobile	40	
		41		41	
250.00	7913	42	Revolving Fund	42	
		43		43	
		44		44	
		45		45	
		46		46	
		47		47	
		48		48	
		49		49	
		50		50	
		51		51	
		52		52	
		53		53	
		54		54	
		55		55	
36,772.46			TOTAL		10,376.74

MONTHLY FINANCIAL REPORT

1 RECEIPTS MONTH OF Aug. 1972	2 CLASSIFICATION	3 RECEIPTS	4 APPROPRIATED RECEIPTS	5 UNAPPROPRIATED RECEIPTS	6 TOTAL ALL RECEIPTS YEAR TO DATE
150.00	1 Permits to Drill			150.00	225.00
	2				
	3				
	4				
	5				
	6				
	7				
	8				
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	11				
	12				
	13				
	14				
	15				
	16				
	17				
150.00	TOTAL CURRENT MONTH RECEIPTS			150.00	XXXXXX
XXXXXX	TRANSFERS IN				
XXXXXX	BALANCES BROUGHT FORWARD			2,457.83	XXXXXX
150.00	TOTALS - MONTH AND YEAR TO DATE			2,607.83	225.00
7 CLAIMS PAID MONTH OF Aug. 1972	8 EXPENDITURES FUND TITLES	9 TOTAL AMOUNT AVAILABLE YEAR TO DATE	10 CLAIMS PAID YEAR TO DATE	11 OUTSTANDING ENCUMBRANCES	12 UNENCUMBERED BALANCE
7,747.74	1 Personal Services	23,561	15,255.48		8,305.52
687.48	2 Emp. Related Exp.	2,757	1,228.30		1,528.70
165.00	3 Professional Services	550	165.00		385.00
551.41	4 Travel - State	2,139	711.85	1,281.20	145.95
-0-	5 Travel - Out of State	3,500	-0-	235.16	3,264.84
2,972.44	6 Other Operating Exp.	10,875	9,035.09	819.56	1,020.35
-0-	7 Capital Outlay-Equip.	4,310	-0-		4,310.00
	8				
	9				
	10				
	11				
	12				
	13				
	14				
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	27				
	28				
	29				
	30				
12,129.07	TOTALS	47,692.00	26,395.72	2,335.92	18,960.36

CLAIMS PAID
YEAR TO DATE

OBJECT
CODE NO.

DISTRIBUTION OF EXPENDITURES

CLASSIFICATION

CLAIMS PAID
MONTH OF

Aug. 1972

240.00	7111	1	Per Diem: Commission Members	1	240.00
15,015.48	7112	2	Salaries: Employees	2	7,507.74
	7151	3	Industrial Insurance	3	
477.42	7153	4	F.I.C.A.	4	312.04
750.88	7155	5	Retirement	5	375.44
	7156	6	Health Insurance	6	
	7159	7	Personnel Commission	7	
		8		8	
	7215	9	Professional Services: Engineer	9	
165.00	7219	10	Professional Services: Other	10	165.00
		11		11	
176.80	7221	12	Travel - State: Mileage	12	176.80
354.00	7222	13	Subsistence	13	354.00
	7223	14	Public Transp.	14	
179.05	7224	15	Vehicle Expense	15	18.61
2.00	7225	16	Reg. Fees; Parking; etc.	16	2.00
		17		17	
	7232	18	Travel - Out of State: Subsistence	18	
	7233	19	Public Transp.	19	
	7234	20	Airport Parking	20	
	7235	21	Reg. Fees; Telephone; etc.	21	
		22		22	
7,397.84	7251	23	Occupancy: Office Rent	23	1,849.46
	7261	24	Warehouse Rent	24	
	7263	25	Warehouse Mtn. & Repair	25	
178.00	7272	26	Mtn. & Repairs: Furn. & Equip.	26	
404.53	7280	27	Office Supplies	27	404.53
361.45	7300	28	Field Supplies; Film; Am. Strat; P.I., etc.	28	342.45
	7331	29	Printing: Reports; Large Maps; etc.	29	
	7332	30	Legal Advertisement	30	
24.50	7333	31	Court Reporter	31	24.50
82.23	7334	32	Postage	32	82.23
269.27	7335	33	Telephone	33	269.27
	7337	34	Drayage; Express; etc.	34	
67.27	7349	35	Rental, Misc.	35	
	7360	36	Dues & Subscriptions	36	
		37		37	
	7431	38	Capital Outlay: Office Equip; Tpr; etc.	38	
	7434	39	Spec. Equip. (Geol.)	39	
	7436	40	Automobile	40	
		41		41	
250.00	7913	42	Revolving Fund	42	
		43		43	
		44		44	
		45		45	
		46		46	
		47		47	
		48		48	
		49		49	
		50		50	
		51		51	
		52		52	
		53		53	
		54		54	
		55		55	
26,395.72			TOTAL		12,129.07

MONTHLY FINANCIAL REPORT

RECEIPTS MONTH OF <i>July</i> 1972	CLASSIFICATION	APPROPRIATED RECEIPTS	UNAPPROPRIATED RECEIPTS	TOTAL ALL RECEIPTS YEAR TO DATE
75.00	1 Permits to Drill			75.00
	2			
	3			
	4			
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	8			
	9			
	10			
	11			
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	16			
	17			
75.00	TOTAL CURRENT MONTH RECEIPTS		75.00	XXXXXX
XXXXXX	TRANSFERS IN			
	BALANCES BROUGHT FORWARD		2,376.83	XXXXXX
	TOTALS - MONTH AND YEAR TO DATE		2,451.83	75.00

6 CLAIMS PAID MONTH OF <i>July</i> 1972	7 EXPENDITURES FUND TITLES	8 TOTAL AMOUNT AVAILABLE YEAR TO DATE	9 CLAIMS PAID YEAR TO DATE	10 OUTSTANDING ENCUMBRANCES	11 UNENCUMBERED BALANCE
7,507.74	1 Personal Services	23,561	7,507.74		16,053.26
540.82	2 Emp. Related Exp.	2,757	540.82		2,216.18
	3 Professional Services	550			550.00
160.44	4 Travel - State	2,139	160.44	1,815.05	1,635.7
	5 Travel - Out of State	3,500			3,500.00
6,057.65	6 Other Operating Exp.	10,875	6,057.65	3,322.68	1,494.67
	7 Capital Outlay-Equip.	4,310			4,310.00
	8				
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	10				
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	12				
	13				
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	28				
	29				
	30				
14,266.65	TOTALS	47,692.00	14,266.65	5,137.73	28,287.62

CLAIMS PAID
YEAR TO DATE

OBJECT
CODE NO.

DISTRIBUTION OF EXPENDITURES

CLASSIFICATION

CLAIMS PAID
MONTH OF

July 1972

7111	1	Per Diem: Commission Members	1	
7112	2	Salaries: Employees	2	
7151	3	Industrial Insurance	3	7,507.74
7153	4	F.I.C.A.	4	165.38
7155	5	Retirement	5	375.44
7156	6	Health Insurance	6	
7159	7	Personnel Commission	7	
	8		8	
7215	9	Professional Services: Engineer	9	
7219	10	Professional Services: Other	10	
	11		11	
7221	12	Travel - State: Mileage	12	
7222	13	Subsistence	13	
7223	14	Public Transp.	14	
7224	15	Vehicle Expense	15	160.44
7225	16	Reg. Fees; Parking; etc.	16	
	17		17	
7232	18	Travel - Out of State: Subsistence	18	
7233	19	Public Transp.	19	
7234	20	Airport Parking	20	
7235	21	Reg. Fees; Telephone; etc.	21	
	22		22	
7251	23	Occupancy: Office Rent	23	5,548.38
7261	24	Warehouse Rent	24	
7263	25	Warehouse Mtn. & Repair	25	
7272	26	Mtn. & Repairs: Furn. & Equip.	26	178.00
7280	27	Office Supplies	27	
7300	28	Field Supplies; Film; Am.Strat; P.I., etc.	28	14.00
7331	29	Printing: Reports; Large Maps; etc.	29	
7332	30	Legal Advertisement	30	
7333	31	Court Reporter	31	
7334	32	Postage	32	
7335	33	Telephone	33	
7337	34	Drayage; Express; etc.	34	
7349	35	Rental, Misc.	35	67.27
7360	36	Dues & Subscriptions	36	
	37		37	
7431	38	Capital Outlay: Office Equip; Tpr; etc.	38	
7434	39	Spec. Equip. (Geol.)	39	
7436	40	Automobile	40	
	41		41	
7913	42	Revolving Fund	42	250.00
	43		43	
	44		44	
	45		45	
	46		46	
	47		47	
	48		48	
	49		49	
	50		50	
	51		51	
	52		52	
	53		53	
	54		54	
	55		55	
TOTAL				19,266.65



OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

THE REGULARLY SCHEDULED MEETING FOR SEPTEMBER
15, 1972 WILL NOT BE HELD BECAUSE A QUORUM
WILL NOT BE PRESENT.

MEMO: 9-6-72 mailing to Commissioners:
1973-74 Budget
July, 1972 Financial Statement
August, 1972 Financial Statement



OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

4515 NORTH 7TH AVE.

PHOENIX, ARIZONA 85013

PHONE: (602) 271-5161

September 6, 1972

Memo: Commissioners
From: John Bannister

As you have previously been notified, the Commission meeting for September 15, 1972 is cancelled due to lack of a quorum.

In my report to you in August, it was indicated that I would attend the Interstate Oil Compact Commission meeting to be held September 10 to 12, 1972. Inasmuch as there has been no objection, I will make this trip.

The next meeting of the Commission will be October 20, 1972, in Phoenix.

On October 12, 13 and 14, Mr. Conley will attend a meeting of the Four Corners Geological Society in Durango, Colorado. This is one of the regular meetings on the schedule approved by the Commission in our 1972-73 budget. If we hear no objection, Mr. Conley will plan to attend this meeting.

Likewise, the Independent Petroleum Association of America will hold its regular meeting October 15 to 18 in Dallas. This is a meeting I normally attend and I will plan to attend this meeting unless I hear to the contrary. This, also, is one of the regular meetings attended by the Commission and approved in our 1972-73 budget.

Since our last meeting, the vacation schedule of this department has been essentially completed.

On September 1st the State Land Department held a hearing at 3:00 p.m. to adopt leasing rules and regulations for geothermals on state land and also adopt a lease form. I attended this meeting and, at the request of Mr. Bettwy, submitted comments. Generally speaking, I totally supported the rules and regulations and proposed lease form. Mr. A. K. Doss of

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the State Land Department, Mr. Bill Allen and I spent numerous hours preparing these regulations and naturally we feel they are well designed.

The only other people appearing at this hearing were representatives of Geothermal Kinetics. In general, they supported the suggested forms, but did make comments on some of the rules. They were particularly disturbed about the State's proposed 12½% royalty rather than the 10% adopted by California, Utah and New Mexico. However, they later used as an example of potential geothermal earnings a patented lease with a royalty of 10% and overriding royalty of 24%. The earnings were considerable. It is felt that the 12½% State royalty being considered by the State Land Department would not, in reality, be a deterring factor in the development of geothermals within this State.

Geothermal Kinetics has encountered some difficulty in securing leases on private lands and I feel they were trying to put their leasing efforts on private lands in a somewhat more favorable light by weakening the State leasing provisions.

As above indicated, Mr. Bettwy asked for written comments and this Commission has done so along the lines above indicated.

On August 11th there was a meeting to discuss the formation of the Department of Natural Resources. This Commission attended. Generally speaking, a plan was submitted which sets up a board responsible to the Governor. The submitted plan does not change the existence of any State agency, but merely makes the administrative heads members of the Natural Resources Board and, through this board, seeks a coordination of resource efforts. A further meeting is set for September 18th and will, of course, be attended by us.

I might report that we have experienced continuous difficulty with the air conditioning system in the office. Mr. James Phillips, the owner of the building, had Arizona York thoroughly investigate the situation. Apparently much of the problem lies in the fact that much ducting for the air conditioning units was disconnected in assembling the ceiling and much insulation of the ducting was knocked off. The company investigating the situation feels it will be quite expensive to correct this basic situation. Mr. Phillips has not, as yet, indicated what steps he will take to correct this, however with the lowering of the temperature, much of our problem will be solved for the immediate future.

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It is interesting to note that Humble has selected a new location about four miles southeast of Tucson. All indications from Humble still indicate that at least the initial four wells will be purely stratigraphic tests and not specifically or intentionally located as an oil or gas test. Further indications from Humble are that in the year 1973 specific attempts to discover oil or gas will be made.

Humble has agreed to furnish a speaker to the Petroleum Development Association of Arizona early in October to discuss, as far as possible, Humble's plans and geological information they have developed. I am sure this meeting will be well attended. We will see you are notified in time to attend, should you so desire.



OFFICE OF
Oil and Gas Conservation Commission

STATE OF ARIZONA
4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

September 6, 1972

Memo from W. E. Allen, Director
Enforcement Section

As you are well aware the energy crisis is still very real and apparently will be with us for some time. At least until the Federal government adopts a realistic attitude on their various restrictions, primarily pricing and the environmentalist become more rational in their unreasonable demands. Chase Manhattan Bank has recently released a report on U. S. energy. This report noted that there are sound reasons to believe that the U. S. has within reach vast energy resources but they are not accessible within the current economic frame work. The report called for a flexible pricing system that could change when conditions warrant. This would serve to generate more private capital into the energy field.

A meeting called by Colonel Carl Smith, Director of Emergency Services, to discuss the energy crisis as it applied to Arizona was attended by the writer. Representatives of Arizona Public Service, Salt River Project, Tucson Gas and Electric, Arizona Power Authority and various state agencies concerned with energy were also present.

The three primary utilities have all geared their operations to operate on either gas or fuel oil. All have enlarged their output capacities and fuel oil storage capacity and inventory of this fuel.

It was the consensus of opinion, that barring any unforeseen complaints by the various environmental groups, that Arizona had nothing to fear regarding blackouts or domestic fuel shortages for the foreseeable future.

Humble has plugged their No. 1 State (74), NW/SE Section 2-T8S-R8E, Pinal County. They have also drilled and plugged their No. 1 State (14), NW/SE Section 25-T3S-R11W, Yuma County. The T.D. of this well was well above the projected depth of 8,000'. Humble has by now spudded their third well, the No. 1 State (32), NE/SW Section 5-T16S-R15E, Pima County. This location is approximately 14 miles southeast of Tucson and is projected to 8,000.

Brown & Thorpe has completed the re-entry into the old El Paso Natural Gas Bullard-Wash #1, SE/SE Section 3-T10N-R10W, Yavapai County. This hole is now P & A.

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Activity Report - September 6, 1972
Mr. W. E. Allen

Clinton Oil are in the process of completing their Navajo "O" No. 1. Chances are fairly good that Clinton can make a small producer from this well.

Astro-Tex Corp. has temporarily abandoned their Federal No. 1, NW/NE Section 31-T5N-R17E, Gila County at a depth of 1946'. The operators report that they will move in the near future.

P & H Development Inc., No. 1 Federal, NW/SE Section 30-T2S-R9W, Maricopa County is at 1700' and they have had the drill stem stuck on bottom for about a month. The operator reports that he has had some special tools sent in to retrieve this stuck bit and stem and will resume operations this week.

Permits issued since my last report are as follows:

Eastern Petroleum Merde-Indian No. 1, SW/SW Section 30-T20N-R28E, Apache County, 1200' Shinarump Test, awaiting completion attempt.

Eastern Petroleum Merde Indian No. 2, SW/SE Section 30-T20N-R28E, Apache County, 1200' Shinarump Test, location.

Eastern Petroleum No. 1 Chuska Mountain Fuel, NW/NE Section 15-T35N-R29E, Apache County, T.D. 3394', P & A.

Eastern Petroleum No. 2 Chuska Mountain Fuel, SW/SE Section 32-T36N-R29E, Apache County, 3500' Barker Creek Test, drilling.

Eastern Petroleum Santa Fe Kiva No. 3, SW/NE Section 14-T20N-R28E, Apache County, 1200' Shinarump Test, location.

St. Mary Parish Land Company No. 2-16, Navajo, NW/SE Section 16-T37N-R29E, Apache County, Barker Creek Test - 3500', P & A.

St. Mary Parish Land Company No. 1-30 Navajo, NE/SW Section 30-T37N-R30E, Apache County, 3500' Barker Creek Test, drilling at 2898'.

Tesoro Petroleum Co., Navajo Davis No. 1, SW/SE Section 13-T38N-23E, Apache County, 5400' Hermosa Test, drilling below 1,000'.

Universal Resources Navajo Tribal 1-15, Section 15-T40N-R29E, Apache County, 5800' Basement Test, location. The above location is approximately one mile east of Cities Service Mississippian gas discovery in Section 16-T40N-R29E. At a recent Navajo Tribal Sale of oil and gas leases Universal Resources paid a bonus of \$15.22 per acre for this section.

Leasing continues to be fairly active. Gulf Oil Company has recently acquired some 20,000 acres in Pinal County. It may be of some interest to note that there has been no noticeable dropping of leases since Humble's two recent failures.



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4515 NORTH 7TH AVE.
PHOENIX, ARIZONA 85013
PHONE: (602) 271-5161

September 6, 1972

ACTIVITY REPORT

J. N. Conley
Director, Geology Section

COMMISSION PUBLICATIONS

The Well Location Map Number 3 of Arizona is proving to be a worthwhile publication. We have received many favorable comments from geologists in oil and other industries. It is also a very useful base map for Commission studies.

EXPLORATION ITEMS

Drilling --

Humble Oil and Refining Company has completed two stratigraphic test holes to date. The third test is to be located in Section 5, Township 16 South, Range 15 East, Pinal County.

The Brown and Thorpe 1 Bullard Wash, Section 3, Township 10 North, Range 10 West, Yavapai County, has been plugged and abandoned at a depth of 5,656 feet in Precambrian rocks.

Geological - Geophysical --

Humble reportedly is conducting, or plans to conduct, seismograph operations in Altar Valley, south of Robles Junction.

* * * * *

Considerable progress has been made on the geophysical investigative projects being financed by technical assistance grants from the Four Corners Regional Commission. These projects are being performed by John Sumner, or under his direct supervision.

Activity Report
September 6, 1972
Page Two

Richard Bruns has completed the initial field phase of the Kaibab Limestone geological project in the Colorado Plateau province.

* * * * *

A formal request for "classified" side-looking radar imagery in the Coconino Point - Gray Mountain area, Coconino County, has been submitted to the U. S. Air Force by Arizona Resources Information Systems and Goodyear Aerospace Corporation for use by C. W. Barnes, University of Northern Arizona. Barnes and graduate students have been intensively investigating this area geologically, and plan to conduct some geophysical investigations later this year. The general area is of interest to this Commission from the standpoint of possible future exploration for oil accumulations.

CURRENT COMMISSION PROJECTS

Subsurface studies in the northeast part of the State: Edward Koester is devoting most of his time to this project.

* * * * *

Considerable progress has been made in preparing a series of county maps in the Basin and Range province showing wells drilled for various resources, including selected water wells. Accompanying tabulations will present pertinent data concerning location, elevation, geologic age of rock at total depth, and availability of electric logs, lithologic logs, sample descriptions, and samples of the drill-bit cuttings.

* * * * *

Some progress has been made in preparing a geological base map of the general Holbrook area. In this area the Commission has obtained, on a temporary basis, Arkla Exploration Company's files on the numerous core holes drilled for potash information. We got the cores this past June, but at that time we were unable to obtain lithologic descriptions of the cores, and other critical information. We now have access to all this information through the courtesy of Warren Carr, the geologist in charge of the exploratory program in the Holbrook area, who recently purchased the files from Arkla.

* * * * *

A tabulation of the bottom hole temperatures of wells drilled in the State, as recorded on electric logs, has been completed. This information will be presented graphically on a map. The demand for such a map at this time may not justify printing costs for distribution. It will probably be put on an "open-file" status. Interested persons or companies can examine it in this office, or obtain copies at their expense.

Activity Report
September 6, 1972
Page Three

Plans are being made to prepare a map of Arizona showing oil, gas, and other kinds of pipelines. Based on inquiries there is a need for such a map.

GENERAL

We continue to receive requests, oral and written, for our publications and information on specific wells or areas. Most of such requests deal with oil and gas matters, some with geothermal and salt resources, and a few with academic items.

* * * * *

An Amoco Production Company geologist spent almost a week with us last month. He examined the drill-bit cuttings of wells in the Basin and Range province.

* * * * *

Mobil Oil Corporation continues to display some interest in the State. We understand that this company has retained, or will retain, Dr. Dick Rush to make a reconnaissance geological study of a large area encompassing much of southwestern New Mexico and southeastern Arizona.



J. N. C.

JNC:st

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Editorial and Executive Offices: 3301 Allen Parkway, Houston, Texas 77001. Mailing Address: PO Box 2608, Houston, Texas 77001. U.S.A. Phone: 713-529-4301. Cable Address: GULFPUBCO Houston. Telex: 762-903 GULFPUBCO HOU.

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AN EDITORIAL

50¢ gas and \$5 oil

DESPITE ALL the comments flowing from Washington via the daily press, radio and TV, there never has been more than one answer to the ridiculous problems of blackouts, brownouts and all the other signs of U.S. energy "giving out."

The domestic petroleum industry must be regenerated—by restoration of economic incentives—to a point where producing rates from already-proven petroleum reserves can supply most of our energy needs until research and development provide keys to other potential forms of energy.

That simply means gas and oil are going to have to provide the major part of our energy supply base for another half century . . . and a sizable share of our energy needs even beyond that time.

And the industry can do just that.

With proven domestic reserves pegged at 250-290 trillion cubic feet of natural gas and 35-38 billion barrels of crude oil, any energy shortage from curtailed production in the United States is ridiculous—and an indictment of our national policies. To round out the complete story, one also must consider the energy supplies that economic incentives can make available from potential U.S. reserves ranging to an estimated 700 trillion cubic feet—and more—of gas and 100 billion barrels-plus of crude oil.

Yes, the energy shortage is as ridiculous as the need for the recent warning by Hollis M. Dole, U.S. Interior's secretary for mineral resources, that ". . . This condition of scarcity will widen to include nearly every form and category of energy."

* * *

OUR ENERGY CRISIS is our most "studied" problem. Yet, the federal government has not produced a single piece of action to ease the crisis. Nor is federal talk about reducing demand going to solve anything.

After the United States has developed an unmatched standard of living, federal politicians now speak about "going backward" from air travel to rail and bus, going from autos to mass transit, and to other more efficient energy-consuming processes.

But these same folks don't estimate the cost or desirability of "going back." They don't have anything to say about whether consumers really want to reverse the national living standard direction.

* * *

CONSUMERS SHOULD BE TOLD that this nation has the petroleum energy it needs waiting to be found and waiting to be produced. And we have an industry capable of doing both.

What develops is going to depend on whether we in this nation can face reality long enough to recognize the absolute and immediate need to raise the price of natural gas to at least 50 cents a thousand cubic feet and the price of crude oil to at least \$5 a barrel. No more studies needed about that.

Donald E. Kliever

Editorial Director

PRODUCTION PROFILES

Waterfrac makes 160 BOPD producer from shallow Bartlesville Sand

Osage County, Oklahoma — Production from this new well in the Bartlesville Sand Formation below 1,620 ft was 50 BOPD. Operator, believing potential was higher, consulted Halliburton.

A 15,000 gal Waterfrac job was performed at 29 BPM. Gelling agent was Halliburton's WC-6, while WAC-9 was used to help prevent fluid loss. Proppant was 7,500 lb 20-40 sand.

Well became the best in the area, pumping 160 BOPD with 12 BWPD two months after frac fluid recovery.

My-T-Acid stimulation service gets 350 BOPD from Smackover Lime

Jasper County, Mississippi — This new well in the Smackover Limestone Formation below 16,980 ft

swabbed 1 BPM when Halliburton was called.

The Smackover is very sandy here, but well head pressure limitations precluded ordinary fracturing. Yet acid alone had not successfully stimulated the formation. Halliburton recommended and performed a two-stage My-T-AcidSM stimulation service job, with TBA 350 used as the diverting agent. In each stage, 11,000 gal Mod Acid 202 in conjunction with 10,000 gal Hy-GelSM fracturing fluid was injected at 5 BPM. To help prevent fluid loss, Matrisal[®] fluid loss additive was used.

Results were outstanding. After treatment, production stabilized at 350 BOPD.

Injectrol sealant/cement squeeze cuts water, boosts Ellenburger production

Winkler County, Texas — This old well in the Ellenburger Limestone Formation below 12,040 ft

was pumping 10 BOPD and 40 BWPD in 1968 when it was shut in.

Halliburton suggested and performed a combination Injectrol[®] sealant/squeeze cement job. The 100 bbl of Injectrol[®] sealant was pumped through an EZ-DrillSM SV packer into the formation, then followed by 400 sacks cement.

Operator was extremely pleased with results. Thirty days after re-completion in the same zone, well pumped 165 BOPD with only 30 BWPD.

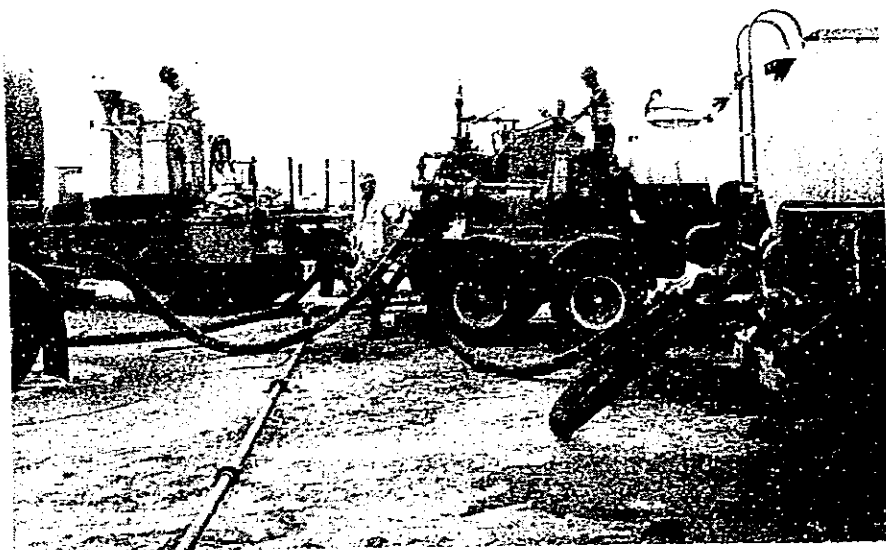
Zone fills casing with sand prior to Conpac sand control service job

Bee County, Texas — Sand from the Catahoula Sandstone Formation below 3,260 ft filled 700 ft of 4½-in. casing in this new well in a 4 hr test.

To help control the production of the formation sand, the operator selected Halliburton's ConpacSM sand control service. In the job, 80 gal Conpac resin and 1,750 lbs 40-60 sand was injected at 1¼ BPM. 650 lbs of sand was reversed out.

Job was most successful. Following the Conpac sand control service job, well produced 25 BOPD with 72 BWPD and no sand.

BETTER WELLS THROUGH CHEMISTRY. Make sure that you use Halliburton's field-wise chemical service specialists on your next job. You can be certain that they'll carefully analyze all known downhole conditions to develop the optimum treatment for your well.



These case histories illustrate how Halliburton men, equipment, and production improvement techniques work together to provide today's oilman with the most dependable service available in the oilpatch. Whenever there's a job to be done, call the people who can do it best — Halliburton.



EDITORIAL

from Oil & Gas Journal
11-6-72

It's time for Congress to face reality, free gas prices

IT SHOULD BE OBVIOUS now to everyone—as it has for some time to those in the gas business—that tight regulations of the wellhead price of natural gas is not working.

The most serious indictment of gas-price controls, and one that normally should doom them, is that the inflexible price lids do not benefit the consumer in whose behalf the whole scheme was devised in the first place.

Controls have assured the consumer low prices but also have assured him less and less gas. And what good are bargain prices if there's nothing to buy?

Attempts to moderate the price restrictions, bring them closer to the reality of the market place, and thus generate greater supply of gas have failed. This has occurred in the face of a growing realization that the control concept itself is a failure. The screws can be tightened on gas prices, but it's very difficult to loosen them and nearly impossible to remove them.

Unfortunately, it's also impossible for gas-price regulations to self-destruct when they no longer work and are creating a crisis. Who ever heard of a regulatory agency deregulating anything? The complicated and legalistic regulatory process has stymied effective attempts to adjust prices to meet the changing conditions of supply and demand.

A REVIEW of developments will illustrate the point.

The stated goal of Federal Power Commission price regulation has been to create a price structure that would bring forth needed supply of gas without gouging the consumer. The FPC, however, never has developed a method or formula for determining the correct price level for attracting new gas supply. The area rates so tortuously arrived at certainly did not attract new supply. The switch of producers to selling almost entirely on the intrastate market and the inability of interstate buyers to find gas attest to the failure of FPC pricing attempts.

Even many hard-core regulators have come to realize that supply and not price has become the critical factor. But FPC has deferred setting a price equivalent to the market value of the gas—which is the only pricing level with a chance of attracting new supply. And it's doubtful the FPC, considering all the legal barriers, can now reverse its field sufficiently to adjust gas prices to market realities.

This leaves Congress as the last chance for breaking the price shackles on gas supply. The situation has reached the point where the consumer has nothing to lose at double the price if the higher price can elicit more gas. It's certainly time for Congress to give the gas industry a chance to prove it can deliver—for a price.

ARIZ REPUBLIC 11-16-72 Pg A-14
OK sought on synthetic gas plant

Associated Press

HOUSTON — El Paso Natural Gas Co. yesterday filed an application with the Federal Power Commission for approval to construct the world's first commercial complex to convert coal into a synthetic gas.

Howard Boyd, chairman of the board, said the \$420 million installation will be built in northwest New Mexico,

where a 40,000-acre coal lease is estimated to contain more than 700 million tons of recoverable coal.

The El Paso complex is designed to produce 250 million cubic feet of nonpolluting gas per day and will help El Paso maintain its present level of deliveries to the southwest states and California, Boyd said.

El Paso Natural Gas said 2½ years will be needed to construct the complex, with initial production scheduled for 1976 and full production for early 1977.

Boyd said the project, on the Navajo Reservation, "will provide significant social and economic benefits to the Navajo tribe and the surrounding area."

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