

OIL & GAS CONSERVATION COMMISSION  
Meeting: March 19, 1976  
Mr. John Bannister, Exec. Sec.



OFFICE OF

**Oil and Gas Conservation Commission**  
STATE OF ARIZONA

PHOENIX, ARIZONA 850  
PHONE: (602) 271-5161

A G E N D A

Meeting  
March 19, 1976  
8686 North Central Avenue, Suite 106  
Phoenix, Arizona

10:00 a.m.

Call to order

1. ✓ Approval of minutes of meeting of January 16, 1976.
2. ✓ Report of Executive Secretary
3. ✓ Report of Enforcement Section
4. ✓ Report of Geology Section
5. Old Business  
*LR to Benton*
6. New Business  
*EL PASO - SP 1110*
7. Adjourn

*Exhibit* →

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

OIL AND GAS CONSERVATION COMMISSION  
8686 North Central Avenue  
Suite 106  
Phoenix, Arizona 85020

Minutes of Meeting  
March 19, 1976

Present:

Mr. W. Roger Hafford,  
Vice Chairman  
Dr. G. E. H. Ballard, Member  
Mr. Hal Butler, Member  
Dr. J. Dale Nations, Member

Absent:

Mr. Ralph W. Bilby, Chairman

The regular Commission meeting for the month of March, 1976 was called to order by Vice Chairman Hafford at 10:00 a.m.

Dr. J. Dale Nations, making his first meeting as Commissioner, was introduced.

Minutes of the meeting of January 16, 1976 were approved as written.

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

After discussion, Executive Secretary was instructed to draft a letter to the Governor urging his support of the joint proposal of Standard Oil Company of California (Sohio) and El Paso Natural Gas Company to bring crude oil from Prudhoe Bay, Alaska to the Midland, Texas area. Executive Secretary was further instructed to draft a letter to the Governor urging his support of the proposal of El Paso Natural Gas Company to bring natural gas from Prudhoe Bay to the lower forty-eight states. The drafts are to be forwarded to Commissioners for their approval before the letters are sent to the Governor.

Executive Secretary advised that in accordance with the direction of the Commission at the January 16, 1976 meeting, the staff, in cooperation with Kerr-McGee Corporation, has set up an energy display in the mall of the downtown Phoenix Valley National Bank Building. As the display has only been shown one day, no comments have been received.

Bills introduced in this session of the Legislature which involve the Commission, or were of interest to the Commission, were discussed.

Executive Secretary advised that at the direction of the

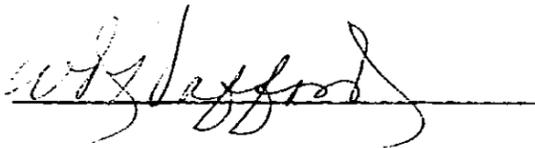
Minutes of Meeting  
March 19, 1976  
Page 2

Commission a letter of appreciation has been sent to retiring  
Commissioner F. Keith Benton.

The next regular meeting will be May 21, 1976.

Meeting adjourned at 11:20 a.m.

APPROVED

A handwritten signature in cursive script, appearing to read "W. J. Doss", is written over a horizontal line.

Also present:

Mr. A. K. Doss  
State Land Department  
Phoenix, Arizona



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA  
8686 N. Central, Ste. 106  
~~XXXXXXXXXX~~  
PHOENIX, ARIZONA ~~XXXX~~ 85020  
PHONE: (602) 271-5161

March 10, 1976

Memo: Commissioners  
From: John Bannister

As authorized, I attended the Energy Conservation and Public Policy Meeting held in San Diego February 19 through 22, 1976. This was a program sponsored by the Federal Energy Administration in cooperation with the Conservation Foundation of Washington, D.C. and the Planning and Conservation Foundation of California.

This meeting was attended by a broad segment of Arizona citizens, ranging from legislative representatives, state agency representatives, through city and county employees into citizens' conservation groups. Representatives Jim Cooper, Chairman of the House Agriculture Committee, and Bill Lewis, Chairman of the House Natural Resources Committee, and Senator Marsha Weeks, member of the Senate Natural Resources Committee, were present. In all, some twenty people from Arizona attended.

This was one of the busiest meetings I have seen - with programs starting at approximately 7:30 in the morning and continuing through until about 11:30 at night. Each day ended with the people of the various states getting together to discuss the day's events and to formulate an energy policy for their particular state. Topics covered in addresses were such things as methods of saving on total energy through water conservation in agriculture, better use of electricity, more thoughtful use of transportation facilities, etc. One of the most interesting addresses was a total look at any product - as an example, the automobile, wherein the energy necessary to create the machinery to create automobiles was considered, as well as the energy necessary to create the parts for repairs, the energy for operation, etc.

Assemblyman Charles Warren of California, a member of the Assembly Committee on Resources, Land Use and Energy in Sacramento, gave one of the most interesting, off the cuff

Memo: Commissioners  
March 10, 1976  
Page 2

talks of the Conference. He expressed California's concern for its growing energy needs and expressed the opinion that it may be necessary that California call upon the natural gas being used by Arizona, New Mexico and Texas to keep the critical environment in Los Angeles and other crowded California areas from further deteriorating, with the opinion that the better air quality of the other states could suffer further degradation rather than California.

The last Arizona state meeting occurred Sunday morning and it was agreed that an effort would be made for the Arizona group attending this meeting to continue to try to develop an energy conservation plan for the state.

The Executive Committee of the IOCC met in Austin, Texas at the call of its Chairman, Governor Briscoe. Governor Briscoe appointed the chairmen of the various committees for the year 1976 and I was again made Chairman of the Environmental Protection Committee.

The eight largest producing states belonging to the Compact were called together in Oklahoma City on January 30th by the Compact Chairman to discuss the Energy Policy and Conservation Act pending before Congress. Basically, this group felt that more emphasis should be placed upon efforts for secondary and tertiary recovery projects as positive methods to help with the energy shortage.

The midyear meeting of the Compact will be on June 27th in Wichita, Kansas.

The Legislature is moving more rapidly at this time and I have been appearing before the Senate Natural Resources Committee on a weekly basis. The bills which are currently being considered are as follows:

House Bill 2002, which creates an Arizona Energy Office. This is an umbrella type agency which takes in approximately six existing agencies, with their powers and duties virtually unchanged. We are one of the agencies so involved. This bill has not been considered as yet.

House Bill 2047, which creates a Bureau of Geology and Mineral Technology and provides an advisory council to this group.

House Bill 2323 provides for an Energy Resources Conservation and Development Commission which primarily is a fact finding and planning commission which will undertake to

Memo: Commissioners  
March 10, 1976  
Page 3

assess trends and consumption of energy and state plans to meet potential shortages.

House Bill 2386 establishes the Arizona Energy Department within the Office of the Governor. This, too, is an umbrella type department and includes this Commission.

Senate Bill 1068 was introduced by the majority of the Committee on Natural Resources and is a severance tax bill similar to the one introduced at the Commission's request last year. It has not come up for consideration as yet.

Senate Bill 1135 provides for an Arizona State Alternate Energy Review Board to encourage the research and development of alternate energy sources.

Senate Bill 1266 reduces the State oil and natural gas depletion allowance from 27½% to 22% and at this time has been passed by the Senate Finance Committee.

Senate Bill 1340 provides for a Department of Geology and Mineral Resources. This attempts to create what is, in effect, a State Geological Survey with an advisory board, of which the Oil and Gas Conservation Commission will be a member. This bill has been assigned to a subcommittee in the Senate Natural Resources Committee to work out conflicts.

Senate Bill 1350 establishes an Interaency Energy Planning Board, of which this Commission is a member. It is designed so that the board will review energy and conservation plans and develop state energy policies.

As you can see, many of the bills introduced into this session of the Legislature are overlapping. It is unlikely any of these bills will pass as introduced and certainly unlikely that any will pass until such time as all of them can be considered in their relationship to each other.

You have been advised that Dr. Dale Nations has been confirmed by the Senate and hopefully will be in attendance at our meeting on March 19th.

Memo: Commissioners  
March 10, 1976  
Page 3

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OFFICE OF  
**Oil and Gas Conservation Commission**

STATE OF ARIZONA

16 NORTH 7TH AVE.  
PHOENIX, ARIZONA 85013

8536 N. CENTRAL, SUITE 106  
PHOENIX, ARIZONA 85020

PHONE: (602) 271-5161

ACTIVITY REPORT

March 10, 1976

W. E. Allen  
Enforcement Section

A PROMINENT Houston geologist rates the western part of the U. S. - ARIZONA, Idaho, Nevada, Oregon, Washington and northern California as an important geological domain.

Michel T. Halbouty, in remarks prepared for delivery at the American Southwest section meeting of the Association of Petroleum Geologists this week in Wichita Falls, Texas, says he expects many trillions of cubic feet of gas and billions of barrels of oil to be produced in these states.

This oil and gas will be found, Halbouty says, "if we as explorationists have the intestinal fortitude to strongly recommend the drilling of prospects in that region."

Halbouty thinks petroleum will remain king in the U. S. for many years. But he points out Congress has done nothing to keep the nation's energy, self-sufficiency respectable, but rather has gone in the opposite direction.

"There will not be one more barrel of oil or one cubic foot of gas developed from theories, studies, investigations, economic forecasts, Capitol Hill cacophony, computer printouts, or massive statistical exercises which try to explain how in the world we got in the shape we are in," Halbouty warned.

It was very surprising, and pleasantly so, to learn that Arizona was considered to have great oil and gas potential by a geologist of Mr. Halbouty's caliber. It might be well to remember that Mr. Halbouty is an oil finder, not a theoretician.

Webb Resources has plugged their New Mexico-Arizona Land Company #25-1 located in the NE/SE Sec. 25, T20N, R15E. The total depth of this well was 3796' in basement rocks.

Webb was issued a permit to drill the State #36-1 in the NE/SE Sec. 36, T19N, R17E, Apache County, 10 miles east of Winslow. This hole was spudded March 6, and is presently drilling at 1760'.

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March 10, 1976  
Enforcement Section

I have recently been contacted by Wichita Industries, Wichita Falls, Texas. This firm has plans for a three-well drilling program in the Morman Lake area of Coconino County. This firm did some seismic work on their leases last summer. *Mormon*

Some time ago this report advised you that Home Oil Company, a Canadian company, with a subsidiary in Houston, Texas had leased a large block of acreage in the strip country of Mohave County and had tentative plans to drill on this acreage. Apparently they have completed their initial exploratory work, for they are again talking of drilling a test well in the area.

California Liquid Gas Corporation has started work on a huge brine pond at their storage project near Lake Field. This pond is to be 580' x 410' with a depth of 140'. The capacity of the pond will be 45 million gallons. The pond is engineered to be leak proof.

The Arizona Contractor Engineer, a trade journal for the independent contractor and engineer, requested that I write an article summarizing the history of the oil and gas activity in Arizona. This will appear in the April issue of this magazine. This issue will be dedicated to Arizona's energy situation to coincide with the Governor's proclamation naming April as Arizona's Energy Month.

Attached is an article appearing in a recent issue of the Oil and Gas Journal.



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STATE OF ARIZONA  
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March 10, 1976

J. N. Conley  
Director, Geology Section

**PUBLICATIONS**

Sales for the past month amounted to \$65.75. Purchasers were:

William Blackler, Rockville Centre, New York	Ralph Whitmore, Safford
William Emery, Oklahoma City	Orbon H. Tice, Abilene, Texas
James O. Windsor, Englewood	Amuedo & Ivey, Denver
Burmah Oil Co., Long Beach	Marathon Oil Co., Casper
Ebert-Michael & Assoc., Scottsdale	Union Oil of Calif., Midland
H. A. Sellin, Sun City	The Grayrock Corp., Denver

**INVESTIGATIVE PROJECTS - STATUS**

Paleozoic Folio or Atlas. As reported previously, the first phase of this project consisted of a coordinated study of the lithologic and geophysical logs and records of wells drilled in the Colorado Plateau province of Arizona and a research of the geologic literature pertaining to this area. The investigation involved such items as:

1. Stratigraphic and geographic occurrence of igneous sills
2. Net thickness of Paleozoic sediments
3. Net thickness of each of the geologic systems represented
4. Sea level datum of the top and bottom of each system
5. Predominant lithology of each system
6. Lithology of basement rock
7. Notation of significant shows of oil and gas

This project was temporarily shelved pending receipt of the final maps and fence diagrams accompanying Master's Thesis of W. Norman Kent (Northern Arizona University), entitled Facies Analysis of the Mississippian Redwall Limestone in the Black Mesa Region, and a report entitled A Survey of Uranium Favorability of the Paleozoic Rocks in the Mogollon Rim and Slope Region--East Central Arizona by H. W. Peirce, Nile Jones, and Ralph Rogers, Arizona Bureau of Mines. Both of these publications contain excellent subsurface basic data supplementing data available in our files.

Our long-range objective is to produce and publish a series of subsurface structure and isopachous maps of the Colorado Plateau province. Drafting of the first three maps, top of basement, Paleozoic System thickness, and top of Paleozoic System, will be commenced next week. Final copy-ready maps for printing, however, will not be prepared pending completion of the exploratory drilling

Activity Report  
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Page 2

program on the Mogollon Slope region south of the Navajo Indian Reservation by Webb Resources, Inc. All of these seven planned wildcat wells are scheduled to be drilled to basement. A brief geologic report and a complete tabulation of the basic data will accompany the three maps. Our 1976-77 budget, if approved as submitted, will permit us to publish the results of this investigative project next September.

Holbrook Area - Top of Permian Coconino Sandstone Structure Map. Two preliminary interpretations of the structure in this area have been completed. A final interpretation will not be drafted, however, until Webb Resources, Inc., completes its exploratory drilling program in the overall Holbrook area. This program will probably be finished in August of this year.

Holbrook Area - Permian Fort Apache Limestone Structure Map. Assembly of basic data for this map and a preliminary structural interpretation was completed earlier this year. The recent receipt of the report on the Mogollon Slope region by Peirce et al. has helped us resolve some correlation and other problems. No attempt will be made, however, to prepare a final map and report until Webb Resources, Inc., completes its drilling program in the area.

Geothermal. The February 11, 1976, Activity Report contained a small-scale map showing the approximate outlines of areas with an undetermined potential for low-to-high temperature geothermal resources based principally on water-well geothermal gradient data. It showed the areas in which the State Land Department has designated nine Known Geothermal Resource Areas (KGRA), which will require competitive bidding to acquire leases.

The outlined areas were based mostly on data furnished by the State Land Department. We have now completed our own assembly of water-well temperature data (1564 wells). Currently we are computing geothermal gradients of wells drilled for oil and gas and other purposes. Upon completion of this phase of the project we can commence the preparation of a geothermal gradient map of the Basin and Range province of Arizona. An ambient temperature map of the State for use in computing the geothermal gradients will be drafted in the near future.

Geologic Map Index. We have in our files most of the geologic maps pertaining to Arizona published by the U.S. Geological Survey (USGS) and the Arizona Bureau of Mines. The USGS maps have been published in many different reports, such as professional papers, bulletins, water-resources reports, and miscellaneous field investigations. To expedite rapid determination of whether we have geologic map coverage of a particular area we are compiling two index maps that show the location of the coverage we have, map scale, and also open-file unpublished maps that can be inspected or copied. The Arizona Bureau of Mines receives prints of all open-file USGS geologic maps covering portions of Arizona.

Preparation of these index maps has graphically focused attention on the paucity of detailed geologic mapping in Arizona that is needed to better evaluate our energy and other natural resources. Attached to this Activity Report is a copy of an article concerning geologic map coverage in Arizona published by the Arizona Bureau of Mines. The most desirable map scales for resource evaluation and other geologic purposes are 1:24,000, 1:48,000, and 1:62,500. Only a small percentage of the total 113,956 square miles in Arizona has been mapped at these scales.

Activity Report  
March 10, 1976  
Page 3

As mentioned in this article, "The more detailed the mapping, the more costly it is in terms of manpower ..... and therefore, expenditure of funds." The article also states, "Remote sensing studies are useful but there is, as yet, no substitute for a face-to-face encounter with Arizona rocks and the secrets that relate to them." However, the art of telegeology (mapping the earth's surface using aircraft and spacecraft photography and imagery) has been greatly advanced in the past few years. Several states are now using telegeology mapping techniques to better isolate areas warranting detailed field surface mapping.

Fortunately, Arizona now has some excellent aircraft and spacecraft photography and imagery that could be utilized to good advantage in mapping some of the large areas in Arizona that have not been mapped at scales greater than 1:375,000 (1 inch equals 6 miles). The Skylab photo coverage of the Basin and Range province is particularly good and complete. Some of this coverage can be enlarged up to usable scales of 2"=1 mile.

#### ENERGY EXPLORATION BY INDUSTRY

Oil and Gas. Webb Resources, Inc., is now drilling one of the proposed seven wildcat wells to be drilled in the overall Holbrook area. This test is located in sec. 36, T. 19 N., R. 17 E., near Winslow. The second test, sec. 25, T. 20 N., R. 15 E., was a dry hole.

Uranium. Several companies, including Kerr-McGee Industries, are reportedly actively searching for uranium.

#### GENERAL

This past December this Commission assisted the Department of Geosciences, University of Arizona, in the preparation of two proposals for investigative projects to be submitted to the Four Corners Regional Commission (FCRC) through Governor Castro's office. At the request of the FCRC one of these projects is being resubmitted. We have assisted recently Dr. George Davis in assembling some printing and cartographic cost figures for a revised budget as to his project.

#### VISITORS

T. Auld, graduate student, Northern Arizona University  
Dr. R. Rawson, Assoc. Professor of Geology, Northern Arizona University

JNC:os

*JNC*  
J.N.C.

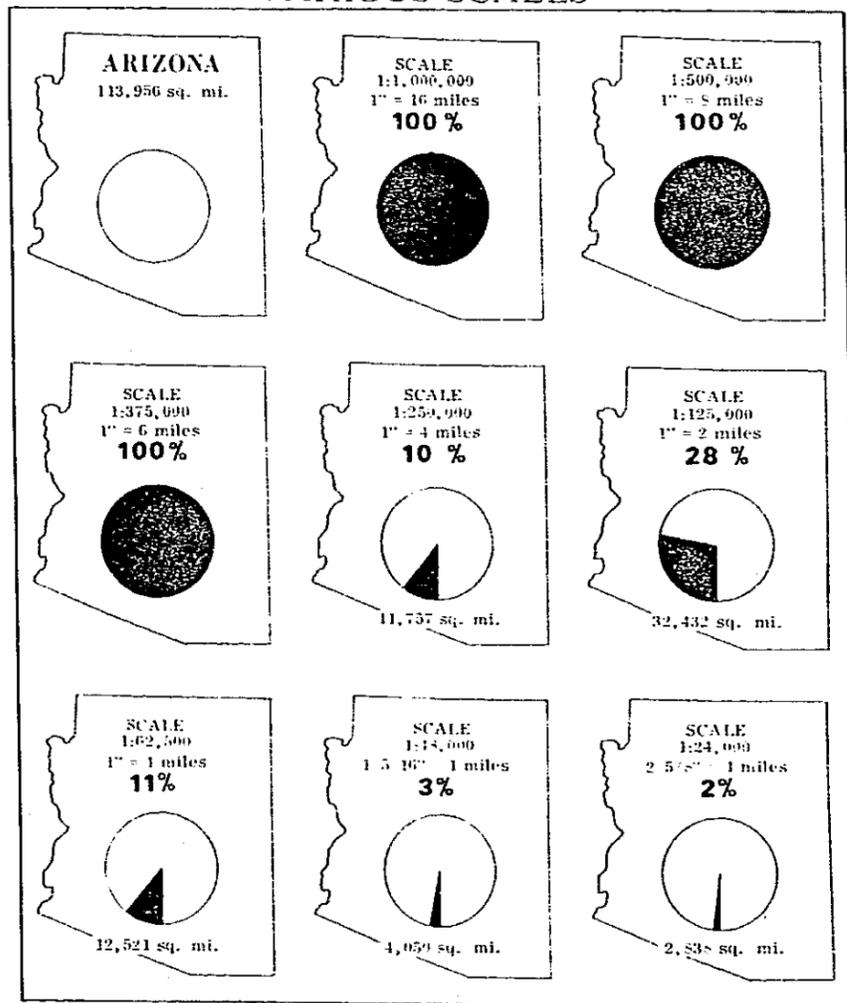
GEOLOGIC MAP COVERAGE IN ARIZONA  
AT  
VARIOUS SCALES

Fig. 15. GEOLOGIC MAPPING IN ARIZONA

A general geologic map is one that depicts the nature of the earth's surface in as much detail as the map scale allows. It is axiomatic that the more detailed the mapping the more costly it is in terms of time-manpower (personpower if you prefer), and, therefore, expenditure of funds.

The first geologic map of the entire State was published in 1924 at a scale of 1:500,000 (1 map inch approximately equal to 8 miles on the ground). The project was a cooperative venture between the Arizona Bureau of Mines and the U.S. Geological Survey. Again, in 1969, an updated geologic map was published, at the same scale, also as a cooperative State-Federal project. However, an intermediate step was taken in that geologic maps of the Counties were produced separately at a scale of

1:375,000 (1 map inch equal to 6 miles on the ground). To date this is the most detailed geologic mapping that covers the entire State.

The popularity of this series is indicated by the sale of more than 40,000 individual maps since the first one (Maricopa County) was issued in 1957.

Fig. 15 shows the percentage of Arizona covered by published geologic maps (doesn't include photogeologic maps) at various mapping scales ranging from 100% coverage at 1:1,000,000 (1 map inch approximately equal to 16 miles on the ground—this is a map compiled from more detailed mapping) to 2% coverage at 1:24,000 (1 map inch approximately equal to one-third mile on the ground).

Geologic mapping at scales less than 1:375,000 has and is being done largely

by the U.S. Geological Survey in connection with field and laboratory studies designed to better understand the geologic setting of the State's copper resources. It might be said that the extent of National interest in Arizona's copper resources is reflected both by the longevity of study and by the level of Federal effort and funding devoted to basic research, much of which is geologic field mapping. The U.S. Geological Survey has been involved in studying the geology of copper districts since about the turn of the century and their regional efforts continue.

It is quite true that the absolute geology of most regions doesn't change much over the span of a human lifetime but what we think about it does change, often drastically. Ferreting out the "absolute" geology never ends and the reevaluation of old data in the light of new serves as a stimulus that defeats the onset of stagnation.

The most systematic process for ferreting out and developing new ideas about the earth stems from geologic mapping. The combination of excellent exposures and a general paucity of detailed geologic mapping in Arizona guarantees that much remains to be learned about what this State really is. Remote sensing studies are useful but there is, as yet, no substitute for a face to face encounter with Arizona rocks and the secrets that relate to them.

**MONTHLY FINANCIAL REPORT**

RECEIPTS MONTH OF FEB 1976	CLASSIFICATION	RECEIPTS	APPROPRIATED RECEIPTS	UNAPPROPRIATED RECEIPTS	TOTAL ALL RECEIPTS YEAR TO DATE
-0-	1 Permits to Drill				150 00
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
-0-	TOTAL CURRENT MONTH RECEIPTS				XXXXXX
	TRANSFERS IN				
XXXXXX	BALANCES BROUGHT FORWARD			4,076 83	XXXXXX
-0-	TOTALS - MONTH AND YEAR TO DATE			4,076 83	150 00

CLAIMS PAID MONTH OF FEB 1976	FUND TITLES	TOTAL AMOUNT AVAILABLE YEAR TO DATE	CLAIMS PAID YEAR TO DATE	OUTSTANDING ENCUMBRANCES	UNENCUMBERED BALANCE
9,309 18	1 Personal Services	89,770 00	74,610 25	-	15,159 75
1,311 42	2 Emp. Related Exp.	12,640 00	9,932 15	-	2,707 85
2,243 05	3 Other Operating Exp.	24,487 43	18,643 90	5,288 56	554 92
-	4 Prof. & Outside Serv	2,250 00	416 25	-	1,833 75
482 75	5 Travel - State	5,775 00	4,496 47	1,225 76	52 77
234 23	6 Travel - Out of St.	2,200 00	1,154 63	341 47	703 90
-	7 Cap. Outlay - Equip.	400 00	390 91	-	9 09
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	29				
	30				
13,580 63	TOTALS	137,522 43	109,644 56	6,835 79	21,022 08

AGENCY Oil & Gas Conservation Comm.

DIVISION \_\_\_\_\_ IDENTIFICATION CODE NO. \_\_\_\_\_

1		2		3		4	
CLAIMS PAID YEAR TO DATE	OBJECT CODE NO.	DISTRIBUTION OF EXPENDITURES CLASSIFICATION		CLAIMS PAID MONTH OF FEB. 1976			
720 00	7111	1	Per Diem: Commission Members	1	-		
73,890 25	7112	2	Salaries: Employees	2	9,309 18		
		3		3			
320 83	7151	4	Industrial Insurance	4			
166 18	7152	5	Unemployment Insurance	5			
3,222 63	7153	6	F.I.C.A.	6	544 60		
5,172 21	7155	7	Retirement	7	651 62		
840 30	7156	8	Health Insurance	8	115 20		
210 00	7159	9	Personnel Comm.	9			
		10		10			
	7215	11	Professional Services: Engineer	11			
416 25	7219	12	Professional Services: Other	12			
		13		13			
651 77	7221	14	Travel-State: Mileage	14	16 05		
1,261 30	7222	15	Subsistence	15			
	7223	16	Public Transportation	16			
2,554 80	7224	17	Vehicle Expense	17	466 70		
28 60	7225	18	Reg. Fees; Parking; etc.	18			
		19		19			
423 00	7232	20	Travel-Out of State: Subsistence	20	132 00		
706 63	7233	21	Public Transportation	21	102 23		
	7234	22	Airport Parking	22			
25 00	7235	23	Reg. Fees; Telephone; etc.	23			
		24		24			
14,479 92	7251	25	Occupancy: Office Rent	25	1,608 83		
	7261	26	Warehouse Rent	26			
	7263	27	Maintenance & Repairs	27			
264 00	7272	28	Mtn. & Repairs: Furniture & Equipment	28			
1,068 88	7280	29	Office Supplies	29	296 66		
	7280.1	30	Orthophoto Quads.	30			
	7300	31	Field Supplies: Film; Am.Strat; P.I.; etc.	31			
	7331	32	Printing: Reports; Large Maps; etc.	32			
227 95	7332	33	Legal Advertisement	33	43 20		
106 60	7333	34	Court Reporter	34			
515 00	7334	35	Postage	35	230 00		
1,692 55	7335	36	Telephone	36	64 31		
	7337	37	Drayage; Express; etc.	37			
	7339	38	Rental, Misc.	38			
39 00	7360	39	Dues & Subscriptions	39			
		40		40			
390 91	7431	41	Capital Outlay: Office Equip.	41			
	7434	42	Spec. Equip. (Geol.)	42			
	7436	43	Automobile	43			
		44		44			
250 00	7913	45	Revolving Fund	45			
		46		46			
		47		47			
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		49		49			
		50		50			
		51		51			
		52		52			
		53		53			
		54		54			
		55		55			
109,644 56		TOTAL			13,580 63		

OFFICE

(DO NOT WRITE BELOW THIS LINE)

FIELD



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA

4515 NORTH 7TH AVE.  
PHOENIX, ARIZONA 85013

PHONE: (602) 271-5161

February 11, 1976

Memo: Commissioners  
From: John Bannister

The Executive Committee of the IOCC will meet in Austin, Texas on February 26th.

On February 10th, I was requested to appear before the Subcommittee of the Senate Appropriations Committee concerning the Commission's budget request for the 1976-77 fiscal year. Pursuant to instructions by the Commission, we had requested an addendum to the budget in the amount of \$2200 to cover the purchase of a copy machine and an initial supply of necessary paper. The subcommittee received the Commission's report favorably, I feel. The only question of any significance was from Senator Sue Dye, who asked if a woman geologist would be permitted on the staff of this Commission. Senator Dye realized that turnover is negligible within the Commission. I informed her that the concern of the Commission is with the qualification of the geologist and not the sex. She was satisfied by the response. Copy of the recommendation of the Joint Budget Committee concerning our budget is attached. The figures contained do not reflect the addendum of \$2200, above mentioned. As you are aware, the State's contribution of \$1000 per year to the IOCC, which previously has been reflected in the Governor's budget, from now on will be reflected in the budget of this Commission, and money for that purpose has been included. Should you have any questions, please advise.

On January 28th, Mr. Conley and I spoke to the Geothermal Committee of the Western Oil and Gas Association at the Del Webb TownHouse. This committee is interested in the potential of this State for geothermal occurrences, as well as the attitude of the regulatory authorities. Among the various companies represented at the meeting were Union Oil of California, Gulf Oil, Mobil Oil Company, McCulloch Oil Corporation, Atlantic Richfield, Chevron, Burmah Oil and Gas Company, Skelly, Shell, Texaco, Amaco, Exxon and Getty. The talk given by Mr. Conley

Memo: Commissioners  
February 11, 1976  
Page Two

and me was well received and Mr. Conley has received several inquiries and orders for materials which have been developed by the Commission which were mentioned by us during the talk.

California Liquid Gas Corporation will shortly commence a brine pond at their acreage adjacent to Luke Air Force Base. This is in connection with the underground storage of propane. Company plans for the operation have been submitted to the Commission for approval.

It has been necessary that this Commission comply with a directive from the Attorney General concerning the hiring of outside "professional" help. This specifically is in reference to the draftsmen used by the Geology Section. Pursuant to a conference with the Attorney General on the matter, the Commission has advertised in the Arizona Republic for the services of a cartographer and cartographer technician and contracts will be accepted and forwarded to the Attorney General for approval next week. The only response we have to our ad has been from Karen Keeton and Hiroshi Oshiro. They are the ones who have previously been working in this capacity.

The Inter-Agency Energy Planning Office met today. It was pointed out during the meeting that ERDA has monies available which could be used in certain joint projects with the State of Arizona. Currently, a cooperative agreement between ERDA and the State Government as a whole is being negotiated. The agreement merely says the two agencies will cooperate with each other. It was suggested that the geological program put together by this Commission in response to Governor Castro's directive earlier this year could possibly be funded jointly by ERDA and the State.

In considering Arizona's total energy picture, it was suggested that El Paso Natural Gas be invited to explain to this group the impact of its Alaskan gas proposal wherein natural gas from the Alaskan oil fields will be brought by pipe line and tanker to Los Angeles and sent eastward across El Paso's existing lines. The Sohio project to bring crude oil from the Alaskan Valley by pipe line and tanker to the Los Angeles area and send eastward through existing El Paso pipe lines was discussed. It was suggested that both of these projects be explained in detail to the IEPO group and that perhaps IEPO would consider recommending State intervention on behalf of these projects should they benefit the best interest of the State of Arizona.



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA

~~XXXXXXXXXXXXXX~~  
PHOENIX, ARIZONA ~~85013~~

8686 N. Central  
Suite 106, 85020

PHONE: (602) 271-5161

ACTIVITY REPORT

February 11, 1976

W. E. Allen  
Enforcement Section

The following is a quote from the Western Oil Reporter, January issue. "There are some indications that Arizona will see increased activity in the coming year. There is considerable amount of acreage under lease by a number of companys and a small amount of activity. Acreage is still readily available and several major structures have yet to be explored". Lets hope this magazine has the straight dope.

Morton Brothers has plugged their Federal #8-1 located in the NE SE/4 Sec. 8, T13N,R18E, Navajo County. The well reached a total depth of 3644'. The operator set pipe in this hole and tested 2 zones. Neither zone had any porosity. I was present during part of the testing operation of the first zone and during the entire testing of the second zone. Both sections were acidized. Each test failed to recover all the acid water and there was absolutely no fluid entry. I also witnessed the plugging operation on this hole. The top section was left open at the request of the Forest Service. They will convert this into a water well.

During the plugging of this hole, Mr. Morton made the following comment regarding their efforts, "we can now go back to Wyoming knowing definitely that we have left nothing here, except \$250,000". It is my opinion that they did everything possible to determine if there were any shows at all in this well. All results were negative.

Webb Resources has also plugged their NM-Az. Land Company #30-1 located in the NW SE/4 Sec. 30, T15N,R25E, Apache County. The operator drillstem tested one zone in this hole. The recovery was 3' drilling mud.. 0 flow pressure.

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February 11, 1976  
Activity Report

Webb has now spudded the 2nd test, 6 miles north of Winslow. This well, the NM-Az. Land Company #25-1 is located in Sec. 25, T20N, R15E, Navajo County. The well was spudded February 3, 1976. This hole has been causing the operators some trouble. First the fishing job and now they are experiencing difficulties in getting the surface pipe to bottom. It is possible that they may have to abandon this hole and move over a few feet.

You are familiar with the Chinle School Tax situation; however, I am attaching an article regarding this situation that was clipped from the Western Oil Reporter.

## School district buses take oilmen for a ride

The yellow buses of the Chinle School District in Arizona's Apache County are taking the county's oil industry for a ride — a very expensive one.

The district, with 4,200 students in a 7,200 sq mi area of northern Arizona—most of it on the Navajo Indian Reservation—understandably spends a lot on its school buses every year. Because of that and other expenses and a simultaneous lessening of federal and state aid, the district has accumulated a deficit of about \$3.5 million during the past two years.

To keep its buses on the road, the district has jacked its property tax rate from 3.54% to 45.4% or almost 13 times what it was in 1973. The unlucky victims of the new levy, the only tax ratable industries of substance in the district, are the electric power utility, El Paso Natural Gas Co., five oil operators and the local telephone company. For the oil operators, the 51.4% levy—45.4% from the district and 6% in other taxes is applied as a percentage of the dollar value of oil at the wellhead.

In the case of one operator—Merrion & Bayless—the new taxes mean that four wells in East Boundary Butte field that grossed \$91,000 in 1974 are being socked with \$47,000 in school district taxes and \$9,717 in equipment taxes for 1974. That's in addition to a one-eighth royalty imposed by the Navajo tribe. And Merrion & Bayless get by easier on the royalty than most companies. The royalty is one-sixth in most newer leases.

But even for Merrion & Bayless, "this will turn a moderately profitable situation into a \$30,000 annual loser," notes company partner J. Gregory Merrion of Farmington.

The 50% tax rate bodes further ill as well. Undetermined reserves on the Chinle portion of the Navajo reservation will no doubt be lost, since future drilling as well as workovers of existing wells will now be uneconomic. Natural production declines will be allowed to take their course, resulting in a drying up of production, and abandonment of the leases when continued production becomes uneconomic. Current production will continue, says Elliott Riggs, Farmington consulting geologist, only because the USGS will not permit producible wells to be shut in.

The current situation threatens 27 wells owned by Kerr-McGee, Monsanto, Merrion & Bayless and Clinton Oil, producing about 730,000 bbl annually.

If the Chinle district precedent stands, it is feared, arbitrary and confiscatory taxation could spread to other school districts. Across the state border in Utah, San Juan County faces the same school financing burdens. And the county is a big producer, containing Aneth field and other productive areas.

The district feels it has legislative authority to levy the taxes, but the oil companies, El Paso and the phone company have petitioned U.S. District Court and Arizona State Court to overturn the new levy as "arbitrary, unconstitutional" and, most of all, "clearly confiscatory."

But if no relief from the courts is forthcoming, the operators will be forced to pay their production taxes until the appearance of enough red ink causes a decision to abandon. The phone company, however, has threatened outright hostilities, warning that the tax on its equipment "may well force cessation of all telephone

service on the reservation."

If the taxes remain in effect, however, it will be only a matter of time until most, or all, the oil leases are abandoned as well.

In that case the Navajo tribe would probably wind up with the properties, but that would only aggravate the basic problem that led to the tax situation in the first place. The reservation already faces a constricted tax base because only non-Indian businesses are put on the tax rolls, so transfer of oil properties from outsiders to Indians would only further concentrate the tax burden on those few outsiders who remain.

Farmington geologist Riggs says he doubts whether his group is going to be interested in further drilling on leases covering 13,000 Navajo acres it holds in light of a 50% tax liability. He also notes the group is considering non-payment of rentals on all or part of the land as a protest.



OFFICE OF

### Oil and Gas Conservation Commission

STATE OF ARIZONA  
8686 N. Central Ave., Suite 106  
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PHOENIX, ARIZONA 85013 85020  
PHONE: (602) 271-5161  
ACTIVITY REPORT

February 10, 1976

J. N. Conley  
Geology Section

#### PUBLICATIONS

Sales for the past month amounted to \$122.50. Purchasers were:

Woodward-Clyde Consultants, Denver	Bendix Field Eng. Corp., Grand Junction
Cleary Petroleum Corp., Oklahoma City	Homestake Mining Co., San Francisco
Carl Miles Oil Co., Abilene	Marathon Oil Co., Midland
Walter E. Atkinson, Oklahoma City	Frank C. Peterson, Phoenix
Exxon Co., U.S.A., Midland	Big Valley Land, Scottsdale
Von R. Frierson, Houston	Mrs. Wm. Grubbs, Phoenix
Home Petroleum Corp., Houston	L. A. Anderson, Phoenix
Norris Oil Co., Ventura	Amoco Prod. Co., Tulsa
Texaco Inc., Denver	Pan Canadian Petroleum, Ltd., Calgary
Richard F. Wilson, Tucson	Kerr-McGee Corp., Albuquerque
Petroleum Holdings, Inc., Houston	John F. Partridge, Jr., Casper
Anaconda Co., Uranium Div., Englewood	Ram Petroleum Ltd., Toronto
Colorado Interstate Gas Co., Colo. Spgs.	Jackson & Goodstein, Attorneys, L. A.
Leroy Dale Graf, Oakland	Charles Merken, Los Angeles
Mobile Oil Corp., Denver	James O. Windsor, Englewood
Joseph L. Cramer, Denver	Altex Oil Corp., Denver
Denison Mines Ltd., Calgary	CleveRock Energy Corp., Denver
Fugro Inc., Long Beach	
Natural Resources Corp., Denver	
Rocky Mtn. Energy Co., Denver	
So. Calif. Gas Co., Los Angeles	
Pacific Regional Opr., Inc., Scottsdale	
Morton Bros., Inc., Farmington	

Total sales since June 30, 1975, amount to \$793.00.

#### GEOHERMAL AREAS - ARIZONA

Arizona has no geysers, fumaroles, or steam vents. The state does have hot springs and numerous shallow wells drilled for water with geothermal gradients higher than normal. Geothermal gradient is defined as the difference in temperature between two vertical points divided by the vertical distance between them--the rate of temperature increase with depth.

Figure 1 shows generalized outlines of areas containing one or more wells with an undetermined potential for low or high temperature geothermal resources. We do not know enough about these areas now to predict whether any of them have

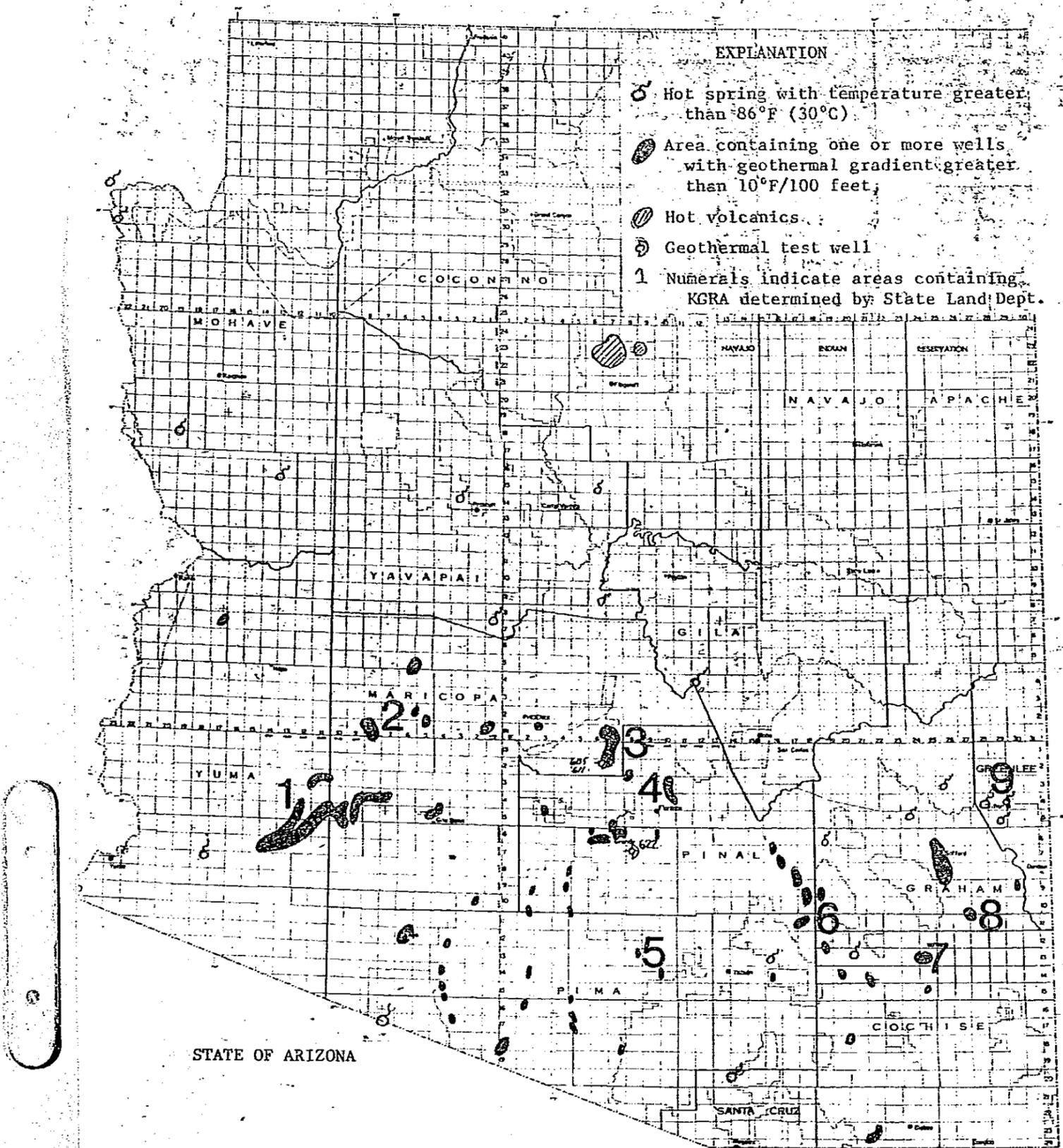


Figure 1. Approximate outlines of areas with undetermined potential for low to high temperature geothermal resources based principally on water-well geothermal-gradient data.

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temperatures sufficiently high (320°F, 160°C, minimum) for the generation of electricity. Some of these areas, however, may have a potential for low temperature geothermal resources. Heat for various uses can be extracted from water with temperatures greater than 117°F (47°C).

Low temperature geothermal resources are currently being utilized for space heating of homes and buildings in Klamath Falls, Oregon, and Boise, Idaho, in the United States, and in towns in Hungary, Iceland, and U.S.S.R.

Low temperature waters are also being used in agriculture (heating in cattle stalls, pig sties, and chicken houses for speeding growth and increase in weight gain per given amount of food), greenhouse production of specialty crops (tomatoes, tree seedlings, etc.) industry (drying wood and diatomaceous earth), and in food processing.

#### ENERGY EXPLORATION BY INDUSTRY

Oil and Gas. Morton Bros., Inc., 1-8 Federal, 8-13N-18E, Navajo County, has been plugged and abandoned at a total depth of 3416 feet in Precambrian rocks.

Webb Resources, Inc., 25-1 NMA, 25-20N-15E, Navajo County, is an active drilling operation.

Webb Resources, Inc., 30-1 NMA, 30-15N-25E, has been plugged and abandoned at a total depth of 4028 feet in Precambrian rocks.

Geothermal. A local geological consultant is currently assessing Arizona's geothermal resources potential for Salt River Project.

#### LEASING

Coal. A Johnston, PA, coal and coke company is reportedly considering acquiring coal leases from the Arizona State Land Dept. in an area northeast of Saint Johns in Apache County.

Oil and Gas. Peter J. Farrally, Denver, Colorado, is in the process of acquiring approximately 56,000 acres of oil and gas leases on State of Arizona lands in Cochise County. These leases are reportedly northeast of the Willcox Playa near the town of Willcox.

The closest deep oil test in this portion of the Sulphur Springs Valley is the Waddell-Duncan 1 McComb, a few miles north-northwest of Willcox. This hole was bottomed at 6865 feet in rocks of questionable Cretaceous age below 5800 feet of valley-fill sediments of Cenozoic age. No oil or gas was reported in production tests of some slight shows of oil noted in the drill-bit cuttings at 3925-30 feet and 4570-75 feet.

Sparse gravity meter data suggest that the area northeast of the Willcox Playa is on a westward-plunging nose off of the Dos Cabezas Mountains. Paleozoic rocks are exposed in the mountains.

#### GENERAL

EPA. Enclosed with this Activity Report is an article concerning unqualified Environmental Protection Agency (EPA) regulators. The gist of the article is that

Activity Report  
February 10, 1976  
Page 3

the competent scientists and technicians originally on the staff of this agency are being heavily replaced with eager young men and women "each with a cause, but with little or no background for deciding whether the regulations they are proposing and helping to enforce are logical, whether they are scientifically correct, or whether they help or hinder the ecology or human beings."

One of these newcomers visited our office last March. She admitted that she knew nothing about the natural gas industry, but her title with EPA was NATURAL GAS SPECIALIST.

Toward a National Energy Policy. Dr. Joseph Schreiber has obtained for us seven sets of booklets pertaining to the petroleum industry and a national energy policy. The titles of these booklets are:

National Energy Goals  
What Went Wrong?  
Capital Requirements  
The Need for Balance  
Natural Gas  
Offshore Exploration  
Alternate Energy Sources

These booklets were prepared by Mobil Oil Corp. They are very readable and present a good picture of our past, present, and future energy problems.

Coal. In the Mobil booklet entitled Alternate Energy Sources mention is made that coal is the United States' most abundant naturally occurring source of energy at this time. Large coal resources are present on, around, and beneath Black Mesa. This physiographic feature is located on Indian lands in portions of Apache, Coconino, and Navajo Counties. The only portion of this vast coal field being exploited is in northern Navajo County, where Peabody Coal Co. has a strip mining operation. The coal being mined is transported to the Navajo Power Plant at Page by rail and to the Mohave Power Plant in Nevada by a coal slurry pipeline.

There are other occurrences of coal and carbonaceous materials on non-Indian lands, but information available at this time does not indicate that they contain resources of economic importance.

Exploitation of the coal resources in the Black Mesa field for generation of electricity within Arizona presents several political and economic problems. One is that this energy resource is owned by the Navajo and Hopi Indian tribes. The U. S. Dept. of Interior will approve coal leasing only on Indian lands where:

1. The tribal Indian landowner desires to dispose of the coal
2. The terms and conditions of the lease are in the best interest of the tribes
3. Appropriate environmental protection and reclamation safeguards are imposed on the lessee.

Another problem is that there is no transportation for shipment of Black Mesa coal to Arizona's metropolitan areas available at this time.

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VISITORS, PHONE & MAIL INQUIRIES

Visitors.

W. G. Kardos	Pacific Regional Operations
A. L. Morgan	Self
Coleman Morton	Morton Bros., Inc.
Joseph Faulk	Wild Ass Oil Co.

Phone Inquiries. Several inquiries from out-of-state and local independent oil operators and consultants concerning petroleum potentialities of the State, names of consulting geologists familiar with the geology of the State, and availability of geological publications were received.

Mail Inquiries. Most of these inquiries concerned availability of our publications. One inquiry was from the Principal Geologist of the New York State Geological Survey. He is involved with some research in the Grand Canyon and Kaibab Plateau areas of Arizona with a U. S. Geological Survey colleague.

JNC:os



J.N.C.

MONTHLY FINANCIAL REPORT

RECEIPTS MONTH OF	CLASSIFICATION	APPROPRIATED RECEIPTS	UNAPPROPRIATED RECEIPTS	TOTAL ALL RECEIPTS YEAR TO DATE
JAN 1976	1 Permits to Drill			
50.00	2		50.00	150.00
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
	17			
50.00	TOTAL CURRENT MONTH RECEIPTS			
	TRANSFERS IN		50.00	XXXXXX
XXXXXX	BALANCES BROUGHT FORWARD			XXXXXX
50.00	TOTALS - MONTH AND YEAR TO DATE		100.00	XXXXXX
			150.00	150.00

CLAIMS PAID MONTH OF	FUND TITLES	TOTAL AMOUNT AVAILABLE YEAR TO DATE	CLAIMS PAID YEAR TO DATE	OUTSTANDING ENCUMBRANCES	UNENCUMBERED BALANCE
JAN 1976	1 Personal Services				
9,456.82	2 Emp. Related Exp.	89,770.00	65,301.07		24,468.93
1,577.88	3 Other Operating Exp.	12,640.00	8,620.73		4,019.27
2,472.96	4 Prof. & Outside Serv.	24,356.87	16,400.85	7,347.96	608.06
-	5 Travel - State	2,250.00	416.25	36.00	1,797.75
1,203.09	6 Travel - Out of St.	5,775.00	4,013.72	1,708.51	52.72
-	7 Cap. Outlay - Equip.	2,200.00	920.40	-	1,279.60
-	8	400.00	390.91	-	9.09
	9				
	10				
	11				
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	29				
	30				
14,710.75	TOTALS	137,391.87	96,063.93	9,092.47	32,235.47

AGENCY Oil & Gas Conservation Comm.

DIVISION \_\_\_\_\_

IDENTIFICATION CODE NO. \_\_\_\_\_

1		2		3		4	
CLAIMS PAID YEAR TO DATE	OBJECT CODE NO.	DISTRIBUTION OF EXPENDITURES CLASSIFICATION		CLAIMS PAID MONTH OF		JAN 1976	
720 00	7111	1	Per Diem: Commission Members	1	270 00		
64,581 07	7112	2	Salaries: Employees	2	9,186 82		
		3		3			
320 83	7151	4	Industrial Insurance	4	180 74		
166 18	7152	5	Unemployment Insurance	5	92 76		
2,678 03	7153	6	F.I.C.A.	6	546 22		
4,520 59	7155	7	Retirement	7	643 06		
725 10	7156	8	Health Insurance	8	115 10		
210 60	7159	9	Personnel Comm.	9			
		10		10			
	7215	11	Professional Services: Engineer	11			
416 25	7219	12	Professional Services: Other	12			
		13		13			
635 72	7221	14	Travel-State: Mileage	14	216 99		
1,261 30	7222	15	Subsistence	15	314 00		
	7223	16	Public Transportation	16			
2,088 10	7224	17	Vehicle Expense	17	672 10		
28 60	7225	18	Reg. Fees; Parking; etc.	18			
		19		19			
291 00	7232	20	Travel-Out of State: Subsistence	20			
604 40	7233	21	Public Transportation	21			
	7234	22	Airport Parking	22			
25 00	7235	23	Reg. Fees; Telephone; etc.	23			
		24		24			
12,871 04	7251	25	Occupancy: Office Rent	25	1,608 88		
	7261	26	Warehouse Rent	26			
	7263	27	Maintenance & Repairs	27			
264 00	7272	28	Mtn. & Repairs: Furniture & Equipment	28	94 00		
772 22	7280	29	Office Supplies	29	125 57		
	7280.1	30	Orthophoto Quads.	30			
	7300	31	Field Supplies: Film; Am.Strat; P.I.; etc.	31			
	7331	32	Printing: Reports; Large Maps; etc.	32			
184 75	7332	33	Legal Advertisement	33			
106 60	7333	34	Court Reporter	34			
285 00	7334	35	Postage	35	185 00		
1,628 24	7335	36	Telephone	36	450 57		
	7337	37	Dravage; Express; etc.	37			
	7339	38	Rental, Misc.	38			
39 00	7360	39	Dues & Subscriptions	39	9 00		
		40		40			
390 91	7431	41	Capital Outlay: Office Equip.	41			
	7434	42	Spec. Equip. (Geol.)	42			
	7436	43	Automobile	43			
		44		44			
250 00	7913	45	Revolving Fund	45			
		46		46			
		47		47			
		48		48			
		49		49			
		50		50			
		51		51			
		52		52			
		53		53			
		54		54			
		55		55			
96,063 93		TOTAL			14,710 75		

OFFICE

DO NOT WRITE BELOW THIS LINE

FIELD