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

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
March 17, 1972
4515 N. 7th Avenue, Phoenix, Arizona

10:00 a.m.

Call to order

1. Approval of minutes of meeting of February 25, 1972
2. Executive Secretary report
3. Enforcement Section activity report
4. Geology Section activity report
5. Old business
6. New business — GAS SHORTAGE
7. Adjourn

HB-2302 (Geothermal)
HB-2366 (Dept. of Nat. Res.)

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

TRIP to FARMINGTON
SALT PROJECT
NAT Res. Bill
~~Report on trip to Denver~~

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OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

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March 16, 1972

Memo: Commissioners
From: John Bannister

On March 14th I attended a meeting of the Executive Committee of the Interstate Oil Compact Commission. The meeting was held in a caucus room at the State Capitol in Denver. In addition to the usual representatives, Governor Love of Colorado and Governor Hathaway of Wyoming, the Commission Chairman, were in attendance.

The Executive Committee considered the minutes of the annual meeting held at the Broadwater Beach Hotel in Biloxi, Mississippi last December. The expenditures made by the IOCC staff through February, 1972 were approved, as was an audit made by Hurst, Thomas and Company, CPA's of Oklahoma City, of the IOCC funds.

It was decided to again extend an invitation to the State of California to join the Compact. California's constitution, as it currently stands, does not permit California to join such compacts, however it is likely that their Legislature will change this provision in the near future.

Committee appointments and committee chairman appointments were announced. To date, Mr. Ralph Bilby is on the Legal Committee and I am on the Regulatory Practices Committee and the Environmental Protection Advisory Committee.

A report was made to the Committee that the IOCC efforts concerning environmental impact statements on wells to be drilled on public land have apparently borne some fruit. In all liklihood, the impact statement must be specifically called for. This will greatly lessen the deterrent effects of this suggested regulation.

The IOCC has been invited to join the U.S. National Energy Committee and the Executive Committee voted to so join.

We reviewed the IOCC film "More Oil and Gas for Today and

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Tomorrow" and voted to allow the sum of $10,000 to be expended to revise and update this film. Approximately ten copies of the film are available. This is an excellent film and sometime after it has been revised I would suggest we secure a copy for showing at one of our Commission meetings.

A brief report was given on measures now pending before Congress to put the pollution of surface waters totally under the Environmental Protection Agency. This would greatly reduce any state's water pollution authority. It is hard to tell at this time what headway such proposal is currently making in Washington. Both Governor Love and Governor Hathaway expressed great concern over this trend.

The IOCC meetings in Hot Springs, Arkansas in June of 1972; in Houston, Texas in December, 1972; in Tulsa, Oklahoma in June, 1973; and New Orleans, Louisiana in December, 1973; were discussed.

Commissioner Walker and Ed Alverez of the Federal Power Commission discussed the project of the FPC looking into three critical points of our gas supply: 1) the supply itself, 2) transportation, and 3) distribution of natural gas. The FPC requested the IOCC to coordinate the FPC's use of state regulatory records, the use of some space in state offices for this purpose, as well as help of state personnel and the coordination of FPC's effort through IOCC's Oklahoma office. The purpose of the IOCC study is to secure as much accurate reserve information as possible. The FPC feels that the most accurate information available is in the state regulatory agencies' records. The FPC, consequently, wants to come to the various state agencies and use their records, specifically excluding any record in confidential status, for this purpose. Inasmuch as the majority of the regulatory states are members of the IOCC, the FPC felt it would be easier for their purpose to first approach the IOCC. No specific recommendation has been made as a result of the FPC's request.

While in Denver, in addition to attending the IOCC meeting, I took advantage to further contact Amoco and Humble.

WATCHING WASHINGTON

with GENE KINNEY

Sectional political fight looms over gas rationing

THE SCRAP over oil-import controls a couple of years ago was a pretty good one as sectional political brawls go.

But you haven't seen anything yet.

Wait till they start dividing up the available supply of natural gas in the years just ahead. It will be the consuming states against the producing states all over again in spades.

The battle lines are already being drawn. Washington Gas Light Co., distributor for the nation's capital, has had to stop taking new customers. Increased volumes are out for existing customers. The utility will be remembered as one of the die-hards favoring rollback of wellhead prices in the 1960's. Other distributors are at or approaching this point. Soon they will be screaming for diversion of gas from industrial markets to their residential and commercial customers. And they will have strong political allies.

The Federal Power Commission has already moved to claim part of this unregulated supply. It got slapped down by the Fifth Circuit Court of Appeals, which said FPC had no authority to interfere with unregulated sales of interstate pipelines to industrial customers. The Supreme Court will settle that argument within the year.

BUT WHAT of the gas supply that stays in producing areas and never reaches the interstate stream? The consuming states want that, too. Joseph C. Swidler, former chairman of the Federal Power Commission, is out to take that gas away from Oklahomans, Texans, and Louisianans and bring it to New York. He so testified during the natural-gas phase of the Senate interior committee's energy study, in which Sen. Henry Bellmon (R-Okla.) has taken the leading role.

So did Lee C. White, another former FPC chairman who with Swidler controlled wellhead-pricing policy that led to the current shortage. Swidler, now chairman of the New York Public Service Commission, wants FPC to lay off distributors regulated by states. They're in excellent hands.

Yet neither Swidler nor White has the gall of Edward Berlin, who as assistant general counsel at FPC was part of the brain trust for FPC policy that suppressed gas development in the producing states. As general counsel for the Consumer Federation of America, he's pushing for a federal take-over to get what's left. He's after "a single federal agency . . . to exercise full control over the entire supply and demand sectors" nationwide. It would control oil prices as well as gas, and oil imports also.

Some of the same political forces that tried to scuttle oil-import quotas 2 years ago will no doubt listen to these extremist proposals. But the majority of Congress will probably recoil from them. They certainly will if they check the track record of their sponsors.

EDITORIAL

Market-demand proration has outlived its purpose

IT'S HARD to realize, but one chronic political problem for the petroleum industry is fast fading into limbo. Proration of crude production to market demand, long a favorite target of industry critics, is dying—if it isn't already dead.

Market-demand proration for some time now has lost its usefulness in Oklahoma, Kansas, and New Mexico. The same trend is obvious for the two giant producing states of Texas and Louisiana.

The truth is a majority of wells and fields in the prorated states can't produce their present allowables or barely can do so. The demand for domestic crude is just surpassing the ability of producers to supply it under the existing climate for exploration.

State regulators would do the industry a favor if they would publicly acknowledge the moribund status of market-demand proration, discontinue taking nominations and setting statewide allowables at public hearings, and allocate production purely on the basis of good conservation rules.

The change could be effected within the framework of existing law. And the move would give oil critics one less cross on which to hang the industry.

SWITCHING from market-demand to maximum efficient rate limits as a basis for production allowables actually doesn't represent a radical change.

Market-demand proration, despite arguments that it is a price-fixing device, has always served the cause of conservation. It was conceived in the days of ample domestic supply when constant overproduction represented waste of a valuable resource. It ended the boom-and-bust cycles that had characterized oil production from its beginning.

But the possibility of domestic overproduction is becoming more remote all the time in the face of steadily rising demand for oil and declining reserves. Going through the motions of fitting production to the market has become a futile exercise.

The concept of proration—allocating production among wells or fields—still has a useful purpose, however. It is needed to buttress conservation and to guarantee ratable take and must be retained.

Allowables in the future, though, should be:

- Keyed to a well's maximum efficient rate so that its producing life or that of the reservoir is not endangered.
- Geared to prevent gas flaring by limiting production to capacity of the available gas-processing facilities.
- Set to assure all producers a fair share of various facilities for getting their crude to market.
- Used to encourage other conservation practices, such as efficient spacing of wells and field units to undertake secondary-recovery operations.

Basing proration on these standards, and dropping the single factor of market demand, would recognize realities and represent sound political strategy.

Total wells drilled in the United States in 1971*

State or district	Oil wells† Wells	Oil wells† Footage	Gas wells‡ Wells	Gas wells‡ Footage	Dry holes Wells	Dry holes Footage	Total wells excluding service wells, stratigraphic and core tests Wells	Total wells excluding service wells, stratigraphic and core tests Footage	Stratigraphic and core tests No. of tests	Stratigraphic and core tests Footage	Service wells Wells	Service wells Footage	Total wells, all types, 1971 Wells	Total wells, all types, 1971 Footage
Alabama	8	66,869	6	28,964	48	370,757	62	466,590	1	908	1	2,509	64	470,007
Alaska	27	283,935	1	14,721	4	37,027	32	335,683	..	.....	....	......	32	335,683
Onshore	26	278,975	1	14,721	4	37,027	31	330,723	..	.....	....	......	31	330,723
Offshore	1	4,960	....	....	....	....	1	4,960	..	.....	....	......	1	4,960
Arizona	....	....	2	7,271	6	17,278	8	24,549	..	.....	....	......	8	24,549
Arkansas	127	647,456	29	195,678	186	1,086,185	342	1,929,319	..	.....	23	50,782	365	1,980,101
California	1,459	3,197,237	60	333,180	286	1,466,713	1,805	4,997,130	8	36,178	270	617,859	2,083	5,651,167
North	2	5,115	45	275,376	101	632,635	148	913,126	..	.....	....	......	148	913,126
Cent. Coast.	238	970,225	....	....	34	133,372	272	1,103,597	4	12,330	9	41,178	285	1,157,105
East Central	1,026	1,634,401	15	57,804	114	445,535	1,155	2,137,740	1	742	201	261,483	1,357	2,399,965
South	139	400,045	....	....	21	99,568	160	499,613	3	23,106	56	286,109	219	808,828
Offshore	54	187,451	....	....	16	155,603	70	343,054	..	.....	4	29,089	74	372,143
Colorado	154	940,342	148	1,045,812	635	3,739,882	937	5,726,036	1	3,232	1	7,524	939	5,736,792
Florida	8	97,434	....	....	13	142,387	21	239,821	..	.....	1	2,286	22	242,107
Georgia	....	....	....	....	2	11,700	2	11,700	..	.....	....	......	2	11,700
Illinois	252	524,356	16	26,331	296	651,068	564	1,201,755	..	.....	72	119,575	636	1,321,330
Indiana	81	114,780	2	1,287	132	184,758	215	300,825	..	.....	17	15,215	232	316,040
Iowa	....	....	....	....	1	1,567	1	1,567	..	.....	....	......	1	1,567
Kansas	1,099	2,834,480	112	387,473	1,138	3,964,426	2,349	7,186,379	..	.....	64	103,476	2,413	7,289,855
Kentucky	244	294,616	135	331,008	382	512,000	761	1,137,624	..	.....	49	48,663	810	1,186,287
Louisiana	1,046	7,024,176	621	5,390,430	1,268	11,230,340	2,935	23,644,946	..	.....	48	342,294	2,983	23,987,240
North	390	907,040	237	893,915	365	1,757,118	992	3,558,073	..	.....	18	28,667	1,010	3,586,740
South	398	3,429,567	200	2,439,149	544	5,827,303	1,142	11,696,019	..	.....	8	83,680	1,150	11,779,699
Offshore	258	2,687,569	184	2,057,366	359	3,645,919	801	8,390,854	..	.....	22	229,947	823	8,620,801
Michigan	81	362,680	33	130,914	188	760,503	302	1,254,097	..	.....	3	15,947	305	1,270,044
Mississippi	175	1,542,592	13	158,028	298	2,625,784	486	4,326,404	..	.....	12	65,172	498	4,391,576
Missouri	6	1,206	1	187	6	6,814	13	8,207	..	.....	..	.....	13	8,207
Montana	45	291,856	33	55,164	349	1,309,604	427	1,656,624	12	42,863	18	79,107	457	1,779,594
Nebraska	47	208,863	1	4,915	139	691,734	187	905,512	..	.....	2	12,582	189	918,094
Nevada	....	....	....	... .	13	88,678	13	88,678	..	.....	....	......	13	88,678
New Mexico	401	2,135,375	186	1,096,944	229	1,111,811	816	4,344,130	..	.....	17	69,463	833	4,413,593
East	357	1,979,461	47	403,896	150	873,260	554	3,256,557	..	.....	12	51,911	566	3,308,468
West	44	155,974	139	693,048	79	238,551	262	1,087,573	..	.....	5	17,552	267	1,105,125
New York	83	90,180	7	21,922	10	47,664	100	159,766	..	.....	29	48,637	129	208,403
North Carolina	....	....	....	....	12	24,066	12	24,066	..	.....	....	......	12	24,066
North Dakota	49	311,790	1	13,913	109	643,915	159	969,618	3	2,859	....	......	162	972,477
Ohio	391	1,432,673	608	2,627,914	158	516,896	1,157	4,577,483	3	878	1	6,072	1,161	4,584,433
Oklahoma	1,174	5,230,387	238	1,699,478	843	4,317,278	2,255	11,247,143	..	.....	235	489,238	2,490	11,736,381
Pennsylvania	394	394,001	199	653,356	48	108,916	641	1,156,273	..	.....	60	80,550	701	1,236,823
South Dakota	2	14,198	....	....	33	111,739	35	125,937	1	2,904	....	.....	36	128,841
Tennessee	57	81,908	23	37,541	115	154,296	195	273,745	..	.....	....	......	195	273,745
Texas	3,880	17,610,787	810	6,431,026	2,581	13,582,612	7,271	37,624,425	8	10,456	449	1,687,803	7,728	39,322,684
Dist. 1	430	1,667,627	16	103,194	196	868,349	642	2,639,170	..	.....	4	7,938	646	2,647,108
Dist. 2	70	432,873	102	663,973	175	1,186,653	347	2,283,499	..	.....	2	4,270	349	2,287,769
Dist. 3	311	1,476,979	133	939,356	334	2,230,892	778	4,647,227	..	.....	3	22,039	781	4,669,266
Dist. 4	172	1,013,464	166	1,219,815	298	1,820,333	636	4,053,612	..	.....	21	87,022	657	4,140,634
Dist. 5	27	86,603	24	217,993	92	570,039	143	874,635	..	.....	14	37,387	157	912,022
Dist. 6	201	644,431	36	340,562	131	823,402	358	1,808,395	..	.....	37	47,933	405	1,856,328
Dist. 7B	417	1,282,251	52	189,120	438	1,284,140	907	2,755,511	1	775	28	64,799	936	2,821,085
Dist. 7C	202	778,433	90	618,175	170	687,671	462	2,084,279	4	3,996	10	32,245	476	2,120,520
Dist. 8	961	6,187,006	85	1,303,504	169	1,293,013	1,215	8,783,523	1	2,800	70	261,212	1,286	9,047,535
Dist. 8A	510	2,448,880	2	6,942	153	1,036,683	665	3,492,505	1	935	222	1,040,064	888	4,533,504
Dist. 9	503	1,252,816	26	140,844	338	1,016,188	867	2,409,848	..	.....	34	68,575	901	2,478,423
Dist. 10	76	339,424	68	584,058	53	422,217	197	1,345,699	1	1,950	4	14,319	202	1,361,968
Offshore	....	....	10	103,490	34	343,032	44	446,522	..	.....	....	...	44	446,522
Utah	30	261,496	6	20,793	51	336,651	87	618,940	..	.....	....	......	87	618,940
West Virginia	133	281,666	496	1,565,880	139	500,702	768	2,348,248	..	.....	12	54,004	780	2,402,342
Wyoming	405	2,274,223	43	343,426	445	2,708,350	893	5,325,999	13	9,272	15	67,787	921	5,403,058
Total 1971	**11,858**	**48,551,562**	**3,830**	**22,623,556**	**10,163**	**53,064,101**	**25,851**	**124,239,219**	**50**	**109,550**	**1,399**	**3,986,835**	**27,300**	**128,335,404**
Total 1970	**13,020**	**57,091,787**	**3,840**	**22,889,281**	**11,260**	**59,284,670**	**28,120**	**139,265,738**	**126**	**186,287**	**1,221**	**2,978,903**	**29,467**	**142,431,468**

*Does not include miscellaneous drilling not related to oil and gas exploration and production. †Includes multiple completion wells which produce gas from one or more zones but oil from at least one zone. A multiple completion well is counted as one well. ‡Includes completion wells which produce gas from all zones. A multiple completion well is counted as one well. Gas wells also include so-called condensate wells.

Government gets oil-insecurity blame

THE security of U.S. oil supply has worsened markedly since late 1970, a leading petroleum economist charges. And the Government, he says, bears most of the blame.

M. A. Adelman, professor of economics at Massachusetts Institute of Technology, made the accusation in testimony before the Senate interior committee. He blamed U.S. Government encouragement of the Tehran-Tripoli agreements with oil-producing countries, agreeing to higher prices without a fight, for undermining future security.

Supply threat. Adelman recalled that he testified 2 years ago before another Senate committee that security was threatened by a possible concerted shutdown of production by the supplying countries.

He said that if the producing nations wished to raise taxes, they might threaten to cut off all oil in order to pressure consuming nations into paying the bill in the form of higher prices.

"I was much mistaken in thinking there was only a small though non-negligible probability of this happening," the economist confessed. "In fact this was exactly what happened in February 1971. The great divide in the world petroleum industry was the categorical threat made by the producing nations in February 1971 that supply would be cut off if the operating companies at the Persian Gulf and elsewhere did not pay the higher taxes which would immediately become higher prices to the consumers."

The companies and consuming countries yielded to the threat, he pointed out, on the assurance that they were buying at least 5 years of stable and only moderately increasing prices after the big bite of 1971.

"This 5-year peace," he added, "lasted about 4 months."

In August 1971 the producing nations made fresh demands which netted them another 12¢/bbl on top of the 50¢ gained earlier that year. Additional demands have already been made, and the results, in Adelman's view, are predictable.

"Ono successful threat deserves another," he declared. "The genie is out of the bottle; taxes and with them prices will be hiked again and again to some ill-defined ceiling set by eventual consumer resistance."

U.S. role. Adelman credited the U.S. Government with a very active part in bringing about the Tehran-Tripoli agreements.

He referred to the meeting of consuming countries called by the U.S. in Paris in January 1971, and the representations made to Persian Gulf nations immediately thereafter.

"First," he said, "at the Paris meeting our Government urged no countermeasures and gave assurance that the higher taxes and prices would be stable for 5 years. The acceptance of higher taxes and prices by the consuming countries meant the producing nations were no longer in any doubt about possible resistance or countermeasures."

It was after this meeting, not before, Adelman observed, that the specific written threat was made by the Organization of Petroleum Exporting Countries (OPEC).

"Second, our undersecretary of State (John N. Irwin II) pointed out to the Persian Gulf producing countries the heavy damage they could do to the economies of Western Europe and Japan by cutting off supplies," the MIT professor continued. "A more effective incitement to extreme action would be hard to find."

The Government no doubt had its reasons for encouraging the Tehran-Tripoli deals, Adelman acknowledged, but he deplored their consequences.

Security weakened. The witness described U.S. supply, which may be 58% foreign in 1985 if a new Interior Department forecast is right, as very insecure.

"Having seen what a threat can do and been twice (and soon thrice) rewarded, the producing nations will keep using it," Adelman believes. "Unlike an ordinary cartel they have no means of controlling output and dividing markets. Their only weapon is brinksmanship, and they must use it. They cannot afford to lose credibility."

In his view, the distinction between Eastern Hemisphere, which has always been considered less secure, and Western Hemisphere supply is now dead. The cutoff threat was signed by Venezuela, in the Western Hemisphere, and it was not signed by Indonesia, in the Eastern Hemisphere.

In fact, Adelman noted, the price impact of insecure supply has been most marked in Venezuela. He referred to tax increases in 1971 and 1972 particularly on low-sulfur fuel oil amounting to $1.60/bbl on 0.3% sulfur resid, or 26¢/Mcf gas equivalent in the past year alone.

Adelman, who in the past has been quite critical of import quotas, urged action to minimize reliance on foreign oil and natural gas.

"Since foreign supply has grown much more insecure at the very moment when we are growing more dependent on it, it seems to be wiser to rely on domestic supply to a point where it is at least no more expensive than foreign supply, plus a premium for security," he recommended.

He warned that foreign LNG and imports of feedstocks will be subject to the same cutoff threats as oil—and so should be subjected to the same precautions.

SEC may update rules on registration

THE Securities and Exchange Commission proposes to raise from $100,000 to $250,000 the dollar amount of offering of fractional undivided interests in oil and gas rights that are exempt from registration.

SEC said it was considering the change in order to reflect increases in drilling costs. The regulation has not been revised significantly since 1937, SEC noted.

The commission also is weighing several major revisions "because of changes in economic and industry conditions and because of certain abuses in past selling practices." The objective is to protect investors.

Other revisions under study include restrictions on use of sales literature, requirements to deliver the offering sheet 48 hr before a sale, denial of the exemption to persons involved in violations of federal securities laws, and reports on results of the offering. SEC may also drop the provision applying to offerings of less than $30,000 in which the smallest interest is not less than $300.

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U.S. must act now to avoid big energy gap

THE U.S. Government needs to act immediately if the country is to avert a rapidly growing energy gap.

John G. McLean, president and chief executive officer of Continental Oil Co., warned in Houston at the annual API Production Division meeting that for the next 15 years or so the U.S. will experience growing shortages of natural gas, increasing dependence on foreign crude oil, and difficulty in raising the massive amounts of capital required to provide for burgeoning U.S. energy needs. This is so, he said, despite the fact the country's basic energy position is relatively sound from a long-range standpoint.

Because of the long lead times needed to develop new energy sources, however, McLean urged these six steps be taken immediately:

1. Careful review by the Price Commission of its guidelines for basic energy materials to establish prices which will augment—not retard—economic incentives for exploration and development of energy supplies.

2. Acceleration of offshore oil activities, including clarification by Congress of its intentions with regard to the National Environmental Protection Act and initiation at an early date of environmental hearings needed for all marine areas programmed for leasing through 1975.

3. Establishment of a high-level agency in our Government to coordinate all national efforts relating to energy problems.

4. Decontrol of natural-gas prices, thereby encouraging exploration for new reserves and discouraging gas consumption in low-priority areas.

5. Clarification of the market status of synthetic gas manufactured from coal and naphtha and of liquefied gas imported from abroad — along with government assurance that the price of such gas would not be subject to federal regulation.

6. Decision by Government to encourage diversification of corporate activities in energy industries to facilitate mobilization of the human, financial, and physical resources necessary to provide for future U.S. energy requirements.

Offshore stalemate. "One of the great ironies of our times is to observe the virtual cessation of new offshore leasing in this country while seeing the countries of Europe encourage

Conoco's McLean
The U.S. energy deadline is now.

such leasing with favorable results in the North Sea," McLean said.

"The countries of western Europe have had considerable experience with the hazards of heavy reliance on oil imports and prize the benefits of secure sources more highly than we do," he said.

"Our Government is in a paradoxical position today. It continues to hold domestic gas prices in the range of 20 to 30¢/Mcf at the wellhead in the face of present and oncoming supply shortages of major magnitude. At the same time it gives tacit encouragement to such far-out projects as the importation of liquified natural gas from Russia," McLean said.

"Such imports will cost at least \$1.00 to \$1.25/Mcf landed on our shores," he said.

The need for action on the six suggested points is now, McLean declared. The long lead times needed to develop new energy sources range from 3 to 7 years for oil and gas, coal, and nuclear power. Projects necessary to meet the nation's needs in 1975 should have been started in 1971, and they were not, he said.

Safety claimed the key to future OCS development

FUTURE development of oil and gas offshore is in serious jeopardy unless the industry can demonstrate to the public, federal and local officials, the Congress, and to itself that Outer Continental Shelf petroleum operations can be carried out safely.

W. A. Radlinski, associate director, U.S. Geological Survey leveled this challenge to the industry at the American Petroleum Institute's Division of Production annual meeting in Houston last week.

Safety and pollution control in OCS petroleum operations is a matter of national concern. It is not only needed to protect lives, property, and environment, but it is a key factor in maintaining national security, economic security, and the desired standard of living, Radlinski said.

For these reasons, he said, USGS is doing everything it possibly can, working with other organizations and industry, to see that additional standards and procedures are developed that will not injure the industry.

Three new studies. The USGS executive reviewed progress made so far

USGS' Radlinski
Offshore record good—but not good enough.

in eliminating oil pollution offshore—and recognized that it has been substantial.

But the industry safety record offshore, while good, is not good enough, he declared.

So USGS, Radlinski said, has arranged for three new studies:

DRILLING STATISTICS 1971

Permits Issued	Wells Spudded F/Hydrocarbons	Footage Drilled	Wells Spudded F/Helium	Footage Drilled	Service Wells	Footage Drilled	Total Wells Spudded	Total Footage
27	13	47,916	7	7038	4*	3943	24	56,897**

* Includes one strat test
** The total footage includes re-entry into a 4563 well

Successful Completions: 1 Gas Well, 1 Helium
2 Wells Still Drilling
20 Dry Holes

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

Minutes of Meeting
February 25, 1972

Present:
Mr. Ralph W. Bilby, Chairman
Mr. W. Roger Hafford, Member
Mr. Robert A. Bledsoe, Member

Absent:
Mr. Frank E. Moore, Member
Mr. Lucien B. Owens, Member

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

Minutes of the meeting of January 21, 1972 were approved as written.

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

Motion was made, seconded and carried that three out-of-state trips be authorized:

1. March 1-3, 1972. American Association of Petroleum Geologists, Southwest Section, Midland, Texas. Jack Conley to attend.

2. March 14, 1972. Executive Committee, Interstate Oil Compact Commission, Denver, Colorado. John Bannister to attend.

3. April 17-19, 1972. American Association of Petroleum Geologists, Denver, Colorado. Edward Koester to attend and present a paper on salt domes in Arizona.

Executive Secretary reported on out-of-state trip to El Centro, California, with a field trip into Mexico, to attend a briefing on geothermal energy.

Executive Secretary was instructed to deny the claim of Arthur C. Lovato et ux in the amount of $30,000 for injuries purportedly sustained by Mr. Lovato when his car was struck by an automobile owned by the Commission and being driven by Edward Koester on February 25, 1971.

Meeting adjourned at 11:15 a.m.

APPROVED March 17, 1972

Ralph W. Bilby, Chairman

OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

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

March 8, 1972

Memo: Commissioners
From: John Bannister

Since our last meeting, we have had further confirmation as to the amount of money being spent by Humble Oil Company on its geological information collection effort. As you will recall, Humble has acquired leases on approximately 1-1/4 million acres of land extending from Yuma north and west to Phoenix and then south in an arc to the west of Tucson to approximately the state border. To the best of our information, Humble has at least two crews working in the field, with a third crew on the way in. Each of these crews is costing Humble approximately $100,000 per month. In general, the crews consist of 21 men and some 15 vehicles. They are primarily operating out of Casa Grande.

Indications are that Humble may drill as many as four stratigraphic tests in 1972.

We have also been informed that Humble opened an office for mining operations in Tucson and that an entire building has been let for this purpose. Approximately half of the building will be used for the mining effort and, at this time, we do not have information what will occupy the other half of the building. It is conceivable that their exploration effort in Arizona will be headquartered there.

We had a meeting with the Natural Resources Committee of the House on March 2nd concerning House Bill 2302, our geothermal bill. At that time, the Arizona Water Commission expressed the desire that certain provisions, primarily concerning authority of the Commission to protect water aquifers, be strengthened. Accordingly, Mr. Turley appointed Representative Skelly to meet with the Land Department, the Commission, and the Arizona Water Commission to work out this desired strengthening. The meeting was held March 6th and the results will be presented to the Natural Resources Committee of the House on March 9th. It is anticipated that this bill will now move smoothly without any opposition whatsoever.

We are at this time securing copies of regulations passed by other states who have adopted geothermal statutes in order to furnish us some guide to aid in establishing our rules and regulations pursuant to statutory authority, if granted.

I have been invited to speak to the Petroleum Engineers Association in Farmington, New Mexico on March 21st. Mr. Cleo Wall, Program Director of this association, phoned and said he had many requests for a presentation by the Commission, consequently I am asking permission to make the trip on Tuesday, March 21st and return on Wednesday, March 22nd.

The office is having a tremendous increase in visitors seeking information relative to oil and gas within the State, also letters requesting information are increasing. I believe quite a bit of this indicates the success of the information program the Commission is now conducting through our Geology Section.

We have heard nothing further concerning the Commission's proposed budget for 1972-73. I do not anticipate we will be called to appear before the Senate Committee.

By letter dated March 1, 1972, the Governor's Office has placed monitoring of the Southwest Salt Company's operation west of Phoenix under the Environmental Health Section of the Health Department. We have surrendered such files as pertain to the monitoring operation to the Health Department, pursuant to the letter of instructions. We do not know at this time what will happen to the money involved, i.e., $2,000 currently in the Commission's budget for this purpose and $2,000 requested in next year's budget. We have informed the Finance Department and Budget Department of this change and have been advised to just sit tight at this time. I would remind you that the two water wells drilled in the area and currently under bond to this Commission will remain under our jurisdiction until such time as they are abandoned and plugged.

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

ACTIVITY REPORT

March 8, 1972

Memo from W. E. Allen, Director
Enforcement Section

Humble has just recently acquired an additional 20,800 acres of Federal oil and gas leases in Yuma County. These leases are primarily situated in Township 2S-R11 and 12 West. Humble has other leases in this Township.

Some 65,000 acres of oil and gas leases have just been taken in Township 10 and 11 North and Range 10 West and Township 10 and 11 North and Range 12 West. This is in the area where Yuma, Mohave, and Yavapai County meet. These leases were taken in the name of Raymond M. Brooks. Mr. Brooks, together with Mr. Jay Knauth, were office visitors on February 25. They informed me that these leases were taken for Brown and Thorpe, independents, out of Beaumont and McCamey, Texas. Both Brooks and Knauth assorted that Brown and Thorpe would shortly drill a 5,000' test hole in the area.

Mr. Ed Obele and Darby Hand of Guadalupe Exploration Corporation have just dropped some 4,500 acres of leases in the general vicinity of the GECO #1 State, NE/SW Section 2-T24S-R31E, Cochise County.

We are still engaged in compiling a directory of services for the use and benefit of operators that might be unaware of the availability of the nearest oilfield services. Work on remaking the Well Plat Book is still in progress. Several meetings relating to Geothermal Resources and legislation pertaining, thereto, (H.B. 2302) have been attended.

The monitoring and surveillance of the salt mining project west of Glendale is passed from the Oil and Gas Commission to the Environmental Health Services. A Directive from the Governor's Office, dated March 1, 1972, granted permission for this transfer. Information pertaining to the project, pertinent records, and so forth, have been given to the Environmental Health Services and all interested parties notified of the change. The Commission retains responsibility for the two wells that the Southwest Salt Company have drilled. The retention of these wells for the Commission was primarily to keep the bonds covering these wells in full force and effect. The Environmental Health Service has

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no authority for acquiring bonds.

The P & H Development Company #1 Federal, NW/SW Section 30-T2S-R9W, Maricopa County, is 820' and shut down for rig repairs.

Cecil Cope #1 Bradshaw Fee, NW/NE Section 34,T18N-R4E, has a T.D. of 2868'. The bit and bottom drill collar is stuck in the hole and the operator is preparing to shoot the drill string loose at the top of the bottom drill collar. We anticipate this hole to be plugged as quickly as the drill pipe is recovered.

Permit #577 has been issued to Eastern Petroleum Company for the drilling of their Santa Fe #1 Beacon NW/SE Section 29-T29N-R29E, Apache County. This is a projected 1300' test to the Coconino.

OFFICE OF

Oil and Gas Conservation Commission

STATE OF ARIZONA

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ACTIVITY REPORT

Geology Section

March 8, 1972

J. N. Conley

SOURCES OF INFORMATION ON EXPLORATION FOR HYDROCARBONS IN THE STATE OF ARIZONA

The demand for this pamphlet far exceeded our expectations, and our second supply has been exhausted. An updated and slightly enlarged pamphlet will be mimeographed soon.

SALT DOMES

We continue to receive requests for this publication by Edward Koester. At the geological meeting in Midland numerous geologists commented on the paper, or requested copies, when they saw on my name tag that I was affiliated with The Commission.

EXPLORATION ITEMS

Humble Oil & Refining Company still has two seismograph crews operating in the State. As of a week ago one crew was working south of the City of Yuma, on the block of leases assembled by Windward Oil Company. Humble, incidentally, purchased this block from Windward this past January for an undisclosed cash bonus and retained overriding royalty interest. The other crew was reportedly working in the general Casa Blanca area.

Humble's Division Exploration Manager told me on my trip to Midland last week that they still planned on drilling some deep stratigraphic wells in Arizona this year.

* * * *

Geothermal Kinetics Systems Corporation is continuing its active search for geothermal resource prospects. Based on inquiries by Ward Austin of this firm as to some well information, some prospecting is being done in the Paradise Valley area in Maricopa County.

* * * *

The Geology Department of Arizona State University is making some gravity meter surveys in an area east of Apache Junction in connection with caldera investigations. Calderas offer good "hunting-ground" for geothermal resources.

* * * *

A major oil company has advised us that the age of the salt near the bottom of the second well drilled near Luke Air Force Base by Southwest Salt Company is Tertiary or older. This is the first age determination of the salt in this dome. The Commission furnished the salt cores used in making the age determination.

* * * *

Two geologists of Amoco Production Company visited this office recently. Edward Koester accompanied them on a trip to see the surface fissures present near the Luke Salt Dome, and to check a reported oil seep in Mississippian or Devonian outcrops north of Payson. No seep was found, but some rocks observed did have a fetid odor of petroleum.

These same two geologists had visited Dr. H. Wesley Peirce in Tucson prior to their trip to Phoenix. They also expressed some interest in determining the age of the salt at Red Lake, if suitable cores are available.

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R. E. Zimmerman, an oil operator in Houston, Texas, has advised us that he and his geologists are making a study of the oil and gas possibilities in Arizona. He recently spent some time with Dr. Jerome J. Wright in Tucson.

* * * *

Sun Oil Company apparently has some interest in the Basin and Range province. One of their geologists informed me that their geophysical department was attempting to make some depth to basement estimates in the general Picacho area from magnetic data in their files.

* * * *

March 8, 1972

As a result of Edward Koester's "go-between" services, Humble Oil & Refining Company has agreed to pay for a suite of electric logs of a proposed 2000-foot water well northeast of Gila Bend. Paul Manera, a local hydrologist and geologist, is supervising the drilling of six deep water wells in the area. No electric logs of wells in this area are currently available. The information obtained from the surveys to be made will assist Humble's geophysicists and geologists in a better evaluation of their seismograph data in the area. In this connection Humble has informed me that in most of the areas prospected they have obtained good records.

The Commission will be furnished copies of the electric logs of the water well when surveyed, to be kept in our confidential file.

* * * *

Southland Royalty Company (a company actively engaged in exploration for petroleum) has geologists in Tucson today conferring with Dr. Willard Pye concerning the potentialities of this State.

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Anadarko Production Company has had a geologist in the State investigating the geothermal resource possibilities. Based on some inquiries made by this company to The Commission, I believe that it may also be interested in the petroleum possibilities.

A geologist from the Salt Lake City office of Anaconda Mining Company has visited us in search of subsurface structural control in the general Verde Valley area.

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COMMISSION PROJECTS

State Well Location Map. This project is progressing on schedule.

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"Scout & Geologic Data" Publication. This project by Dr. H. Wesley Peirce of the Arizona Bureau of Mines, in which The Commission is collaborating in furnishing data, is approaching the completion stage with respect to typing the material.

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Water Well Data. A vast amount of subsurface geological information is available in the records of many of the water wells drilled in Arizona. This information would be of considerable value to geologists in searching for hydrocarbon, helium, salt, geothermal and other earth resources if it was available in easily usable form. The information is currently available only in miscellaneous publications, many of which are now out-of-print.

We plan to assemble this scattered information, and tabulate it in a manner whereby it can be readily utilized by earth scientists.

* * * *

Files: This past month we commenced a complete re-organization of our filing system. The new system adopted will facilitate retrieval of material.

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LEASING ACTIVITY

We have received an unconfirmed report that Robert H. Whisenant of Scottsdale has leased approximately 16,000 acres of State land along the Utah boundary in Coconino and Mohave Counties.

GENERAL

Edward Koester attended a seminar on the "Uses of Computer Composite Mapping" at Arizona State University this past month. Most of the major oil companies now use the computer for preliminary structure, isopachous and other types of maps. The most valuable use of computers with "memory banks" to oil company geologists, however, is in the retrieval of stored information. Several of the oil and gas commissions in other states have put all of their data onto magnetic tape.

At present The Commission would have only a limited use-potential for computerized maps. Eventually it will have need for both the mapping and retrievable phases.

* * * *

Brief comments about synthetic pipeline gas from coal deposits in Arizona have been made at previous Commission meetings. A recent publication by the Federal Power Commission (National Gas Supply and Demand 1971-1990, Staff Report No. 2, Bureau of Natural Gas, Washington, D.C., February, 1972) discusses coal reserves and distribution,

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availability of the commercial process, economics, pilot projects, planned projects, and other aspects of coal gasification.

Currently there are two major efforts planned to develop coal gasification facilities in northwestern New Mexico. The first is a project proposed by El Paso Natural Gas Company which would construct a 250-million cubic feet per day plant with first deliveries planned for 1976. The second proposal is by a consortium composed of Pacific Lighting Service Company, Texas Eastern Transmission Corporation and Utah International, Inc., which hopes to put the first of perhaps four 250-million cubic feet per day plants on stream in 1975. The cost of gas produced in this fashion will likely be in the $0.85 to $1.10 per MCF range.

Arizona has large reserves of good quality, low-ash, low-sulfur coal in the Black Mesa field in Navajo, Apache and Coconino Counties, subject to management by the Hopi and Navajo Indians. Excepting the Peabody Coal Company operational area, most of the coal reserves are below currently economical stripping range. As the demand for gas increases, however, it is possible that large additional reserves could be developed in the northern end of the Black Mesa syncline. The existing natural gas pipelines across Black Mesa offer a major distribution system should the conversion of Black Mesa coal to gas become a reality. One major oil company has considered the possible utilization of the Four Corners oil pipeline to transport synthetic gas from coal when the volume of oil handled by the line reaches an uneconomic point.

MAP ACQUISITIONS

During the past month or so we have acquired copies of several open-file U.S. Geological Survey aeromagnetic and Bouguer gravity meter surveys of several areas in Arizona.

Gazette 3-8-72 pg. 2-B

Bill Asks 16 Agencies To Combine

A bill introduced today in the Arizona House would lump 16 existing agencies under a new department of natural resources.

Included in the umbrella agency, whose director could "establish, abolish or reorganize the positions, organizational units or divisions . . ." would be:

Arizona Water Commission, Game and Fish Department, Department of Mineral Resources, Arizona Bureau of Mines, Arizona Power Authority, State Land Department, State Parks Board and Arizona Outdoor Recreation Coordinating Commission.

Effective date would be July 1, 1973.

Arizona Republic 3-9-72 Pg 10

Humble running tests in Arizona

MIDLAND, Tex. (AP) — Humble Oil and Refining Co. is spending about $250,000 monthly in Arizona for two oil exploration teams.

Humble officials said yesterday the teams are working on 1.4 million acres of land leased by Humble near Yuma and Casa Grande.

At least one well will be drilled in the state this year, officials said, but it will be for geographical purposes rather than for pumping oil.

Humble spokesmen say the company is looking both for oil and natural gas sources.

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34 The Arizona Republic Phoenix, Friday, March 3, 1972

State asked to make rules on gas cutoffs in shortages

The State Corporation Commission yesterday received a recommendation that it make a rule curtailing gas service to industrial, commercial, residential and institutional consumers in that order when natural gas shortages arise.

Russell Williams, commission chairman, said the recommendation was presented by the state's larger gas distributors in an informal meeting with the commission. He indicated the recommendation will be held under advisement until the four distributors and wholesaler represented yesterday have contacted other Arizona distributors concerning it.

In any event, he added, the commission will put the proposed rule to a public hearing before it is adopted. He indicated the rule might create several different classes of commercial consumers, some subject to curtailment before others.

He also indicated the rule would give gas distributors latitude to curtail industrial consumers with standby energy sources before those without such sources were curtailed.

Williams said such problems as the proper treatment for new industries and shortages arising on short notice also received preliminary discussion yesterday.

MONTHLY FINANCIAL REPORT

1 RECEIPTS MONTH OF Feb. 1972		2 RECEIPTS CLASSIFICATION	3 APPROPRIATED RECEIPTS		4 UNAPPROPRIATED RECEIPTS		5 TOTAL ALL RECEIPTS YEAR TO DATE	
25	00	1					450	00
		2						
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25	00	TOTAL CURRENT MONTH RECEIPTS	25	00			XXXXXX	
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XXXXXX		BALANCES BROUGHT FORWARD	2,126	83			XXXXXX	
25	00	**TOTALS – MONTH AND YEAR TO DATE**	2,151	83			450	00

6 CLAIMS PAID MONTH OF Feb 1972		7 EXPENDITURES FUND TITLES	8 TOTAL AMOUNT AVAILABLE YEAR TO DATE		9 CLAIMS PAID YEAR TO DATE		10 OUTSTANDING ENCUMBRANCES		11 UNENCUMBERED BALANCE	
7,204	00	1 Personal Services	67,777	00	58,064	92	–		9,712	08
808	47	2 Emp. Related Exp.	6,570	00	4,685	40	–		1,884	60
2,603	61	3 Other Operating Exp.	24,650	00	23,515	81	806	98	327	21
20	00	4 Prof. & Outside Serv.	1,275	00	181	00	–		1,094	00
649	23	5 Travel - State	6,300	00	3,320	80	1,398	18	1,581	02
128	00	6 Travel - Out of State	3,500	00	1,269	76	393	04	1,837	20
119	75	7 Cap. Outlay - Equip.	2,100	00	1,462	31	589	68	48	01
–		8 Salt Monitoring	2,000	00	–		–		2,000	00
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11,533	06	**TOTALS**	114,172	00	92,500	00	3,187	88	18,484	12

AGENCY Oil & Gas Conserv. Comm.

DIVISION ____________ **IDENTIFICATION CODE NO.** ____________

1 CLAIMS PAID YEAR TO DATE	2 OBJECT CODE NO.	3 DISTRIBUTION OF EXPENDITURES			4 CLAIMS PAID MONTH OF Feb. 1972
			CLASSIFICATION		
930 00	7111	1	Per Diem: Board Members	1	
56,922 76	7112	2	Salaries: Employees	2	7,204 00
212 16	7113	3	Wages: Summer Aides	3	
158 19	7151	4	Industrial Insurance	4	75 55
1,530 36	7153	5	F.I.C.A.	5	372 70
2,846 35	7155	6	Retirement	6	360 22
150 50	7159	7	Personnel Commission	7	
	7215	8	Professional Services: Engineer	8	
181 00	7219	9	" " Other	9	20 00
452 60	7221	10	Travel - State: Mileage	10	98 20
1,228 00	7222	11	Subsistence	11	142 00
38 18	7223	12	Public Transp.	12	
1,580 32	7224	13	Vehicle Exp.	13	408 73
21 70	7225	14	Reg. Fees, Parking, etc.	14	30
411 00	7233	15	Travel-Out of State: Subsistence	15	98 00
737 76	7232	16	Public Transp., Taxi	16	
	7234	17	Airport Parking	17	
121 00	7235	18	Reg. Fees, Tel., etc.	18	30 00
18,494 60	7251	19	Occupancy: Office Rent	19	1,349 46
	7261	20	Warehouse Rent	20	
	7263	21	Warehouse Mtn. & Repair	21	
183 00	7272	22	Mtn. & Repairs: Furn. & Equip.	22	14 00
1,169 83	7280	23	Office Supplies	23	304 47
268 55	7300	24	Field Supplies, Film, Am.Strat, P.I., etc.	24	49 01
917 28	7331	25	Printing: Reports, Large Maps, etc.	25	
93 35	7332	26	Legal Advertisement	26	
63 00	7333	27	Court Reporter	27	
498 97	7334	28	Postage	28	102 76
1,419 21	7335	29	Telephone	29	261 41
8 75	7337	30	Drayage, Express, etc.	30	
67 27	7349	31	Rental, Misc.	31	
81 50	7360	32	Dues and Subscriptions	32	22 50
	7431	33	Capital Outlay: Office Equip., Tpr., etc.	33	
907 92	7433	34	Reproduction Equip.	34	
554 37	7434	35	Spec. Equip.	35	119 75
250 00	7913	36	Revolving Fund	36	
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OFFICE (DO NOT WRITE BELOW THIS LINE) FIELD

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