

OIL & GAS CONSERVATION COMMISSION  
Meeting: January 27, 1965  
Mr. John Bannister, Executive Secy



JB

January 25, 1964

Memo to: Commissioners  
From: John Bannister, Executive Secretary  
Re: Legislative Bills

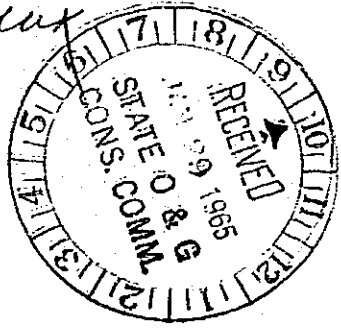
HB 73 has been introduced. This bill imposes a <sup>270</sup> severance tax on all minerals severed from the ground.

HB 74 again is a severance tax bill which imposes on gross production a tax of 1.5% on oil, 2% on gas, and 1% on helium.

HB 78 is a severance tax bill imposing 1% on severed minerals.

Mrs. Priscilla Hayes, Representative, Maricopa County and Chairman of the Natural Resources Committee of the House of Representatives, has requested that I appear before her Committee on February 2, 1965 at 11:00 a.m. The purpose of this appearance is to discuss the oil tax situation as well as general problems faced by the oil industry within this State.

*John Bannister:*  
*I think it would be well to attend & explain fully the tax problems we are having*  
*Lucius Avery*



January 25, 1964

Memo to: Commissioners  
From: John Bannister, Executive Secretary

Re: Legislative Bills

HB 73 has been introduced. This bill imposes a severance tax on all minerals severed from the ground. <sup>3/10</sup>

HB 74 again is a severance tax bill which imposes on gross production a tax of 1.5% on oil, 2% on gas, and 1% on helium.

HB 78 is a severance tax bill imposing 1% on severed minerals.

Mrs. Priscilla Hayes, Representative, Maricopa County and Chairman of the Natural Resources Committee of the House of Representatives, has requested that I appear before her Committee on February 2, 1965 at 11:00 a.m. The purpose of this appearance is to discuss the oil tax situation as well as general problems faced by the oil industry within this State.

A G E N D A

OIL & GAS CONSERVATION COMMISSION

January 27, 1965

Commission Hearing Room  
Room 204 - 1624 W. Adams, Phoenix

9:30 a.m. Call to Order

1. Approval of minutes
2. Approval of report from Executive Secretary
3. Approval of report from Geologist
4. Old business
5. New Business
6. Adjourn

*well Name letter*

*Mr. Owens will not  
appear*

Minutes of Meeting  
December 16, 1964

Commissioners present:  
Lynn Lockhart, Chairman  
R. Keith Walden, Vice Chairman  
Lucien B. Owens, Member

Commissioner absent:  
Orme Lewis, Member

Others present:  
Mr. Mike O'Donnell  
Mr. Needham Steed  
Mr. R.P. Davidson  
Mr. Sidney Rosen  
Senator Marshall Simms  
Mr. Fritz Ryan  
Mr. James Pickett  
Mr. R.B. Jones  
Mr. Bill King  
Mr. J.R. Scurlock  
Mr. John Bannister

Chairman Lynn Lockhart called the meeting to order at 9:30 a.m. in the Commission Hearing Room.

Mr. Walden suggested that in the minutes of the November 25 meeting the language of paragraph 4 be changed to indicate more clearly that the Commission has always recorded minutes of its meetings, including hearings, during which the Commission acted as a body and the importance of continuing this policy was stressed. He also suggested that in his report of the meeting with the Indians the language should be changed to state that the existing goodwill with the Indians was reaffirmed.

With these corrections the minutes of the meeting of November 25, 1964 were approved.

Minutes of October 21, 23, and 28, 1964 were approved.

Reports of the Executive Secretary and the Geologist were approved and accepted.

Mr. Bannister presented the matter of taxation in Yavapai County on oil rigs, and, in particular the Ewing-O'Donnell Drilling Company, and reported on the meeting with the Board of Equalization of that county at Prescott which brought about a reduction of their November tax bill from approximately \$3,900.00 to \$350.00.

However, Mr. Bannister stated, the problem of ad valorem taxes on rigs in Arizona Still exists. Tax information from other

Minutes of Meet( )  
December 16, 1964  
Page 2

states is being collected so that the problem can be presented to the proper people. Under the present tax structure the taxes on production will run 10.5%. The problem of taxes will have to be faced and Mr. Bannister suggested that perhaps instead of a bonus bill (\$250,000.00 to an operator bringing in the first well off the reservations) as introduced in Legislature last year, a more proper approach might be to give operators a tax advantage to help recoup their costs and which would be available to all operators rather than one individual.

Mr. O'Donnell pointed out that Nebraska had been in the oil business for only the past fifteen years, but assessors made a special incentive to bring in rigs and on production until enough production was received to benefit the State. In Arizona, rigs on the Reservations aren't being taxed. Anyone coming into Arizona would be taxed \$6-7,000.00 for one well unless he can move in and out without getting caught.

After further discussion of Arizona tax structure and examples from other states, Mr. Lockhart questioned whether it would be faster relief to meet with the tax assessors and work out a uniform assessment rather than getting a law passed.

Mr. Owens questioned whether the Tax Commission had authority to grant tax relief. Mr. Bannister replied that the Legislature controls; and as he understand it the county tax assessor has a specific set of percentages he does charge, so the only thing anyone could do was to attack the value rather than the percent. Mr. Bannister quoted tax rates of Utah, New Mexico, and Texas.

Mr. Needham Steed pointed out that in Texas the oil industry was the number one industry and grew so rapidly that it carried the Texas tax load. For many years there was no income nor sales tax. The State kept growing too so that finally the sales and income taxes were needed. Mr. Steed stated the oil industry should be taxed, but should not be taxed so heavily it cannot stay. In a state trying to encourage the oil industry to stay, the proper method might be to guarantee a lower tax burden until such time as the industry is able to carry its share of the load. The present tax rate in Arizona would certainly discourage people from drilling and producing in Arizona because there is so much competition from other states and from foreign oil. In fact, there is an excess of oil.

Chairman Lockhart agreed with this point of view and felt we should make it attractive until we do get something, and then not go crazy, and asked Senator Simms for an opinion.

Senator Simms thought perhaps the best procedure would be to give an exemption from the production tax in addition to a lesser rate on the rigs. He agreed with Chairman Lockhart

Minutes of Meeting  
December 16, 1964  
Page 3

that it would not take legislation but rather getting together with the assessors.

Mr. Owens stated that when Mr. Bannister completes his compilation of tax information from other states, he would be happy to take it and accompany anyone to the assessor in Holbrook.

Mr. O'Donnell pointed out that assessment would have to be state-wide because his moving bill to a county which would be favorable tax-wise is \$4,000 and that would be defeating his purpose.

Mr. Walden stated this was not something the Commission was empowered to do officially, but the Commissioners could, unofficially, as members interested in oil and gas resources in this State. We certainly can and want to continue to create a favorable climate for people to come in. But as a body charged with only certain responsibilities by law he thought that there wasn't much we can do about this, and the place to really push and ramrod for an organized effort is the Oil and Gas Association of Arizona which represents the industry. This Commission doesn't represent the industry. This Commission is just charged with the responsibility of setting up guidelines within which the industry can operate.

Mr. Steed pointed out that the Arizona Oil and Gas Association doesn't have the membership nor the money to provide an effective lobby to present information to the Legislature, and won't have until they bring in enough oil.

Chairman Lockhart vouchsafed that the Commission would do everything legally possible to help but someone would have to draw this up.

Senator Simms suggested that an outline and suggestions be prepared and then have the Arizona Legislative Council draft it. He also suggested that inasmuch as the re-evaluation thing is going on Mr. Steve Spear should be gotten in on this too.

Mr. Walden wondered if this were something to be discussed with the Governor so that he might put it in with his request for legislation.

Mr. Davidson concurred and stated it was his observation that the general public does not recognize the limitations of this Commission and were looking to the Commission to perform outside the scope of its legislated powers. They look to the Commission for opinion, for promotion and activity which are not within conservation.

Mr. Walden also pointed out that the Arizona Development Board is charged with bringing industry into the State and it was empowered to do just what is being talked about.

Minutes of Meeting  
December 16, 1964  
Page 4

Mr. Ryan stated it was his presumption that the present oil and gas tax structure was sponsored by the Western Oil and Gas Association.

Mr. Owens stated this thing should be organized to get relief. The Oil and Gas Association of Arizona or the Arizona Legislative Council should draw a solution to put before the Legislature, and that for the time being, prior to production, it could be handled locally at least on the drilling equipment.

Mr. Davidson and Senator Simms agreed that a factual report should be prepared. Mr. Walden suggested that this report be placed in the hands of the Governor's Administrative Assistant and an appointment be made for discussion with the Governor. Mr. Walden consented to set up an appointment with the Governor as soon as a strong, factual report is ready.

Mr. Bannister presented several suggested changes in the Rules and Regulations to bring them into line with the Statutes and to remove conflicts.

Mr. Walden suggested and the Commission concurred that since the modification of the Rules and Regulations are technical modifications only, and not changes in philosophies and principles, but since a hearing is required, that consideration of these changes be dispensed with for now and that they be considered at a special meeting, say about February.

Mr. Bannister then presented suggestions for legislation for statutory changes. One suggestion concerned 27.516 to change the time limitation for operators to submit data to the Commission from 90 days to 60 days. Currently the Commission has a backlog of "no information."

Mr. O'Donnell pointed out value of current information. At the drilling of the Taubert & Steed well tops were being given out at the well site and consequently others could now be working in the surrounding area.

Mr. Steed stated he felt industry would not object to filing information within 60 days. Information at this stage of exploration is vital to industry.

Mr. Bannister pointed out there has been quite some controversy on the confidential period on information because of the conflict of the Regulations with the Statutes. The Statutes provide that if the operator requests it, information can be held confidential for six months from date of completion; the Regulations say that within two months after completion of a well the information must be submitted and then it will be held confidential for six months after that, in effect then, eight months.

Mr. Davidson agreed that the Rules and Statutes should be brought into agreement, but the one thought that bothered him was that if we get too much oil legislation, the tax and these other questions, we may run into difficulty. It might



Minutes of Meeting  
December 16, 1964  
Page 5

be well to select the one of major importance.

Senator Simms expressed agreement.

Mr. Walden moved that the Commission address itself, again, to what it is charged with, and to do what we as individuals can in helping to get the major job done, which is alleviation of the burden of taxes; and in view of the importance of this matter to the oil and gas industry that we not muddy the water with these minor items and that we therefore dispense with the consideration of these minor items.

Before any action on this motion Mr. Bannister requested to report on one further item, the protection of water charged to the Commission and called attention to potash tests which are underway currently, to depths of three-to-four thousand feet. They are combining, in actuality, potash tests with oil tests. If the Commissioners see fit to attack this problem the only way would be legislation to change the definition of an oil well. The current exploration has been declared as exploration for potash and it is not in violation of any regulations--there are no regulations.

Mr. Ryan pointed out that these tests were primarily on fee land. If State lands were concerned they would be compelled to file complete information. So far as protection of water is concerned a study was begun in 1959. There are many facets concerned. The United States Government has many agencies to service all mineral resources, including water, and thus can serve the many facets involved.

Mr. Walden asked who had jurisdiction of core drilling for mines and indicated the Commission should not be saddled with supervising mining cores to protect water.

Mr. Ryan replied that no one specific office has jurisdiction except for whatever the Mining Inspector might have when they bring minerals to the top of the ground. Mr. Ryan cited coring in the Organ Pipe Cactus Monument by a mining company who hit artesian water that flowed at a height of four or five feet above the ground for a half-day or so until it was decided to drill through it, and when they drilled through it they lost the water of course.

Mr. Bannister pointed out that New Mexico solved its problem by writing the definition of a well to state that any well which penetrates any known or potentially producing strata would be an oil or gas well.

Any change in definition of well or any action to take mineral exploration into jurisdiction would require legislative action.

Minutes of Meeting  
December 16, 1963  
Page 6

Mr. Bannister pointed out again the conflict between the Statutes and the Rules and Regulations concerning confidentiality and requested instructions.

Mr. Rosen pointed out that Statutes take precedence over Rules and Regulations.

Mr. Bannister was directed to act in accordance with the Statutes, to be consistent in enforcing the period of confidentiality from date of completion of the well. He was also directed to write interested operators accordingly.

Mr. Walden brought attention to his earlier motion; it was seconded and passed.

Discussion of the proposed budget was the next order of business, and since it was of no interest to the visitors, the visitors took the opportunity to leave the meeting.

It was agreed that the money proposed for Commissioner salaries be increased to \$3,800.00 to allow for anticipated increased workload in attending hearings and other official business.

It was agreed that the request for an additional position be included in the budget.

In contemplation of increased out-of-state travel to contact various operating companies, the category for out-of-state travel was increased to \$3,500.00

The costs of hearings, i.e., publication, court reporting, was discussed and it was decided that contractual services be increased to \$1,500.00 and professional services to \$2,000.00

It was agreed that in addition to the request for a replacement car, that a request for a mimeo machine be included in capital outlay for a total of \$3,000.00.

The meeting adjourned at 12:15 p.m.

January 20, 1965

Memo to: Commissioners  
From: John Bannister, Executive Secretary  
Re: Report of Activities

Ram oil Company is again operating at its location in Graham County on the Sierra Bonita Ranch.

A question arose as to the validity of the lease and at one point the landowners advised this office that the lease was in jeopardy due to non-payment of rentals. Immediately thereafter we were again advised that agreement had been reached with Ram whereby they could continue with their lease.

I went to Willcox on January 12 and found that Ram had attempted to move a small spudded rig to the lease; but the rig, due to its weight, had become mired down. The ranch manager, Mr. William Hughes, was very perturbed over this situation and was in the frame of mind to close down operation.

However, after that Mr. Hughes, his wife, and Mrs. Hooker agreed to allow the drilling of this well to proceed.

They are now on location and casing has been brought in.

Inasmuch as problems concerning further activities in this area have been worked out, I have again extended the Ram permit.

On January 19 Senator Lynn Lockhart, Mr. Lucien Owens, and I presented our revised budget to the Appropriation Committees of both the House and the Senate. From all indications our budget was well received. I have no indication as to when the final word might be forthcoming as to the effect of our effort.

Following discussion between Mike O'Donnell, Senator Lynn Lockhart and me concerning the potash drilling situation in the Holbrook area, Senator Lockhart directed that I direct a letter to Senator Fred Udine wherein I requested that he sponsor a bill to bring such activities under our control.

Pursuant to Senator Lockhart's direction a letter was given to Senator Udine wherein the situation was explained and it was requested that definition of a well as currently in the Statutes be changed to read as follows:

""Well" means and includes any hole drilled or spudded with the intention of penetrating or which penetrates any known or potentially producing oil or gas bearing strata, including but not limited to helium. If a question arises as to the potentiality of any particular strata as being an oil or gas bearing strata, including but not limited to helium, the determination of the Commission shall be final."

It is my understanding that this request has been forwarded to the drafting committee.

On January 19 Mr. Wes Pierce of the College of Mines, University of Arizona, Tucson, came to this office in order to study existing records kept by the Commission.

As previously reported to the Commissioners, this is a further step in my attempting to secure a better understanding and more feasible method of cooperation between the College of Mines and this Commission.

Our efforts in this line are being well received by Dean Forrester of the College of Mines and Director of the Bureau of Mines and I anticipate further worthwhile developments.

Senator Lockhart and I further discussed the claim paid by the Auditor during fiscal year 1963-64, for my moving expenses; and I again on January 20 spoke to the Auditor's Department.

As you are aware, after the Auditor had accepted and paid this claim they later questioned its validity.

As a result of my conversation of January 20 we are in a position of "sitting tight" pending further development by the Post Auditor.

The Post Auditor audited the 1963-64 records of this office on December 29-30. As yet we have not received a report as to the result of this audit.

The only criticism expressed at the time was that none of our capital outlay items had been tagged as required by the Auditor. The staff was not aware of this requirement, and pursuant to advice, all capital outlay items have been marked and inventoried and Mr. Yonick of the Post Auditor's office has verified this action.

January 21, 1965

Memo to: Commissioners  
From: James R. Scurlock, Geologist  
Re: Report of Activities

December 17-18, 1965 - Tucson

Meeting with Dean Forrester (Arizona Bureau of Mines) and staff re cooperation with Oil & Gas Commission regarding gathering and publishing data, running samples on wildcat wells, disposition of samples and cores, exchange of oil field data, etc.

December 22-23 - Snowflake

Checking Taubert and Steed well. Now plugged and abandoned. Total depth 3,822 feet in pre-cambrian. (Cost of this well, approximately \$100,000.00.)

December 28-29 - Congress

Check location of Johnson and Counts well. Have not moved in rig as yet.

Snowflake

Checked Taubert & Steed.

January 14-15 - Sedona

Harless #27B. Acidized with 1,000 gallons 15% acid. Followed with 50 gallons treatment of Tarsol. Pumping 8-10 barrels of water per day. No show of crude oil.

Winslow

Ferrin #1 State well. Drilling (rotary) at 250 feet.

Snowflake

Taubert & Steed: O'Donnell rig still on location. Have not cleaned up location as yet. Have advised operator to clean location before moving off rig.

January 20 - Ram Sierra Bonita

Running casing.

STATEMENT OF LEDGER TRANSACTIONS  
DECEMBER 1964

	Expenditures To Date	Outstanding Encumbrances	Expenditures Dec. 1964	Appropriation	Unencumbered Balance
Personal Services: Staff	\$		\$ 2,100.00		
Commissioners			75.00		
<b>TOTAL</b>	\$ 13,775.00		\$ 2,175.00	\$ 14,500.00*	\$ 725.00
Current Expenditures-Other:					
Telephone (Dec. 15 billing)			108.52		
Printed forms			27.34		
Miscellaneous: supplies			62.33		
<b>TOTAL</b>	\$ 2,807.60		\$ 198.19	\$ 3,175.00*	\$ 367.40
Subscription-Organization Dues TOTAL\$	48.00			\$ 150.00	\$ 102.00
Travel-State: Staff		\$ 300.00			
Commissioners			106.00		
Gasoline-oil			87.12		
<b>TOTAL</b>	\$ 1,637.80	\$ 300.00	\$ 193.12	\$ 5,000.00	\$ 3,062.20
Travel-out of State (Biloxi)					
<b>TOTAL</b>	\$ 1,075.61	\$ 425.00	\$ 702.74	\$ 2,500.00	\$ 999.19
Capital Outlay Equipment TOTAL	\$ 617.69			\$ 685.00	\$ 67.31
Fixed Charges TOTAL	\$ 141.75			\$ 350.00	\$ 208.25
Professional Services TOTAL	\$ 232.60		\$ 25.00	\$ 1,500.00	\$ 1,267.40
Museum Northern Arizona TOTAL	\$ 1,250.00			\$ 1,250.00*	
Arizona Bureau Mines TOTAL	\$ 1,250.00			\$ 1,250.00*	
<b>TOTALS</b>	\$ 22,836.05	\$ 475.20	\$ 3,294.05	\$ 30,360.00	\$ 6,798.75
LUMP SUM	\$ 60.79			\$ 61.21	\$ .42
RECEIPTS	(To date) \$25.00		(Dec.) 25.00		\$ 7,470.25

\* Allotment through second quarter

STATEMENT OF LEDGER TRANSACTIONS  
NOVEMBER 1964

	Expenditures To Date	Outstanding Encumbrances	Expenditures Nov. 1964	Appropriation	Unencumbered Balance
Personal Services: Staff			\$ 2,000.00		
Commissioners			400.00		
TOTAL	\$11,600.00		\$ 2,400.00	\$14,500.00*	\$ 2,900.00
Current Expenditures-Other:					
Telephone (Nov 15 billing)			\$ 106.97		
Postage			98.46		
Printed forms			33.00		
Air freight-lab service					
Miscellaneous: supplies, blueprints, geological maps, zerox copies			102.79		
TOTAL	\$ 2,609.41	\$127.87	\$ 341.22	\$ 3,175.00*	\$ 437.72
TOTAL Subscription & Organization Dues	48.00		\$ 10.00	\$ 150.00	\$ 102.00
Travel-State: Staff			289.80		
Commissioners			377.00		
Gasoline, oil			56.01		
TOTAL	\$ 1,444.68		\$ 722.81	\$ 5,000.00	\$ 3,555.32
TOTAL Travel-out of State	\$ 372.87			\$ 2,500.00	\$ 2,127.13
TOTAL Capital Outlay Equipment	\$ 617.69			\$ 685.00	\$ 67.31
TOTAL Fixed Charges	\$ 141.75			\$ 350.00	\$ 208.25
TOTAL Professional Services	\$ 207.60		\$ 125.40	\$ 1,500.00	\$ 1,292.40
TOTAL Museum of Northern Arizona	\$ 1,250.00			\$ 1,250.00*	
TOTAL Arizona Bureau of Mines	\$ 1,250.00			\$ 1,250.00*	
TOTAL	\$19,542.00	\$127.87	\$ 3,599.43	\$30,360.00	\$10,690.13
LUMP SUM	\$ 60.79			\$ 61.21	\$ .42
RECEIPTS--(\$150.00)					\$ 7,445.25

\* Allotment through second quarter

# Black Mesa may finally feel the bit

Boundary disputes linger in much of the heart of the basin, but many tracts have been leased. By the end of 1965, at least six wells may be drilled.

PERHAPS the ripest wildcat target in the United States for 1965 is going to be the Black Mesa basin of Arizona, still one of the largest unexplored basins in the country.

This vast basin lies across two Indian reservations, and its geology is practically unknown. For more than 35 years, oil explorers have been frustrated by disputes over land boundaries and legal challenges to lease sales.

About a year ago, the U.S. Supreme Court upheld new boundaries for the Hopi and Navajo tribes, setting aside a large block of land that is to be shared equally by both.

This opened the way for a three-part sale of oil leases, which ended in November, on the Hopi Reservation on the southwest edge of the basin. At last, this sale gives the oil companies a place to move a rig and set up to drill.

Another hurdle was cleared last week when a Federal District Court in Prescott, Ariz., dismissed a challenge to the legality of the leases. The challenge was made by Hopi traditionalists who believe the tribal council does not have the authority to issue oil and gas leases. Charles Pitrat, acting superintendent of the Hopi Indian Agency at Keams Canyon, says the dismissal removes the last obstacle to drilling on the Hopi leases.

By the middle of January, Pitrat says, the way should be cleared for drilling to begin.

**Fast action.** From all indications, this is just what the industry has been waiting for.

Tenneco Oil Co., high bidder in two of the three Hopi sales, will spud a test in the first half of 1965. Some observers believe this test will be followed quickly by at least five or six more, possibly before the year is out.

Until now, the companies have been poking down holes on the edges of the basin on undisputed Navajo lands to the south and north and on fee lands far to the west.



So far, only one discovery has been picked up along the basin flanks. This is Texaco's 1 Navajo AG, about 45 miles northeast of the heart of the basin.

Although this land is still rank wildcat territory, recent sales of leases by both the Navajos and Hopis have brought high bids. The highest was Superior's bid of \$935/acre for a block lying on the north edge of the basin at a sale of Navajo lands early last year.

By the time the Hopis opened their bids, prices had moved down to what one landman calls a more realistic level.

**Results of Hopi sale.** Even though the Hopi leases brought smaller bids, the industry is proving it is willing to bet heavily on new oil prospects.

The sale brought the Hopis a total of \$3.2 million for 402,538 acres in Coconino and Navajo counties of Arizona. The leases were put up in three blocks, one each in September, October, and November.

In the first sale, bids were received on 56 of 91 tracts, bringing an average price of \$11.87/acre.

The highest bid was Tenneco's offer of \$77.91/acre for a tract of 1,229 acres.

On the second sale, bonus bids totaled more than \$1.3 million from 20 bidders. And again, Tenneco was high bidder with its offer of \$175.69/acre. This offer amounted to \$449,766, more than 40% of the entire bonus offers.

Average per-acre bid for this sale was \$17.51.

Although results of the third sale have not been announced, the apparent high bidder is Texaco's offer of \$92.79/acre.

Average per-acre bid for the third sale was \$13.35.

Compared to the earlier Navajo sales, prices paid for Hopi land seems low. Some companies believe this is a good sign.

One geologist says the early prices were inflated, perhaps because of overeagerness on the part of many companies thirsty for new oil. Prices



paid at the Hopi sale, he says, are more in line with what the land is worth.

And, says an independent consulting geologist, the lower prices may bring more activity into any possible play. It could, he points out, make the area more attractive to independents, who have been interested in the basin but who have been sitting it out waiting for the initial excitement to die down.

Some geologists, especially those with companies who already have conducted seismic work in the area, believe the best possibilities for oil lie near the heart of the basin. And this land, still being disputed by the tribes, is not yet available for leasing.

The Supreme Court upheld in 1963 a decision by a district court that gave the Hopis clear title to surface and mineral rights over 631,000 acres. The court also gave both tribes equal rights to all mineral and surface privileges to 1,785,900 acres.

Both tribes have agreed to split mineral rights 50-50, but negotiations are not complete on the sur-

face rights, and it's unlikely this land will be offered until this is settled.

**Navajo sales.** The Navajos hold 13.5 million acres surrounding the Hopi and disputed areas, and in 1964 the tribe held five sales, opening up land along the edges of the basin.

In one of the last sales, Tenneco paid \$365/acre for a lease. But not all of the bids were this high. Tenneco picked up one nearby lease for only \$7.56/acre. Tenneco picked up a seven-block spread near a surface structure known as Chilchibito.

Mobil paid \$323/acre for one tract and \$307/acre for another. Generally, bidding was spirited around the known structure, but 7 or 8 miles northeast, some large blocks went for as little as \$1.27/acre.

**Oil prospects.** Very little is known about the subsurface geology of these Indian lands, and only a few geologists will risk a guess as to depth of the sediments.

Most geologists believe the basement is around 7,000 to 8,000 ft, but a few guess that the beds thicken out near the center and may be 10,000 to 15,000 ft thick.

One consultant thinks the basin's center has 15,000 to 17,000 ft of marine sediments, and possibly up to 20,000 ft.

Generally this will be shallow drilling, but it won't be cheap. This is remote, isolated country, mostly windswept canyons and dry mesas.

Some leases are near roads, but hauling equipment is going to be costly. And a few roads are nothing more than a dust-dry trail. An engineer estimates that a dry hole will cost \$150,000.

Right now, the industry still has a generally mixed attitude toward the basin's prospects. Some majors frankly admit it's a promising area or they wouldn't be bidding on the land.

Regardless of individual opinions, one fact stands out. A good well with a thick pay zone could kick off a big exploration play in Black Mesa basin. And, without a doubt, the Indians wouldn't mind a bit.

## Transco plans first 42-in. natural-gas line

THE FIRST 42-in. diameter pipeline for commercial movement of natural gas soon will be installed in New Jersey.

Transcontinental Gas Pipeline Corp. has applied to the Federal Power Commission for authority to use the record-size pipe on an 11.18-mile loop as part of a \$63.6 million expansion program.

The overall program involves 345 miles of line and 15,300 additional compressor horsepower.

Up to now the largest diameter pipe used on major transmission lines has been 36-in., which Transco also pioneered.

The installation will be made from the east bank of the Delaware River to the Princeton-Caldwell Junction. It will loop two other lines which already are part of Transco's main-line system from Texas to New York.

The loop will cost an estimated \$3,843,952, or \$349,000/mile.

Transco still is discussing with steel mills specifications for the 42-

Costs of 42-in. loop	
Right-of-way	\$ 71,560
Damages	518,810
Line pipe, 42-in. by 0.562-in. wall	1,753,795
Coating, valves, other materials	397,330
Prime contractor	909,093
Other installation	153,116
Surveys	17,888
Field engineering and supervision	22,360
<b>Total estimated cost</b>	<b>\$3,843,952</b>

in. pipe, which will be the high-strength, light-weight X-60 grade.

**Other phases.** Transco's application also calls for two extensions of its present system and increased storage capacity in Pennsylvania.

One of the extensions consists of 28 miles of 16-in. line from a point in northern South Carolina to Tryon, N.C. The other consists of 11.3

miles of 10-in. line from Block 169 to Block 208, Ship Shoal Area, offshore Louisiana.

Transco's application for the offshore Louisiana extension listed a new purchase contract with Union Oil Co., Pan American Petroleum Corp., and Pure Oil Co. It covers 7.5 MMcfd, with the price starting at 19 cents/Mcf and escalating 1 cent every 5 years until it reaches 23 cents.

A Transco official said the offshore contract is not designed to increase the company's daily purchases of gas, and that purchases at other points will be reduced.

The storage portion of the project will cost about \$7,261,000 to expand withdrawal capacity of Wharton field in Pennsylvania from 140 MMcfd to 300 MMcfd and to increase total storage to 24 billion cu ft.

Increased deliveries would start next Nov. 1, when Transco's peak-day delivery capacity is scheduled to reach 2,897 MMcfd.

S T A T E O F A R I Z O N A  
O I L , G A S & H E L I U M P R O D U C T I O N  
N O V E M B E R - 1 9 6 4

Company	Well Name	Field	Formation	Barrels	Cumulative
<u>OIL</u>					
Humble Oil & Refining Co.	Navajo "E" #1	E. Boundary Butte	Paradox	65	29,494
	Navajo #1	" "	" "	126	32,741
Monsanto Chemical Co.	Navajo 138 #1	Dry Mesa	Mississippian	568	122,643
	Navajo 138 #3	" "	" "	2,339	135,851
Pan American Petroleum Co.	Navajo "F" #1	Undesignated	Paradox (Plugging)	0	5,900
	Navajo "O" #1	" "	Ismay	356	546
Shell Oil Co.	Navajo #23-11	E. Boundary Butte #8	Paradox	322	9,258
	Navajo Wyoming Navajo #1	" "	" "	0	646
The Superior Oil Co.	Navajo "H" #14-16	North Toh-Aclin	" "	58	577
Texaco, Inc.	Navajo "AG" #1	Twin Falls Creek	Devonian	1,247	39,610
		Walker Creek	" "	5,081	379,236
<u>TOTAL OIL</u>					
<u>HELIUM</u>					
Kerr-McGee Oil Industries Inc.	Fee #1, Unit III	Pinta Dome	Cocconino	7,475	238,645
	Fee #2, Unit VIII	" "	" "	5,728	195,478
	State #1, Unit VI	" "	" "	5,559	124,385
	State #3, Unit IV	" "	" "	67	5,538
	State #2, Unit V	" "	" "	22,542	438,248
	State #4, Unit I	" "	" "	182	44,500
	Barfoot State #1	Navajo Springs	" "	0	12,379
	State #1-28, Unit II	Pinta Dome	" "	4,558	183,322
	State #1-2, Unit IX	" "	" "	3,808	79,522
	State #1-10, Unit X	" "	" "	702	20,544
				50,681	1,342,872
<u>TOTAL HELIUM</u>					
<u>NATURAL GAS</u>					
Humble Oil & Refining Co.	Navajo #1	E. Boundary Butte	Paradox	33,264	560,097
	Navajo "E" #1	" "	" "	1,986	450,971
El Paso Natural Gas Co.	Navajo Bita Peak #1	Bita Peak	" "	30,389	382,955
Pan American Petroleum Co.	Navajo "O" #1	Undesignated	Ismay	51,221	87,153
Shell Oil Co.	Navajo 23-11	E. Boundary Butte #8	Paradox	14,591	468,367
	Navajo #2	" "	" "	8,137	265,203
	Navajo Wyoming Navajo #1	North Toh-Aclin	" "	11,306	479,944
	Navajo "H" #14-16	Twin Falls Creek	" "	29,714	138,264
				180,608	2,832,953
					2,832,953
<u>TOTAL NATURAL GAS</u>					