

P-W

PEABODY WATER WELL NAVAJO NO. 4 *W.W.*
NE/NW Sec 16-T35N-R18E, Navajo Co. 169

County Navajo

Area Black Mesa

Lease No. _____

Well Name PEABODY COAL COMPANY NAVAJO NO. 4 WATER WELL

~ 700 fwl 2350 fwl

Location NE/NW Sec 16 Twp 35N Range 18E Footage _____
Elev 6241 KB GR Spud _____ Completed _____ Total _____
Gr 6229 KB Date _____ Abandon 5/1968 Depth 3547

Contractor _____

Casing Size _____ Depth _____ Cement _____

Drilled by Rotary _____
Cable Tool _____

Production Horizon _____

Initial Production _____

REMARKS _____

Elec Logs INDUCTION GAMMA RAY LOG
Applic. Plugging Completion
to Plug _____ Record _____ Report _____

Sample Log _____
Sample Descript. _____
Sample Set _____
Core Analysis _____
DSTs _____

Water well accepted by _____

Bond Co. & No. _____

Bond Am't \$ _____ Cancelled _____ Date _____
Organization Report _____

Filing Receipt _____ Dated _____ Well Book _____ Plat Book _____

Loc. Plat _____ Dedication _____

API NO. _____

Permit Number _____ Date Issued _____

W.W. 169

WN 169

NAVAJO No. 4 WELL
LITHOLOGIC SAMPLE LOG

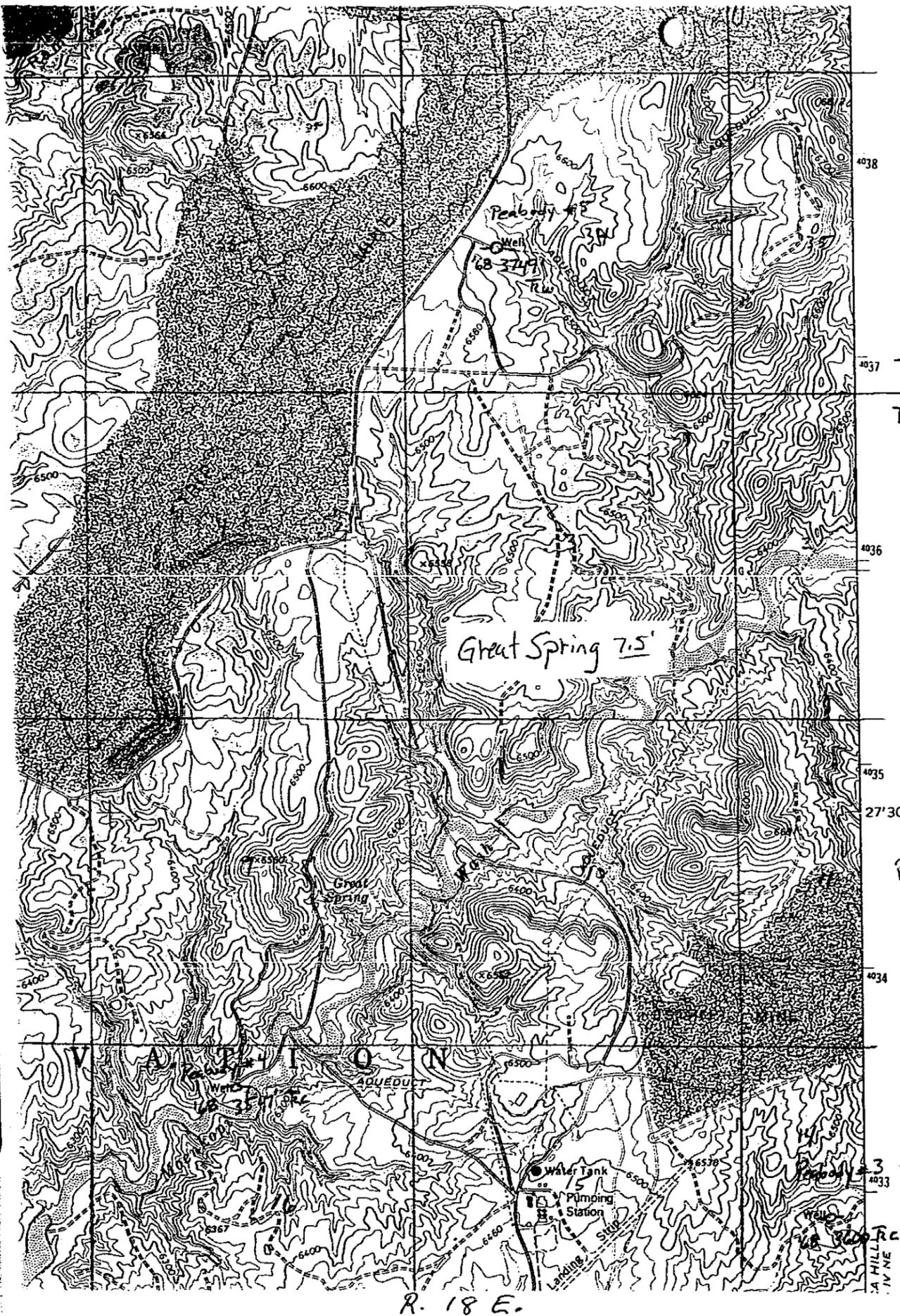
	<u>Depth Interval</u>	<u>Lithologic Description</u>
Mesa Verde	150 - 160	Sandstone-siltstone, gray with carbonaceous material.
	160 - 200	Sandstone, light gray, fine grained.
	200 - 220	Sandstone-siltstone, light gray with carbonaceous material.
	220 - 250	Sandstone, light gray, calcareous, medium grained, well indurated, quartz and mica.
	250 - 270	Coal, silty with 10% sandstone as above.
	270 - 310	Coal and black carbonaceous siltstone with light gray friable coarse grained sandstone.
	310 - 320	Siltstone-shale, carbonaceous with coal.
	320 - 370	Sandstone, light gray, coarse grained, friable with angular quartz grains; trace of coal.
	370 - 440	Sandstone, light gray, medium to fine grained calcareous with some black carbonaceous shale.
	440 - 470	Sandstone, light gray and shale with calcite crystals.
470 - 480	Sandstone (90%), light gray and shale (10%) light gray with trace of coal.	
Mancos	480 - 510	Same as above with 80% sandstone and 20% shale.
	510 - 530	Sandstone (60%) and shale (40%) as above.
	530 - 550	Shale (50%), dark gray, and light gray medium grained sandstone. (50%)
	550 - 570	Shale, dark gray.
	570 - 580	Shale (95%) dark gray with 5% gray sandstone.
	580 - 600	Same as above but with only a trace of sandstone.
	600 - 680	Shale, dark gray.
	680 - 690	Same as above with a trace of soft light gray shale.
	690 - 790	Shale, dark gray.
	790 - 800	Same as above, fossils.
	800 - 850	Shale, dark gray.
	850 - 860	Shale, dark gray with trace of light gray, fine grained sandstone with carbonaceous material.
	860 - 880	Shale, dark gray.
	880 - 890	Shale, dark gray with fossils and light gray sandstone.
	890 - 1000	Shale, dark gray with trace of light gray bentonitic clay.
	1000 - 1020	Shale, dark gray with trace of quartz grains.
	1020 - 1030	Shale, dark gray with trace of gray fine grain sandstone.
	1030 - 1050	Shale, dark gray.
1050 - 1080	Shale, dark gray with trace of gray fine grain sandstone.	
1080 - 1090	Shale, dark gray with trace of reddish shale and fine grained sandstone.	

Navajo No. 4 Well (continued)

Depth Interval		Lithologic Description
1090	1120	1105 Shale (50%), dark gray and light gray medium grain well indurated sandstone; carbonaceous with mica.
1120	1170	Sandstone (80%) light gray, medium grained, quartz, hard and 20% dark gray shale.
1170	1190	Sandstone (90%) as above with a trace of green-blue shale and black shale cave.
1190	1220	Sandstone, white, medium grained with trace of green and purple shale.
1220	1230	1230 Sandstone, white green shale and trace of gray soft shale and purple brown soft shale.
1230	1250	Same as above with trace of reddish brown soft shale.
1250	1260	Shale, reddish brown and green, soft with some white sandstone.
1260	1270	Same as above with 30% sandstone.
1270	1290	Sandstone, white, medium grain and reddish brown shale with minor green shale.
1290	1300	Sandstone (60%) white and 35% reddish brown shale with trace of sticky green shale.
1300	1390	Shale, reddish brown, soft with white sandstone and green shale.
1390	1400	Sandstone, white, medium grain, friable with minor amounts of red and green shale.
1400	1410	Same as above with increase in reddish brown shale.
1410	1480	Sandstone (50%), white and 50% reddish brown shale with trace of tan and green shale.
1480	1500	Shale, reddish brown with minor amounts of white sandstone.
1500	1510	Sandstone, white, fine-medium grained, friable with some reddish brown shale.
1510	1520	Same as above with trace of reddish brown fine grained sandstone.
1520	1610	Sandstone, white and green, fine grained, soft with reddish brown and green shale.
1610	1640	Sandstone, white, fine grained, fair indurations with gray and green sandstone and reddish brown (cave?) and green shale.
1640	1660	Sandstone, light green and white, fine grained, fair induration and shale cave.
1660	1810	Sandstone, white, very fine grained with light green shale and red burn.
1810	1820	Sandstone, pink-reddish brown, very fine grained 10%.
1820	1850	Same as above but 20%.
1850	1950	Sandstone as above 90%.
1950	1970	Cement.
1970	2030	1980 Sandstone, reddish brown, very fine grained.
2030	2120	2140 Same as above with white, very fine grained sandstone. (5%)
2120	2300	2290 Shale, reddish brown and white bentonitic mudstone.
2300	2880	Sandstone, white and reddish brown, very fine grained.
2880	2900	No record.

Navajo No. 4 Well (continued)

		<u>Depth Interval</u>	<u>Lithologic Description</u>
		2900 - 3000	2990 Sandstone, pink-reddish brown, very fine grained with 10-20 shale, reddish brown cave.
Kayenta		3000 - 3020	Shale (30%)
		3020 - 3030	Shale, reddish brown and mottled blue gray (50%).
		3030 - 3040	Same as above with 80% shale.
		3040 - 3150	Shale.
Wingate		3150 - 3180	3150 Sandstone, reddish brown very fine grained. (10%)
		3180 - 3250	Same as above with 80% sandstone.
		3250 - 3270	Poor sample.
		3270 - 3340	Sandstone, reddish brown, very fine grained.
		3340 - 3350	Sandstone as above with trace of chocolate brown shale.
		3350 - 3370	Sandstone as above.
Chinle		3370 - 3390	Sandstone as above with 5% chocolate brown shale.
		3390 - 3480	3465 Sandstone as above with claystone and shale.
		3480 - 3490	Sandstone as above with 10% reddish brown shale.
		3490 - 3540	Shale, reddish brown.





OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
ROOM 202
1624 WEST ADAMS
Phoenix, Arizona 85007
PHONE: 271-5161

October 2, 1969

Gentlemen:

There has been some misunderstanding expressed concerning my letter to you of September 24, 1969 referring to the wells drilled in the Black Mesa area of Navajo County, Arizona, by Peabody Coal Company.

This information was released for you should you wish to publish same.

Yours truly,

John Bannister
John Bannister
Executive Secretary

Western Oil Reporter
Oil & Gas Journal
P.I.
Utah Oil Report
Munger Oilgram
SW Oil & Gas News
Ariz Natl Resource Serv

September 29, 1969

Mr. Guido Zecca
Gallup Blueprint & Engineering Corp.
303 South 2nd Street
Gallup, New Mexico 87301

Dear Mr. Zecca:

The Arizona Oil and Gas Conservation Commission is releasing all logs and related information concerning six deep water wells drilled by Peabody Coal Company at Black Mesa, Arizona, on the Navajo Reservation.

Under separate cover we are sending you the sepias of the well logs, and a location plat, on a loan basis.

Our release to industry states that interested individuals may obtain a copy of this material from Gallup Blueprint and Engineering Corporation, 303 South 2nd Street, Gallup, New Mexico, Telephone no. (505) 863-9396.

It is our understanding that you have complete responsibility for the handling and sale of this material, and are prepared to render prompt service.

Very truly yours,

John Bannister
Executive Secretary

/vb

Resubmitted

September 24, 1969

Mr. Paul Lewis
Pan American Oil Co.
501 Airport Drive
Farmington, New Mexico 87401

Dear Paul:

I attempted to call you earlier today and failed to get through. I would appreciate it if you would release the attached information at your next scout check.

The Commission does have logs on the wells and, as you noted, we made arrangements for the commercial purchase of this information.

Hope to see you soon.

Sincerely,

John Bannister
Executive Secretary

/vb

Enc.

OFFICE OF
Oil and Gas Conservation Commission
STATE OF ARIZONA
ROOM 202
1624 WEST ADAMS
Phoenix, Arizona 85007
PHONE: 271-5161

September 24, 1969

Gentlemen:

The Arizona Oil and Gas Conservation Commission has released all available information concerning six deep water wells drilled since 1965 in the Black Mesa area, Navajo County, Arizona, on the Navajo Reservation, by Peabody Coal Company.

Shows of oil and gas were encountered in the Dakota during the drilling of one well which had 43 feet of indicated log porosity. A heavy oil scum covered the mud pits, and gas bubbles were visible in the flow line. No shows were reported in the other five wells. All of the wells exhibit considerable structural deformation, and all penetrated the Coconino formation.

A packet of information containing logs and a location plat is available from Gallup Blueprint & Engineering Corp., 303 South 2nd St., Gallup, New Mexico 87301, Telephone No. (505) 863-9396.

Yours truly,

John Bannister
Executive Secretary

/vb

SAMPLE

Mr. Guido Zecca
Gallup Blueprint & Engineering Corp.
303 South 2nd Street
Gallup, New Mexico 87301

Dear Mr. Zecca:

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Under separate cover we are sending you the sepias of the well logs, and a location plat, on a loan basis.

Our release to industry states that interested individuals may obtain a copy of this material from Gallup Blueprint and Engineering Corp., 303 South 2nd Street, Gallup, New Mexico, Telephone No. (505) 863-9396.

It is our understanding that you have complete responsibility for the handling and sale of this material, and are prepared to render prompt service.

Very truly yours,

John Bannister

MINERALS DEPARTMENT

September 22, 1969

Mr. Guido Zecca
Gallup Blueprint & Engineering Corp.
303 South 2nd Street
Gallup, New Mexico 87301

Dear Mr. Zecca:

Delivered herewith are sepias of six wells drilled by Peabody Coal Co., at Black Mesa, in Navajo County, Arizona.

This material has been released by Peabody Coal Co., through the Arizona Oil and Gas Conservation Commission, of Phoenix, Arizona. They are preparing a letter of verification to you.

Interested operators may contact you for copies of this material. This office is not interested whatever in the selling or handling of copies purchased by interested persons, operators, companies, etc.

The following sepias have been loaned to you this date:

Well #1	6 sepias
Well #2	1 sepia
Well #3	1 sepia
Well #4	1 sepia
Well #5	1 sepia
Well #6	1 sepia
<u>TOTAL</u>	<u>11 sepias.</u>

Very truly yours,

/S/ PERRY K. HURLBUT

Perry K. Hurlbut
Minerals Supervisor

Barniotell
Attachments
cc: Chrono
File
PKH:bjm:9/22/69

Memo to Mr. Bannister

September 22, 1969

Memo from J. Lambert

P. K. Hurlbut called today. He is mailing material on the #1 well. Same cover he is furnishing you a letter for the public release for P. I. and many others. He requests that you release the letter as nearly as he has written it as possible. He says that he has labored hard over the text of this letter and hopes that you will see fit to let it go as is. He also has included a letter that he would like for you to send to blue print company at Gallup. He has no druthers on this particular letter.

He has furnished them sepias of the logs on the #1, 2, 3, 4, 5, and 6 wells on a loan basis and apparently this letter is just the Commission's verification of this situation.

He would like for you to release these letters Wednesday if you have the time and inclination. He will talk to you on Monday the 29th or Tuesday the 30th.

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THE NAVAJO TRIBE
WINDOW ROCK, ARIZONA
MINERALS DEPARTMENT

RAYMOND NAKAI
CHAIRMAN, Navajo Tribal Council

NELSON DAMON
VICE CHAIRMAN, Navajo Tribal Council



September 22, 1969

Mr. John Bannister
Arizona Oil and Gas Conservation Commission
1624 West Adams, Room 202
Phoenix, Arizona 85007

Dear John:

The following is a suggested release to P.I. and other agencies concerning the Peabody water wells at Black Mesa:

OIL AND GAS SHOWS REPORTED

The Arizona Oil and Gas Conservation Commission has released all ^{available} information concerning six deep water wells drilled since 1965 in the Black Mesa area, Navajo County, Arizona, on the Navajo Reservation, *by Peabody Coal Co.*

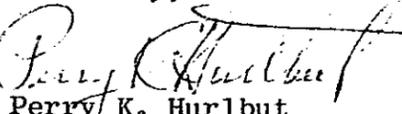
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A packet of information containing logs and a location plat is available from Gallup Blueprint & Engineering Corp., 303 South 2nd St., Gallup, New Mexico 87301. Telephone No. (505) 863-9396.

We have this date loaned the sepias of these logs, and a location plat, to Gallup Blueprint. The packet of material they will supply includes one copy each of all logs and the location plat.

We certainly appreciate your assistance in this matter.

Sincerely,


Perry K. Hurlbut
Minerals Supervisor

9-16-69

Jaham — a
letter will follow.

Just stick these
in your files.

Mum's the word
until I get the rest of
the facts to you.

about 1 week

PTA

THE NAVAJO TRIBE
WINDOW ROCK, ARIZONA
MINERALS DEPARTMENT

RAYMOND NAKAI
CHAIRMAN, Navajo Tribal Council

NELSON DAMON
VICE CHAIRMAN, Navajo Tribal Council



August 8, 1969

Mr. James Scurlock
Arizona Oil and Gas Conservation Commission
1624 West Adams, Room 202
Phoenix, Arizona 85007

Dear Mr. Scurlock:

The correct log top for the Pdc in the Peabody #1 water well at Black Mesa is 4963. Measured from the KB of 6403, this results in a datum of + 1440.

The other five wells did not penetrate the Pdc. However, if you are interested I can give you the Kd datums.

Sincerely yours,

Perry K. Hurlbut
Perry K. Hurlbut
Minerals Supervisor



THE NAVAJO TRIBE
WINDOW ROCK, ARIZONA
MINERALS DEPARTMENT

RAYMOND NAKAI
CHAIRMAN, Navajo Tribal Council

NELSON DAMON
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August 8, 1969

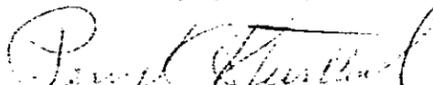
Mr. James Scurlock
Arizona Oil and Gas Conservation Commission
1624 West Adams, Room 202
Phoenix, Arizona 85007

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Sincerely yours,


Perry K. Hurlbut
Minerals Supervisor



Peabody

- #1 C-20-36N-18E
- 2, SE SE ~~SE~~ " "
- 3, SWNW 14-35N-18E
- 4, NE NW 16-35N-18E
- 5, NE SW 34-36N-18E
- 6. C-N $\frac{1}{2}$ N $\frac{1}{2}$ 26-36N-18E

Elev:

- 1 6403 KB
 - 2 6552 KB
 - 3 6458 KB
 - 4 6241 KB
 - 5 6606 KB
 - 6. 6686 KB
- ~~6606 KB~~
- TKA

T.D.

- 1- 5149
- 2. 3642
- 3. ~~3742~~ 3607
- 4. 3527
- 5. 3742
- 6. 3564