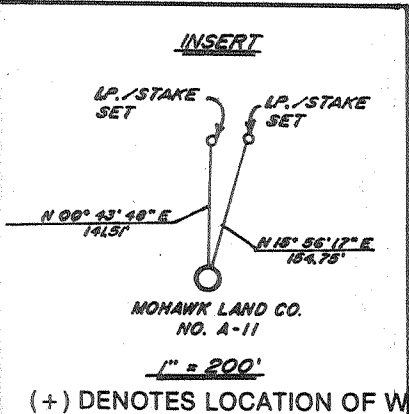
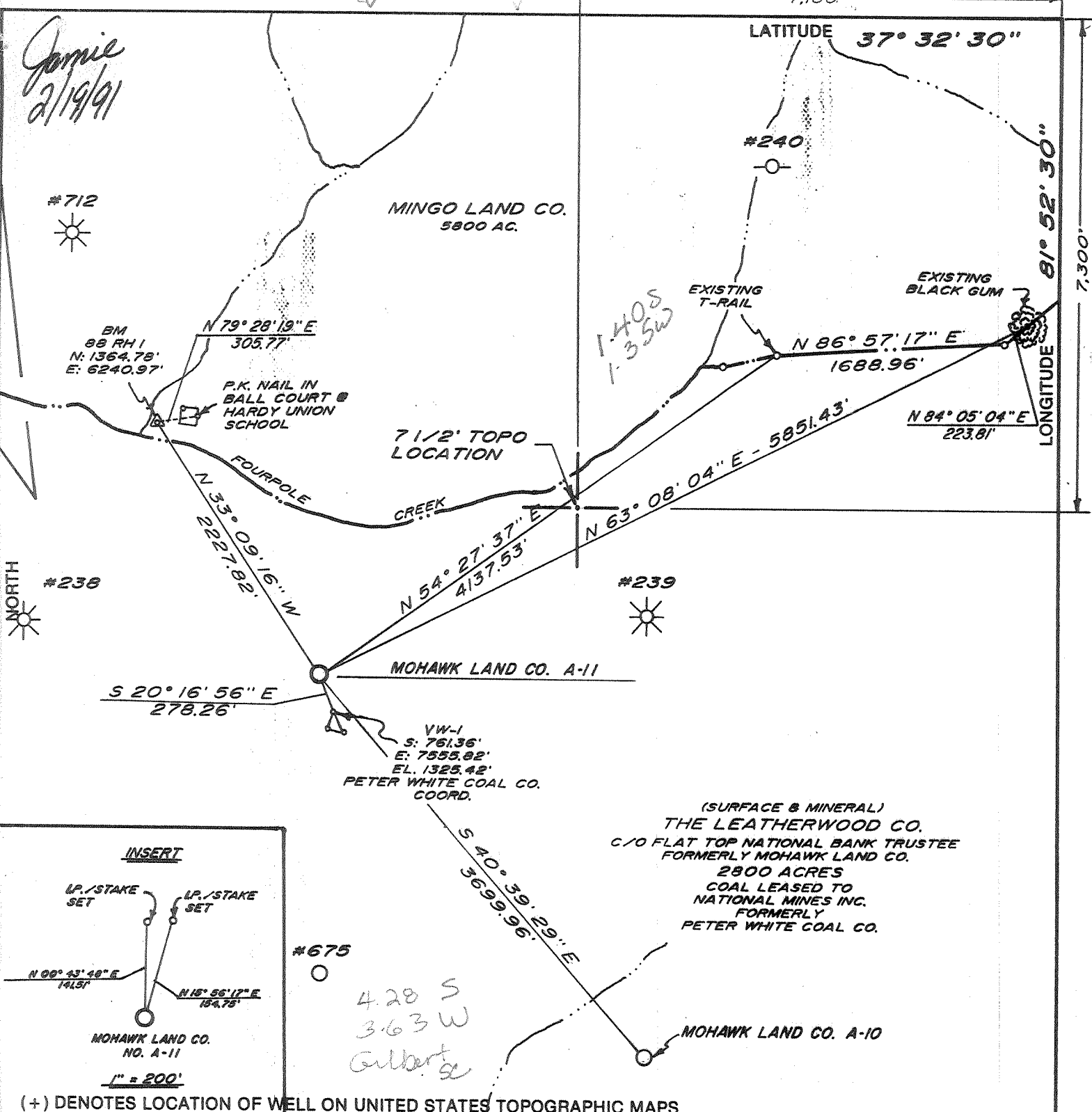


*Jamie*  
*2/19/91*



(SURFACE & MINERAL)  
THE LEATHERWOOD CO.  
C/O FLAT TOP NATIONAL BANK TRUSTEE  
FORMERLY MOHAWK LAND CO.  
2800 ACRES  
COAL LEASED TO  
NATIONAL MINES INC.  
FORMERLY  
PETER WHITE COAL CO.

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1:2500'  
PROVEN SOURCE OF ELEVATION N.G.S. BM 88 RH I  
ELEV. 1036.0'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY  
(SIGNED) *James D. Puts*  
R.P.E. \_\_\_\_\_ L.L.S. 837-SU

PLACE SEAL HERE

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENERGY**  
**OIL AND GAS DIVISION**

DATE JAN. 22, 19 91  
OPERATOR'S WELL NO. MOHAWK LAND CO.  
API WELL NO. A-11 S.N. 133621

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X

LOCATION: ELEVATION 1260.26' WATER SHED FOUR POLE CREEK OF TUG RIVER  
DISTRICT SANDY RIVER 6 COUNTY McDOWELL  
QUADRANGLE WHARNCLIFFE

SURFACE OWNER THE LEATHERWOOD CO. ACREAGE 2800  
OIL & GAS ROYALTY OWNER THE LEATHERWOOD CO. LEASE ACREAGE 2800  
LEASE NO. 80510

PROPOSED WORK: DRILL X CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION DEVONIAN SHALE ESTIMATED DEPTH 5650' KB

WELL OPERATOR ASHLAND EXPLORATION INC. DESIGNATED AGENT FORREST BURKETT  
ADDRESS P.O. BOX 391 ASHLAND, KY. 41114 ADDRESS P.O. BOX 379 BRENTON, WV 24818

*DEEP WELL 6-6 Huff Creek (303)*

COUNTY NAME  
PERMIT

RECEIVED  
WV Division of  
Environmental Protection

APR 07 92

Permitting  
Office of Oil & Gas

State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

25-Feb-91  
API # 47-47-01112

Reviewed TMB  
Recorded \_\_\_\_\_

Well Operator's Report of Well Work

Farm name: LEATHERWOOD COMPANY, THE

Operator Well No.: A-11-S-133621

LOCATION: Elevation: 1260.26

Quadrangle: WHARNCLIFFE

District: SANDY RIVER  
Latitude: 7300 Feet South of 37  
Longitude: 7180 Feet West of 81

County: MCDOWELL  
Deg. 32 Min. 30 Sec.  
Deg. 52 Min. 30 Sec.

Company: ASHLAND EXPLORATION, INC.  
P. O. BOX 391, A1-6  
ASHLAND, KY 41114-0391

Agent: FORREST BURKETT

Inspector: TIM BENNETT

Permit Issued: 02/25/91  
Well work Commenced: 12/18/91  
Well work Completed: 03/18/92

Verbal Plugging: \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary X Cable \_\_\_\_\_ Rig  
Total Depth (feet) 5650'  
Fresh water depths (ft) \_\_\_\_\_  
Damp 440'  
Salt water depths (ft) \_\_\_\_\_  
None noted

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): 360-365

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			
16"	60'	60'	17.7
8 5/8"	1758'	1758'	750
5 1/2"	5617'	5617'	964
1.9" @	5501'KB	w/ pkr @	3736'
1.9" @	3697'		

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 4182-5549  
Gas: Initial open flow -0- MCF/d Oil: Initial open flow -0- Bbl/d  
Final open flow \* 461 MCF/d Final open flow -0- Bbl/d  
Time of open flow between initial and final tests 3 Hours  
Static rock pressure 360# psig (surface pressure) after 72 Hours

Second producing formation Berea Pay zone depth (ft) 3667-3685  
Big Lime Pay zone depth (ft) 2942-3050  
Gas: Initial open flow 119 MCF/d Oil: Initial open flow -0- Bbl/d  
Final open flow 461 MCF/d Final open flow -0- Bbl/d  
Time of open flow between initial and final tests 3 Hours  
Static rock Pressure 405 psig (surface pressure) after 72 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1. DETAILS OF PERFORATED INTERVALS, FRACTURING OF STIMULATING, PHYSICAL CHANGE, ETC. 2.) THE WELL LOG WHICH IS A SYSTEMATIC DETIALED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: ASHLAND EXPLORATION, INC  
By: James L. Stephens James L. Stephens, Eng. Tech.  
Date: 4-2-92

Formation on Rock Type	<u>TOP</u>	<u>BASE</u>
Sand and Shale	0	1928
Pennington formation	1928	2613
Ravenscliff 1928-2068		
U. Maxton 2214-2380		
Little Lime	2613	2692
Big Lime	2692	3064
Borden formation	3064	3632
Weir 3220-3311		
Coffee Shale	3632	3662
Berea	3662	3690
Devonian Shale	3690	5633
Gordon 3922-3984		
Onondaga Ls	5633	TD
DTD 5650		
LTD 5651		

8 5/8" casing cemented to surface on primary job.

#### Well Treatment

Perf Rhinestreet 19H/5273-5549. N<sub>2</sub> frac using 500 gal. 7 1/2% inh. fe acid, 805,000 scf N<sub>2</sub> @ 102,000 scf/min. BD @ 3418#, ATP 3708#, MTP 3750#, ISIP 2195#.

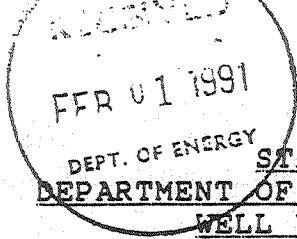
Perf L. Huron 22H/4610-5050. N<sub>2</sub> frac using 500 gal. 7 1/2% fe acid, 817,000 scf N<sub>2</sub> @ 105,000 scf/min. BD @ 2742#, ATP 3100#, MTP 3266#, ISIP 3212.

Perf Chagrin 18H/3783-4182. N<sub>2</sub> frac using 500 gal 7 1/2% fe acid, 807,000 scf N<sub>2</sub> @ 101,000 scf/min. BD 2165#, ATP 2656, MTP 2762#, ISIP 2695#.

Perf Berea 25H/3667-3685. 75 Quality foam frac using 10 #/1000 gal, 79,000# 20/40 sand, 380,000 scf N<sub>2</sub> @ 7600 scf/min. BD @ 1172#, ATP 1219 @ 20 BPM foam rate, MTP 2638, ISIP 2640#.

Perf Big Lime 12H/2942-3050, foam acidize using 500 gal 15% inh fe acid, 8000 gal inh. fe acid w/ 219,000 scf N<sub>2</sub> @ 5100 scf/min. BD @ 1204#, ATP 1153 @ 5 BPM acid rate, MTP 1247#, ISIP 1247#.

12811



047-1112  
Issued 2/25/91  
Expires 2/25/93  
Page 1 of 1

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

- 1) Well Operator: <sup>43</sup> Ashland Exploration, Inc. 2750 (6) 671  
Mohawk Land Company
- 2) Operator's Well Number: A-11, Serial #133621 3) Elevation: 1260.26
- 4) Well type: (a) Oil \_\_\_ / or Gas X /  
(b) If Gas: Production X / Underground Storage \_\_\_ /  
Deep \_\_\_ / Shallow X /
- 5) Proposed Target Formation(s): <sup>401</sup> Devonian Shale
- 6) Proposed Total Depth: 5650'KB feet
- 7) Approximate fresh water strata depths: 285'KB (Map WV-12)
- 8) Approximate salt water depths: 860'KB (Map WV-12)
- 9) Approximate coal seam depths: Not Operated - Solid Coal
- 10) Does land contain coal seams tributary to active mine? Yes \_\_\_ / No X /
- 11) Proposed Well Work: *Drill & Stimulate New Well*
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	16	LS	42.0	30	30	CTS
Fresh Water						<i>39CSR18-11.3</i>
Coal						<i>39CSR18-11.2.2</i>
Intermediate	8 5/8	J55	24.0	1750	1750	CTS
Production	5 1/2	J55	15.5	5650	5650	<i>30CSR18-11.1</i> As Needed
Tubing	1.9	J55	2.76	-	5600	Siphon
Liners						

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

5060a1  
#5

For Division of Oil and Gas Use Only

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP  
 Plat  WW-9  WW-2B  Bond *Surety Blanket*  Agent  
(Type)



1) Date: January 31, 1991  
2) Operator's well number  
Mohawk Land Company #A-11, Serial #133621  
3) API Well No: 47 - 047 - 1112  
State - County - Permit

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>The Leatherwood Company</u> Address <u>c/o Flat Top National Bank</u> <u>Box 950, Bluefield, WV 24701</u></p> <p>(b) Name _____ Address _____</p> <p>(c) Name _____ Address _____</p>	<p>5) (a) Coal Operator:</p> <p>Name <u>N/A</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration Name <u>The Leatherwood Company</u> Address <u>Same as No. 4(a)</u></p> <p>Name _____ Address _____</p> <p>(c) Coal Lessee with Declaration Name <u>Peter White Coal Mining Corp.</u> Address <u>P.O. Box 960</u> <u>Pineville, WV 24874</u></p>
<p>6) Inspector <u>Tim Bennett</u> Address <u>Route 2, Box 61-B</u> <u>Chapmanville, WV 25508</u> Telephone (304)-<u>855-7705</u></p>	

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

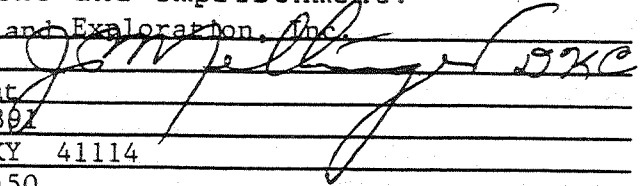
I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 2 on the above named parties, by:

- \_\_\_\_\_ Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Ashland Exploration, Inc.  
 By: J. T. Mellinger   
 Its: Vice President  
 Address P.O. Box 301  
Ashland, KY 41114  
 Telephone 606-329-5450

Subscribed and sworn before me this 31st day of January, 1991

Hicki W. Santa Notary Public  
 My commission expires November 23, 1994

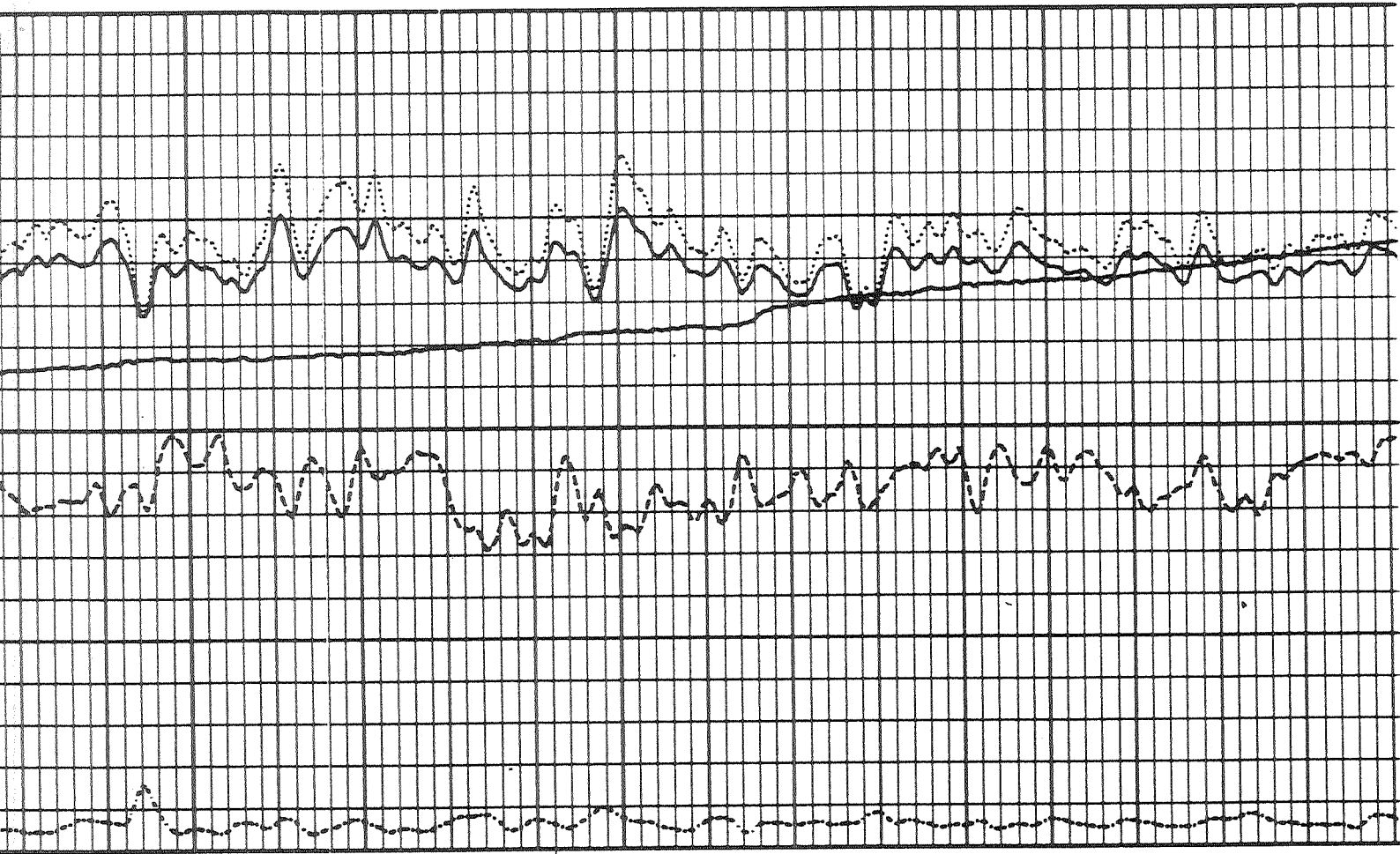
Tight Formations Qualified  
& marked: Berea & Big lime

DS GRI marked

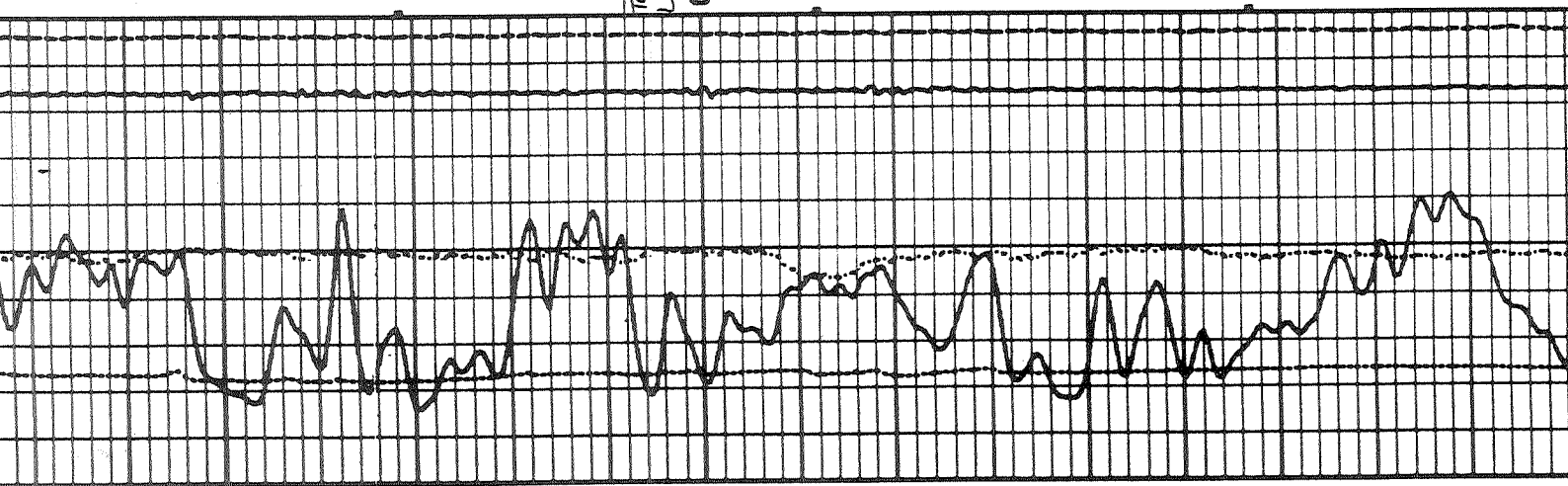


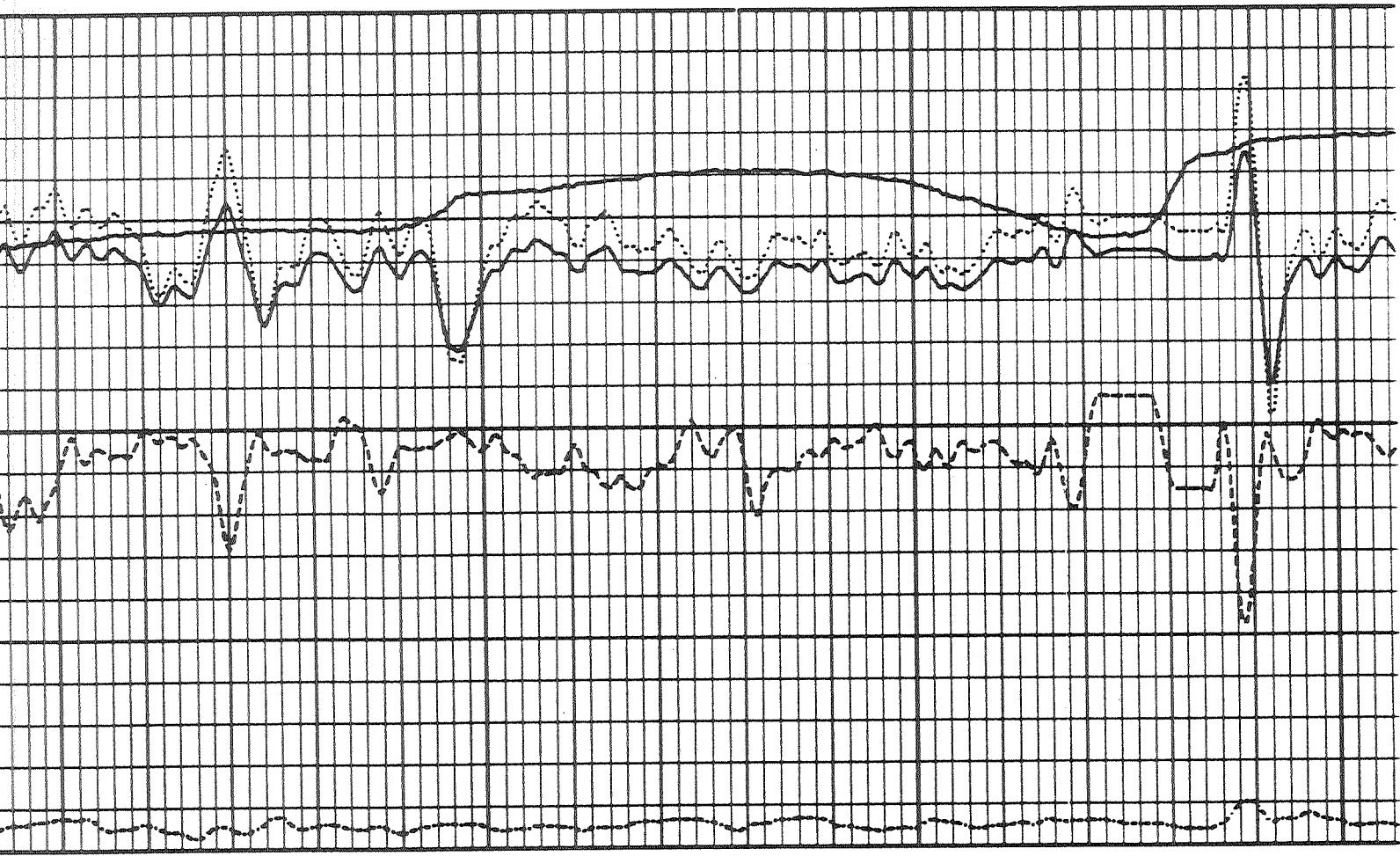
# SPECTRAL DENSITY AUDIO — TEMPERATURE LOG

COMPANY _____ WELL _____ FIELD _____ COUNTY _____ STATE _____	COMPANY <u>ASHLAND EXPLORATION, INC.</u>			
	WELL <u>MOHAWK LAND CO. NO. A-11 (OXY)</u>			
	FIELD <u>-----</u>			
	COUNTY <u>McDOWELL</u>		STATE <u>WEST VIRGINIA</u>	
API No: <u>47-047-1112</u>		Other Services:		
Location: <u>7300'S of 37° 32' 30"</u> <u>7180'W of 81° 52' 30"</u> DIST: SANDY RIVER QUAD: WHARNCLIFFE W.S.: POLE FORK CREEK OF TUB RIVER		DI		
Sec. _____ Twp _____ Rge _____				
Permanent Datum <u>GL</u> Elev. <u>1260</u>		Elev.: K.B. <u>1270</u>		
Log Measured From <u>KB</u> <u>10</u> Ft. Above Perm. Datum		D.F. <u>1269</u>		
Drilling Measured From <u>KB</u>		G.L. <u>1260</u>		
Date	<u>1-1-92</u>			
Run No.	<u>One</u>			
Depth—Driller	<u>5650</u>			
Depth—Logger	<u>5651</u>			
Btm. Log Inter.	<u>5649</u>			
Top Log Inter.	<u>1764</u>			
Casing—Driller	<u>8 5/8 @ 1757</u>	@	@	@
Casing—Logger	<u>1764</u>			
Bit Size	<u>7 7/8</u>			
Type Fluid in Hole	<u>Air</u>			
Dens.   Visc.	-   -			
pH   Fluid Loss	-   - ml	ml	ml	ml
Source of Sample	-			
R <sub>m</sub> @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
R <sub>mf</sub> @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
R <sub>mc</sub> @ Meas. Temp.	- @ - °F	@ °F	@ °F	@ °F
Source R <sub>mf</sub> R <sub>mc</sub>	-   -			
R <sub>m</sub> @ BHT	- @ - °F	@ °F	@ °F	@ °F
Time Since Circ	-			
Time On Bottom	<u>1021 Hours</u>			
Max. Rec. Temp.	<u>105 °F @ 5200</u>	°F @	°F @	°F @
Equip.   Location	<u>7633 Parkersburg</u>			
Recorded By	<u>Grant</u>			
Witnessed By	<u>Mr. White</u>			



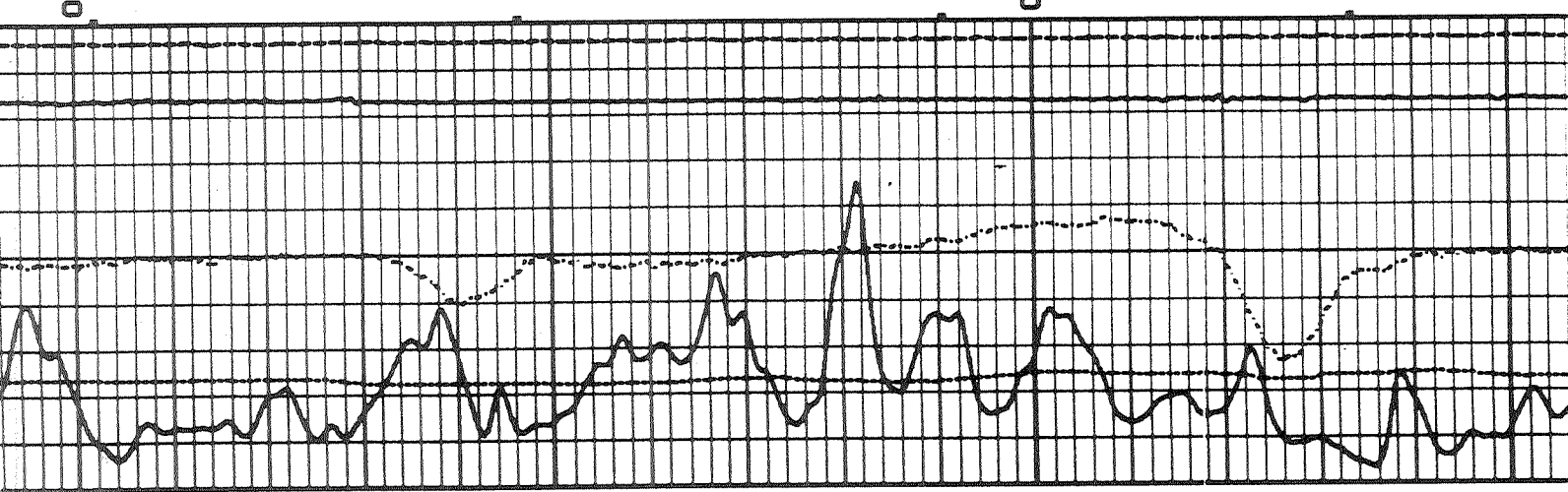
Top of Big.  
Line 2692  
02700



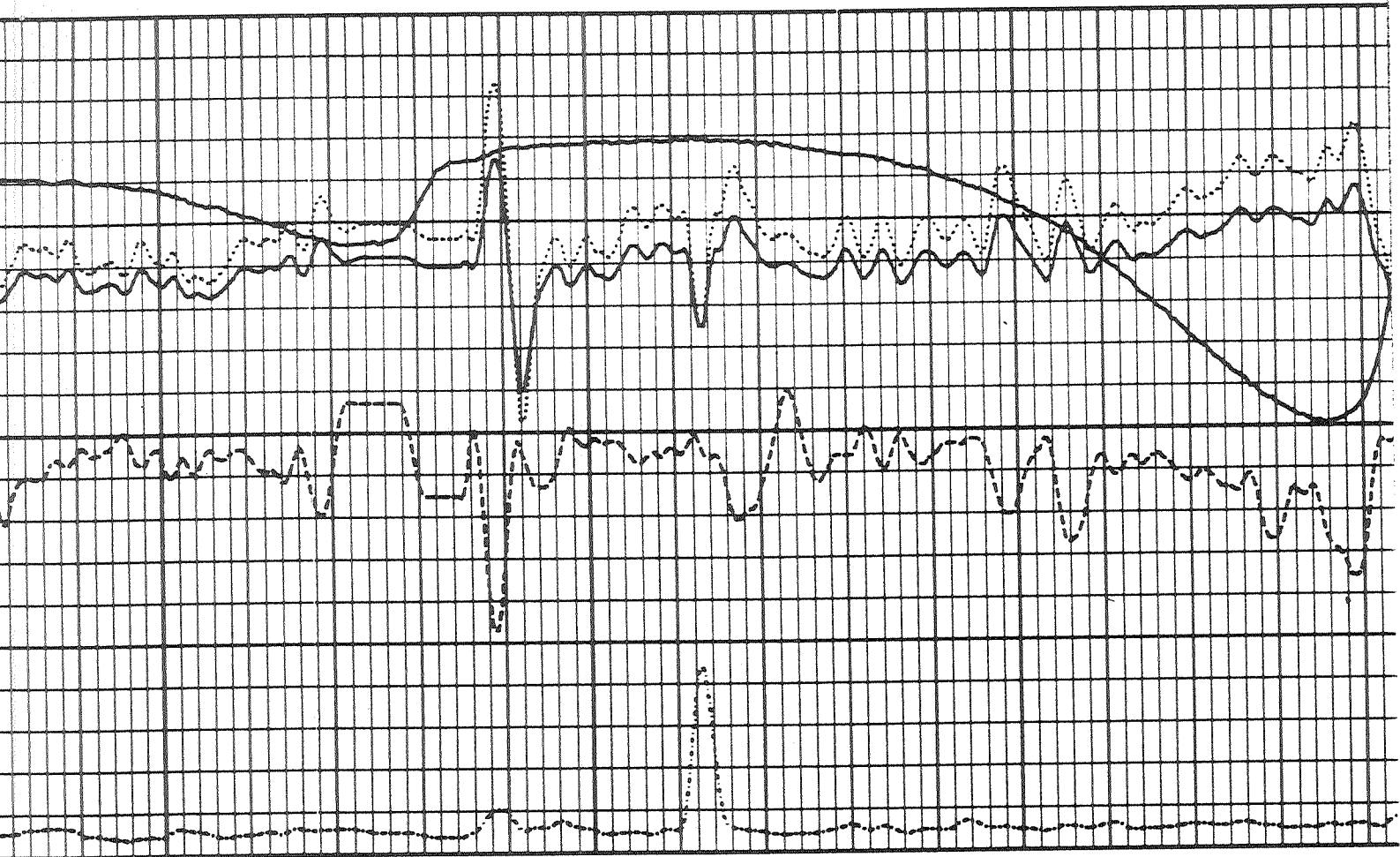


02800

02900

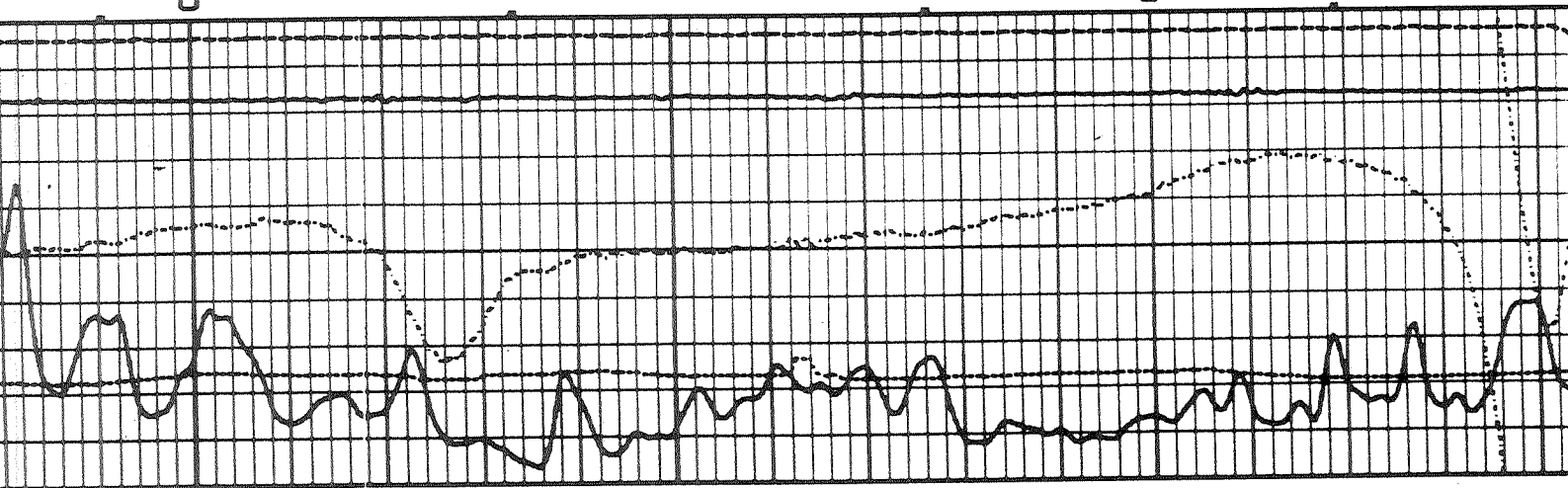


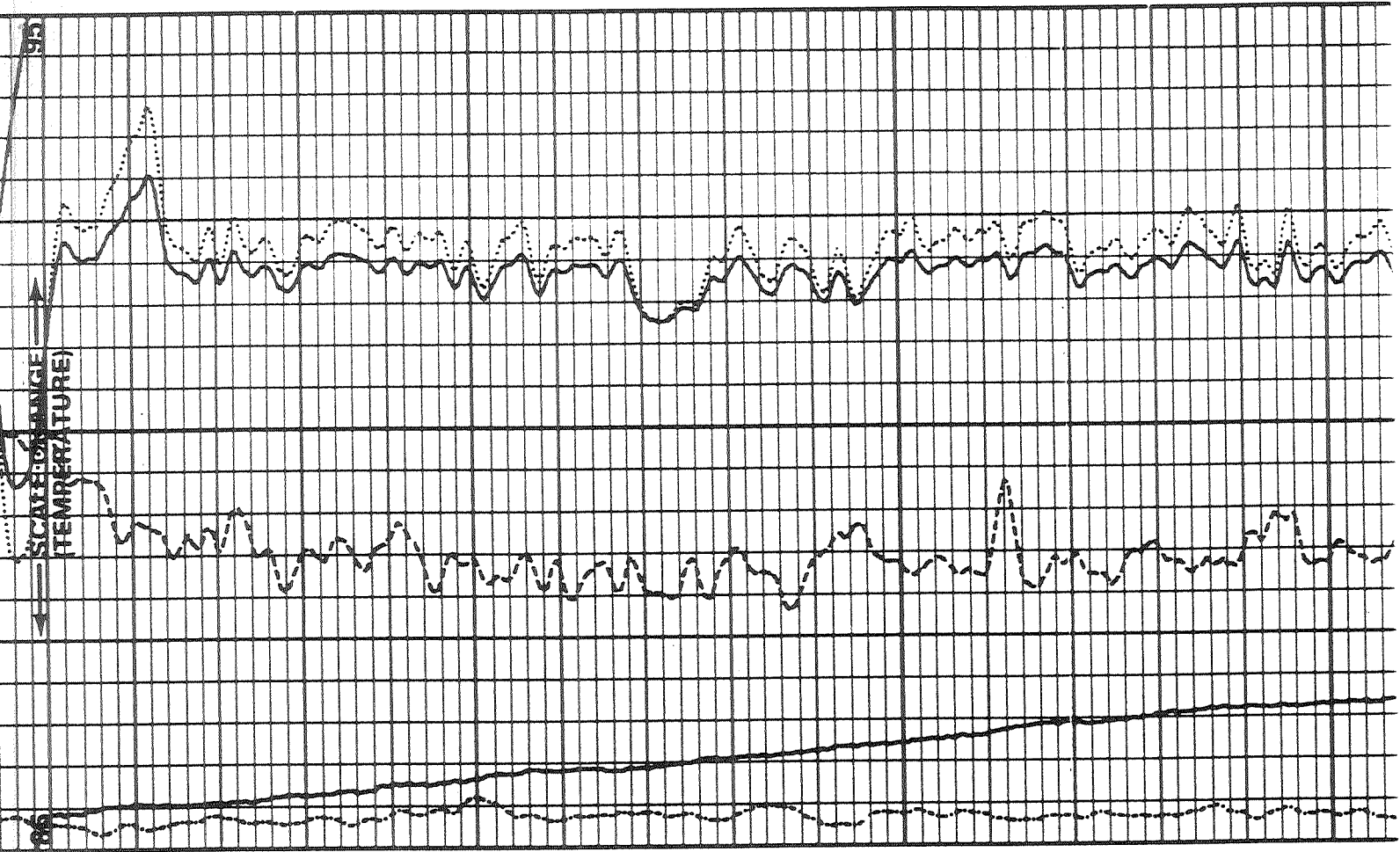




02900

03000

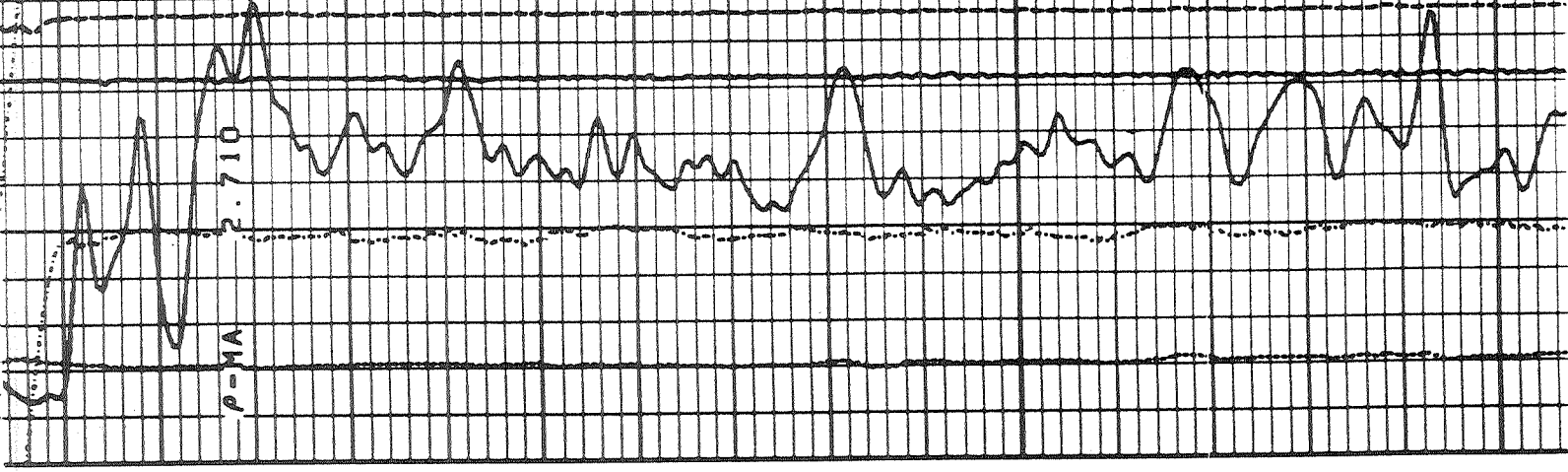




Base of Big  
Line 3064'

0310

0320

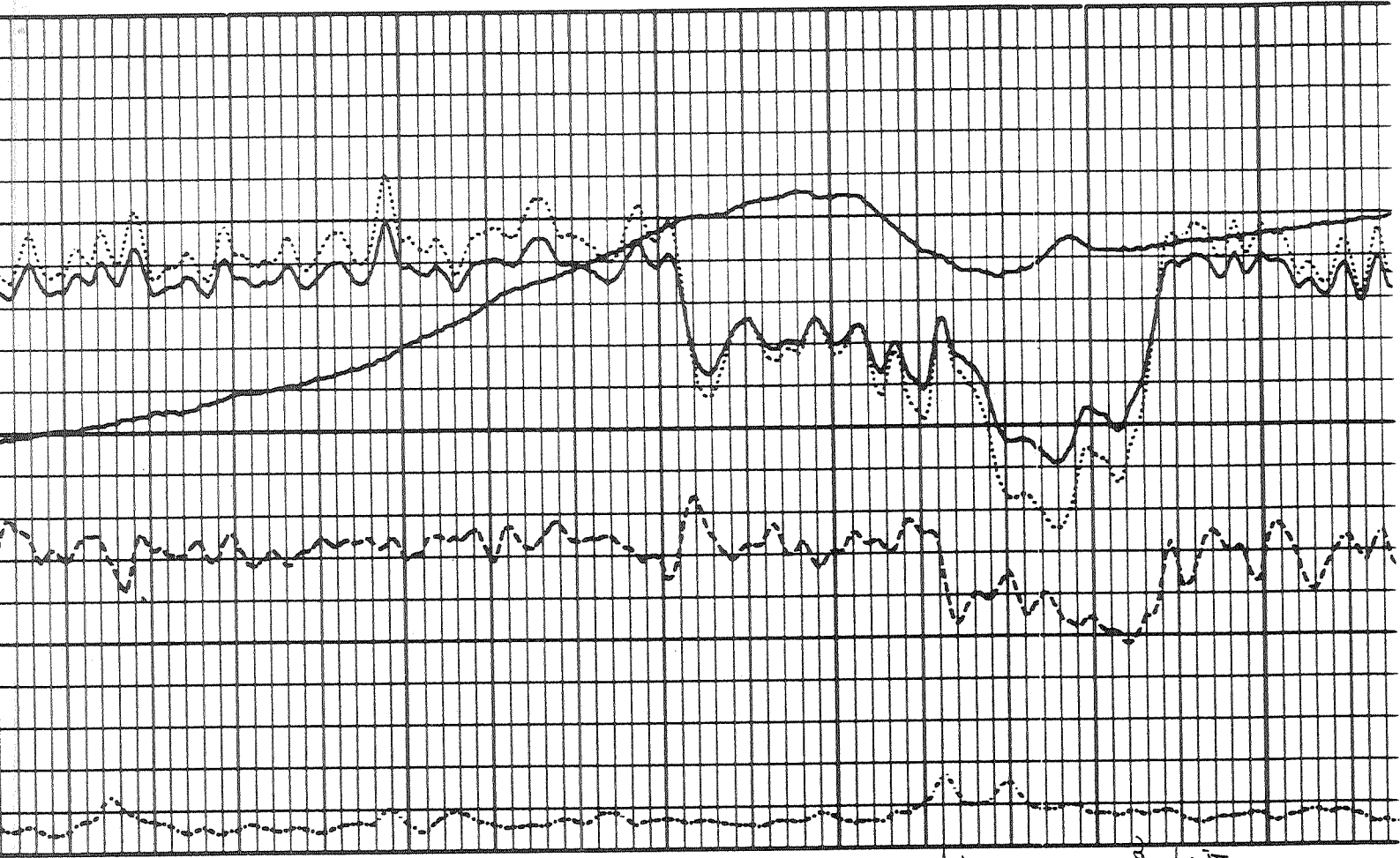


2.710

P-MA

0310

0320



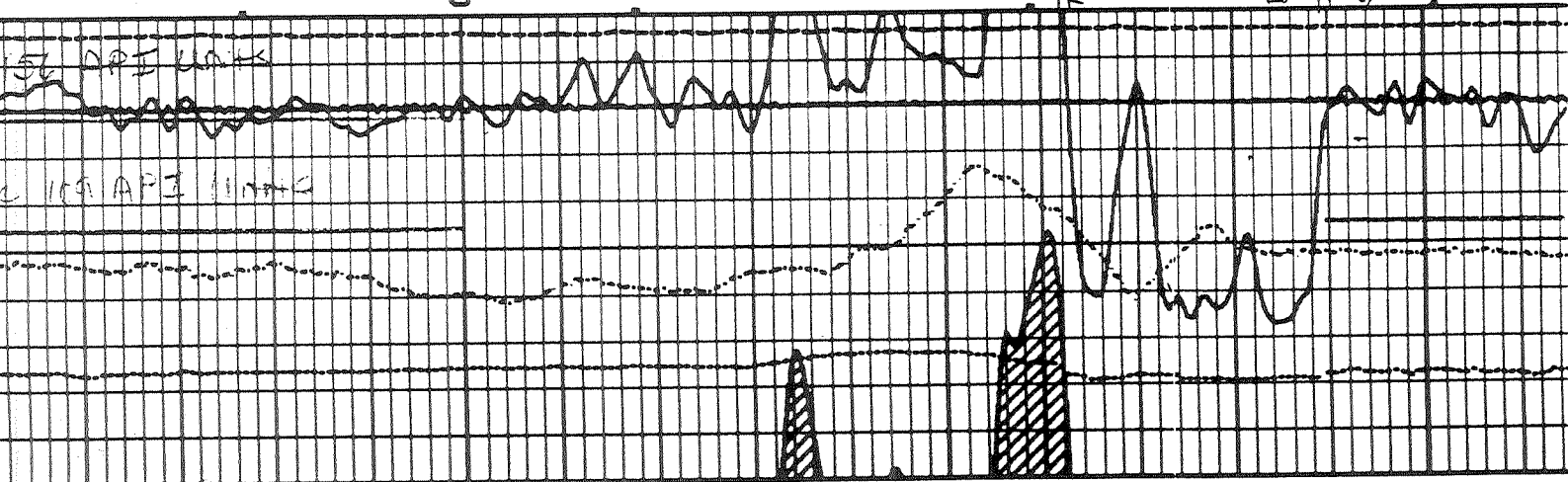
03600

Top of Berea  
3662'

Base of Berea  
3689'

Top of Dev.  
Shale 3689'

03700



52 API UNIT

169 API UNIT