





# DIVISION OF OIL & GAS Stude of Mest Mirginiu DEPT. OF ENERGY DEPARTMENT. OF ENERGY

Oil und Vas Bivision

Date 10/	/31/89			
Operator' Well No.	S #1			-
Farm Hic	kman			_
API NO.4	7 - 085	cear.	7874	

## WELL OPERATOR'S REFORT

## DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

DDRESS Rt. 2, Box 499, Grafton, W 26354  DESIGNATED AGENT George R. Williams  DDRESS Rt. 2, Box 499, Grafton, W 26354  SURFACE CWNER Dolph Hickman  ADDRESS Pennsboro, W  CHIERAL RIGHTS CWNER Dolph Hickman  ADDRESS Pennsboro, W  CHERAND GAS INSPECTOR FOR THIS WORK Sam  Hershman ADDRESS Harrisville, W 26362  PERMIT ISSUED 7/25/39  DRILLING COMMENCED 9/20/89  DRILLING COMMENCED 9/20/89  IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR  Liners  Casing Used in Left fill up  Tubing Drilling in Well Cu. ft.  Size 20-16 CONd.  13-10" 30' 0 none  8 5/8  1592 1592 surface  7  4 1/2 5345 5345 310 sxs.  CREMENT ISSUED 7/25/39  4 1/2 5345 5345 310 sxs.  DRILLING COMMENCED 9/20/89  Liners	CATION: Elevation: 1092 Waters					
CENERS Rt. 2, Box 499, Grafton, WV 26354 ESIGNATED ACENT George R. Williams DDDFISS Rt. 2, Box 499, Grafton, WV 26354 ESURFACE CANER Dolph Hickman DDDFSS Rt. 2, Box 499, Grafton, WV 26354 ESURFACE CANER Dolph Hickman DDDFSS Pannsboro, W HIERVAL RIGHTS CANER Dolph Sickman DDDFSS Pennsboro, W HIERVAL RIGHTS WARK Sam DDFSS Pennsboro, W HIERVAL RIGHTS HIE	District: Clay County	Ritch	ie	Quadrangle	Pennsbo	ro
CENERS Rt. 2, Box 499, Grafton, WV 26354 ESIGNATED ACENT George R. Williams DDDFISS Rt. 2, Box 499, Grafton, WV 26354 ESURFACE CANER Dolph Hickman DDDFSS Rt. 2, Box 499, Grafton, WV 26354 ESURFACE CANER Dolph Hickman DDDFSS Pannsboro, W HIERVAL RIGHTS CANER Dolph Sickman DDDFSS Pennsboro, W HIERVAL RIGHTS WARK Sam DDFSS Pennsboro, W HIERVAL RIGHTS HIE						
ESIGNATED MENI George R. Williams Tubing Drilling in Well Ou. ft.  DDRESS Rt. 2, Box 499, Grafton, WV 26354  SURFACE CWNER Dolph Hickman  DDRESS Bennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 1 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  NDDRESS Pennaboro, W 13-10" 30 0 none  MINERAL RIGHTS CWNER Dolph Hickman 9 5/8  MERSHaman NDDRESS Harrisville, W 26362  FILDRES PANNER Dolph Hickman 9 5/8  MERSHAMAN NDRESHANT MARK Sam 7 1592 surface  DORNILLING COMPLETED 10/30/89 3 3 1592 surface  DORNILLING COMPLETED 10/30/89 2 1 1/2 5345 5345 310 sxs.  DORNILLING COMPLETED 10/30/89 2 2 10 10 sxs.  DORNILLING COMPLETED 10/30/89 2 1 1/2 5345 5345 310 sxs.  DORNILLING COMPLETED 10/30/89 2 2 10 10 sxs.  DORNILLING COMPLETED 10/30/89 2 1 1/2 5345 5345 310 sxs.  DORNILLING COMPLETED 10/30/89 2 2 10 10 sxs.  DORNILLING COMPLETED 10/30/89 2 2 10 10 sxs.  DORNILLING COMPLETED 10/30/89 2 2 10 sx	DMPANY Appalachian Energy Dev., Inc.					
DDPESS Rt. 2, Box 499, Grafton, WV 26354  DDPESS Rt. 2, Box 499, Grafton, WV 26354  DDPESS Pannshoro, WV 13-10" 30 0 none  DDRESS Pennshoro, WV 26362  DL AND GAS INSPECTOR FOR THIS WORK Sam 7		4 (	Caşing	Used in	Left	i .
SURFACE COMER Dolph Hickman  DDRESS Pannshoro, W  HIRETAL RIGHTS COMER Dolph Hickman  DDRESS Pennsboro, W  DL AND GAS INSPECTOR FOR THIS WORK Sam  HERSHMAN ADDRESS Harrisville, W 26162  PERMIT ISSUED 7/12/34 4 1/2 5345 5345 310 sxs.  DRILLING COMPLETED 10/30/89  DRILLING COMPLETED 10/30/89  PER PAPELICABLE: PLUGGING OF DRY HOLE ON COMPINIOUS PROGRESSION FROM DRILLING OR PROFICESION FROM DRILLING OR DEPTH SAME AND THE PROFICESION FROM DRILLING OR PROFICESION FROM DRILLING OR DEPTH SAME AND THE PROFICESION FROM THE PROF	DESIGNATED AGENT George R. Williams	1	ct	Drilling	in Well	
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DDNESS Pennsboro, W  NORESS Pennsboro, W  NORESS Pennsboro, W  OTL AND GAS INSPECTOR FOR THIS WORK Sam  Hershman NORESS Harrisville, W 26362  FERMIT ISSUED 7/25/89  ORILLING COMENCED 9/20/89  ORILLING COMPLETED 10/30/89  IF APPLICABLE: FLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR PENORKING, VERBAL PERMISSION OBTAINED  OR  CEDIOGICAL TARGET FORMATION Alexander/Benson/Riley Depth 5227 fee  Coal seam depths: Is coal being mined in the area?no  OPIN FLOW DATA NOTE: These zones are downhole commingled. Producing formation Alexander/Benson/Riley Pay zone depth detail fee  Gas: Initial open flow 45 Mcf/d Oil: Initial open flow 0 Bbl  Time of open flow between initial and final tests 4 hours  Static rock pressure 1725 psig(surface measurement) after 48 hours shut  (If applicable due to multiple completion)  Second producing formation Pay zone depth fee  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl	SURFACE OWNER Dolph Hickman	- 1				
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PERMIT ISSUED 7/2-/39  ORILLING COMMERCED 9/20/89  ORILLING COMMERCED 9/20/89  IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR PENDRKING. VERRAL PERMISSION OBTAINED  ORD  GEOLOGICAL TARGET FORMATION Alexander/Benson/Rilev Depth 5227 feet  Depth of completed well 5412 feet Rotary x / Cable Tools  Water strata depth: Fresh 85 feet; Salt 1510 feet  Coal seam depths: Is coal being mined in the area?no  OPEN FLOW DATA NOTE: These zones are downhole commingled. See perf.  Producing formation Alexander/Benson/Rilev Pay zone depth detail feet  Gas: Initial open flow 45 Mcf/d Oil: Initial open flow 0 Bbl.  Final open flow 820 Mcf/d Final open flow 0 Bbl.  Time of open flow between initial and final tests 4 hours shut  (If applicable due to multiple completion)  Second producing formation Pay zone depth fee  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests Bbl  Time of open flow between initial and final tests Bbl  Time of open flow between initial and final tests Bbl	Hershman ADDRESS Harrisville, WV 2	363 F				
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Depth of completed well 5412 feet Rotary x / Cable Tools  Water strata depth: Fresh 85 feet; Salt 1510 feet  Coal seam depths: Is coal being mined in the area?no  OPEN FLOW DATA  NOTE: These zones are downhole commingled. See perf. Producing formation Alexander/Benson/Riley Pay zone depth detail feet  Gas: Initial open flow 45 Mcf/d Oil: Initial open flow 0 Bbl.  Final open flow 820 Mcf/d Final open flow 0 Bbl.  Time of open flow between initial and final tests 4 hours  Static rock pressure 1725 psig(surface measurement) after 48 hours shut  (If applicable due to multiple completion)  Second producing formation Pay zone depth feet  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl.  Final open flow Mcf/d Oil: Final open flow Bbl.  Time of open flow between initial and final tests hours		Benson/Ri	ley	Dep	oth	5227 fee
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Final open flow 820 Mcf/d Final open flow 0 Bbl  Time of open flow between initial and final tests 4 hours  Static rock pressure 1725 psig(surface measurement) after 48 hours shut  (If applicable due to multiple completion)  Second producing formation Pay zone depth fe  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours	OPEN FLOW DATA  NOTE: These zones as Producing formation Alexander/Ber	e downhol	le commin	ngled. ay zone de	See pth <u>det</u>	perf.
Time of open flow between initial and final tests 4 hours  Static rock pressure 1725 psig(surface measurement) after 48 hours shut  (If applicable due to multiple completion)  Second producing formation Pay zone depth fe  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours						
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Second producing formation Pay zone depth fe  Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours	Static rock pressure 1725 psi	(surface	e measur	ement) aft	er 48 ho	ours shut
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours	(If applicable due to multiple co	mpletion-	)			
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl  Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours	Second producing formation		F	ay zone de	epth	fee
Final open flow Mcf/d Oil: Final open flow Bbl  Time of open flow between initial and final tests hours	Gas: Initial open flow	Mcf/d	Oil: I	[nitial ope	en flow_	Bbl
Time of open flow between initial and final tests hours						
	Static rock pressure psi	(surface	masur	ament) aft	er <u>l</u>	ours shut

DETAILS OF PERFORMIED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHARKE, ETC.

- 1) Alexander perf 5228-36 w/18 holes. Frac w/30,000# 20/40 sand in 313 bbls. water, using 49,000 SCF N<sub>2</sub>. Avg. rate 27.8 Bpm, Avg. Pr-2533, ISDP-1620.
- 2) Benson perf 4935-41 w/18 holes. Frac w/30,000# 20/40 sand in 313 bbls. water, using 44,000 SCF  $\rm N_2$ . Avg. rate 27.7 Bpm, Avg. Pr-1954, ISDP-1150.

- e 3

3) Riley - perf 4546-78 w/19 holes. Foam frac w/30,000# 20/40 sand in 636 bbls. 75 quality foam, using 480,000 SCF N $_2$ . Avg. Rate - 24 BPM, Avg. Pr-2800, ISDP-1455.

#### WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fres
			and salt water, coal, oil and ga hole damp @ 85'
Sand & Shale	0	220	hole damp @ 85 '
Sand	220	265	1/2"stream water @ 1510'
Sand & Shale	265	910	
Red Rock	910	925	
Sand & Shale	925	1918	•
Big LIme	1918	2026	
Big Injun	2026	2113	
Sand & Shale	2113	2290	
Weir	2290	2405	
Shale	2405	2607	
Berea	2607	2610	
Sand & Shale	2610	2720	
Gordon	2720	2729	
Shale	2729	4539	
Riley	4539	4582	
Shale	4582	4936	
Benson	4936	4941	
Shale	4941	5226	
Alexander	5226	5250	
Shale TOTAL DEPTH	5250	5412 5412	Note: Gas tests not accurate

5412 Note: Gas tests not accurate (Attach separate sheets as necessary) due to soaping of hole

Appal	achian Energy	Dev.,	Inc.		
Wel	l Operator				
By:	, is a second of		. A		
Date:	10/31/89				

Note: Regulation 2.02(i) provides as follows:

"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including con!, encountered in the drilling of a well."

FORM WW-2B					085	age 3 of 7
	DEPART	STAT MENT OF I WELL WO	TE OF WEST ENERGY, DI ORK PERMIT	VIRGINIA VISION OF C APPLICATIO	IL AND GAS	Pared 7/25/89
رم Well Op	erator:_	Appalac	hian Energy	Development,	Inc. 23	25 (1) 535
2) Operato	r's Well	Number:_	HICKMAN WEL	L NO. 1	3) E	levation: 1092'
4) . Well ty	pe: (a)	Oil_/	or Ga:	s <u>X</u> /		
	(b)	If Gas:		n <u>X</u> / Underg p/	round Storag	ge/ ow_X_/
5) Propose	d Target	Formation	n(s):	Alexander		
6) Propose	d Total D	epth:	5200'	feet		
7) Approxim	mate fres	h water s	strata dep	ths:	120'	
8) Approxim	mate salt	water de	epths:		N/A	
9) Approxim	mate coal	seam dep	oths:		N/A	
				<b>≜</b> *	/ "	/es/ No_X_/
11) Proposed	d Well Wo	rk: Dril	l & Stimulat	e. New'lle	ell	
12)						•
LÄDE	c	PECIFICAT	•	ING PROGRAM		
		ECTICAL		FOOTAGE I		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11-3/4"			30 <b>'</b>	30'	0 Sacks
Fresh Water	8-5/8"			1192' (	Birent 1192'	CSR 18-11.3
Coal						
Intermediate						
Production	4-1/2"			5200 '	5200'	By Rule 38 CSR 18-11.1
Tubing						
Liners					آب	LEADING TO
PACKERS : Kir					8	BONG C
	es ths set					<u> </u>
1401	F	pr Diviso	n of Oil a	nd Gas Use		DIVISION OF OIL & GAS
Fee(s)		$(A_{i})$	ork Permit	(W)	amation Fun-	
Plat 1	WW-9	WW-	2B ( ) B	ond Blink	retoure	_ All Agent
0			1		Type)	

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### DIVISION OF OIL & GAS 3) DEPARTMENT OF ENERGY

Date:	July	14th,	1989			
Opera	tor's	well	num	ber		
		LL NO.				
API W	ell N	o: 47	7	085	-	7874
		State	- C	ounty	-	Permit

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

#### NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4)	Surface Owner(s) to be	e served:	5) (a) Coal Operator	:
	(a) Name <u>Dolph Hickman</u>		Name N/A	
	Address . 220 Collins A	venue	Address	
	Pennsboro, WV	26415		
	(b) Name		(b) Coal Owner(s) with	th Declaration
	Address		Name N/A	
			Address	
	(c) Name			
	Address		Name	
			Address	
		***************************************	40-4-4	
6)	Inspector Samuel Hersman	1	(c) Coal Lessee with	Declaration
•	Address Route 1, Box	240	Name N/A	
	Harrisville,		Address	
	Telephone (304) - 628	3185	Address	
	1010phone (304) <u>020</u>	- 3103		
	TO THE PERSON	N(S) NAMED ARO	OVE TAKE NOTICE THAT:	
	) be seen a transfer against transfer to against transfer to against transfer to against transfer to again transfer transfer to again transfer tran			
	Included is the lease	or leases or	other continuing cont	tract or
contr	acts by which I hold	the right to e	extract oil and gas Of	D CLUCK OF
VV	Included is the inform	mation require	ad his Chanter 22B	<u>\</u> +:-11
Secti	on 8(d) of the Code of	Macron require	is (see page 2)	LICIE I,
	I certify that as requ	r west virgini	ra (see page 2)	- TT:
T hou	I certify that as require sorved coming of the	ir red dudet Ci	lapter 22B of the west	virginia Code
1 Hav	e served copies of th	is notice and	application, a locat:	ion plat, and
accon	panying documents page	es i through -	on the above named	d parties, by:
	Personal Service	(Affidavit at	ttached)	
	XX Certified Mail (	Postmarked pos	stal receipt attached:	)
	Publication (Not	ice of Publica	ation attached)	
	I have read and unders	stand Chapter	22B and 38 CSR 11-18,	, and I agree
to th	e terms and conditions	s of any permi	it issued under this a	application.
	I certify under penal	ty of law that	I have personally ex	xamined and am
famil	iar with the informat:	ion submitted	on this application	form and all
attac	hments, and that based	d on my inquir	y of those individual	ls immediately
respo	nsible for obtaining	the information	on. I believe that the	information
is tr	ue, accurate, and comp	olete.	, , , , , , , , , , , , , , , , , , , ,	2 2112 021100 01 011
	I am aware that there	are significa	ant nenalties for subr	nitting false
infor	mation, including the	nossihility o	of fine and imprisonment	ant
	W.	ell Operator	Appalachian Energy Devel	opmont Inc
	B <sub>3</sub>		Apparacii aii filer gy bever	Opilleric, Inc.
		:	a freeze and	<u> </u>
		ldress	President	
	270		Route 2, Box 499	
	<u></u>	Japhana	Grafton, WV 26354	
Subsc	ribed and sworm before	elephone	265 - 4147	1 0 PO
	Tiped and paoru perote	= Me CHIS 14T!	n day of <u>July</u>	, 19 <u>89</u>
	Manan	, A V	71	
My co	mmission expires	u. ami		Notary Public
иу со	mmission expires/	12-7-92		
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