



1) Date: November 17 , 19 83	1)	Date: November	17		را نزه ک	19_	83
------------------------------	----	----------------	----	--	----------	-----	----

2) Operator's Well No. KEM #374

3) API Well No. 47 - 107 - 1301 State County

County Permit

as

File

# STATE OF WEST VIRGINIA DEPARTMENT OF MINES, OIL AND GAS DIVISION APPLICATION FOR A WELL WORK PERMIT

4)	WELL TY	PE A C	)iI	/ Ga	x X	/					
٠,	***************************************			Production			✓ Underground s	orage	/ Deen X	_/ Shallow/	Λ
5)	LOCATIO		vation: _						k of Lee Cree	_/ Shanow/	, .
-,									Quadrangle:		in the second second
6)	WELL OP	ERATOR	Kaise	r Explo	orat	ion and	Mining Co	7) DESIGNATE	DAGENT R. A.	Prvce	**********
,	Address		P. 0.	Box 8			<b> y</b> ,	Address	Same		
		***************************************	Ravens	swood,	W۷	26164				<u></u>	Military mass
8)	OIL & GA	S INSPEC	TOR TO	BE NOTII	FIED			DRILLING C	ONTRACTOR:		-
,	Name'							Name C1			
	Address	· Rt.	1, Bo	ox 101/	ļ			Address	P. O. Box 388	3	MICROPHEN.
			oley, V		5271			1 144 61 000	ElkviewWX-		-
10)	PROPOSE	DWELL	WORK.	Drill	<u>(</u> .	_/ Drill	deener	/ Dedrill	Stimulate	5 CLEIN I	-
10)	I KOI OSE	باست ۱۷ س	WORK.				/ Perfora		1 24 2 1		
							well (specify)		1218	*	الأولا
11)	രജവ റവ	CAT TAP	CET FOR				, (specify)			-DEC 1 - 1923 -	*Ath
	2) Estima						feet				-
1	3) Appro	vimate trat	a denthe	Frach			feet; salt,		01	L & GAS DIVISIO	
1	A) Appro	vimate coa	i caam dan	the			Is son	l bains minad in th	DEF	PT. OF IX	· · · · · · · · · · · · · · · · · · ·
15)	CASING A	ND THE	NG PPO	CDAM	~~~···································		15 COA	r nerns mnien m m	e alea? Tes_hard A		
•	ING OR	II ODI		SKAIVE SIFICATIONS	,	85	FOOTACE	TOTE TO A T O	71	ši	
	ing type		l	Weight	ì		FOOTAGE IN		CEMENT FILL-UP OR SACKS	PACKERS	
		Size	Grade	per ft.	New	Used _	For drilling	Left in well	(Cubic feet)		are a react
Condu		10 2/4	111	-	V		050	050	1	Kinds	Minutes (Marie Control
Fresh	water	10 3/4			Х	<del>  </del>	250	250	150 sks clas	s A to surface	
Coal	<del> </del>	7"		<b></b>	1/		1900	*0**	H	Sizes by rule 15	
Interm		<u> </u>			Х		1865	1865		pozmix, 100 sl	<u>ks</u> C
Produc		4 1/2		-	Χ		4505	4505	225 sks 50/5	O posemix	
Tubing	<u> </u>								-		-
Liners									-	Perforations:	
	<del></del>						2			Top Bottom	
						<b> </b>   -					
						<u> </u>					
			· · · · · · · · · · · · · · · · · · ·				TTICE VICE O				
	······································						FFICE USE O				
						IJ	RILLING PER	KMIT			
Permi	t number		47-1	07-130	1				Dece	mber 22, 19 8;	ર
								***************************************	Date		<u></u>
This p	ermit cove	ring the we	ell operato	r and well	locatio	on shown b	elow is evidence of	f permission grant	ed to drill in accordance	ce with the pertinent legal	re-
quirer	nents subje	ct to the co	onditions o	contained l	ierein a	ind on the	reverse hereof. Noti	fication must be g	iven to the District Oil	and Gas Inspector, (Refer	r Io
No. 8) distric	Prior to the	le construc es inspecto	tion of ros	ads, location ac	ons and	pits for an	ly permitted work. rk has commenced	In addition, the w	ell operator or his cont	ractor shall notify the pro	per
The p	ermitted wo e hereof.	ork is as de	scribed in	the Notice	and A	application.	, plat, and reclamat	ion plan, subject	to any modifications ar	nd conditions specified on	the
	t expires _	1	Decem	ber 22,	1985	i	unlace wall v	wark is sommonos		prosecuted with due diliger	
. 0	conpines						uiness wen v	voi k is commenced	i prior to that date and	rosecuted with due diliger	ice.
						T	-				
Bor	ıd:	Agent		Plat:	Casin	g /	ee				
			′ カーン	nul	m	11 74	200				
L				// / / /	.,,4	7 16			T / 1	4	
									initiating CCC CCC	<u> </u>	
NOTE	: Keep or	ne copy of	this perm	it posted a	t the d	rilling loca	tion.	Adm	inistrator, Office of O	rand Gas	

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

IV-35 (Rev 8-81)

Sinds of Mest Hirginia Well No.

Bepartment of Mines Farm Rol

Operator's
Well No. KEM #374

Farm Robert Wigal

API No. 47 - 107 - 1301

Pepartment of Mines Gil und Cas Division

# WELL OPERATOR'S REPORT OF DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WEIL TYPE: Oil / Gas x / Liquid Injection (If "Gas," Production x / Undergro	n/ Wastu und Storag	e Disposal	L/ p/ Sha	ullow/)
IOCATION: Elevation: 875 Watershed	NORTH FORK	of LEE CE	REEK	
District: HARRIS County WO				
•				
COMPANY KAISER EXPLORATION & MINING COMPANY				
ADDRESS P.O. Box 8, RAVENSWOOD, WV 26164	Casing	Used in	Left	Cement fill up
DESIGNATED AGENT R. A. PRYCE	Tubing	Drilling	in Well	Cu. ft.
ADDRESS SAME	Size			
SURFACE OWNER ROBERT WIGAL	20-16 Cond.			
ADDRESS RELIEVILLE WV	13-10 <sup>3</sup> /4"	2541	254'	175 sx Clas
MINERAL RIGHTS OWNER SAME	9 5/8			L/4 #/sx Celloflake
ADDRESS SAME	8 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK GLENN	7	1870'	1870°	150 sx 50/5 pozmix, 10
ROBINSON ADDRESS MINERAL WELLS	5 1/2	10/0	18/0	salt, 1/4
PERMIT ISSUED			4485'	Celloflake 220 sx 50/
DRILLING COMMENCED 6-6-84	<u>4 1/2</u> 3		4407	DOZMIX 10% SALT 12.5 #/sx
DRILLING COMPLETED 6-11-84				Gilsonite
IF APPLICABLE: PLUGGING OF DRY HOLE ON	2			
CONTINUOUS PROGRESSION FROM DRILLING OR	Liners			
REWORKING. VERBAL PERMISSION OBTAINED ON	used			
		N-0	<b>th</b> 4390-	-5 <b>feet</b>
GEOLOGICAL TARGET FORMATION ORISKANY	2 V			**************************************
Depth of completed well 4500 feet				
Water strata depth: Fresh N/A feet;	<del></del>			
Coal seam depths: N/A	Is coal	pering wire	ea in the	area: NO
OPEN FLOW DATA .	•			
Producing formation ORISKANY	Pay	zone dep	th 4390	)_5feet
Gas: Initial open flow 0 Mcf/d	Oil: Ini	tial open	flow	Bbl/d
Final open flow 200 Mcf/d	Fin	al open f	low	Bbl/d
Time of open flow between init	ial and fi	nal tests	72 h	oùrs .
Static rock pressure 1200 psig(surface	e measuren	ent) afte	r 4 hou	urs shut in
(If applicable due to multiple completion				
w & @	Pay	zone dep	th	feet
Gas: Initial open flow Mcf/d	argument (April 1994), Shart, a request a rest (April 1994)		Committee of the Committee of the	
Final open flow Mcf/d			Contract of the Contract of th	The state of the s
Time of open flow between init				•
Static rock pressurepsig(surface				
				•

## DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

6/18/84 YOUNG'S WIRELINE. PERF-ORISKANY. 18 holes (0.39"DIA.) 4390.5-4396.5. 6' - 3 holes/ft.

6/19/84 BJ HUGHES FOAM FRAC. ORISKANY. BREAKDOWN PRESSURE: 2340 psig. BREAKDOWN FLUID: FOAM: FOAM. TREATING PRESSURE: 2030 psig. USED 30,000 # 20/40 SAND. TOTAL N2: 430 MSCF. TOTAL SAND LADEN FLUID: 129 bbl. TOTAL FLUID: 203 bbls ISIP: 1560 psig 5 min. SIP 1520 psig.

#### WELL LOG

			REMARKS
FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	S
			and salt water, coal, oil and o
SOIL and SHALE	0	50	
SILTSTONE and SHALE	50	170	
SHALE	170	186	
SAND	186	195	
SHALE	195	272	
SAND	272	. 322	
SHALE	322	446	
SAND	446	517	
SILTSTONE and SHALE	517	605	
SAND	605	544	
SILTSTONE and SHALE	644	1042	
DUNKARD SAND	1042	1136	
SAND and SHALE	1136	1580	
SALT SANDS	1580	1771	
SHALE	1771	2090	
COFFEE SHALE	2090	2108	
BEREA SAND	2108	2110	
SHALE	2110	3250	s/G @ 2680
BROWN SHALE	3250	3746	s/G @ 3726
SHALE	3746	3972	
MARCELLUS SHALE	3972	4280	
ONONDAGA LIME	4280	4360	
ORISKANY SAND	4360	4404	s/G @ 4390
HELDERBERG SAND	4404	4504	
TOTAL DEPTH	4504		
	you with the transport and presents a constitution and the present of the second present and the second present an		
			•

(Attach separate sheets as necessary)

KAISER EXPLORATION and MINING COMPA	MY	
Well Operator		
By: RAP	y	
Date: July 17, 1984	*****	2), 2), 2), 3), 3), 4), 3), 4), 4), 4), 4), 4), 4), 4), 4), 4), 4

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

UNITED

6/19/84

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, EIC.

YOUNG'S WIRELINE. PERF-ORISKANY. 18 holes (0.39"DIA.) 4390.5-4396.5. 6' - 3 holes/ft.

BJ HUGHES FOAM FRAC. ORISKANY. BREAKDOWN PRESSURE: 2340 psig. BREAKDOWN FLUID: FOAM: FOAM. TREATING PRESSURE: 2030 psig. USED 30,000 # 20/40 SAND. TOTAL N2: 430 MSCF. TOTAL SAND LADEN FLUID: 129 bbl. TOTAL FLUID: 203 bbls. ISIP: 1560 psig 5 min. SIP 1520 psig.

(ri)

### WELL LOG

DRIVATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	Including indication of all frest and salt water, coal, oil and gas
SOIL and SHALE	0.5	50	:
SILTSTONE and SHALE	50	170	
SHALE	170	186	
SAND	186	195	
SHALE	195	272	
SAND	272	, 322	<b>*</b>
SHALE	322	. 446	
SAND	446	517	
SILTSTONE and SHALE	517	605	
SAND	605	644	•
SILTSTONE and SHALE	644	1042	•
DUNKARD SAND	1042	1136	1 dones
SAND and SHALE	² <sup>t</sup> * 1136	1580	* Office of the state of the st
SALT SANDS	1580	1771	Frue Drey Ohales Berla
SHALE	1771	2090	3380 "·
COFFEE SHALE	2090	2108	3300
BEREA SAND	2108	2110	
SHALE	2110	3250	s/G @ 2680
BROWN SHALE	3250	3746	5/G @ 2680 5/G @ 3726 Plux O Riskung
SHALE	3746	3972	Plux ORNer U
MARCELLUS SHALE	3972	4280	12000
ONONDAGA LIME	4280 -	4360	
ORISKANY SAND	4360	4404	s/G @ 4390
HELDERBERG SAND	4404	4504	
TOTAL DEPTH	4504		
			•
•		·	•
•			
,			1.0
·			
			<u>r</u>
•			
		8	

(Attach separate sheets as necessary)

KAISER EXPLORATION and MINING COMPANY			
Well Operator	Alle de ens		*************
DV: RAP	UCT	10	1988
by: KAIA	-	·	
Date: July 17, 1984			

State 23-AUS-88 AFI \$ 47-107-01301 F

#### State of West Virsinia DEPARTMENT OF ENERGY Division of Oil and Gas

Well Operator's Report of Well Work

Operator Well No.: KEM-374 Farm name: WIGAL, ROBERT C. Quadransle: LUBECK LOCATION: Elevation: 875.00 District: HARRIS County: WOOD Latitude: 11175 Feet South of 39 Des. 12Min. 30 Sec. Longitude 11250 Feet West of 81 Des. 40 Min. O Sec. Company: PEAKE ENERGY, INC | Casing | Used in | Left P. O. BOX 8 1 IFill Upl 3. | RAVENSWOOD, WV. | Tubins | Drillins | in Well|Cu. Ft.| Asent: JOHN V. McCALLISTER 1 Size Inspector: GLEN P. ROBINSON Same as before Permit Issued: 08/23/88 1 09/09/88 Well work Commenced: Well work Completed: 09/12/88 Verbal Plussins Permission granted on: \_\_\_N/A\_\_\_\_\_\_ Rotary\_\_\_\_ Cable \_\_\_\_ Ris Total Depth (feet) \_\_4504' Fresh water depths (ft) Salt water derths (ft) Is coal being mined in area  $(Y/N)?\frac{N}{-1}$ DIVISION OF OIL & GAS Coal Depths (ft): DEPARTMENT OF ENERGY OPEN FLOW DATA Producing formation Grey Shale Pay zone depth (ft)2667-2770 Gas: Initial open flow\_\_\_\_\_Bbl/d Final open flow\_\_\_\_\_\_MCF/d . Final open flow \_\_\_\_\_\_Bbl/d Time of open flow between initial and final tests\_\_\_\_Hours Static rock Pressure \_ \* \_\_\_\_psis (surface pressure) after \_\_\_\_Hours Second producing formation Berea Sand Pay zone depth (ft) 2108-2110 Gas: Initial open flow\_\_T\_\_\_MCF/d Oil: Initial open flow\_\_T\_\_\_Bbl/d \* Both Zones Final open flow 100 \_\_\_\_Bbl/d Final open flow \_\_=\_\_Bbl/d Time of open flow between initial and final tests\_\_\_4\_\_Hours Static rock Pressure est. 500 Psid (surface Pressure) after \_\_24\_\_\_Hours NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE. For: PEAKE ENERGY, INC. Bu! John V. McCallister Asst. Oper Mngr.

Date: 9/28/88

#### FORM WR-35 (Reverse)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Set permanent plug at 3200 feet and placed cal-seal on top. Perforated the 9/09/88:

Grey Shale through  $4\frac{1}{2}$ 11 csg. from 2667-2770 using 20 shots.

Foam - fractured the Grey Shale using 60,000 # of sand, 594,00 SCF of N<sub>2</sub>

and 344 bbl of fluid. ISIP = 769 psig. ATP = 1922 psig BD = 1300 psig. Perforated the Berea Sand through  $4\frac{1}{2}$ " csg. from 2108-2110 using 16 shots. Foam - fractured the Berea Sand using 60,000 # sand, 520,000 SCF of N<sub>2</sub>,

and 338 bbl of fluid.

Well Log is the same as previously submitted in 1984  SEP 30 1988  DIVISION OF OIL & GAS DEPARTMENT OF ENERGY	VELL LOG	•		
as previously submitted in 1984  SEP 30 1988	FORMATION		BOTTOM	REMARKS ·
	as previously			
				· F

### Issued 8/23/88 Expries 8/23/90 Page of

FORM WW-2B

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

			WELL W	ORK PERMIT	APPLICATIO	N		// .	•
1)	Well Op	erator:	Peake En	erav, Inc.	37085	, SX	1 4	49	Management of the Control of the Con
2)	Operato Permit	r's Well No. 47-1	Number: 07-01301	KEM37	4		) Eleva	ıtion: <u> </u> 8	7.5.1
4)		pe: (a)		or Ga	s_X/				
		(b)	If Gas:	Productio Dee	n <u>x</u> / Underq P/		orage_ allow <u>X</u>		
5)	Propose	d Target	Formatio	n(s): <u>Gre</u>	y Shale and	l Berea Sa	andston	ıe	
6)	Proposed	d Total D	epth:3	300'	feet				
7)	Approxi	mate fres	h water	strata dep	ths: <u>275'</u>				
8)	Approxim	mate salt	water d	epths:	1600'				
9)	Approxim	mate coal	∉ seam de¦	oths: <u>N</u>	one recogni	zed			
10)	Does lar	nd contai	n coal s	eams tribul	tary to act	ive mine?	Yes	/ No >	X
11)			rk: Plug	a Oriskany (	w/ mechanic	al pluq a	ind cal	-seal.	-
12)			stim frac	ulate Grey turing.	Shale and	Berea San	idstone	by	
TYPE		S	PECIFICAT		FOOTAGE I			CEMEN	(Im
				Weight	For	Left i		`	<u>.</u>
		Size	Grade	per ft.	drilling	well	1	Fill-up (cu. ft.	<u>. )                                   </u>
Condu	ctor		*.		,	1			
Fresh	Water	10 3/4"		45.5#/ft	265'	M265'	i	rface ass A	_
Coal					n.	A'			
Inter	mediate	7"		20#/ft	1880'	1880'	150 100	0 sks 5( 0 sks C]	)/50p Lass
rodu	ction	4 1/2"		11.6#/ft	4995'	4995'		0 sks /50 poz	
ubing	9								and the second second
iners	5					-			
ACKE							NEG	TEIL [A.]	
01	Sizo	es ths set _					AUG	2 2 1980	
	Pee(s) pa	(4	(J.)	n of Oil a	nd Gas Use	Only Eamation F	DEPARTIMI	OF OIL &	EFEGY
	Plat L	WW-9 (	Hi. ww-	7.1	and 50Blan	,	(j	Agei	

Page	1 of	
	WW2-A	
(09/8	7)	ভ্য
File	Сору	

			VI	
ÜP.	'AUG	22	1988	14

1) Date: 08-09-88
2) Operator's well nu

Operator's well number KEM 374

API Well No: 47 - 107 - 1301 - 1 State - County - Permit

DIVISION OF OIL & GAS DEPARTMENT OF ENERGY

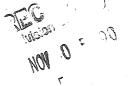
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

3)

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

	NOTICE AND APPLICATION FO	OR A WELL WORK FERMIT
4)	Surface Owner(s) to be served:	5) (a) Coal Operator:
4 /	(a) Name Robert Wigal	Name
•	Address Rt. 1	Address
	New England, WV 26154	
	(b) Name	(b) Coal Owner(s) with Declaration
	Address	Name
	and the contraction of the contr	Address
	(c) Name	
	Address	Name
		Address
<b>6</b> )	Inspector Glen Robinson	(c) Coal Lessee with Declaration
<b>V</b> ,	Address Mt. Pleasant Estates	Name
	Mineral Wells, WV 26150	Address
	Telephone (304) - 489-9162	
	Telephone (504) 405-5102	
	TO THE PERSON(S) NAMED AB	OVE TAKE NOTICE THAT:
	10 INE PERDON(B) NAMED AD	OVE TAKE NOTICE THAT.
	Included is the lease or leases or	other continuing contract or
contr	acts by which I hold the right to	
	Included is the information requir	
	on 8(d) of the Code of West Virgin	
Secti		hapter 22B of the <u>West Virginia Code</u>
T 1		
	re served copies of this notice and	
accor	mpanying documents pages 1 through	on the above named parties, by:
	Personal Service (Affidavit a	
	Certified Mail (Postmarked po	stal receipt attached)
	Publication (Notice of Public	ation attached)
	I have read and understand Chapter	22B and 38 CSR 11-18, and 1 agree
to th	ne terms and conditions of any perm	it issued under this application.
		t I have personally examined and am
	iar with the information submitted	
		ry of those individuals immediately
	onsible for obtaining the informati	on, I believe that the information
is tr	rue, accurate, and complete.	
	I am aware that there are signific	
infor	mation, including the possibility	
	Well Operator	PEAKE ENERGY, INC.
	By:	V. Metalost
	Its:	Designated Agent
	Address	P. O. Box 8
		Ravenswood, WV 26164
	Telephone	273-5371
Subso	cribed and sworn before me this 10	
	Mind. Will	
Mar	ommission expires October 28, I	993 Notary Public
my Co	MINITABION EXPITES	

N-30 9-Apr-90



#### STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVSION OF OIL AND GAS

# AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVITE SHOULD BE IN TRIPLICATE, one copy mailed to the Division, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name:	WIGAL, ROBE	ERT C.	Operator	r Well No.:KEM-3	74
LOCATION:	District:	HARRIS	Quadrangle: 1 South of 39 West of 81	LUBECK County: WOOD Deg. 12 Min. 3 Deg. 40 Min. 0	O Sec. Sec.
Well Type:	OIL	GAS X			
Ray	). Box 8 venswood, WV	26164	_ or Own -	Operator None ner	
Agent: <u>Joh</u> Inspector: Permit Issue	Glen Robi	nson	_ Coal ( _ or Own	Operator None ner	
		I	AFFIDAVIT		
STATE OF WES	ST VIRGINIA, Wood	SS:			
first duly in the work  Peake work of plu on the 20th and filled in	Energy, Inc agging and day o	ding to law ng and filli c. filling the	v depose and ing oil and o _, well oper e above well	say that they a gas wells and we rator, and partion, that said work and that the we	re employed by cipated in the
TYI	?E	FROM	TO	PIPE REMOVED	
Cal-Seal	L T Perm. Pl	2054	2054		
6% Gel		2034	1750	1760ft 4 1/2	- 2744ft 4 1/2"
Class A nea	t cement	1750	1650		
6% Gel		1650	600	672ft 7"	7 20061 78
Class A nea	t cement	672	572	- j - 32/22/3-/	_ 1200ft 7"
6% Gel		575	300		254ft 10 3/4
Class A nea	t_cement	300	200		
6% Gel		200	_ 100		
Class A nea	t_cement_	100	0	1 1111	
Descrip	otion of mon	ument: 7	csg marked 4	7-107-1301P 9-21	F90 13 190
and that the <u>21st</u> of	at the work lay of <u>Septe</u>	of pluggi ember	ng and filli , 19 <u>90</u> .	ing said well was	s completed on
And furthur	deponents s	aith not.			16 1990
Sworn and su My commission	ubscribe befor expires:	fore me this $1/29/90/$	: 264 day	of Cololin	, 19 <u>_</u> 97
		(	— IME	Notary Pul	blic