





IV-35 (Rev 8-81)

State of West Wirginia

Pepariment of Mines Gil und Gas Bivision

Date 10/01/8	6	Q-11/2-1-07-07	
Operator's			
Well No. KEM #	185		
Farm Nuzum		on demails the	
API No. 47 -	035	400	1684
			60

WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

COCATION: Elevation: 762' Watershed_	Sandy Cr	eek		• • • • • • • • • • • • • • • • • • • •
District: Ravenswood County Jac	ckson	Quadrangle	<u>Sandy</u>	ville
COMPANY KAISER EXPLORATION AND MINING COMPANY				
ADDRESS P. O. Box 8, Ravenswood, WV 26164	Caging	Used in	Ieft	Cement
DESIGNATED AGENT R. A. Pryce	Tubing	Drilling		fill up Cu. ft.
ADDRESS Same	Size	100000		
SURFACE OWNER Stanley Nuzum	20-16			
ADDRESS _{P. 0. Box 101, Ravenswood, WV 26164}	Cord.	05.5	255	100 sks
MINERAL RIGHIS OWNER Same	13-10"	255	[233	100 303
ADDRESS	9 5/8	2110	2110	200 sks
OIL AND GAS INSPECTOR FOR THIS WORK Richard	8 5/8	2110	2110	200 3K3
Morris ADDRESS Box 372, Grantsville, WV	5 1/2	5041	5241	425 sks
PERMIT ISSUED April 20, 1982		5241	5241	1463 383
DRILLING COMMENCED June 5, 1982 \4/17/86	4 1/2			
DRILLING COMPLETED June 12, 1982 41 24/86	. 2			
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	Liners used			
ON			1	
GEOLOGICAL TARGET FORMATION Williamsport San	dstone	Deg	oth 5276-	5279 fe
Depth of completed well 5300 feet				
Water strata depth: Freshfeet;	Salt	feet	.	
Coal seam depths:	_ Is coal	being mir	ned in th	e area?
OPEN FLOW DATA				
Producing formation Devonian Brown Shale	Pa	ay zone dej	oth 3410-	-3905 fe
Gas: Initial open flow TSTM Mcf/d				
Final open flow 275 Mcf/d	F	inal open :	flow	Bbl
Time of open flow between ini	tial and s	final test	s <u>==</u> h	ours
Static rock pressure 630# psig(surfa	ce measure	ament) aft	$er_0.5$ ho	urs shut
(If applicable due to multiple completio	n)			
Second producing formation Berea Sandsto	one Pa	ay zone de	pth	fe
Gas: Initial open flow Mcf/d	Oil: I	nitial ope	n flow	
and the second s	011. 5	inal open	flow	Bbl
Final open flow No test Mcf/d Time of open flow between ini oman Naled Static rock pressure 600 psig(surface	OTT: E		Gantini	

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

See previous IV-35

4/17/86 Young's Wireline perf Berea with 13 holes from 2246 - 2249'.

4/24/86 Halliburton foam frac Berea. Used 45,000# 20/40 sand; Total $\rm N_2$: 598 MCF; total fluid: 284 bbls; ISIP: 1660 psig.

WELL LOG

1 th 20 1

	en e						
FORMATION C	DOLOR HARD C	OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all freshand salt water, coal, oil and ga		
				·			
See Previous	s IV-35						
				•			
•							
			•				
			•				
				Received and the second and the seco			
,							

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY	
Well Operator	
By: Z. A P.	
Date: October 6, 1986	

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 will, snoountered in the drilling of a well."



IV-35 (Rev 8-81);

State of West Virginia Bepariment of Mines

Date Operator's KEM - 185 Well No. Nuzum API No. 47 - 035 - 1684

August 19, 1982

(Continue on reverse side)

Gil und Ces Pivision WELL OPERATOR'S REPORT

FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WEIL T	YPE: Oil / Gas X / Liquid Injection (If "Gas," Production / Undergro	on/ Wast	ce Disposa ge/ Deep	L/ / Sha	llow/)
LOCATIO	ON: Elevation: 762' Watershed	Sandy Cr	reek		
	District: Ravenswood County Jack			Sand	yville
~~~~	Y Kaiser Exploration and Mining Company				NI CONTROL OF THE CON
	S P. O. Box 8, Ravenswood, WV 26164			7 . 64	Cement
	ATED AGENT Same	Casing	Used in		fill up
ADDRES		Tubing	ntiting	nu werr	Cu. ft.
	E OWNER Stanley Nuzum	Size 20-16 Cond.			Production of the state of the
ADDRES	S P. O. Box 101, Ravenswood, WV 26164	13-10"	255	255	100 sks
MINERA	I RIGHTS OWNER Same	9 5/8		200	100 383
ADDRES	SS	8 5/8	2110	2110	200 sks
OIL AN	D GAS INSPECTOR FOR THIS WORK Richard	7			
distribution of the last of th	is ADDRESS Box 372, Grantsville, WV	5 1/2	5241	5241	425 sks
PERMIT	S ISSUED April 20, 1982	4 1/2			
DRILLI	NG COMMENCED June 5, 1982	3			
DRILLI	NG COMPLETED June 12, 1982	2			
CONTIN	PLICABLE: PLUGGING OF DRY HOLE ON TUOUS PROGRESSION FROM DRILLING OR CING. VERBAL PERMISSION OBTAINED	Liners used			
	11:37:				7.0
	GICAL TARGET FORMATION Williamsport Sa				
	Depth of completed well 5300 feet	***************************************			
	later strata depth: Freshfeet;				
C	Coal seam depths:	_ Is coal			area?
OPEN F	TOW DATA		,	3654 76	
P	Producing formation Devonian Brown Shale	Pa	y zone dep	th 3410-	3905 feet
G	Sas: Initial open flow TSTM Mcf/d	Oil: In	itial open	flow	Bbl/d
	Final open flow 275 Mcf/d	Fi	nal open f	Low	<u></u> Bbl/d
	Time of open flow between ini	tial and f	inal tests	hc	uirs
S	Static rock pressure 630# psig(surfa	ce measure	ment) after	r 0.5 hou	ırs shut in
6.	(If applicable due to multiple completio	77)			
S	Second producing formation	Pa	y zone dep	th	feet
G	Gas: Initial open flowMcf/d	Oil: In	itial open	flow_	Bbl/d
	Final open flow Mcf/d				
•	Time of open flow between ini	tial and f	inal tests	hc	urs
. 5	Static rock pressurepsig(surface	e measurem	ent) after	hou	rs shut in

FORM IV-35 (PEVERSE)

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

Plug back to 3,560 (KB).

Brown Shale perforations: 3654-3899 (20 holes 0.39" diameter)

Brown Shale frac: 75 quality foam, breakdown 1380 psig; treating pressure 2050 psig; total sand: 60,000 lbs 20/40 sand; total nitrogen: 625,000 SCF; Total fluid: 315 BBL; treated with up to 10 PPG of sand, treating

rate 12 BPM; 5 minute shut-in pressure 1070 psig.

#### WELL LOG

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Shale Sand Shale and sand Shale Sand Shale Sand Shale Sand and Shale Lime Shale Sand Shale Coffee Shale Berea Sandstone Shale Brown Shale Brown Shale Onondaga Limestone Oriskany Sandstone Helderberg Salina Williamsport Sandstone Lockport  Total Depth	0 176 272 470 520 605 735 995 1617 1782 1850 1920 2226 2249 2253 3670 3900 4250 4484 4562 4604 4778 5276 5279	176 272 470 520 605 735 995 1617 1782 1850 1920 2226 2249 2253 3670 3900 4250 4484 4562 4604 4778 5276 5279 5300	Show of gas at 3560 Show of gas at 3800, 3960 Show of gas at 4600 Show of gas at 4760
			3654 2253 1401

(Attach separate sheets as necessary)

KAISER	EXPLORATION AND MINING	COMPANY
Well Op	erator	
By: P	A.P	
Date:	August 19, 1982	

Regulation 2.02(i) provides as follows:

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

FORM 1V-2 1000verse1 (12-81)



Date:	April			19 82	
Operate Well N		KEM	#185		·

State

API Well No. 47

035

County

1684 Permit

STATE OF WEST VIRGINIA

FPARTMENT OF MINES, OIL AND GAS DIVISION

DEPAR	(IMENI OF MINES, OIL AND ONS DIVISION
TI. AND	GAS WELL PERMIT APPLICATION

	OIL AND GAS	WELL PERMIT APPLICATION
ELL TYPE:	Oil / Gas X	
	(If "Gas", Production X	/ Underground storage/ Deep/ Shallow X/)
OCATION:	Elevation: 762'	Watershed: Sandy Creek
	District: Ravenswood	County: Jackson Quadrangle: Sandyville
VELL OPERATO		nd Mining Co. DESIGNATED AGENT R. A. Pryce
	P. O. Box 8	and the second s
	Ravenswood, WV 2616	
OIL & GAS	Greeton and the second	COAT OPERATOR Name
ROYALTY OWN	NER Stanley Nuzum, et al	
Address	P. O. Box 101	Address
	Ravenswood, WV 2616	
Acreage	105.87	COAL OWNER(S) WITH DECLARATION ON RECORD:
SURFACE OWN	NER Same	Name Same
Address		Address
		THE CELL VIED
Астеаде		Name
•	IF MADE) TO:	Address
•		OIL AND GAS DIVISION WY DEPARTMENT OF MINES
aji nasis		COAL LESSEE WITH DECLARATION ON RECORD:
OIL & GAS IN	SPECTOR TO BE NOTIFIED	Name
	ard Morris	Address
	P. 0. Box 372	
••••	Grantsville, WV	
		e for oil or gas purposes at the above location under a deed/ leaseX
		, 1980, to the undersigned well operator from Stanley W. & Betty
(IF said deed, Id	ease, or other contract has been re	ecorded:)
Recorded on	May 27 , 19 80 , in the	office of the Clerk of the County Commission of <u>Jackson</u> County, West
Va., in Lea	ase Book 161 at pa	age 246. A permit is requested as follows:
PROPOSED Y	WORK: Drill X / Drill deeper	Redrill / Fracture or stimulate /
	Plug off old formation	/ Perforate new formation/
	Other physical change in v	well (specify)
	-planned as shown on the	e work order on the reverse side hereof.
The above nat	med coal operator, coal owner(s), and	d coal lessee are hereby notified that any objection they wish to make or are required to
		rtment of Mines within fifteen (15) days after the receipt of this Application by the
Department.		
•		plat and reclamation plan have been mailed by registered mail or delivered by hand to
the above name	d coal operator, coal owner(s), and c	coal lessee on or before the day of the mailing or delivery of this Permit Application to
the Department	t of Mines at Charleston, West Vir	rginia.
PLEASE SUBM	IIT COPIES OF ALL	
GEOPHYSICAL TO:	L LOGS DIRECTLY	KAISER EXPLORATION AND MINING COMPANY
	NIA OIL AND GAS	Well Operator
CONSERV		By to a trace /de
SION 1615 WASHING CHARLESTON	GTON STREET EAST , WV 25311	Its <u>General Manager</u>

TELEPHONE: (304) 348-3092

Date:______, 19_____

# THIS IS AN ESTIMATE ONLY: ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CO	NTRAC	TOR (IF	KNOW	N) _(	Clint	: Hurt & As	sociates.	Inc.		• .
				Ad	dress	P. O. Box	< 388	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE		•
						Elkview.	WV 2507			
GEOLOGICAL	. TARGE	ET FOR	MATION	,	Newb	urg				
Estimated	d depth	of comp	leted we	11,	525	2 ' fee	et Rotary	// Cal	is tools	/
Approxir	nate wat	er strata	depths:	Fres	h,	feet	; salt,	feet.		
Approxir	nate coa	l seam d	epths:			Is coal	being mined	in the area? Yes	/ No _	<u>X/</u>
CASING AND	TUBING	G PROG	RAM							
4D-Hilliam in consistence of minimum disconnective designation of the consistence of the		-								
CASING OR TUBING TYPE	SPE Size	CIFICAT Grade	IONS   Weight   per ft	New	Used	FOOTAGE For drilling	Left in well	CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
Conductor							****		Kinds	
Fresh Water	13 3/	8"				250'	250'	280 sks class	A (to surfac	:e)
Coal				ļ				275 sks 50/50	Sizes	
Intermediate	9 5/	8"	1	ļ		2140	2140	100 sks class		
Production	7"			<u> </u>		5252	5252	150 sks 50/50	p829115x5et	
Tubing				-				100 class A		
Liners				-					Perforations:	
		1 2 4							Тор	Bottom
polypsid to the same of the same		<u> </u>		-						<del></del>
				<u> </u>			L		<u> </u>	
the D presc "Reci previc Code  As be pa	epartmer ribed by lamation ously paid \$22-4-8 eparate F rt of the	at, accom Regulati Plan", a d on the s a from the Form Iv-2 work for	panied beion 12, complicable same well he owner which a part of the control of th	y (i) a or in I e to th i, the f of an be requermit  HE WE DANC	plat in ieu thieu	the form preserved the other mation required by Code ser well or dwell or for fracturing of the and is noted.  CHAPTER 2 ON IS HERESY	cribed by Regur security allowed by Code \$ 22-4-12a, and ding within 200 ar stimulating a las such on the	ur copies of Form IV-2 lation 11, (ii) a bond i wed by Code § 22-4- 22-4-12b and Regulat (v) if applicable, the c 0 feet of the propose well where fracturing is Form IV-2 filed in cor	on one of the form IV-9 ion 23, (iii) Form IV-9 ion 23, (iv) unless onsent required by well.	s o, s s y
***							3 G C C C C C C C C C C C C C C C C C C			
The decl	following aration u	waiver n nder Coo	nust be co de 22-4	omplet I-20, if	ed by t	he coal operato ermit is to be	r and by any co issued within	al owner or coal lessee fifteen (15) days of t	who has recorded eccipt thereof.	d a
						WAI	VER			
proposed well The undersign	location. ied has r	lf a mine 10 objecti	e map exi	ists wh : work	ich cov -propo	ers the area of sed to be done	the well location	f the coal under this on, the well location han, provided, the well is.	as been added to t	he mine man

### STATE OF WEST VIRGINIA DEPARTMENT OF MINES

NOV 1982

AFFIDAVIT OF PLUGGING AND FILLING WELL DE MINES

AFFIDAVIT SHOULD BE MADE IN TRIPLICATE, ONE COPY MAILED TO THE DEPARTMENT, ONE COPY TO BE RETAINED BY THE WELL OPERATOR AND THE THIRD COPY (AMD EXTRA COPIES IF REQUIRED) SHOULD BE MAILED TO EACH COAL OPERATOR AT THEIR RESPECTIVE

None		Kais	ser Exploration a	and Minin-	C
· · · · · · · · · · · · · · · · · · ·	al operator or owner		NAME OF WELL	OPERATOR	company
CONTRACT SECTION AND AND AND AND AND ACT ACCOUNTS OF COMMENT OF COMMENT AND ACCOUNTS OF COMMENT AND AC	ADDRESS	P a C	). Box 8, Ravensv		26164
-None		Octo	ber 26	Dress	10 82
	al operator or owner	digital production and an analysis of the state of the st	WELL AND LO	CATION	19 82
4022 - CIDA CONTRACTOR OF CONT	ADDRES 5	Rave	enswood	***	District
Stanley Nuz		Jack	son		
P. O. Box 1	Ol, Ravenswood, WV	Control of the Contro			County
and the second s	- ADDRESS	26164 Well. 1	No. KFM #185		
		Stan	ley Nuzum		The second
					Farm
GAMAG HASPECTO	R SUPERVISING PLUGGI	NGRichard Mo	Kris	mandana dell'interioration de complete	
		AFFIDAVIT	<i>Y</i>		
STATE OF WES					
County of lac	kson	<b>5</b> 50 -			
R. L. C	oty	and R.	A. Prvce		
Deing hist duly	sworn according to law	depose and say the	hat they are owneric	enced in the	work of
2	- Down and Property Till William William	THE ROLL BUT THE PERSON OF THE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	well, that sa	ud work
	on the 29 day of Joillowing manner:	une	., 19 <u>82</u> , and that t	he well was	plugged
SAND OR ZONE RECOR					AND THE PROPERTY OF THE PROPER
PORBATION	P FILLING M	ATERIAL	PLUGS USED	CAE	BING
Newbura Ss	E2751 46251 (VS)	COMMENT PRODUCTS CONTROL TO COMPANY AND	SEE & RIND	PULLED	CSG LEFT IN
T.D. 5275' (KB)	5275'-4435' (KB) 6% Gel,	©	11000		
	4435'-4000' (KB)		None	None	Pulled
	Class A cement (	AND DESCRIPTION OF THE PROPERTY OF THE PROPERT			
entition and appearing the second party recommended to the second second second second second second second second					
The contract of the contract o	Plug back to Brow	n Shale Interv	b 1		
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LA SSE)				Contract of the Contract of th	
A M (C)					PRINCIPALITY OF THE STATE OF TH
AME)		The second secon			On hard-self-the-based of the self-the-based open gardelesses
and that the work	of plugging and filling	Said well was co	impleted on the	20	7
June	19 82	The second of th	inpacted on the	6-J	day of
And further de	ponents saith not.	R. A	A P	•	
•			Richard	The facility of the second state of the second	<del>Material dates as</del> demonstrate we ma
Sworn to and s	ubscribed before me this	27	October	******************************	, 82
		asy of	000000000000000000000000000000000000000	, 19	)
My commission expi			Sal Col All	Notary Pul	
<u>December 1, 198</u>	35		D	-	
		/	z cimi	No.JAC-168	54
		(		030 -	



1)	Date: Fet	oruar	y 11		. 15	86
2)	Operator's Well No.	KEM	185.	Nuzum		(A.)
3)	API Well No.	47	0.	35	1684	-F

County

DIVISION OF OIL & GAS STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY OIL AND GAS DIVISION
APPLICATION FOR A WELL WORK PERMIT

4) WELL TYI				3.7	,					V	
E\	•	f "Gas", I	7001	n <u> </u>	/		Sandy C	Deep	_/ Shallow	<u>X</u> _/)	
5) LOCATION: Elevation		triat.	D 1 1/ m ²			Watershed:Ja	<u>Sanuy C</u> Ckson	***************************************	Sandwyi	116	
6) WELL OP		Kaise	r Exp	oration	and.	ett)		Quadrangie: _ AGENTR			
Address		0. Bo	ing co	mpany CC		Charles es a la constant de la const	Address		eme		
	Ra			26164	***************************************	<del>Manacottolo</del>	2 3 30 40 5 50 50		ALLEL		
8) OIL & GA						9)	9) DRILLING CONTRACTOR:				
*	ame Jerry Tephabock					Name Kaiser Company Tools					
Address						Address Same					
	<u>Ri</u>	pley,	WV 2	5271							
10) PROPOSE	D WELL	WORK:	Drill	/ Dr	ill	deeper	/ Redrill	/ Stimulate	<u>X</u> /		
			•			/ Perforate	The second secon	The state of the s			
								" casing; pe			
							rea: commin	<u>gle Brown Sh</u>	nale and	<u>Berea</u>	
12) Estima	ited depth	of complet	ed well,			10 / A feet	3.7.5				
13) Appro	ximate trai	la depths:	Fresh, _			feet; salt,	N/A	feet.			
14) Appro	ximate coa	l seam dep	ths:	None		ls coal l	being mined in the a	rea? Yes	/ No_	<u> </u>	
15) CASING A	IND TUB	ING PRO	GRAM								
CASING OR TUBING TYPE		SPEC	IFICATION  Weight	S		FOOTAGE INT	ERVALS	CEMENT FILL-UP OR SACKS	PACI	KERS	
	Size	Grade	per ft.	New Used		For drilling	Left in well	(Curbic feet)			
Conductor					_				Kinds N	one	
Fresh water	<u>  11 3/</u>	<u>4 H-40</u>	42	X		265 ' (KB)	265 ' (KB)	175 sks			
Coal		ļ			4-				Sizes	*	
Intermediate		<u>8 K-55</u>		X		2120'(KB)	_2120'(KB)	200 sks		***	
Production	5 1/	N-80	17	-X	-#		_5201'(KB)	425 sks	Depths set		
Tubing	<b>!</b>		<u> </u>								
Linc.		1							Perforations		
	1 .	<del> </del>	<u> </u>		-				Top	Bottom	
***************************************	-			<del>  </del>					3654	<u>3899 (</u> KB	
Marine And Address Control of the Co	<u>I</u>	<u> </u>	i .	<u> </u>	N.		<u> </u>				
		W- <del></del>	***************************************		$\overline{\Omega}$	FFICE USE ON	II V		***************************************		
THE ART CONTROL WAS CONTROL FOR THE WAS CONTRACTED AND CONTROL FOR THE PARTY OF THE						RILLING PER					
				$\langle j \rangle$	K.P I	RELIEURING E ELEK.	VAR I				
Permit number_	4	<u>7-035</u>	<u>-1684</u>	<u>4-F</u>				<u>M</u>	arch 21	¹⁹ 86	
								Da			
This permit cove	ring the w	ell operate	or and we	ll location show	wn be	elow is evidence of	permission granted	l to drill in accorda	ace with the pe	rtinent legal re-	
o. 8) Prior to th	e construc	tion of ros	ds locatio	nerem and on one and nits for	rant	normitted work	ration must be give n addition, the wel	en to the District Oil	and Gas Insper	ctor, (Refer to	
district oil and g	as inspecto	or 24 hour	before a	ctual permitted	wor	k has commenced.)				and free free	
The permitted w	ork is as d	escribed in	the Notic	ce and Applica	tion,	plat, and reclamati	on plan, subject to	any modifications a	and conditions	specified on the	
reverse hereof.											
Permit expires _	N	<u>larch</u>	<u>21,                                     </u>	1988		unless well w	ork is commenced p	prior to that date and	prosecuted wit	h due diligence.	
				<u> </u>		The state of the s					
Bond:	Agent	.   F	lat:	Casing	Fe	e WPCP	S&E C	ther			
1	2		421	PK.		HA	一流一				
	121			1 CV	169	389 K)	424		7		
						not a		11/	A Contraction of the Contraction		
NOTE: Keep o		f this ===	it man	of the delline	lace+:	an	Jan Jan St		<u> </u>		
	are copy of	uns peill	in posico	a. mc ammg	iveat!	Dif	ector Dist	Sion of Oil	and Gas	File	
						R					