



IV-35 (Rev 8-81)



OIL & GAS BIVISION

DEPT. OF Manathent of Alines

Oil and Vas Division

Date	Jun	ie 21	. 198	3		
Opera	ator'	S				
Well	No	KEM		***************************************		and an extension
Farm	Gran	it Doi	nohew	***************************************		
API I	No. 47		035		1616	

(Continue on reverse side)

ML 05 (983)

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

	Grasslick Ru			
District: Ripley County Jac	kson	Quadrangle	Ripley	
•				
COMPANY Kaiser Exploration and Mining Company				
ADDRESS P. O. Box 8, Ravenswood, WV .26164	Caşing	Used in	Tef+	Cement
DESIGNATED AGENT R A Pryce	Tubing	Drilling		fill up Cu. ft.
ADDRESS Same	Size	1000000		
SURFACE OWNER Grant Donohew	20-16			
ADDRESS South Church Street, Ripley, WV 25271	Cond.	250KB	250KB	150 sks cl
MINERAL RIGHIS OWNER Same	9 5/8	23000	ZJOND	150 383 01
ADDRESS	8 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK Homer	7	2460KB	2/160KB	65 sks 50/ 100 sks cl
Dougherty ADDRESS Linden Rt., Box 3A, Loone	1	240010	2400ND	1100 303 01
PERMIT ISSUED 9/6/81	4 1/2		5234KB	225 sks no
DRILLING COMMENCED 10/29/81	3			
DRILLING COMPLETED 10/28/81	2			
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON	Liners used			
GEOLOGICAL TARGET FORMATION Oriskany Sandston			th 5225	feet
Depth of completed well 5255 feet	Rotary_X	/ Cabl	e Tools_	
Water strata depth: Fresh feet;	-	- fæt		
Coal seam depths: None	_ Is coal	being min	ed in the	area? NO
ה אלו בדר הוא האמון בדר הו ביי הוא האמון בדר הוא האמו	•			
UPIN FILM DAIN	≪ pa	y zone dep	th 515	0 feet
Producing formation Oriskany Sandstone	* **			
		itial open	flow	- Bbl/d
Producing formation Oriskany Sandstone	Oil: In		CONTRACTOR OF THE PERSON OF TH	Bb1/c
Producing formation Oriskany Sandstone  Gas: Initial open flow Mcf/d	Oil: In	itial open nal open f	low	Bbl/d
Producing formation Oriskany Sandstone  Gas: Initial open flow Mcf/d  Final open flow 200 Mcf/d  Time of open flow between initial	Oil: In Finitial and f	itial open nal open f inal tests	low	Bb1/d
Producing formation Oriskany Sandstone  Gas: Initial open flow Mcf/d  Final open flow 200 Mcf/d  Time of open flow between ini  Static rock pressure 1600 psig(surface)  (If applicable due to multiple completion	Oil: In Finitial and face measure on)	nal open final tests ment) after funeconomic excessive	low hour 24 hour cal to pro	Bbl/cours urs shut in duce due to
Gas: Initial open flow Mcf/d  Final open flow 200 Mcf/d  Time of open flow between ini  Static rock pressure 1600 psig(surfa  (If applicable due to multiple completion  Second producing formation Brown Shale	Oil: In Finitial and f ace measure NOTE: Pa	nal open final tests ment) after funeconomic excessive y zone dep	r 24 hou cal to pro salt wate oth 4137	Bbl/dours  urs shut in duce due to
Producing formation Oriskany Sandstone  Gas: Initial open flow Mcf/d  Final open flow 200 Mcf/d  Time of open flow between init  Static rock pressure 1600 psig(surfate)  (If applicable due to multiple completion)	Oil: In  Figure 1  Figure 1  Figure 2  Figure 2  Figure 2  Figure 2  Figure 3  Figure 3  Figure 3  Figure 4  Figure	nal open frinal tests ment) after funeconomic excessive y zone dep	low hor 24 hor cal to pro salt wate oth 4137	Bbl/dours urs shut in duce due to

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

6/1/83: McCullough Services set Baker Model <u>S permanent bridge plug in 4 1/2"</u> casing at 4480' (KB); perforated Brown Shale selectively from 4137'-4364' (KB); 20 holes .39" diameter.

6/16/83: NOWSCO, B.J. HUGHES 75 quality foam fractured above interval with 60,000# of mesh sand, 321 bbl water; 810,000 SCF nitrogen; 40 BPM controlled rate; breakdown was 2400 psig; average treating pressure was 2800 psig; ISIP: 1200 psig.

		4			• • • •
FORMATION (	OLOR -	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
f state of the sta					
Same as	origin	al OG-10 how	erned A	11/83-	·
- Annual Control of the Control of t	Metalenetencomment carporaccingotu dori	The charge group could be body to get the charge group of the char			
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					en en gran en men en e
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					and the street was the street
		• 1 1			

(Attach separate sheets as necessary)

KAISER EXP	LORATION AND M	INING COMPA	NY		
Well Opera	tor			:	
By: Z.A.	P				
Date: General	Manager				

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 early encountered in the drilling of a well."

IV-35 (Rev 8-81) PECETTED 2995



# State of West Wirginia

Department of Alines Oil und Cas Division

Date_	Jun	e 5,	1985			gentary
Opera	tor'					
Well	No	KE	M 110		A	
Farm	Grai	nt Do	nohew			electric control of the control of t
API N	io. 4	7	035	(CS)	1616	

(Continue on reverse side)

WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WFIL TYPE: Oil / Gas X / Liquid Injection (If "Gas," Production X / Underground	/ Wastu ind Storage	e Disposal e/ Deep	/ Shai	llow_X/)	•
LOCATION: Elevation: 886' Watershed G			•		
District: Ripley County Jacks	on	Quadrangle	Ripley		
		•			•
	<b>†</b>	•			
COMPANY Kaiser Exploration & Mining Co.				Cenent	İ
ADDRESS P. O. Box 8, Ravenswood, WV .26164	Caşing	Used in		fill up	
DESIGNATED AGENT R. A. Pryce	Tubing	Drilling	in Well	Cu. ft.	
ADDRESS Same	Size				
SURFACE OWNER Grant Donohew	20-16 Cord.				÷
ADDRESS S. Church Street, Ripley, WV 25271	Cord. 3/4 -1-3-10	250' KB	250' KB	<u>150 sks cl</u>	ass /
MINERAL RIGHTS OWNER Same	9 5/8				
ADDRESS	8 5/8			1 aka 507	fu ~
OIL AND GAS INSPECTOR FOR THIS WORK Jerry	7	2460' KB	2460' KB	65 sks 50/ 100 sks cl	ass ass
Tephabock ADDRESS Ripley, WV 25271	5 1/2		·		
PERMIT ISSUED 9/6/81	4 1/2		5234' KB	225 sks po	kmix
DRILLING COMMENCED 10/19/81	3				-
DRILLING COMPLETED 10/29/81 4/30/85 FRA	C 2		and the state of t		
IF APPLICABLE: PLUGGING OF DRY HOLE ON					
CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	Liners used				4
CN VERTILIER FERTILIER					
GEOLOGICAL TARGET FORMATION Oriskany Sandstor	e	Dep	th 5225	feet	ı
Depth of completed well 5225 feet	Rotary X	/ Cabl	e Tools_		
	Salt	feet			
Coal seam depths: None	Is coal	being min	ed in the	e area? NO	» <u>.</u>
*Plugged, uneconomical to produce due to OPEN FLOW DATA excessive salt water.	•				
Producing formation Brown Shale	Pa	h same get	th 4137-	4364 feet	1
Gas: Initial open flow Mcf/d	Oil: In	itial open	flow	- Bbl/d	ž.
Final open flow 250 Mcf/d	ı Fi	nal open f	low	Bbl/d	
Time of open flow between ini	tial and f	inal tests	: lx	ours .	
Static rock pressure 850 psig(surfa	oe herence	ment) afte	er 72 hou	urs shut in	ļ
(If applicable due to multiple completion		•			, •
Second producing formation Berea Sandst	one Pa	y zone deg	oth 2565-2	2575 <b>feet</b>	
Case Initial open flow Mcf/d	Oil: L	utial oper	n flow	Bbl/d	1
	Oil: Fi			ds.	1 1000
Final open flow 347.7 Mcf/d  Time of open flow between in				ours	
Static rock pressure 900 psig(surfa	ce measura	rent) afte	r 72 ho	urs shut ir	I

DETAILS OF PERFORMIND INTERVALS, FRACTURING OR STIPULATING, PRYSICAL CHAKE, ETC.

4/29/85 Young's perf Berea Sandstone @ 2565' - 2575' with 3 shots/ft, 30 shots (.39").
4/30/85 NOWSCO to 75% quality foam frac Berea Sandstone. Breakdown pressure: 1950 psig; treating pressure: 2000 - 2200 psig; sand: 60,000# 20/40 @ 4 - 10 ppg concentrations; total N<sub>2</sub>: 837,500 scf; total sand laden fluid: 198 bbl; total fluid: 279 bbl; ISIP: 1670 psig; 5 min SIP: 1460 psig. Flow back through ½" choke.

## WELL LOG

			REMARKS		
RWATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET			
Same as previously submitted	?				
•					
		•			
•					
		1,.			

(Attach separate sheets as necessary)

	Kaiser Explorati	on & Mining Company	1
	Well Operator		•
-	Bu.	·	
i	Date: June 5, 198	85	
1	Miles Julie 33 12		

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 east, anematered in the drilling of a wall."



## STATE OF WEST VIRGINIA DEPARTMENT OF MINES

JUN 23 1983

OIL AND GAS WELLS DIVISION

OIL & GAS DIVISION

•	PARTIAL		V:	W/10 W 10 1 1
AFFIDAVIT	OF PLUGGING	AND FILLING	WELDEPT.	OF MINES
AFFIDAVIT SHOULD BE MADE IN WELL OPERATOR AND THE THIRD COPY (AND EXT ADDRESSES,	TRIPLICATE, ONE COPY	MAILED TO THE DEPARTMEN OULD BE MAILED TO EACH O	T, ONE COPY TO BE RETAI COAL OPERATOR AT THEIR	NED BY THE RESPECTIVE

	OPERATOR OR OWNER		Kai	ser Exploration	and Mining	Company
	ADDRESS	•	_ P. (	D. Box 8. Ravens		26164
COAL	OPERATOR OR OWNER	C	June	COMPLETE AD	DRESS	<b>19</b> 83
	ADDRESS		Rip1			District
Grant Donohew			Jack	cson	•	
South Church	OR PROPERTY OWNER Street, Ripley, W	V 25271	. *************************************			County
	ADDRESS NIPICY, W	<u>V 252</u> 71	Well. 1	No. KEM #110		
			Gran	t Donohew		Farm
STATE INSPECTOR	SUPERVISING PLUGG	ING Hon	er Dou	gherty		
		AFFIDA	AVIT			
STATE OF WEST	VIRGINIA.	1				
County of Jackson	on	) SS: .)	٠			
R. A. F	ryce	ar	ıd	R. L. Cotv		
penig first duly sy	vorn according to la	w depose ar	id say tl	hat they are experie	enced in the	work of
well operator, and	g on and gas wells and participated in the w	d were empl ork of plugg	oyed by ing and	r Kaiser Explora	tion and M	<u>ining Ç</u> o.
was commenced on	the 1St. day of	June	6	. 19.83 and that t	wen, that sa	ild work
and filled in the fo	llowing manner:			,	TE MEII MAS	bragged
SAND OR ZONE RECORD	FILLING	MATERIAL		PLUGS USED	CA	BING
Orickany Sandah				SIZE & KIND	CS Q PULLED	CSG LEFT IN
Oriskany Sandstone 5150'-5160' (KB)	Permanent bridg	e_plug		Baker Model	NONE	LEFT (P)
3(30 -3100 (VB)	Onickany unacce			S-4 1/2"		
	Oriskany unecon plug back to pr	omical: oduce Brow	ın .			
	Shale interval					
	(KB)		1997	·		
		**************************************				
						· · · · · · · · · · · · · · · · · · ·
					·	
COAL SEAMS				DESCRIPTION		
(NAME) None				None None	OF MONUMEN	IT
(NAME)						****
(NAME)						
(NAME)						
and that the work	of plugging and filling	ng said wel	l was co	ompleted on the 1	st	dore of
	, 19_83		~	. ^		day or
And further dep	onents saith not.		Kirk	T Coly		27454+ 400a+ <u>29</u>
Sworn to and su	bscribed before me t	his21	day of	June	/, 19	9.83
My commission expir	es:	*****	1ac	tellen I	alle	t
Sumber	1, 1985	•		D:	Notary Pu	



# OIL AND GAS WELL PERMIT APPLICATE

OF MILES		
O THE DEPARTMENT OF MINES, Charleston, W. Va.	DATE Septembe	r 29, 1981
		ploration and Mining Company
urface Owner Grant Donohew		8 Ravenswood, WV 26164
Address South Church Street, Ripley, WV 252	Address P. U. BO	
Aineral Owner Grant Donohew		Acres 438.8
Address South Church Street, Ripley, WV 2		cass Lick Run
Coal Owner Same		Elevation 8861
Address Same	District Ripley	CountyJackson
	Quadrangle_Ripley	•
· · · · · · · · · · · · · · · · · · ·		
PERMIT MUST BE PUSICO A		
the chapter 22,		
		· · · · ·
drilling. This permit shall expire if	INSPECTOR	· · · · · · · · · · · · · · · · · · ·
6-6-82/1 ·	TO BE NOTIFIED Ric	hard Morris
rations have not commenced by 6-6-82	ADDDECC D O Pov	372, Grantsville, WV
Fred A rubelle	ADDRESS P. U. BUX	3/2, dianesti, ie; m
Deputy Director - Gil & Gas Division	PHONE 354-7259	•
Naomi Donohew made to Kaiser Exploration  19 80 in Jackson County, Book 15	and Miningna Orecorded on	the 5th day of Novembe
	•	
X NEW WELLDRILL DEEPER		
OIL AND GAS WELL ORIGINALLY DRI	LLED BEFORE JUNE 5, 19	69.
The enclosed plat was prepared by a registered engir	neer or licensed land surveyor	and all coal owners and/or operators
have been notified as of the above date.		
The above named coal owners and/or operator are he	reby notified that any objecti	on they wish to make, or are required
to make by Section 3 of the Code, must be received by	, or filed with the Departmen	t of Mines within ten (10) days. *
Copies of this notice and the enclosed plat were mail	ed by registered mail, or deliv	ered to the above named coal operators
or and awners at their above shown respective address	day	Delore, Of On the
same day with the mailing or delivery of this copy to the	ne Department of Mines at C	arieston, west virgina.
	Very truly yours.	2 A 3
PLEASE SUBMIT COPIES OF ALL	(Siam Nama)	A. P
GEOPHYSICAL LOGS DIRECTLY TO:	(Sign Name)	Well Compared AND MINING COMPAN'
THE WINCINGS CENTUCICAL AND	P. O. Bo	
WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY	Address F. U. Du	Street
D A ROY 879	of Bauansus	
MORGANTOWN, WEST VIRGINIA 26505 Wel	Operator Ravenswo	od :
AC-304 - 292-6331		
		City or Town
	_West Vir	eginia 26164
		cry or Town

\*SECTION 3 . . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved

47-035-1616

TERRITOR BER

and the well operator authorized to proceed.

# THIS IS AN ESTIMATE ONLY ACTUAL INFORMATION WILL BE SCHMITTED ON OG-10 UPON COMPLETION PROPOSED WORK ORDER TO X DRILL \_\_\_\_ DEEPEN \_\_\_\_ FRACTURE-STIMULATE DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT: NAME Clint Hurt & Associates, Inc. NAME R. A. Pryce ADDRESS P. O. Box 388, Elkview, WV ADDRESS P. O. Box 8, Ravenswood, WV 26164 TELEPHONE 344-2401 TELEPHONE \_273-537] ESTIMATED DEPTH OF COMPLETED WELL: 5225' ROTARY X CABLE TOOLS\_\_\_\_ PROPOSED GEOLOGICAL FORMATION: \_\_Oriskany OIL\_\_\_\_ GAS\_X\_\_ COMB.\_\_\_\_ STORAGE\_\_\_\_ DISPOSAL\_\_\_\_ TYPE OF WELL: RECYCLING\_\_\_\_\_ WATER FLOOD\_\_\_\_\_ OTHER \_\_\_\_ TENTATIVE CASING PROGRAM: CASING AND TUBING USED FOR LIST IN CEMENT FILL UP SIZE DRILLING WELL OR SACKS - CUBIC IT. 20 - 16 10 3/4" 250' 250' 150 sks class A \_\_\_\_ 2475' 24751 88 50/50 Bozmix 5281' 5281' 225 sks 50/50 poźmix Perf. Top Perf. Bottom Perf. Top Perf. Bottom APPROXIMATE FRESH WATER DEPTHS \_\_\_\_\_FEET \_\_\_\_SALT WATER \_\_\_\_\_FEET \_\_\_\_ APPROXIMATE COAL DEPTHS \_\_ IS COAL BEING MINED IN THE AREA? None BY WHOM? SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT. TO DRILL DEEPER OR REDRILL: SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED. TO FRACTURE - STIMULATE: OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD. OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOW-ING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND. Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twentyfour (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt

providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia

this lease have examined and place on our mine maps this proposed well location.

Coal Company, Owner or Operator of the coal under

For Coal Company

Official Title

Coal Company have no objections to said well being drilled at this location,

13 - 10

9 - 5/8 8 - 5/8 7

5 % 4 %

Liners

WAIVER: I the undersigned, Agent for \_\_\_\_\_

Code.



March 21

2) Operator's Well No. \_\_ 3) API Well No.

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

		77. C			_ AP	PLICATI	ON FOR A WEL	L WORK PERMIT			
**						,					
4)	WELL TYP					Υ	/ 81-3		/ Dann	/ Challens X	
<i>a</i> \	T 00 LTION	000					Underground storage/ Deep/ Shallow/) Watershed: Grasslick Run				
)	LOCATION			lipley	/WINNESS		Country 1	ackson	Quadrangle:	Ripley	
۵١	WELL ODE					n and	Mining Co.	7) DESIGNATED	AGENT R. A.	Prvce	
6)	Address	P. O. Box 8 2				41.041.04	W STO	ining Co.7) DESIGNATED AGENT R. A. Pryce  Address Same			
	Addiess	***************************************		wood.	WV	26164		I needs woo			
R)	OIL & GAS	INSPEC		-				9) DRILLING CO	ONTRACTOR:		
0,		lerry Tephabock						Name Unknown			
	Address	Rt. 1, Box 101A					Address				
	•	Rip	lev, I	<u>vv 2</u> !	5271		W				
10)	PROPOSEI	WELL V	WORK:	Drill		/ Drill	deeper	/ Redrill	/ Stimulate X		
,		Plue off old formation					/ Perforate new formation Y /				
		-		Other p	hysical	change in	well (specify)S	queeze 4 1/	2" casing; tre	eat Berea	
11)	GEOLOGIC	CAL TAR	GET FOR	MATION.	<u> </u>	erea					
	12) Estima	ted depth o	of complet	ed well,	448	<u>30 PBTE</u>	<u>feet</u>				
12) Estimated depth of completed well, 4480 PBTD feet  13) Approximate trata depths: Fresh, feet; salt, feet.											
14) Approximate coal seam depths: None Is coal being mined in the area? Yes / No X									/ NoX/		
15)	CASING A	ND TUBI	NG PRO	GRAM					•		
CASING OR			SPEC	CIFICATIONS Weight			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS	PACKERS	
2 1	UBING TYPE	Size	Grade	per ft.	New	Used	For drilling	Left in well	(Cubic feet)		
Conductor			and the same of th							Kinds	
Fresh water		10 3/4	<b>!</b>		X		<u> 250'</u>	250'	150 sks cla	A 2	
Coal				<u> </u>					65 sks 50/5	Sizo zmix	
Intermediate		7"			X		2460'	2460'	100 sks cla	S-A	
Production										Depths set	
Tubing		4 1/	<u> </u>	ļ	<u> </u>		5234 '	5234'	225 sks poz		
Liners			ļ	1	ļ					Perforations: By Lulo 15a	
			-	1						Top Bottom	
				-	<del> </del>	-				,	
		<u> </u>	L		1	1 1					
		·	***************************************	and the second second second section in the second second section is second second second second second second	USENIE PROPERTY OF ANY		OFFICE USE	ONLY			
					<del></del>		DRILLING PI				
			/ <del>7</del> 00	- 1/1/	9 OF SEC.				M	-L 20 40 0E	
Permit number 47-035-1616-FRAC March											
			**	,							
										ce with the pertinent legal re- and Gas Inspector, (Refer to	
No	. 8) Prior to t	he constru	ction of re	ads, locat	ions an	d pits for a	iny permitted wor	k. In addition, the v	vell operator or his con	tractor shall notify the proper	
	•	•					ork has commend	•			
		ork is as d	lescribed is	n the Notic	ce and .	Application	n, plat, and reclan	nation plan, subject	to any modifications a	nd conditions specified on the	
	verse hereof.	Mar	ch 29,	1987			. *				
Pe	rmit expires	AA44 L	211 279				unless we	li work is commence	a prior to that date and	prosecuted with due diligence.	
Loos											
Bond: Agent: Plat: Casing Fee									Λ		
86 &W Jul Out. 968721								· / V			
i	-,-			1 × 1	AL)	~ 18 C		U 6	2- 1/2 1/2	along the same of	
				ÿ			***************************************	TAX.	ninistrator, Office of C	Dil and Gas	
N	OTE: Keep o	one copy o	f this peri	nit posted	at the	drilling loc	ation.	( ) .a.			
								~		File	