



IV-35

DIVISION OF CILL & GAS DEPARTMENT OF ENERGY

## State of West Birginia

Bepartment of Mines Gil und Cas Zivision

Date	May	22.	1986	5	
Opera	ator's	3			
Well	No	KEM	#144	1	
Farm	Gord	don_	Parso	ons	
API N	<b>%</b> 047	<b>(3)</b>	035	1697	
				Frac	

WELL OPERATOR'S REPORT

FIRE TIME STREET, STR. 1991						
INDTER TARGET	CALL MARKET MAD ALL MAD		Contraction on the second service	A 400	970 W 100 W	
LANGE IN THE STREET			WILLIAM IN THE TANK THE	( )	UMVETINT	
and a seminante of the last	a a a a a a a a a a a a a a a a a a a	S 100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	STIMULATING,	$\sim$		
distribution of the last of th						Aller of the Authorities

WELL TYPE: Oil / Gas X / Liquid Injection	n_/Wast	e Disposa	1 /	
(If "Gas," Production X / Undergro	und Storag	e/ Deep	/ Sha	$1 \times X/$
LOCATION: Elevation: 612' Watershed	Lamps Run		•	
District: Grant County Jacks	on	Quadrangle	<u>Pond C</u>	reek
COMPANY Vaican Explanation and Mining Company				
ADDRESS B. O. Bay O. Bay S. Bay S. B. C. B	<b>V</b>			
ADDRESS P. O. Box 8, Ravenswood, WV 26164  DESIGNATED AGENT R. A. Pryce	Caşing	Used in		Cement fill up
ADDRESS Same	Tubing	Drilling	in Well	Qı. ft.
SURFACE CHANER Gordon Parsons	Size 20-16			
ADDRESS Rt. 1, Box 63, Murraysville, WV	Cond.			
MINERAL RIGHTS OWNER Same	13-10°		249'	50 sks
ADDRESS	9 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK Jerry	8 5/8	·		
Tephabock ADDRESS Rt. 1, Box 101A, Ripley,	1 7		1876'	165 sks
PERMIT ISSUED 5/05/82	5 1/2			
DRILLING COMMENCED 6/30/82 05/09/86	4 1/2		4349'	225 sks
DRILLING COMPLETED 7/06/82 05 15 86	3			
	. 2			
ONTINUOUS PROGRESSION FROM DRILLING OR	Liners			
REWORKING. VERBAL PERMISSION OBTAINED ON	used			
GEOLOGICAL TARGET FORMATION Oriskany Sandst	one	Dept	<b>h</b> 4224	feet
Depth of completed well 4404 feet	Rotary <u>x</u>	_/ Cable	Tools	
Water strata depth: Freshfeet;	Salt	fæt	Drilled	on fluid,
Coal seam depths:	Is coal b	mine	not know d in the	n area?No
OPEN FLOW DATA				Cartification and Association
Producing formation Brown Shale	Pav	zone dent	<b>h</b> 3426'-3	610' 500
Gas: Initial open flow Mcf/d	Oil: Init	rial open	flow	ph? /a
* Final open flow 500 Mcf/d	Fina	il open fl		
Time of open flow between init	ial and fir	al tecte		BDI/Q
Static rock pressure 700 psig(surface	e measureme	ent) after	4	ma abab in
(If applicable due to multiple completion			<u> 40 1001</u>	.s sime in
Second producing formation Berea		70ne dent	h 1066! 1	070: 6
Gas: Initial open flow Mcf/d	Oile Ini+	ial over	fla.	pt://
*Final open flow 500 Mcf/d	Oil. Fina	l over fi	* 4 CW	
Time of open flow between init:	ial and fin	al tocto	~ L	
Static rock pressure 700 psig(surface	mazenrere	th street	4 nou	ra
the contract of the contract o	··~~	c, aruer_	48 nour	a aunt iu
Rock pressure and open flows are commingled		(Contin	ie on rev	er <b>se</b> (side)

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

Human 20101 with 20 hallow

5/9/86: McCullough perforated the Brown Shale from 3426' to 3610' with 20 holes.

5/15/86: Halliburton 75% foam fractured with 60,000# of 20/40 sand, 704,000 SCF of nitrogen and 327 bbl water at 2738 psig.

McCullough perforated the Berea from 1966' to 1970' with 10 holes.

Halliburton 75% foam fractured with 45,000# of 20/40 sand, 476,000 SCF of nitrogen and 254 bbl of water at 1928 psig.

RUG CACK TO. 3680'

#### WELL LOG

		. 144		e de la composition della comp	ELL LOG		
FORMATION	COLOR	HARD (	OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication and salt water, coal	of all fres
See origin	nal OG-1	LO	,				
							,
						<b>6</b> :	€ <b></b> .
							en seja a
							,
en de la companya de							
				•			
				•			

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY Well Operator	
By: 2 A?	
Date: May 22, 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 and the drilling of a well."

OIL & GAS DIVISION

1V-35 (Rev 8-81)

## DEPT. of MINES Mest Mirginin

Department of Mines Oil and Cas Division

Date	9	/27/	<u> /82</u>			MINISTER S
Oper	ator	* S				
Well	No.	KEM		144		
Farm	Gor	don	Pa	rsons	ngana ngalawan kanang lan kanan	
API	No.	47	1970	035	 1697	

### WELL OPERATOR'S REPORT

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WEIL TYPE: Oil / Gas X / Liquid Injection (If "Gas," Production X / Undergro	n_/ Wast	e Disposal e / Deer	/ o/ Sha	llow /)
			· emercuely attention	
Matershed L	keon	Onadrandle	Pond C	reak
District: Grant County Jac	- KOUII	Zamandr.	- Und	
COMPANY KAISER EXPLORATION & MINING COMPANY		•		
ADDRESS P.O. Box 8, Ravenswood, WV 26164	Casim	Used in	Teft	Cerrent
DESIGNATED AGENT R. A. Pryce	Caşing Tubing			fill up Cu. ft.
ADDRESS P.O. Box 8, Ravenswood, WV 26164		DITTING	TIL MCTT	
	Si <b>ze</b> 20-16			
SURFACE OWNER Gordon Parsons	Cord.			
ADDRESS Rt. 1, Box 63, Murraysville, WV 26153 MINERAL RIGHTS OWNER Same	13-10"		249	150 sks
	9 5/8			
ADDRESS Pichard	8 5/8			
OIL AND GAS INSPECTOR FOR THIS WORK Richard	7		1876'	165 sks
Morris ADDRESS Box 372, Grantsville	5 1/2			
PERMIT ISSUED 5/05/82	4 1/2		4349'	225 sks
DRILLING COMMENCED 6/30/82	3			
DRILLING COMPLETED 7/06/82	2			
IF APPLICABLE: PLUGGING OF DRY HOLE ON	Liners	·		
CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	used			
ON				
GEOLOGICAL TARGET FORMATION Oriskany S.S.		Dep	th 4224	feet
Depth of completed well 4404 feet	Rotary_)	/ Cabl	e Tools_	
Water strata depth: Fresh feet;				
Coal seam depths:	_ Is coal	being mir	ed in the	e area?
OPEN FLOW DATA Producing formation Oriskany S.S.	Pa	v zane det	th 1201_1	ana feet
Gas: Initial open flow trace Mcf/d		itial oper	flow	Bbl/d
Final open flow Fst. 200 Mcf/d	ri ri	nal coen i	i du	Bbl/d
Time of open flow between ini				
Static rock pressure 1050 psig(surfa		acity att		
(If applicable due to multiple completio		u sana da	~#-}h	foot
Second producing formation	23	y zone del	rul n fla:	Ph1 /A
Gas: Initial open flow Mcf/d	OIL: IT	ntiar obe	er TTOM	DI-1 /2
Final open flow Mcf/d	Oil: Fi	mar open :	- , LTOM	
Time of open flow between ini	tial and f	inal test	s <u> </u>	
Static rock pressurepsig(surface	e measurem	ment) after	E po	urs snut in
		(Cont	irue on r	everse side)

10m1 IV-35 (PEVERSE)

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

Oriskany S.S.

Perforation

4294-4304 20 shots

7/13/82

Oriskany S.S.

Frac:

60,000 # 20/40 sand

Treatment pressure = 3200 psig

ISIP = 2500 psig Total of 888 bbl of water and

120,000 SCF of N<sub>2</sub> used

#### WELL LOG

The state of the s			
FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sandstone and shale Shale Coffee shale Berea S.S. Shale Brown shale Shale Marcellus Onondaga L.S. Oriskany S.S. Helderberg	0 1510 1952 1973 1975 3128 3629 3974 4196 4224 4293	1510 1952 1973 1975 3128 3629 3974 4196 4224 4293 4404-TD	s/g @ 1974 s/g @ 4235, 4268, 4289 s/g @ 4303
	•	The contract of the contract o	
p. top.			•
DU 1975			
in Hum 3128		)	•
3629			
	A Sec. ()	· .	
wineshed 3974			
onger . High	•		tarti, a la l
wordergo 4196			
*			
	•		
•			
			et e

(Attach separate sheets as necessary)

KAISE	R EXPLORATION AND MINING COMPANY	
We	11 Operator	
By:	R.A.P.	
Date:	September 27, 1982	

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 work, encountered in the drilling of a well."

FORM 1V-2 (05verse) (12-81)

# RECERVED

APR 23 1982 OIL AND GAS DIVISION WYDEPARTMENT OF MINES



Date:	<u>April</u>	22,	. 19	32
Opera	ator's			
Well	No	<u>KEM #1</u>	44	

State

035 API Well No. 47 1697 County

Permit

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

OIL AND GAS WELL PERMIT APPLICATION

	OID WAS A	
WELL TYPE:	Oil/ Gas/	
	(If "Gas", Production X	/ Underground storage/ Deep X / Shallow/)
LOCATION:	Elevation: 612'	Watershed: Lamps Run
	District: Grant	County: Jackson Quadrangle: Pond Creek
WELL OPERATO	OR <u>Kaiser Exploration and</u>	Mining Co. DESIGNATED AGENT R. A. Pryce
Address	P. O. Box 8	Address P. O. Box 8
	Ravenswood, WV 26164	Ravenswood, WV 26164
OIL & GAS	IPD Caudau Danasana	COAL OPERATOR None
	NER Gordon Parsons	
Address	Rt. 1, Box 63,	
	Murraysville, WV 2615	
Acreage	38.75	COAL OWNER(S) WITH DECLARATION ON RECORD:
SURFACE OWN	TER Same	Name Same
Address		Address
Acreage		Name
FIELD SALE (I	F MADE) TO:	Address
Address		
		COAL LESSEE WITH DECLARATION ON RECORD:
OIL & GAS INS	SPECTOR TO BE NOTIFIED	Name
Name <u>Richa</u>	ard Morris	Address
Address	P. O. Box 372	
	Grantsville, WV	
The undersigne	ed well operator is entitled to operate for	r oil or gas purposes at the above location under a deed/ leaseX
		19 78, to the undersigned well operator from Gordon & Mona
Parsons		
	ease, or other contract has been recor	
_		ce of the Clerk of the County Commission of Jackson County, West
		679 . A permit is requested as follows:
PROPOSED W	VORK: Drill / Drill deeper	/ Redrill/ Fracture or stimulate/
	Plug off old formation	_/ Perforate new formation/
	Other physical change in well	(specify)
	—planned as shown on the we	ork order on the reverse side hereof.
The above nam	ned coal operator, coal owner(s), and coa	al lessee are hereby notified that any objection they wish to make or are required to
make by Code \$3	22-4-3 must be filed with the Departme	ent of Mines within fifteen (15) days after the receipt of this Application by the
Department.		
•		t and reclamation plan have been mailed by registered mail or delivered by hand to
	•	lessee on or before the day of the mailing or delivery of this Permit Application to
me nebaument	of Mines at Charleston, West Virgini	iii.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY WEST VIRGINIA OIL AND GAS CONSERVATION COMMIS-SION 1615 WASHINGTON STREET EAST CHARLESTON, WV 25311

TELEPHONE: (304) 348-3092



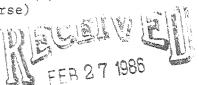
KAISER EXPLORATION AND MINING COMPANY Well Operator

General Manager

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

DRILLING CO	ONTRAC	TOR (IF	KNOW	N) _	Clint	Hurt & As	ssociates.	Inc.		
New J				Ad	ldress .	P. O. Box	₹ 388			
					•	Elkview,	WV 2507	1		
GEOLOGICAI	L TARGE	ET FORI	MATION	I,	)risk	any				**
Estimate	d depth	of comp	leted we	:11,_ 4	1364'	fee	et Rotary	y <u> </u>	ole tools/	r i
Approxi	mate wat	er strata	depths:	Fres	h,	feet	; salt,	feet.		
Approxi	mate coa	l seam d	epths:			Is coal	being mined	in the area? Yes	/ No_X	7. <sub>1</sub>
CASING AND							-		***************************************	-
		er f								
,					-					N. 10.
CASING OR TUBING TYPE	.	CIFICAT	Weight				INTERVALS	CEMENT FILL-UP	PACKERS	
410-4-11-11-11-11-11-11-11-11-11-11-11-11-1	Size	Grade	per ft	New	Used	For drilling	Left in well	(Cubic feet)		. · · · · · · · · · · · · · · · · · · ·
Conductor				-					Kinds	·
Fresh Water	10 3/4			ļ		250'	250'	150 sks class	A (to surface	<u>.</u>
Coal						·			Sizes	
intermediate	7"					1874'	1874':	65 sks 50/50 100 sks class		
Production	4 1/2	11				4364'	4364'	225 sks 50/50	D&SHILIP Xeet	
Tubing		and the second								
Uners									Perforations:	*
									Top B	ottom
***************************************										-
**************************************			<u> </u>	1						-
"Rec previ	lamation ously paid	Plan'', a I on the s	pplicable ame well	to the the	e recla ee requ	mation require	d by Code § 2 22-4-12a, and	wed by Code § 22-4-2 22-4-12b and Regulat (v) if applicable, the c O feet of the propose	on 23, (iv) unless onsent required by	
A s be pa	separate F art of the v	orm Iv-2 work for v	shall not vhich a p	be req ermit	uired f is soug	or fracturing or ht and is noted	stimulating a as such on the	well where fracturing Form IV-2 filed in co	or stimulating is to nection therewith.	
TLIC MADELLAND										
THIS PERMIT	MUST B	E POSTE	DATTH	ië We	LL SITE	39 19 19				
( 1875 4 10)	MW2 881	NG IN /	momor	Ansmi	the state of					
ARTICLE A O		. V∧. Co irillir	ODE, THI	ELOC	ATIC	4 IS HEREBY	:			
	100-11		O	77 6 3 8 6	m. e.					
IF CPERATION	4		CMMEN	Sie	1	5-83				
•	and the state of the second second	and the second s		The same of the sa	postostano se conjultação	tou recurrent transcent de meste et étable				
,										
								al owner or coal lessee fifteen (15) days of r		
						NAW	/ER			
The undersign	ied has n	o objection	map exion to the	work	propos	ers inc area or	the well location at this location	the coal under this von, the well location han, provided, the well s.	in haam addad ta tha	_:
							de des des reconstitutes de la constitute	and the second s		- "Y
Date:			, 19				Ву			n, authorites again segure
**************************************			<del></del>				lea			10 A

7/85





1)	Date: February 18	15.86
----	-------------------	-------

2) Operator's KEM #144, Parsons

Well No. KER 1144, Full 3013

3) API Well No. 47 035 1697-Frac
State County Permit

#### STATE OF WEST VIRGINIA

	. ~	- AH 8	i GA\$9EI	PARTN	LENT OF	FENERGY, OIL A	AND GAS DIVISI	ON	
DI	VISION C PARTMEN	IT OF F	NERGY	Al	PPLICAT	ION FOR A WELL	AND GAS DIVISI WORK PERMIT		
DE	DARTME!	110; -							
) WELLT	YPE: A C	11	/ (i	as					
					_Х		orage	/ Deep	_/ Shallow <u>X</u> /)
LOCATI			<u>612'</u>		Alexandra Co		<u>Lamps Run</u>		
	Di	Kaise	r.Fxhî	orat.	inn_ap	County:	ackson		Pond Creek
	PERATOR.		hikg <sup>b</sup>	ompai	A. CONI	5: <u>4233</u>	) DESIGNATED A		3
Addre	SS	<u> </u>	<u></u>			**************************************	Address	————Same	
			swood,		26164				
	AS INSPEC			FIED		9	DRILLING CON	rractor: er Company	Toolo
	Jerry T		ox 101	Δ				ame ame	10015
Addre	, ou			271		1001170 - 3 To C 1001170 - 4	Address 2	ante	
					/ To 131	•			V
PROPOS	ED WELL	WORK:			/ Drill	deeper		/ Stimulate	<u> </u>
					ormation_		e new formation		
arat a	71.C 4.1 T 4.17	~~~~~	Other p	nysicai	change in icolat	ing Original	DONE 2014	<u>casing, sec</u>	permanent bridge   te Brown Shale & Bo
					3680'(1		, her intare	anu Stilliura	
*	nated depth roximate tra	-		-		feet; salt_	N/A	feet.	401
	roximate tra roximate coa					,	being mined in the ar		( N
	AND TUB			11011	×	IS COA!	benig mined in the ar	ea: ies	/ No/
•	AND IUB		CIFICATION	e	64	FOOTAGE INT	remitte to	OF 15 15 15 15 15 15 15 15 15 15 15 15 15	<b>N</b>
Casing or Tubing Type		1 2	Weight	ŧ		1		CEMENT FILL-UP OR SACKS	PACKERS
_	Size	Grade	per ft.	New	Used	For drilling	Left in well	(Cubic feet)	
nductor	10 21	1 11 40	100 75	+ ,,	-	0.00.//			Kinds None
sh water	110 3/4	H-4U	32.75	X		249'(KB)	249' (KB)	150_sks	
a)	711	V 55	100	1	1	7.07.5.1 (1.15)			Sizes
ermediate		K-55		<u> </u>		1876'(KB)	1876'(KB)	<u> 165 sks</u>	
oduction	4 1/	1 N-8U	11.6	<u> </u>			4359'(KB)	225_sks	Depths set
bing		-		-					
k. s			<del></del>	1			<del></del>		Perforations:
	1 -	-	+						Top Bottom
		-	+	-	-			<del></del>	4299' 4304'(KB)
		<u> </u>	1	li .	<u>i li</u>				1
						OFFICE USE O	NII V	***************************************	
······································						DRILLING PER			
					ž.	MILLENO I ER	TANK T		
rmit number	47-	035-	<u> 1697-</u> ]	Frac			******************	M	arch 7 19 86
								Da	te
is permit co	vering the w	ell operat	or and we	ll locati	on shown	below is evidence of	permission granted	to drill in accordat	nce with the pertinent legal re-
irements sub	ject to the c	onditions	contained	herein a	and on the	reverse hereof Notif	ication must be given	to the District Oil	and Gas Inspector, (Refer to itractor shall notify the proper
trict oil and	gas inspect	or 24 hour	aus, iocati rs before a	ons and ictual pe	pits for at irmitted w	iy permilled work. ork has commenced.	in addition, the west	operator or ms cor	itizacioi siizii notity the proper
								ne modifications	and conditions specified on the
e permitted erse hereof.		Cacaideu I	n inc ivoli	ccanu A	الالتصاديون	المالك المالك المالك المالك المالك	ion pian, subject to t	any mountreations a	me conditions specified on the
rmit expires		ch 7	, 1988	8		uniess well v	vork is commenced or	rior to that date and	prosecuted with due diligence.
		. , , , , , , , , , , , , , , , , , , ,							Commenter comments and a second section of the second seco
• • • • • • • • • • • • • • • • •									
		,				Ree   WPCP	S&E O	- Laws I	
Bond:	Ageni	· 1	Plat:	Casi	ng i	ee Wrtr	300	ther	
	Agent	3	紫	Casi	- 0	110			7
	Agent	3	Plat:	Casi	- 0	9369 AS	J, 25,		
	Agent fz/	3	Plat:	Casi	- 0	110	135		

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