

STATE OF WEST VINGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

	OIL	&	GAS	DIVISION	
D	EP.	T.	ne	MINE	~

Quadrangle Elmwood					Comb
Permit No. MAS-241			•	Water Flood Disposal	Storage(Kind)
(53-			· · · · · · · · · · · · · · · · · · ·		
Company Kaiser Exploration and Mi	ining Company	Casing and	Used in	Left	Cement fill up
Address P. O. Box 8. Ravenswood.	WV 26164	Tubing	Drilling	in Well	Cu. st. (Sks.)
Farm Ronial Smith Ac					•
Location (waters) Warner Branch	<u> </u>	Size			
Well No. KEM #44 Ele		20-16			
District Union County Mas		Cond.			
The surface of tract is owned in fee by	***************************************		255'(KB)	255' (KB	150 sks class
Ronial Smith		9 5/8			
Address Leon, WV 25123		8 5/8			
Mineral rights are owned by Same as at	AUVE	7	2473' (KB	124/3'(KI	B) 65 sks 50/50
Address Same as at		5 1/2	_		100 sks clas
Drilling Commenced 10/15/80	A CONTRACTOR OF THE PARTY OF TH	4 1/2	4764' (KB	14764' (KI	8) (1400' fillu 225 sks 50/50
Drilling Completed 10/22/80		3		46071 /	(2000' fillu
Initial open flow 45 M cu. ft.		2		4697' ((B).
Final production 500 M cu. ft. per day -	<u>bbls.</u>	Liners Used			And opposite the state of the s
Well open 10 hrs. before test	_2000# RP.		¥	,	11
Well treatment details:		Attach copy of c	ementing reco	rd.	••
Perforated Oriskany Sandstone fi	rom 4694'-470	1' (K.B.), 4	holes/ft,	28 holes	<u>, .50" diameter</u>
(Basin Surveys) Halliburton and	B.J. Hughes	hydrofractur	<u>ed zone on</u>	10/23/80	0; used 30,000#
80/100 sand 30,000# 20/40 sand	. 5000 gal, 2	8% HCL acid,	200,000 S	CF of ni	trogen, 973 bbl
water, 2308 hydraulic horsepowe	<u>er: treated a</u>	it 22.5 BPM a	<u>t 4200 psi</u>	g; insta	<u>ntaneous shut i</u>
pressure was 3700 psig; 15 minu	te shut in pr	<u>essure was 3 :</u>	<u>300 psig.</u>		

Fresh water Salt Water Salt Water Peet Salt Water Peet Producing Sand Oriskany Sandstone Depth4694'-4701' (K.B.)						
Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Soil & Sh Siltstone Sand Shale Sand Shale Sand Shale Sand Shale Sand Shale Sand Shale Sand Shale Sand Shale			0 33 90 246 256 272 286 305 448 460 513 536 822 846 907 953 980 988	33 90 246 256 272 286 305 448 460 513 536 822 846 907 953 980 988 1116 1258	Toos Fre	m KB-767'
Shale Siltstone Shale Siltstone			1258 1305 1352 1493	1305 1352 1493 1597		4

Coal was encountered at _____

Fresh water _____Feet ___

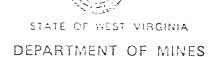
(grev

Formation (olor i	Heed or folk	ez-reggeset est septemble	Top Feet	Bostom Fest	Cl. Cos or Wirer Kanuarks
Shale Big Lime Shale Big Injun Shale Coffee Sha Berea Sand Shale Brown Shale Shale Marcellus Onondaga L Oriskany S Helderberg	le e ime and			1622 1713 1881 1931 2066 2380 2403 2418 3600 4044 4382 4604 4604 4676 4714	1713 1881 1931 2066 2380 2403 2418 3600 4044 4382 4604 4676 4714 4811	Show/Gas 4436', 4570' Show/Gas 4687'
Total Dept				4811		
2 104 - 15 3 40 44 8 41 78 24 3 86 24 4 3 86						
•		•				
	·					

November 12.

W. 80

Operation Manager





Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

O THE DEPARTMENT OF MINES,		
Charleston, W. Va.	DATE September 25, 19	80
arface Owner Ronial Smith	Company Kaiser Explora	tion and Mining Company
ddress Leon, WV 25123	Address P. O. Box 8, R	
ineral Owner Ronial Smith	Farm Ronial Smith	
Loom NW OCTOO	Location (waters) Warner	h .
Dal Owner Union Carbide Coal Mines	• • • • • • • • • • • • • • • • • • • •	
ddress 32 Sanderson Road, Clendenin, WV		
		County_Mason
oal Operator Same as above	Quadrangle LIMWOOD	
ddress Same as above THIS PERMIT MUST BE POSTED AT THE WELL SI		e de la companya de l
All provisions being in accordance with Chapter 2 of the W. Va. Code, the location is hereby approvi	2,	
for <u>drilling</u> . This permit shall expire	INSPECTOR TO BE NOTIFIED Kenneth	
operations have not sommenced by 6-25-81	ADDRESS RFD #1, Barbours	
Deputy Director - Oil & Gas Division	PHONE 736-4885	and the factor of the district page of the
INTLEMEN:		
The undersigned well operator is entitled to drill up to thereto, (or as the case may be) under grant or	lease dated April 26	and for oil and gas, having fee
Linda Lou Smithade to Kaiser Exploratio	n and Mining Cocorded on the	9th November
79 in Mason County, Dooi: 4	6 Page 693	day of
X NEW WELLDRILL DEEPER	REDRILLF	RACTURE OR STIMULATE
OIL AND GAS WELL ORIGINALLY DR		
		a control of the cont
The enclosed plat was prepared by a registered eng been notified as of the above date.	neer or licensed land surveyor and all	coal owners and/or operators
The above named coal owners and/or operator are homake by Section 3 of the Code, must be received by	ereby notified that any objection they y, or filed with the Department of Min-	wish to make, or are required es within ten (10) days. *
Copies of this notice and the enclosed plat were mai	led by registered mail, or delivered to t	ne above named coal operators
coal owners at their above shown respective addressing day with the mailing or delivery of this copy to t		hefore or on the
	Very truly yours,	
MASE SUBMIT COPIES OF ALL	(Sign Name) E, A.P.	
PHYSICAL LOGS DIRECTLY TO:	Attest Com	erator
ST VIRGINIA GEOLOGICAL AND	R. A. Pryce Kaisen Explora	ation and Mining Company
	Address Stree	
O. BOX 879	of of	
AGENTORIA MEDI ATRIGUERTE TODOS	P, O, Box 8, F	
- 304 - 292-6331		
	West Virginia	26164
di d	State	

FIRE CIRCLES AS A CONTROL OF THE STATE OF TH

THIS IS AN ESTIMATE ONLY ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOS	ED WORK ORDER TO.	X DRILL	DEEDEN E	PACTION COLLINI AND			
PROPOSED WORK ORDER TO X DRILL DRILLING CONTRACTOR: (If Known)			RESPONSIBLE AGENT:				
		ime.					
TELEPHO	ONE		TELEPHONE 273-537	71			
	•	ETED WELL: 47251		CABLE TOOLS			
		IATION: Oriskany	•				
TYPE OF	WELL: OIL_	GAS X (COMB STORAGE	DISPOSAL			
				OODOTHER			
*	•	· 					
TENTAT	IVE CASING PROGRAM	: 					
CAS	ING AND TUBING	USED FOR	LEFT IN	CEMENT FILL UP			
	SIZE	DRILLING	WELL	OR SACKS - CUHIC I-T.			
20 - 16 13 - 10							
9 - 5/8	70 3/4	250\.	2501	1 2 1 1			
8 - 5/8	10 3/4	2501.	2301	Cement back to surface			
7		2360\	2360	125 skg = 5701			
5 1/2			2000	125 sks = 570\			
4 1/4		4725\	4725	125 sks = 1500\			
3				Perf. Top			
2				Perf. Bottom			
Liners				Perf. Top Perf. Bottom			
				Perf. Bottom			
TO DRIL SUB WEI MUS TO FRAC OIL BON OIL ING	L DEEPER OR REDRILI MIT FIVE (5) COPIES O LIS DRILLED PRIOR TO ST ALSO BE SUBMITTEE TURE - STIMULATE: AND/OR GAS WELL OR AND/OR GAS WELL OR ORIGINAL PERMIT NUM	F OG - 1, SHOWING ORIG D 1929, A PERMANENT C D. IGINALLY DRILLED BEFO AND ORIGINAL WELL REC IGINALLY DRILLED ON A IBER, AND PERFORMANCE	INAL PERMIT NUMBER AND TOPY OF THE PLAT AND TO THE PLAT AND TO THE JUNE 5, 1929, FIVE (5) COORD. ND/OR AFTER JUNE 5, 1929 BOND.	DND AND PERMANENT COPY D PERFORMANCE BOND. ON HE ORIGINAL WELL RECORD COPIES OG - 1, PERFORMANCE P, FIVE COPIES OG - 1, SHOW- Inspector to be notified twenty-			
	(0.), 1.000 1 (0.12.1.().						
1							
The thereof.	following waiver must be	e completed by the coal ope	erator if the permit is to be i	ssued within ten days of receipt			
WAIVER:	I the undersigned, Agenthis lease have examined	for	Coal Company, Owner aps this proposed well locati	or Operator of the coal under			
	We the	Coal Company	have no objections to said we	ell being drilled at this location,			
	providing operator has co Code.	mplied with all rules and reg	ulations in Articles 4, 5, and 7	, Chapter 22 of the West Virginia			
		3	•				
			ę-	or Coal Company			
			1·c	и сови сотрилу			

Official Title



IV-35 (Rev 8-81)

State of Mest Birginia

Pepariment of Mines Gil und Gas Pivision

Operat		
	No. KEM #44 Ronial Smith	
49942	o. 47 - 053 -	241
	Fra	c .·

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

	Warner Branc	: n		
District: Union County M	lason	Quadrangle	<u>Elmwoo</u>	d
COMPANY KAISER EXPLORATION AND MINING COMPANY				
ADDRESS P. O. Box 8, Ravenswood, WV 26164	Caging	Used in	Left	Cement fill up
DESIGNATED AGENT R. A. Pryce	8 69	Drilling	in Well	Cu. ft.
ADDRESS Same	Size			
SURFACE OWNER Ronial Smith	20-16 Cond.			
ADDRESS Leon, WV 25123	13-10"	255(1)) 255 KB	150 sks
MINERAL RIGHTS OWNER Same as above	9 5/8	7331.81		
ADDRESS Same as Above	8 5/8			,
OIL AND GAS INSPECTOR FOR THIS WORK Jerry	. 7	2473	2473	65 sk-\$ 5 50/50 poz
Tephabock ADDRESS Ripley, WV 25271	5 1/2	7873		
PERMIT ISSUED 3/11/86	4 1/2		4764	225 sks 50/50 po <i>z</i>
DRILLING COMMENCED 10/15/80 6 4/86	3			
DRILLING COMPLETED 10/22/80 6/6/36				
IF APPLICABLE: PLUGGING OF DRY HOLE ON				
CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	Liners used			
QN	usea			
GEOLOGICAL TARGET FORMATION Oriskany Sandst	tone	Dep	th 4701	feet
Depth of campleted well 4811 fee	t Rotary		e T ∞ ls	
Water strata depth: Fresh fee				
Coal seam depths:				
	RESISTANCE AND PROPERTY OF THE	•		4-20-20-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
OPEN FLOW DATA	I. D.	= 301	~+ b 3856//	1031 foot
Producing formation Devonian Brown Sha				
Gas: Initial open flowMcf/				
7: -3 63 1 / Mag/	CI E .	npr den	- *^	
_		Final tacto	s 2 h	
Time of open flow between i	nitial and			
Time of open flow between i Static rock pressure 1050 psig(sur	nitial and :			
Time of open flow between i Static rock pressure 1050 psig(sur (If applicable due to multiple complet	nitial and inface measure	ement) afte	er_120ho	urs shut i
Static rock pressure 1050 psig(sur (If applicable due to multiple complet Second producing formation	nitial and state measure tion)	ement) afte ay zone dej	er 120ho	urs shut in
Time of open flow between i Static rock pressure 1050 psig(sur (If applicable due to multiple complet Second producing formation Gas: Initial open flow Mcf/	nitial and state measure tion) /d Oil: I	ement) afte ay zone dep nitial oper	er 120ho	rs shut in
Static rock pressure 1050 psig(sur (If applicable due to multiple complet Second producing formation Gas: Initial open flow Mcf/	nitial and inface measure tion) Pi /d Oil: In /d Oil: F	ement) afte ay zone dep nitial open	oth	feet Bbl/G
Time of open flow between i Static rock pressure 1050 psig(sur (If applicable due to multiple complet Second producing formation Gas: Initial open flow Mcf/	nitial and inface measure tion) /d Oil: In /d Oil: Finitial and	ament) after ay zone dep nitial oper inal open : final tests	oth	fee Bbl/ Bbl/

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

See Previous IV-35

6/04/86 Young's Wireline set perm plug at 4146'. Plug and abandon Oriskany. Perf. Devonian Brown Shale from 3856' to 4031' with 18 holes.

6/06/86 Dowell Schulmberger foam frac Shale. Used 34,000# 20/40 sand; total N2: 700 MSCF; total fluid: 320 bbl; ISIP: 1100 psig; 5 MIN SIP: 950 psig.

WELL LOG

WELL LOG							
FORMATION	COLOR HARD OR SOF	TOP FEET	BOITOM FEET	REMARKS Including indication of all free and salt water, coal, oil and coals			
SEE PREVIO	DUS IV-35						
			•.				
•				7.5			
		9					

(Attach separate sheets as necessary)

KATSER EXP	LORATION AND	MINING	COMP AN	Υ	OF THE STREET	
Well O	perator					
By: Z	AP -					
	ctober 6. 19	86				
Control of the Contro					50.	

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, encountered in the drilling of a well."

STATE OF WEST VIRGINIA DEPARTMENT OF LOND GAS DEPARTMENT OF ENERGY

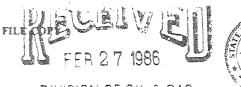
Permitting

AFEIDAVIT 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:	SMITH, RON	IAL	Operator	r Well No	o.:1 KEM-	4 4
LOCATION:	District:	UNION	Quadrangle: E South of 38 West of 81	County: 1	MASON 2 Min. 30 0 Min. 0	Sec. Sec.
Well Type:	OIL	GAS X				
Company: D	terst Oil and t Z Box 53 t. Pl. WV	&	Coal (or Owr	Operator ner -		
Agent: Rono Inspector: Permit Issue	ld W. Durst Jerry Tephal ed: 08/14/91	JR back	Coal (or Owr	Operator_ ner		
		A	FFIDAVIT			
STATE OF WE:	Mason	ss:				
in the world awork of plus	sworn according to the control of th	filling the	ng oil and on the second of th	say that gas wells ator, ar that sa	t they are and were and partici aid work w	being experienced experienced by ipated in the was commenced was plugged
TYI		FROM	TO	PIPE	REMOVED	LEFT
Class A Cont		4030	3780			
Class A Cult	_	1900	1800	1900'	41/2"	2864'
Closs A Cu		1200	1100	1200'	7"	1273'
Class A Co	ud	800	700			
Class A cont		250	150		103/4	255
Class A Cnd		50			1111	
Descrip	otion of mor	nument: 7"	csq w/API #	:	nart	5/14/91
and that the 27th	at the work day of	c of pluggi	ng and filli	ng said	well was	completed on
And furthur	deponents s	saith not.	Ronal	ld W. F	Personal G	MAY 17 1991
Sworn and su My commission	bscribe befor expires:_	fore me this 10-33-93	1th day	of Control	THE PURPLE	FFICIAL SEAL FARY PUBLIC OF WISHINGHIA COCK, BENSON
					413-5th Stree My Commiss	eet, Naw Haven, V/V 25265 ion Expires Oct. 23, 1995.

FÖRM WW-2(B) (Obverse) 7/85



1)	Date:Fel	oruar	y 11_		13_86_
2)	Operator's Well No.	KEM	#44-R	Smith	W

Well No. KEM #44-R Smith W

3) API Well No. 47 053 241 -F

State County Permit

DIVISION OF OIL & GAS DEPARTMENT OF ENERGYATE OF WEST VIRGINIA

DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

APPLICATION FOR A WELL WORK PERMIT

				_	/					
4) WELL TY			/ Ga Production			/ **			Y	
EL LOCATIO			100 664		<u> </u>	_/ Underground sto	Warner Brand	_/ Deep ^h	_/ Shallow/)	
5) LOCATIO		vation: _ trict:		24	42,5			Quadrangle: _	Elmwood	
a wen on	DIS DATOR	Kaiser	EXPI	rati	ioncan	2: 25 5 50 7) DEC: (): 4ED	Quadrangle: _		
Addres		0.0		many	<i></i> cob.	- Carrier Common	Address	Sam		
Muu1 cs:			vood, l	JVI S	26164	***************************************	Address _	Jan		
8) OII & GA			•		- V - V - T		DOULING CO	NITP A CTOP.		
*	s inspector to be notified 9) Drilling contractor: lerry Tephabock Name Kaiser Company Tools									
		Rt. 1. Box 101A Address Same								
Tames es	Ripley	*	2527			ndel delle relevation recommendation	mudic22	- Conc		
10) PROPOSE	, .	-3			_/ Drill	deeper	(Dad+ill	/ Stimulate	\ / /	
10) FROFOSE	D WELL	WORK.				X Perforat		V	/	
			_			well (specify) P]			SET PERMANENT	
III GEOLOG	ICAI TARI	GET FOR				Shale 401			Roiner By	
	ated depth c								Verezie, Cur	
	oximate trata			R1 ₹		feet: salt_	N/A	fee:		
		-				ls coal			/ No X /	
15) CASING							oema mines in the t		7 140	
CASING OR	SPECIFICATIONS				į.	FOOTAGE INTERVALS CEMENT FILL			N PACKERS	
TUBING TYPE	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well	OR SACKS (Cubic feet)		
Conductor	Sie	Grade	per re-	146.00	Ciseu	ro: arming	Lest in wes	(Cause reet)	None None	
Fresh water	10 3/4	H_40	32.75	У	1 1	255'(KB)	255'(KB)	150 sk	Kinds None	
Coal		11-70	126012	^_	1 1	233 (110)	200 (110)	200 31	Sizes	
Intermediate	7	K-55	20	Y		2473'(KB)	2473'(KB)	165 sk	Sizes	
Production	1 1/1	N-80	7	Y		2773 (RD)	4697 (KB)		Depths set	
Tubing	1 - 1/1	11-00	 		1				Depths ser	
Line			ļ.		1 1				Perforations.	
									Top Bottom	
- Harriston - Harr	1.		1						4694' 4701'(KB	
			l						# TO 3 T T T T T T T T T T T T T T T T T	
		<u> </u>		·						
And the second s				********	(OFFICE USE O	NLY	**************************************		
*		1000 T]	DRILLING PER	MIT			
				N					10	
Permit number_	47-(153-0	241-F	rac			****		arch 11 1986	
This permit con-	arina tha mu	ali amaras	on and well	l loonti	~= ~b~~~	halow is avidonae of		Da	nce with the pertinent legal re-	
quirements subj	ect to the co	onditions	contained	nocan herein	and on the	reverse hereof Nation	permission gramee	n to the District Oil	nce with the pertinent legal re-	
o. 8) Prior to th	ne construct	ion of ros	ids, locatic	ns and	pits for a	ny permitted work.	In addition, the wel	ll operator or his co	l and Gas Inspector. (Refer to ntractor shall notify the proper	
						ork has commenced.				
	vork is as de	escribed in	the Notic	e and A	Application	n, plat, and reclamat	ion plan, subject to	any modifications	and conditions specified on the	
reverse hereof.	M = == =	. L	7.00	_		. * * * * * * * * * * * * * * * * * * *				
Permit expires .	marc	ch 11	, 198	×		uniess well v	vork is commenced p	prior to that date and	d prosecuted with due diligence.	
								Same and the same a		
Bond:	Agent	: F	Plat:	Casi	ing I	Fee WPCP	S&E C	Other		
	AD	1		91	96	9363 HACK	115			
L	-/ -				<u></u>	1252 IVIN				
							-7/	11/ /1		
NOTE: Keep	one copy of	this perm	nit posted .	at the o	irilling loc	ation.				
		2011	,			ננע	rector, Divi	Sion of Oil	and Gas File	
		Sec	the revers	e side e	of the API	PLICANT'S COPY	for instructions to t	he well operator.		