



STATE OF WEST VIRGINIA DEPARTMENT OF MINES

O'L & GAS DIVISION Oil and Gas Division

WELL RECORD 3%

Quadrangle_Elmwood Permit No. 47-053-0184

-	Armone December	Ì a	OF	MINE	r liner
	Rotar	У	Χ	Oil	agano - ag ^a no -
	Cable	-	najornyna od jeljajajejeje	Gas_X_	
	Racus	lin	n'	Camb	

FEB 20 1980

Water Flood_ Storage_ Disposal_____

**	-	loration and N		ny Casing and	Used in	Left	Cement fill up
		8 Ravenswood		Tubing	Drilling	in Well	Cu. ft. (Sks.)
		sucker					
				Size 20-16		No. of the Control of	
		County_Mas		Cond.			100 sx class A
		wned in fee by					(To surface)
	ord Kin			9 5/8		Molecular farmanites hiddelah diseser	(Halliburton)
Address Rt.	2, Ga1	<u>lipolis, Ohio</u>		8 5/8	Secretaria de la composición del composición de la composición de		65 sx pozmix
Mineral rights a	re owned	by Charlie Pic	kens et al	. 7	2707' ((B) Same	100 sx class A
		eon, WV 2512		5 1/2			(Halliburton)
		/6/79		4 1/2	5049' (<u>⟨B⟩ Same</u>	225 sx pozmix
Drilling Comple	tedZ	<u> 17779 </u>	STADY MEQUALA SARIES CONTRACTOR				(Halliburton)
Initial open flow	w <u>8,46</u>	9ou. ft	bbls.	2		5002	(KB)
		M_cu. ft. per day_		Liners Used			one-distribution
Well open	24	hrs. before test_	<u> 1800</u> RP.	And the second program for the second of the			
Well treatment	details:			Attach copy of	cementing reco	ord.	
Perforated	the Or	iskany S.S. fi	com 5006' -	5008', 5009 1	/2' - 5010	3 1/2' w/	4 holes/ft
(7/20/79);	Hallib	urton and Airc	owell fract	ured the Oris	skany w/30	,000# 80/	100 mesh sand,
							ogen.
announce case and a recommendation of the second of the se			·	Tillerini i an	nddfrowedd filwyd o galloddiaddiadd y wylaeth o dae rhyforwenia gallod y cyforweniae y by by by by by by by by	** gent from an men i gen um en	ricomo con es primado no de sebo una de estadogas facilitas el 2000 com despelablo portir mengra o voyación de sebuentes a
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Producing Sand	<u>urisk</u>	20 V	-colores stabilistes du est Malai (glitta resion à le 2000 realitement intrinsielle are atrade une constitue commune page	Depth	<u> </u>	10	barra, wsud svant-recys-fris osid kilda s hit missin intig thilda hillandi aktiviraji kildana.
who make him our program of the prog	THE STATE OF THE S					and the problem of the second	
Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or	Water	* Remarks
	истропи с оторо, непоснова дологово г у ученива удраги	Million divisi in in monomeno marti preparationemen e essimo in esem esem (use in electrolici custo è esmissimo	of \$1,000 bits on \$1 and \$1 and \$1 and \$2 an	noticija et komennen - Stemmonau in strukturanja ta prince one volucine a scope, even et prince in strukturanja se strukturanja se strukturanja se strukturanja se strukturanja scope, even et prince in strukturanja se str	periodic revertion inhabitus assert que foi virgini i que en empere como virgin	ra korkola — «erisyon-sensi de kultus ere erekeningangan	nt consistent for the display to solve the first in the interest forms a treatile section (the treatile southern treatile southern the southern treatile sou
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Red Rock			346	394			
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Red Rock			440	489			
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Red Rock			502	616	, -		

(over)

616

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Sand

Shale

Sand

Shale

Coal.

Shale

Red Rock Shale Red Rock

Red Rock

Red Rock

^{*} Indicates Electric Log tops in the remarks section.

Formation Color Hard or Soft	Top Feet 3%	Bottom Feet	Oil, Gas or Water * Kemarks
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Date February 20 1080

APPROVED Kaiser Exploration and Mining Company



OIL & GAS DIVISION EFT. OF MINES

FEB 23 1979

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

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OIL AND GAS WELL PERMIT APPLICATION

A CATE	
TO THE DEPARTMENT OF MINES, Charleston, W. Va.	DATE February 5, 1979
Surface Owner Clifford King	Company Kaiser Exploration and Mining Company
Address Route 2, Gallipolis, Ohio	Address P. O. Box 537, Ripley, WV 25271
Address Noute 2, darriports, onto	
Mineral Owner Charlie Pickens, et al	rarm crarite renember
Address Leon, WV 25123	1/0 1017 2/
Coal Owner Union Carbide & Chemical Corp.	- 11011 1101
Charleston, WV	District Union County Mason
Coal Operator	Quadrangle Elmwood
Address	
THIS PERMIT MUST BE POSTED AT THE WELL SITE	
All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved	NSPECTOR
or me w. va. cose, mo.	p BE NOTIFIED <u>Kenneth Butcher</u>
	DDRESS RFD #1, Barboursville, WV 25504
	HONE
GENTLEMEN:	
The undersigned well operator is entitled to drill upon the	e above named farm or tract of land for oil and gas, having fee
the same and a lease of	dated September 3 19 78 by Charlie
Pickens, et almade to Kaiser Exploration and	d Miniaga recorded on the 5th. day of September
19 78 in Mason County, Book 43	Page <u>658</u>
	REDRILLFRACTURE OR STIMULATE
OIL AND GAS WELL ORIGINALLY DRILLER	
The enclosed plat was prepared by a registered engineer	or licensed land surveyor and all coal owners and/or operators
have been notified as of the above date.	and the second s
The above named coal owners and/or operator are hereby to make by Section 3 of the Code, must be received by, or to	notified that any objection they wish to make, or are required filed with the Department of Mines within ten (10) days. *
Copies of this notice and the enclosed plat were mailed by or coal owners at their above shown respective address	registered mail, or delivered to the above named coal operators day
	Very truly yours.
PLEASE SUBMIT COPIES OF ALL	(Sign Name) L. A. V.
GEOPHYSICAL LOGS DIRECTLY TO:	(Sign Name) . A. Prycewell Operation Operations Manager
Electrical Company of the Company of	P. 0. Box 537
VALUE & CAS CONSERVATION COMMISSION Addr.	
OI	erator Ripley
	City or Town
HARLESTON, WEST VIRGINIA 25311	West Virginia 25271
	State

*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 and the well operator authorized to proceed.

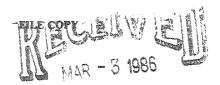
BLANKET BOWD

47-053-0184

PERMIT NUMBER

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

DRILLING CONTRACTIOR: (If Known) NAME NOR LAND AT this time NAME NOR LAND AT THE HARM ROBERT A. PTYCE ADDRESS	PROPOSED WORK ORDER TO	X DRILL	DEEPEN FRACTURE-STIMULATE				
ADDRESS ADDRESS P. O. 80x 537, Fipley, W 25271 TELEPHONE 372-2827 or 372-2828 TOTALL STORAGE DEFONS TOTAL STORAGE DISPOSAL RECVCLING WATER FLOOD OTHER TENTATIVE CASING PROGRAM: CASING AND TURING USED FOR LIST IN CHMINI HILL BY SIZE DRILLING WELL OR SAYES CHRETT. 20.16 13.10 2.15 2. 2700 300 TO SUFFACE (100 SK2) S. 519 7. 2700 125 Sks = 570 feet. 3. 3. 49 5.500 5100 1105 Sks = 570 feet. 3. 10.3/4 300 5100 125 Sks = 570 feet. 3. 10.3/4 5100 5100 125 Sks = 1500 feet. 3. 10.3/4 5100 5100 5100 5100 5100 5100 5100 510				D			
TELEPHONE 372-2827 or 372-2828 ESTIMATED DEPTH OF COMPLETED WELL 5100 KOTANY X CABLE TOOLS. PROFOSOE DECOLOGICAL FORMATION. Oriskany. TYPE OF WELL: OIL GAS X COMB. STORAGE DISPOSAL. RECYCLING WATER FLOOD OTHER TENTATIVE CASING PROGRAM: CASING AND TURING USED FOR LIFT IN CLEMENT #11. LP. CASING AND TURING USED FOR WELL: OR SACKS. CUBR. 71. 20.16 9.28 DRILLING WELL: OR SACKS. CUBR. 71. 21.16 9.28 10 3/4 300. 300 TO SUPFACE (100 5ks). 8.50 7. 2700. 2700. 125 sks = 570 feet. 5.9 . 10 3/4 5100 5100 125 sks = 1500 feet. 1.	NAME Not known at this	time					
ESTIMATED DEPTH OF COMPLETED WELL: 5100			ADDRESS P. U. BOX	2027 on 272 2020			
PROPOSED GEOLOGICAL FORMATION: OPISKADY TYPE OF WELL: OIL GAS X COMB STORAGE DISPORAL RECYCLING WATER FLOOD OTHER. TENTATIVE CASING PROGRAM: CASING AND TUBING USED FOR LIFT IN CLAIMS LIFL UP OR SACKS - CRIMS 11. 20.16 3.10 9.5% 10.3/4 30.0.30.0.30.0.To Surface (100.5ks). 5.5% 7.270.0.2700.125.5ks = .570.feet. 5.9 9.5% 10.3/4 30.0.5100.5100.125.5ks = .570.feet. 1.0							
TYPE OF WELL: CAS_X COMB. STORAGE DISPOSAL			ROTARY^	CABLE TOOLS.			
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TENTATIVE CASING PROGRAM: CASING AND TUBING USED FOR LEFT IN CHRING FIFE UP 20-16 11-10 9-5/8 10-3/4 300 300 TO SUPFACE (100-sks) 5-5/8 7- 27:00 27:00 125-sks = 57:0 feet 5/8	TYPE OF WELL: OIL_		*				
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5 %	7	2700	2700	125 sks = 570 feet			
Perf. Top Perf. Bottom 2 Perf. Bottom Pe	5 1/2			•			
LIBES PET POT. BOSTONS APPROXIMATE FRESH WATER DEPTHS FEET SALT WATER FEET APPROXIMATE COAL DEPTHS IS COAL BEING MINED IN THE AREA? None BY WHOM? TO DRILL: 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, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND. Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (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 thereof. WAIVER: I the undersigned, Agent for		5100	5100				
APPROXIMATE FRESH WATER DEPTHS	3						
APPROXIMATE FRESH WATER DEPTHS	Liners						
APPROXIMATE COAL DEPTHS IS COAL BEING MINED IN THE AREA?							
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Official Title			Fo	r Coal Company			
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1)	Date: February 11	13.	_86
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2) Operator's KEM #6, Pickens

3) API Well No. 47 053035 184 -Fra

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

4) WELL TY	PE: A O	ii	/ Ga	_{LS} X						
	•	,	Production 1017		X/	Underground sto			_/ Shallow _	/)
5) LOCATIO		vation:	<u> </u>	. 34	47.2	Watershed:	<u>Sapsucke</u> Mason		Elmwood	
6) WELL OP	DIS	trict; <u> </u>	Explo	rati	on cand	County:		Quadrangle:	. Pryce	Active and the second of the s
0) WELL OF	ERAIUR_	- Man :	ing Con	ipany	0000	: 253370 7)	DESIGNATED A	Same		
Audiess		Ravens	swood.	WV	26164		Address _	J 4117C		
8) OIL & GA					<u> </u>		DRILLING CO	UTP A CTOP.		
Name				. A Sun Sun		2)		er Company	Tools	
Address			30x 101	А			Address	Same		
1 Karan Anc		pley,		5271						
10) PROPOSE	D WELL	WORK:	Drill		_/ Drill	deeper	/ Redrill	/ Stimulate	Χ	
						/ Perforate		X/		
			Other p	hysical				kariy and Br	<u>own Shale </u>	<u>after</u>
(1) GEOLOGI	CAL TAR	GET FOR	MATION				<u>timulating</u>	<u>Brown Shale</u>		
12) Estima	ated depth o	of comple	ted well,		9' (KB)	feet	,"	*+07		
13) Appro	ximate trat	a depths:	Fresh, _	N/A		feet; salt,	N/A	feet.		
14) Appro	ximate coa	l seam de	oths:	<u>No</u>	ne	ls coal	being mined in the a	irea? Yes	/ No	_X/
15) CASING A	AND TUBI	NG PRO	GRAM							
CASING OR TUBING TYPE		SPE	CIFICATION!	3	Part of the last o	FOOTAGE INT	ERVALS]	CEMENT FILL-UP	PACKERS	
IODENG EEEE	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well	OR SACKS (Cubic feet)		
Conductor									Kinds None	
Fresh water	10 3/4	H-40	40.5	X		251'(KB)	251'(KB)	100 sks		
Coal									Sizes	
Intermediate	7"	K-55	10	<u>X</u>		2707'(KB)	2707'(KB)	165 sks		
Production	4 1/2	N-80	11.6	Х			5049'(KB)	225 sks	Depths set	
Tubing	2 3/8	J-55	4.6	<u>X</u>			5002'(KB)			
Line									Perforations:	
			1						Тор	Bottom
	-								5006	5010 (KB
									Maria de la companio del companio de la companio de la companio del companio de la companio della companio de la companio de la companio della companio dell	-
	•									
Ethodoxodddiniaetholiae		***************************************			0	FFICE USE OF	VLY			Name and Associated Property of the Association of
The second secon		***************************************	<u></u>			RILLING PER	~~~~			
	A !	7_059	-0184	VJ —∎						** • • •
Permit number_		<u> </u>	<u>-0104</u>	<u>-r</u>					larch 21	19 <u>86</u>
PNL 1		. \$1		1 1				Da		
ins permit cove	ering the w ect to the co	en operat onditions	or and wer	i iocati herein :	on snown o and on the r	erow is evidence of	permission granted	to drill in accordan	nce with the perti	nent legal re-
o. 8) Prior to th	e construct	ion of ro	ads, locatio	ns and	pits for any	permitted work.	n addition, the wel	n to the District Oil l operator or his con	and Gas inspecte ntractor shall noti	f, (Meter to
listrict oil and g	as inspecto	r 24 hour	s before a	ctual pe	ermitted wor	k has commenced.)				
	ork is as de	escribed in	n the Notic	e and A	Application,	plat, and reclamati	on plan, subject to	any modifications a	and conditions spe	cified on the
everse hereof.	М	orch	21,,	0.0.0						
Permit expires	- 191	<u>ar.cm</u>	د ورد سک	2000		unless well w	ork is commenced p	orior to that date and	prosecuted with a	lue diligence.
ſ T	- 120 mja - 120		T					-		
Bond:	Agent	:]	Plat:	Casi	ng Fe	e WEST	S&E C	ther		
	1.0	1.	421	M<			LAXI			
	18-11			<u> </u>	- 1767	1385 TANK	Y	7/1	7 1	
		per to the				_terrored		4-4		
NOTE: Keep o	ne copy of	this pern	nit posted :	at the d	Irilling locat	ion.		A South	<u> </u>	eraning-
						1177	ector Divi	sion of Oil	and Gas	File
		See	the revers	e side (of the APPL	ICANT'S COPY I	or instructions to t	he well operator.	and the same of th	



IV-35 (Pev 8-81)

State of Mest Birginia

Bepartment of Mines Gil und Gas Pivision

Date	10/01/86	
	ator's	
Well	No. KEM #6	-
Fam	Charlie Pickens	_
API	No. 47 - 053 - 0184	_

(Continue on reverse side)

Frac.

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

	E: Oil / Gas XX/ Li (If "Gas," Production	n_X_/ Under	ground Storag	te Disposa ge/ Deep	l_/ o_X/Sha	llow/)
LOCATION:	: Elevation: 1017.34	,		9	- Elminod	
	District: Union	County	Mason	_Quadrangle	S CIMMOOD	
COMPANYKA	AISER EXPLORATION AND MIN	ING COMPANY				
ADDRESS_	P. O. Box 8. Ravenswood,	WV 261 64	Casing	Used in	Left	Cement
DESIGNAT	ED AGENT R. A. Pryce		Tubing	Drilling	in Well	fill up ou. ft.
ADDRESS_	Same	ili Wie kari in ay khili in may ng ing mgantor ng piliping kari na mga kari na mga kari na mga kari na mga kar	Size			
SURFACE (OWNER Clifford King		20-16			
ADDRESS R	t. 2, Gallipolis, Ohio		Cond.		2E1(VD)	100 sks Class A
MINERAL I	RIGHTS OWNER Charlie Pick	ens et al	13-10*	251(KB)	251(KB)	Class A
	Leon, WV 25123		9 5/8			
OIL AND	GAS INSPECTOR FOR THIS W	ORK Jerry	. 7		0707 (10)	65 skš
Tephabo	ck ADDRESS Ripley, WV	1018 25271	5 1/2	12/0/ (KB)	2707 (KB)	DOZMIX
PERMIT L	ssued 3/2//30		4 1/2	(VD)	5049 (KB)	225 sks
DRILLING	COMMENCED 7/06/79	15128/86	3	5049 1 8 8	13049 (ND)	DOZIIIIX
DRILLING	COMPLETED 7/17/79	16/3/86				
t .	CABLE: PLUGGING OF DRY					
	US PROGRESSION FROM DRIL G. VERBAL PERMISSION OB		Liners used			
ON			4364			
GEOLOGIC	AL TARGET FORMATION Ori	ickany Cando	tone	Dep	th 5006/9	5008 fæt
	th of completed well 5041	•				
	er strata depth: Fresh		· Continues of	anium anthribecticity.	444	
	l seam depths:					area? No
			amente multiple			110
OPEN FLO			_	-	. •	
	ducing formation Oriskar					
Gas	: Initial open flow 8.5					
	Final open flow 450					***************************************
~	Time of open flo					
	tic rock pressure 1800			ment) afte	rhou	irs shut ir
	applicable due to multi			_		
	ond producing formation					
	: Initial open flow					
vir ed i	Final open flow 284	Mcf/	d Oil: Fi	nal open f	low	Bbl/d
- Richard	Time of open flo	w between i	nitial and f	inal tests	4hg	6ta 1 1880
N NOSta	Final open flow 284 Time of open flow atic rock pressure 725	psig(surf	ace measurem	ent) after	72 hou	rs shut in

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

7/20/79 Perf. Oriskany from 5006' to 5008' and 5009.5 – 5010.5' w/4 holes/ft Halliburton and Aircowell frac Oriskany w/30,000# 80/100 mesh sand, 30,000# 20/40 mesh sand, 500 gal 15% HCL, 900 bbls $\rm H_2O$, 178,000 sks

· thror

5/28/86 Young's Wireline perf Brown Shale with 20 holes from 4142 to 4325'.

6/03/86 Universal Well Service foam frac Brown Shale. Used; 60,000# 20/40 sand; total N₂: 780 MSCF; total fluid: 720 bbls; ISIP: 1300 psig; 5 MIN SIP: 1100 psig.

WEIL LOG

						L LOG	
FORMATION	COLOR	HARO	OR SOFT	TOP FEET	5	BOYTOM FEET	REMARKS Including indication of all free and salt water, coal, oil and ga
SEE PREVIO	ous IV-3	35					
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•							
•					*		
				P • • • • • • • • • • • • • • • • • • •			
				•			

(Attach separate sheets as necessary)

KAISER	EXPLORATION AND MINING	COMPANY				
Well Operator						
By: 12	3. Al -					
Date:	October 6, 1986	and the second second				
		Total Control of the				

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 well, encountered in the drilling of a well."