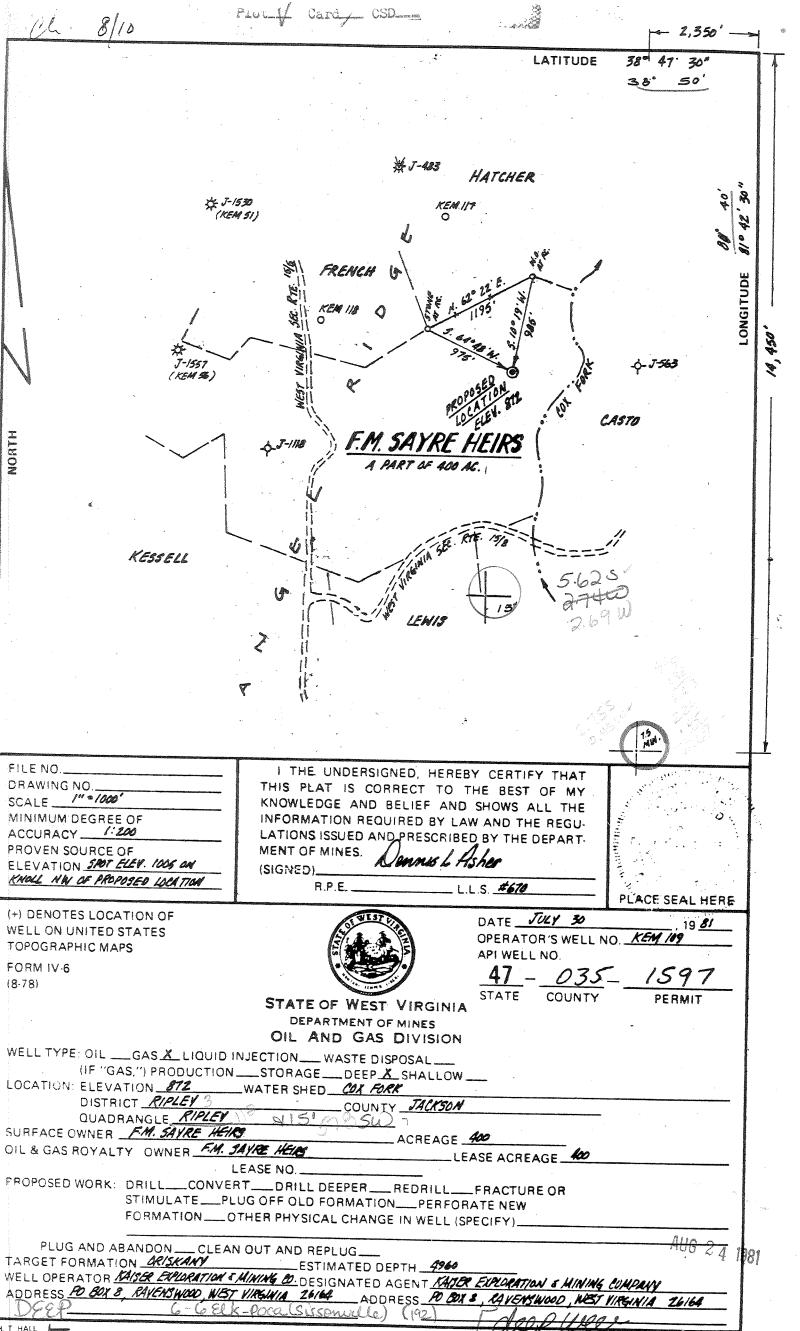


OWWO DEEP WELL 6-6 Elk-Poca (Sissonville) (192)



IV		5	
(Re	V	8-81)	

de of West Wirginia

DIVISION OF OIL & GAS Department of Allines
OEPARTMENT OF ENERGY Oil und Cas Division

į,	Date July 1, 1985 Operator's Well No. KEM 109
	Farm Sayre
	API No. 47 - 035 - 1597-FRAC
	REVISED

WELL OPERATOR'S REPORT OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WEIL TYPE: Oil / Gas X / Liquid Injection (If "Gas," Production X / Underground	/ Wast	e Disposa e / Deep	L/ D/ Sha	llow_/)	
IOCATION: Elevation: 872 G Watershed Co	x Fork		b A equipment of the contract	Contraction States and	•
IOCATION: Elevation: 0/2 watersited 00	^^	Oradranala	Ripley	l .	
District: Ripley County Jacks	·	gramaiy.			8
					>
COMPANY Kaiser Exploration & Mining Company	8	•	•		
ADDRESS P. O. Box 8, Ravenswood, WV .26164	Caşing	Used in	Left	Cement fill up	
DESIGNATED AGENT R. A. Pryce	Tubing	Drilling	in Well	g 4 0	
ADDRESS Same	Size	!		·	
SURFACE OWNER F. M. Sayre	20-16 Cond.				
ADDRESS	13-10	256' KB	256' KB	150 sks c	ass
MINERAL RIGHTS OWNER Same	9 5/8				
ADDRESS	8 5/8				
OIL AND GAS INSPECTOR FOR THIS WORK Jerry	7	2411' KB	2411' KB	65 sks poz	
Tephabock ADDRESS Rt. 1, Ripley, WV 25271	5 1/2 .				
PERMIT ISSUED 7/12/81	4 1/2		5128' KB	275 sks po	k
DRILLING COMMENCED 7/15/81	2				
DRILLING COMPLETED 7/22/81 3/27/85 FEAC	+ 2				
IF APPLICABLE: PLUGGING OF DRY HOLE ON		1			
CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED	Liners used				
CN	uses				
GEOLOGICAL TARGET FORMATION Oriskany Sandstone	<u> </u>	Dep	Lh 5072	feet	
Depth of completed well 5136 feet I		The State of the S			
Water strata depth: Fresh 650 feet;			Q.M.L.COOL		
Coal seam depths: None			ed in the	area? NO	
OPEN FLOW DATA	· Drille	ed on fluid	l not know	n.	•
Producing formation Brown Shale	Dau	zone dept	-h	feet	
Gas: Initial open flow Mcf/d			Charles and the control of the contr		
Final open flow 119 Mcf/d				Bbl/d	
Time of open flow between init			Control of the Contro		
Static rock pressure 925 psig (surface	a majeniren	entlafter	r 72 bou	re shut in	•
(If applicable due to multiple completion		City at C		F3 3444 418	
	4	zone den	rh 2555-	2564 feet	•
Second producing formation Berea Sandston Cas: Initial open flow Mcf/d					
Final open flow 350 Mcf/d			***************************************		w _i
1359	i				
Static rock pressure 950 psig (surface	e measurem 	ait) after	/2 nou	ra ainc M	
mary.	1 1 1	(Conti	rue on re	verse side	

(IFATICE) .

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DETAILS OF PERFORMIND INTERVALS, FINCTURING OR STIMULATING, PHYSICAL CHANCE, EIC.

6/04/84 Young's set 3.5" OD permanent bridge plug @ 4370' KB; dumped 1 bailer (15') of Calseal on plug; perf Brown Shale 4189' - 4317' KB, 19 holes; .41" dia holes. NOWSCO, Halliburton foam frac interval with 75 quality foam; 500 gal 15% HCl acid; 1770 breakdown; 2560 psig avg. treating pressure; 612,500 scf nitrogen; 326 bbl fluid; 60,000# 20/40 sand; 40 bpm rate; 1470 psig ISIP.

1/07/85 Young' set Alpha small mouth plug at 2760' and perf Berea with 27 (.39") shots from 2555' to 2564'.

3/27/85 BJ Hughes to 75% qualify foam frac Borea.

3/27/85 BJ Hughes to 75% quality foam frac Berea. Breakdown pressure: 2030 psig; treating pressure: 2350 psig; sand: 45,000# 20/40 at 4 - 8 ppg concentrations; total nitrgen: 737,500 scf; total sand laden fluid: 287 bbl; total fluid: 369 bbl; ISIP: 2170 psig; 5 min SIP: 1950 psig. Flow back thru ½" choke.

WELL LOG

t ,				0	
RMATION COLOR HARD OR SOL	TOP	FEET	BOTTOM FEEL	REMAN Including indica and salt water,	KS tion of all fresh coal, oil and gas
Same as previously submit	ted.	•	ø.	the state of the same	recording to the second
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		Well	Operator	e to the second	The same of the same
	By	: <u> </u>	3 A. P-		
A. W.	Da		ly 1, 1985		^c
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"The term 'log' or 'well log' shall mean a systematic liled geological and of all formations, including

"drill. " of a well."

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FORM	1:-35			DEPARTME:	UT OF MINES, (OIL AND GAS DIVE		to any a second reporter and reporter property and reporter proper
·· (Obve				•	WELL OFERATOR	מור פרפרת	1011 ii.	· <u>KEM - 109</u>
(08-7	8,		* * * * * * * * * * * * * * * * * * *	pa	OF	TO SECTION.		1 . 47 - 035 - 1597
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WELL TYPE:		/	ns_X	/ :1.	niid Injection	7 375-0		
	(-, -,	ias",	Product	ion X	/ Uniterrour	TI COPS -A	X	Maria Maria
LOCATION:	::47a:	.15:: .	872	2 C. Series & Z.	: Arshel:	Cox Fork	COMMUNICATION	- All Address of the Control of the
						Jackson		77:-1
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	0 1	her t	humical	, we de 25	4	Orate new forma:	tionOEF 1	[4 19 84 —
			*******	w 00 m.a.y	all Read (wpww.			
	** * *	*					DEPT. of	
PERMIT ISSU						•	MPEDIOR FUR THI	C WORK:
IF APPLICA CONTIN	UDUS PR	OGRESS	SION FRO	וייומת אם	בר בניז	Name Ric		
REWORK	ING. V	ERBAL	PERMICS	SION ONTA	AINED	Address	P. O. Box :	372
			, 19	The Property of the Parks	<u>-</u> .		Grantsville	, WV
EOLOGICAL	TARGET	FORMAT	'ION:	Oriskan	ly Sandstone		Depth 5	072
Depth	of comp	leted	well, _	2130	feet	Rotary X /	Cable Tools	de
Water :	strata d	depth:	Fresh	ישואר		t,feet.		•
	=	40000	M		Is coal	being mined in	the area? NO	_
Work wa	ls comme	enced		August 1	<u>5</u> , 19 <u>81</u>	_, and completed	d August 2	22, 19 <u>81</u>
ASING AND T								E Williamson
EING OR	1	SPEC		ت مردوم م	9 TOOM & F	_		
EING OR	01-3		Weight	1 1	FOOTAG	E INTERVALS	CEMENT FILL-"F OR SACKS	PACKERS
nductor		U:u _	Det 10	New Up	od For critical	nr Left in well	(Subic feet)	
esh water	n 3/4	н	32.75		0501/2			Finds
31		<u> </u>	J4.13	1-	256'(K	3) 256(KB)	150sks Class	A
	7	K	20	X	04111/0		65sks Pozmix	Cines
<u>rduction</u>	44				2411'(K		100sks ClassA	
ting	2 3/8	N N	11,6	X		3 16	275sks Pozmi:	Depths set
2023	2 2/4	K	4.6	X		5077(KB)		
7.00 [3								Perforations:
MMCCONTROL MATERIAL M								Top Bottom
								(5072 5082(KB)
	<u></u>	J.						5087 5093(KB)
FLOW DAT	ra							5116 5122(KB)
Producir	ng form:	it len	Or	·iskany :	Sandstone	٥	يون بيوالم مصحح	5072 the
Gns	: Ini:	ital o	nen flo	- N//	A NACIA	Oil: Initial	Pay zone depth	5072 (1901
	Fina	l ope	n flow,	100	A RACKO	Ulli Hillani	open flow,	<u>0</u>
		Time	ന് വാര	- TINE D	The same of the same	Final op	inn flow,	<u>0</u>
51: :	1	. 5. 4.8460.	4411 666	1350	/	l and final test	s, N/A hourn	
Pof upp!	'anh!"	الم المراب			pulp (aurface letion]	n measurement) a	frer 24 hou:	es shut in
Second p				ple comp.	letion j			No.
Gas	Touse	وم ده.		CM - This company was a second	^ # A 3	NATIONAL STATE OF THE STATE OF	Pay some depth	0t7 22 1984
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	B (·	w s = r.	A B ***********************************				- Ul 22 19RA
	\$15.7		•	Contraction of the last of the		. 911.2 . 1 .	THE LAW O	001 22 1984
			of oper	n Clow be	etween initial	Final or and final teats	s, hours	

FORM IV-35 (Reverse) [68-78]

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

8/24/81: Perforate Oriskany 5072'-5082', 5087'-5093', and 5116'-5122'(KB) w/88 31 ceramic jet charges. (Basin Survey).

Oriskany formation breakdown @ 4500 psig; established treatment rate @ 3 BPM and 8/25/81:

3000 psig. Shut-in @ 2600 psig. (Halliburton) 9/10/81: Hydrafractured Oriskany w/15,000# 80/100, 45,000# 20/40 sand, 186,000 SCF of Nitrogen @ 21 BPM and 4150 psig. Casing was loaded w/1000 gal. 28% HCL

additional acid before treatment shut-in pressure @ 3700 psig.

MELL LOG

PORMATION	Color	Hard or	M	Bottom	Remarks Including Indication of all fre
Soil & Shale Sand Shale Siltstone Shale Sand Shale Sand Shale Sand Shale Sand Shale Sand Shale Salt Sand Shale Salt Sand Shale Big Lime (Greenbrier) Shale Big Injun Sand Shale Coffee Shale (Sunbury) Berea Sand Shale Brown Shale Brown Shale Onondaga Lime Oriskany Sand Helderberg Lime Total Depth			0 43 58 80 190 303 366 419 435 720 742 844 896 1022 1053 1188 1300 1370 1416 1726 2049 2086 2193 2532 2555 2567 3774 4312 4684 4975 5064 5125	4312 4684 4975 5064	Gas show: 3789,3917,4189,4201,4258,4303 Gas show @ 4462,4675 Gas show @ 5070,5120

(Attach separate sheets to complete as necessary;

KAISER EXPLORATION AND MINING COMPANY Well Operator Its Operation Manager

4818 Holdhi Geracee 40112 O

25554

3786

W 3 2 25 W

4466

Gara Halaron

Recharded 4718

JOHN D.

Amazona

Reduiation 2.01(i) provides as follows:

536

100

"The term 'log' or 'well log' that! mean a equitoristic, detailed geologist record of til fermations, including a si, encountered in the drilling of a well."

STATE OF WEST VIRGINIA DEPARTMENT OF MINES



OIL & GAS DIVISION DEFT. OF MINEE

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

F & & & & & & & & & & & & & & & & & & &		•	
Charleston, W. Va.	D	ATE August 3, 1981	A control data ser lumbic teleboro filmen angulara do announ aser announce appointment a consequent aser announce, and
risce Owner F. M. Sayre, heirs		ompany Kaiser Exploration	and Mining Compan
dress P. O. Box 1777, Beckley, WV 2		ddress P. O. Box 8, Rayens	
neral Owner Same		arm F. M. Sayre, heirs	The same of the sa
Gress			Andrewsgenesis Art. (B. Sander, Carlot) - generation in the personness black and generative estimates and address and a second s
al Owner Same		•	Elevation 872'
dress			County Jackson
al Operator None	. 0	,	· county cacason
1	-	b	
S PERMIT MUST BE POSTED AT THE WELL SITE			. • • • • • • • • • • • • • • • • • • •
			•
provisions being in accordance the W. Va. Code, the location is hereby approved the W. Va. Code, the location is hereby approved.			
drilling This permit shall expire it	INSPE		
erations have not commenced by 4-12-82	TO BE	NOTIFIED Richard Morris	er fan Hansemanner apropanier fan Hanner haarde en de Hanner fan Hanner fan Steiner fan Steine fan Steine fan S
erations have not commented.	ADDRE	SS <u>P. O. Box 372, Grants</u>	/illo \\\\
Director - Oil Pas Prision	of the age of the same	J. U. BUX 3/2, Granus	VIIIE WY
Deputy Director - Oil 9 9 Strision	PHONE	354-7259	•
NTLEMEN:			
	armone Alexandre	• •	
The undersigned well operator is entitled to drill	abon the abov	e named farm or tract of land for	oil and gas, having fee
thereto, (or as the case may be) under ment of Kaiser Expforations made to Mining Compan	on and	January 21 19 80	by F. M. Sayre.
20 · lackson	al has been	and recorded on the 25th	day of March
30, in <u>Jackson</u> County, Book			,
X NEW WELLDRILL DEEP	ER	REDRILLFRACTU	RE OR STIMULATE
OIL AND GAS WELL ORIGINALLY D	RILLED BEF	ORE JUNE 5, 1969.	
the englored plat rose unemed by			
he enclosed plat was prepared by a registered en been notified as of the above date.	igineer or lice:	nsed land surveyor and all coal or	wners and/or operators
The above named cost number andior progrator ere	In same in a section .	3 45	
The above named coal owners and/or operator are nake by Section 3 of the Code, must be received	by, or filed w	es that any objection they wish to ith the Department of Mines within	make, or are required at the fact of the f
Spies of this notice and the enclosed plat were m	ailed by regist.	ered mail or delivered to the	
they control me street which with met retirents will be	C F2	do:	t
e day with the mailing or delivery of this copy to	the Departme	int of Mines at Charleston, West V	irginię.
AND CONTRACTOR OF CONTRACTOR AND AND AND	Very	truly yours,	
ASE SUBMIT COPIES OF ALL PHYSICAL LOGS DIRECTLY TO:	(Sien	Name PORCE /	10
	(oxight)	Well Operator	en e
T VIRGINIA GEOLOGICAL AND		Kaiser Exploration ar	nd Mining Company
NOMIC SURVEY	Address	P. D. Box B	considerate free free free contraction and activity application of the considerate free free free free contraction in
O. BOX 879	of . v. o		
warning armit armiters and	'ell Operator	Ravenswood City or Town	analysis and analysis and an analysis of the second and the second and the second and the second and the second
304 - 292-6331			
		. <u>West Virginia 2616</u>	5.4 Les arrainants construents de colonina anna para para propriet de construent de la construent de la construent
•		. State	*

*SECTION 3.... If no objections are filed or found by the Department of mines, it in said period of ten days from the receipt of and plat by the department of mines, to said proposed location, the department thall forthwith issue to the well operator a permit reciting films of such plat, that no objections have been made by the cost operators or found thereto by the department and that the same is approved to well operator authorized to proceed.

47-035-1597

A A LAND HAR CANNOT	THAN WILL BE SUBMITT	EU ON OG-10 UPUN	COMPLETION
PROPOSED WORK ORDER TO	Y YORKET.	represent the second	TO A CYPETOR CYPERATIR abor
DRILLING CONTRACTOR: (H		RESPONSIBLE ACENT	
NAME Clint Hurt & Associ	r		ryce •
ADDRESS P. O. Box 388, El			x 8, Ravenswood, WV 2616
TELEPHONE 273-5371	The state of the s		371
A contract of the contract of			CABLE TOOLS
PROPOSED GEOLOGICAL FORM		BU A SEE E	CANLE IUULO
	•	e i i i	2
S. S			DISPOSAL
•	RECYCLING	WATER FLO	OODOTHER
TENTATIVE CASING PROGRAM	ī: .		
CASING AND TUBING	USED FOR	LINT IN	CEMENT FILL UP
STZE	DRILLING	WELL	OR SACKS - CUBIC 17.
20 - 16		man state to a company the form of the state	
-10 -5/8 10 3/4"	250'	OFOI	
- 5/8	time and the second	250' .	Cement to surface
	2441	The state of the s	
5: 1/3	2444'	2444'	65 sks 50/50 pozmix
< 35	4954	4954	1100 sks class A
3 **	420	2952	225 sks 50/50 pozmix 1 Perr. Top
3		ngan kanangan dari salah dan pengangan dan pengangan pengangan pengangan dari berandan dan pengangan (Amerikan	Perf. Bottom
Liners			Perf. Top
		and profit democration (second constitution of the constitution of	Perf. Bottom
APPROXIMATE FRESH WATER APPROXIMATE COAL DEPTHS _		SALT WATER_	
OF FLAT. FO DRILL DEEPER OR REDRILL SUBMIT FIVE (5) COPIES O	L: OF OG - 1, SHOWING ORIGINA O 1929, A PERMANENT COP	L PERMIT NIIMBER AN	DND AND PERMANENT COPY D PERFORMANCE BOND. ON THE ORIGINAL WELL RECORD
O FRACTURE - STIMULATE:			
•	IGINALLA DELL'ED DECORE		•
BOND, PERMANENT PLAT	AND ORIGINAL WELL RECO	-JUNE 5, 1929, FIVE (5) (COPIES OG - 1, PERFORMANCE
OIL AND/OR GAS WELL OR		OR AFTER JUNE 5 1979	9. FIVE COPIES OG - 1, SHOW-
Required forms must be filed			Inspector to be notified twenty-
four (24) hours in advance.			·
	designatives and the control of the second o	roof variet professor (see 1, 15, 15, 15, 15, 15, 15, 15, 15, 15,	
The following waiver must be hereof.	completed by the coal operation	or if the permit is to be i	ssued within ten days of receipt
AIVER: I the undersigned, Agen	l [0]		or Operator of the coal under
this lease have examined	l and place on our mine maps	this proposed well locati	on
We Will support to the control of th	Cost Company hav	e no objections to said we	all being drilled at this location,
providing operator has ec	inplied with all rules and regulat	ions in Articles 4, 5, and 7	, Chapter 22 of the West Virginia
্ Code, প্ৰ		·	
*			A Comment of the Comm
		We indicated differentiation of the contraction (see) (by) the addition of the house in the contract of the first of the contract of the con	r Cost Company
		E V.F	e e e e e e e e e e e e e e e e e e e
•		ABUSE TO COMMENT CAN HE SHIP SHIP OF STATE OF THE COMMENT OF THE C	Official Title





1)	Date: Ap	<u>ril 3 </u>			19 <u>84</u>
2)	Operator's Well No	KEM-109			
3)	API Well No.	47 _	035	-	1597-FRA
		State	County		Permit

OIL	E	GAS	DIVIS	101	4
EP.	and the same	□F	- M	N	ES

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

to be li	: Ur i	VIII G L	لسا سا	A	PPLICAT	ION FOR A WELI	WORK PERMIT			
4) WELL TY	PE: A C	dil	/ G:	3 \$	Χ /			Conver	t from Deep to Shallow	
<i>', ', DDD</i> 1''			Productio			_/ Underground st	orage		_/ ShallowX/)	
5) LOCATIO	•	vation: _		2		_ Watershed:				
	Dis	strict:	Ripl	ey		_ County:		Quadrangle:	Ripley	
6) WELL OP	ERATOR_			iser	Exp &	Mining Co.	7) DESIGNATED		R.A. PRYCE	
Addres			30x 8			THE TOTAL CONTRACTOR	Address		/	
			vood, k		6164	THE RESERVE OF THE PARTY OF THE				
8) OIL & GA			BE NOTI	FIED		g	DRILLING CO		D: 117	
	l. Teph		WV 2	5271				iser Drilling		
Addres	s <u>R</u>	ipiey,	<u> </u>	52/ 1		A CONTROL OF THE CONT	Address	Ravenswood	, WV 26164	
0) PROPOSE	ED WELL	WORK:	Drill		_/ Drill	deeper	/ Redrill	/ Stimulate	Х /	
						X/ Perfora	te new formation_	X/		
			Other p	hysical	change in	well (specify) Plu	<u>ag off Orisl</u>	<u>kany; frac Sh</u>	ale; Squeeze 4 1,	<u>/</u> 2" c:
					hale;	Berea Sands	tone frac	Berea; isola	te pays with tub	<u>i</u> ng a
12) Estim		-			5136	feet	CEO		packer	
13) Appro		-			160 Name	feet; salt,_		feet.	•	
14) Appro		_			<u>None</u>	Is coal	being mined in the	area? Yes	/ NoX	/
CASING OR	II UBI				58	7007407.		•	t.	
TUBING TYPE		Į	CIFICATION: Weight	t		FOOTAGE IN		CEMENT FILL-UP OR SACKS	PACKERS	
Conductor	Size	Grade	per ft.	New	Used	For drilling	Left in well	(Cubic feet)	None	_
Fresh water	10 3/	4 H	40.50	V		256' (KB) 256' (K) 350 -l- N-	Kinds None	
Coal	10 3/	†	140.30) 250, (KI			
Intermediate	7	K	'20	Х	1	2411 (KB) 2411' (KI	V 650sks Paz	Sizes	-
Production	4 1/		11.60				5128' (K) 275 sks Po		-
Tubing	2 3/		4.6	X			5077 ' (K		ZHIMA SEL _	-
Liners									Perforations:	-
······································	1							·	Top Bottom	-
	j								5072 5122	(KB)
										-
						OFFICE USE O	NLY		300	
					L	RILLING PER	MIT			-
ermit number_	47-0	35-15	97-FRA	3				May 9,	19 84	
								Date	3	-
uirements subjection of the contract of the co	ect to the co se construct	ion of ro	contained l ads, locatio	nerein a ons and	ind on the pits for ar	reverse hereof. Notif	fication must be giv In addition, the wel	en to the District Oil	ce with the pertinent legal re and Gas Inspector, (Refer to ractor shall notify the proper	
he permitted weverse hereof.				e and A	pplication	, plat, and reclamati	ion plan, subject to	any modifications ar	nd conditions specified on the	2
ermit expires _	May	9, 198	86			unless well w	ork is commenced p	prior to that date and p	prosecuted with due diligence.	•
Bond:	Agent		Plat:	Casin	g 96	Fee 6.			1	

NOTE: Keep one copy of this permit posted at the drilling location.

Administrator, Office of Oil and Gas

File