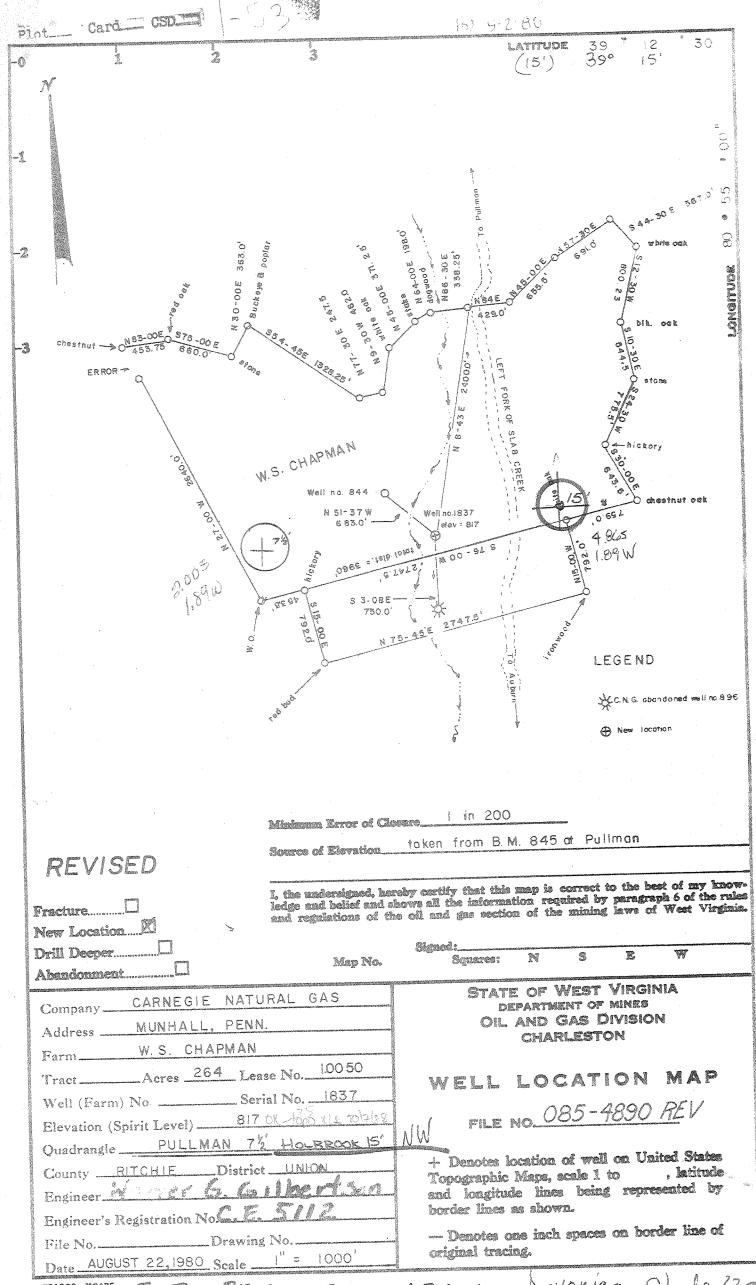


DEEP WELL



ESPENSION MC475 5-5-3 BEASON RUN (5001 Devonion Shale 139

Plot Card CSD 0 i Can 30 (15)-1 IC) W -10 CO -3 660.0 w.s. chapman 4.9881 1.87W 39-10-40 LEGEND C. N.S. abandoned well no. 896 Minimum Rever of Closure 110 200 Source of Meretics Iaken from B.M. 845 at I, the undersigned, hereby certify that this map is correct to the best of my know-ledge and belief and shows all the information required by peragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia. Fractus Drill Desper..... Wigness.... Map No. Concerno: Abendaniani.... w Company CARNEGIE NATURAL GAS STATE OF WEST VIRGINIA DEPARTMENT OF MINES MUNHALL, PENN. OIL AND GAS DIVISION CHARLESTON W. S. CHAPMAN __ Acres 24 Lease No. 10050 WELL LOCATION MAP ... Serial No. 1837 Well (Farm) No 065-4890 Elevation (Spirit Level) __ Quadrangle Pullman 74 County Rithie + Denotes location of well on United States Topographic Maps, scale 1 to , latitude Engineer___ and longitude lines being represented by border lines as shown, Engineer's Registration No. File No — Denotes one lack spaces on border line of original tracing. 6500 Seale manufacture supplies and and Date Miller X. 3 m. 1919 Security DEVONIAN SHOE

BEASON RUN. 139 NIG 2.6 1980

TRASCO - NC475 - 3-3-

FORM (Obve		DE MILLION	.1 0	51.12.20.1	Operator' Well No.	3	
[08-7		RILLING, FRACTURE	WELL OPERATOR'S OF ID AND/OR STIMULA	"		State County	
ELL TYPE:		Gas_X_/ Lic		-			
OCATION:	(If "Gas",	, Production X / : <u>8451 8 7</u>	Underground s HPO-LUD 1017 66 Watershed:		eep_X/ S	Shallow/)	
	District:	Union	County: Rit	chie quad	rangle: Ho	Lbrook N.W.	

MELL OFFICATOR	Carnegie Natural	Gas Company	DESIGNATED AGE:	<u>W. 11. 10110</u>	· · · · · · · · · · · · · · · · · · ·
Address	390h Main Street.	, Munhall, PA 151	20 Address _	Toll Gate, WV 26	J ¹
PERMITTED WORK:		ert/ Drill d		111/ Fracture o	er stimulate
	Other physical ch	nange in well (spec	ify)		
	7-3 20	90			
PERMIT ISSUED C	_{N.} July 30,	, _9_00	OIL & GAS INSP	PECTOR FOR THIS WURK:	
(IF APPLICABLE:	PLUGGING OF DRY	HOLE ON	Name Paul Goo	odnight	
	S PROGRESSION FROM 1 VERBAL PERMISSION		Address _	Smithville, WV 2	6178
	, 19	<u>.</u>	-		
GEOLOGICAL TARO	ET FORMATION:De	evonian Shale		Depth6500	iee

Depth o	f completed	well, _	6184		_feet Rot	ary <u>X</u> / c	able Tools	- .	
Water s	trata depth	: Fresh	<u>, 110</u>	fee	et; salt,	feet.			
Coal se	am depths:				Is coal be	ing mined in	the area? <u>No</u>		
Work wa	s commenced		9/18		, 19 <u>_80</u> _,	and completed	11/13		, 19 <u>80</u>
CASING AND T	975	CIFICATI			FOOTAGE	INTERVALS	GEMENT_FILL-UF		FACHERS
TUBING TYPE	Size Grad	Weight elper ft	New	Üsed	For drilling	Left in well	OR SACKS (Cubic feet)		
Canquator	16"		x			12'		Hinds	None

CASING OR	1	SPEC	IFICATI:	ONS		FOOTAGE	INTERVALS	CEMENT FILL-UP	FACREES
TUBING TYPE	Size	Grade	Weight per ft	New	Üsed	For drilling	Left in well	OR SACKS (Cubic feet)	
Conquetor	16"			x			12'		Rinds None
Fresh water	11-3/	J [†] 32		X	and the second		401		
Ccal									Sizes
Intermediate	8-5/	B "		X			15881	425 sks.	
Production	42"			Х			6184	950 sks	Depths set
PT	12"			X			6124		
linens									Ponforations:
									<u> </u>
									,

OPEN FLOW DATA Production formation Huntersville-Alexander-Cedar Creek law acts doubt 1763-6081 Sec: Initial ones flow, see below World - Oil: Initial open flow, ______ Helds
Final ones flow, _____ World - Final open flow, _____ Builds Time of open fl w between initial and final tests, ____ hours

2.45	din modeljimozu ze, "	puig (surfac	e neasuréhent)	after hour	a shut in	
Na apoliti	rakio iuo oo mulai:	in northesion]				
Jestua fi	rodunian dheemati a j	Bradford-Balltown-	-Warren	Pav zony derth	3017-4220	
31.5	: Imitial tres floa	. <u>137 %ef/</u> ë	Oil: Initis	il oren flow,	Et: 'd	n,
	Final tren flow,	355 kessa	Final	open flow,	301/3	

Time of open flow between initial and final tests, _____ hours Static rook pressure, 870 poig (surface measurement) after 61 hours shut in

08-78]

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

Huntersville .

559bbl; 38,000# sand; 1500 gal. 15% acid; 6061-6185

w/16 holes

Cedar Creek & Alexander

738 bbl; 80,000# sand; 500 gal. 15% acid; 4763-4765

4874 w/24 holes

lst. Balltown & 1st, 3rd

762bbl; 80,000# sand; 500 gal. 15% acid; 4214-4220,

Bradford

4129-4134,3851-3853,3604-3623,3468-3470 w/25 holes

Warren

663bb1; 100,000# Sand; 500 gal. 15% acid; 3017-3018; 3069-3137 w/23 holes.

ELL LOG

FORMATION	Color	Hard or Soft	14 Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and jas
Clay Shale Sand Shale Red Rock Sand Red Rock Shale Red Rock Shale Red Rock Shale Red Rock Shale Sandy Shale Sand Shale & Sand Shale Sand			0 12 35 85 90 1740 525 745 960 1215 960 1215 1799 1799 1799 1799 1799 1799 1799 17	12 35 85 90 175 560 775 960 1215 1530 1739 1739 1739 1739 1739 1739 1739 1739	61950
	Cour	-		6195	L.T.D.

(Attach separate sheets to complete as necessary

Ca	rmegie Natural Gas Company
Well	Operator
Бу	Kennett J. Dunay
Its	Geologist

Angulation 0.01/i/ provides as follows:

"The term 'log' or 'well log' shall mean a systematic, detailed geologial record of all formations, including coal, encountered in the drilling of a well."

DEPARTMENT OF MINES



Oil and Gas Division OIL & GAS DIVISION OIL AND GAS WELL PERMIT APPLICATION

10 THE DELAMINATOR MINES,	
Charleston, W. Va.	DATE 301 25 1980
Surface Owner Droman Roos	Company Carnesia Natural Na Company
Address 2011220 ast 2, 26121	
Mineral Owner	Farm Acres
AddressRullman, west Va. 26121	Location (waters) 180 Creek 017-6
Coal Owner	Well No. 5 Elevation Elevation
Address	
Coal Operator	·
Address	
IS PERMIT MUST BE POSTED AT THE WELL SITE	
provisions being in accordance with Chapter 22, the W. Va. Code, the location is hereby approved drilling. This permit shall expire if	INSPECTOR TO BE NOTIFIED Goodnight
perations have not commenced by 4-11-81	
2 Dandite	ADDRESS ADDRESS
Deputy Director - Oil & Gas Division	PHONE 477-3660
GENTLEMEN:	
made to	ease dated
	REDRILL FRACTURE OR STIMULATE
OIL AND GAS WELL ORIGINALLY DRI	
	The state of the control of the state of the
The enclosed plat was prepared by a registered engine have 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 he to make by Section 3 of the Code, must be received by,	ereby notified that any objection they wish to make, or are required, or filed with the Department of Mines within ten (10) days. *
Copies of this notice and the enclosed plat were mailed or coal owners at their above shown respective address same day with the mailing or delivery of this copy to the	ed by registered mail, or delivered to the above named coal operators daybefore, or on the he Department of Mines at Charleston, West Virginia.
and the state of the	Very truly yours, Carnegie Satural Gas Company
PLEASE SUBMIT COPIES OF ALL	(Sign Name)
GEOPHYSICAL LOGS DIRECTLY TO:	Well Operator
MEDI AIRGININ GROPORICUP WILD	3900 3010 72001,
	Address Street of Street Street
P. O. BOX 879 MORGANTOWN, WEST VIRGINIA 26505 Well	l Operator
AC = 304 = 292 = 6331	·
	atti i sekindeni ili sekini sekin a limpa mari wana ka da i Kiton ka sa 1966 ili ili ili ili ili ili ili ili
Control of the State of the Sta	

*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.

PERMIT NUMBER

47-085-4890

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

PROPOSED WORK ORDER	TODRILL	DEEPENF	RACTURE-STIMULATE
DRILLING CONTRACTOR:	(If Known)	RESPONSIBLE AGENT	
NAME		NAME	200 M
ADDRESS			and the second of the second o
ADDIDE 1101415		TELEPHONE	1974 Parketting
ESTIMATED DELIH OF CO.	MPLETED WELL:	ROTARY	CABLE TOOLS
PROPOSED GEOLOGICAL F	ORMATION:		
	IL GAS C		DISPOSAT
			OODOTHER
	<u>.</u>	***************************************	JOD OTHER
TENTATIVE CASING PROGR	RAM:		gradus Magazinia. Magazinia
			and the state of t
CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP
20 - 16	DRILLING	WELL	OR SACKS - CUBIC 1-T.
13010 13.5/1			
9 - 5/8	***		And a
8 - 5/8	1000		- 44-77
7		19:00	
5 1/2			
4 1/2	65001	64001	White where the
3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Perf. Top
2			Perf. Bottom
Liners			Perf. Top
		*	Perf. Bottom
APPROXIMATE FRESH WAT	ER DEPTHSFEET_	SALT WATER	e Fro
	THE AREA?	BY WHOM?	
TO DRILL:			
SUBMIT FIVE (5) COPI	ES OF OG - 1, \$100.00 PERMI	T FEE. PERFORMANCE RO	ND AND PERMANENTS COD
OF PLAT.	A STATE OF THE STA		
O DRILL DEEPER OR REDI	RILL:	in the state of th	CAAA AA SAA SAA SAA SAA SAA SAA SAA SAA
SUBMIT FIVE (5) COPIE	CS OF OG - 1, SHOWING ORIGI	NAT. PERMIT NIMBED AN	D DEDEODMANCE DOND
" TILL THE THEFT INTO	10 1929, A PERMANENT CC	OPY OF THE PLAT AND T	HE ORIGINAL WELL RECOR
MUST ALSO BE SUBMIT	TTED.		Omonwip will report
O FRACTURE - STIMULATE			
OIL AND/OR GAS WELL	ORIGINALLY DRILLED BEFOR	OP HINE 5 1000 PERM (5)	100000
BOND, PERMANENT PL	AT AND ORIGINAL WELL REC	re June 5, 1929, FIVE (5) (COPIES OG - 1, PERFORMANCI
OIL AND/OR GAS WELL	ORIGINALLY DRILLED ON AN	ID/OR AFTER HIME 5 1000) FILLE CONTROL + GUOW
ING ORIGINAL PERMIT	NUMBER, AND PERFORMANCE	BOND.	FIVE COPIES OG - 1, SHOW
four (24) hours in advance	iled within ninety (90) days of c	ompletion for bond release.	Inspector to be notified twenty
		and a company of the	
and the second of the second o	graduation and the second		
The following waiver mus	it be completed by the coal oper	rator if the	
pereof.	process by the coal oper	in the permit is to be in	ssued within ten days of receip
AIVER: I the undersigned. A	gent for	Cool Comment	
this lease have exam	ined and place on our mine ma	ne this proposed well least	or Operator of the coal unde
providing once to	Coal Company h	ave no objections to said we	ll being drilled at this location
providing operator ha	s complied with all rules and regu	lations in Articles 4, 5, and 7	, Chapter 22 of the West Virginia
		•	•
			1 4 50
The state of the s	A State of the Sta	Fo	r Coal Company
		en grande en	• •
			Official Title

PECENTURE OF CHILD	·		C	185-489	0-Frac	ageof
JUN PAVISH	ON OF EN	VIRONMENT	E OF WEST	VIRGINIA TION, OFFICATION	CE OF OIL A	ND GAS
Permitting			DAT CAS CON	IPANY 865		562
			•			levation: 817' 07/(2/96
Nell type	e: (a) O	il_/	or Gas	X/	Expres of	07/12/98
	(b) I	f Gas: P	roduction Deep	x/ Undergr		.ge/
Proposed	Target F	ormation(s): BIG I	NULN		
6) Proposed	Total De	pth:	6195	_ feet		
7) Approxima	ate fresh	water st	rata dept	hs:		encoloulor la renaliza que estra como conscionar proporte destri estra en destributa a renaliza acomo
8) Approxima	ate salt	water dep	oths:			
9) Approxima	ate coal	seam dept	:hs: No	COAL		
10) Does land	d contain	coal sea	ms tribut	ary to act	ive mine?	Yes/ No_x_/
11) Proposed	Well Wor	REFRACT	URE: SET T	EMP PLUG, SQU	EEZE CEMENT	O 1500', SET TEMP
12)		COMINGL	E WITH EXIS	TING PRODUCTI	ON.	TION, ICHOVE FEOG
ALL PIPE EXI		ELL		ng program Footage i		CEMENT
TYPE		ECIFICATI				
	Size	Grade	Weight per ft.	drilling	Left in well	Fill-up (cu. ft.)
Conductor	16					1 2
Fresh Water	11 3/4				40	o my
Coal					/	Many Butter
Intermediate	8 5/8				1588	425 sks
Production	4 1/2				76184	950 sks
Tubing						
Liners				((BALLORS	
PACKERS : Kin					700	
Siz Dep	ths set				1	
14		or Office	of Oil a	nd Gas Use	Only	\sim
///Fee(s) p	paid: 47	D well w	ork Permi	t Reg	Mamation F	und WPCP
Plat (-/ww-9	A DAW-	2В (Д)	Borla _	Varget	Agent
The state of the s	The second second	J	T		(Type)	U
<i>y</i>						

Page	1 of	nviro	nmental Protection 1)	Date: M Operator W.S. CHAP	AY 22, 1996	
rorm	WWZ-A		2)	Operator	's well nur	mber
	()	الله الله	N 1 4 1996	W.S. CHAP API Well	<u>MAN NO. 1837</u>	085 - 4890 - F
LTTE	Сору		Permitting		State	
		Office	of Oil & Gaa			
			of Oil & Gas Vest Virginia			TI
		DIVIS	ION OF ENVIRO		TECTION	
			office of	DIL AND GAS		
		NOTICE AND	D APPLICATION	FOR A WELL	WORK PERM	T (T)
		MOTTOR WAL	D APPLICATION	TON A WILL	WORK I DIGI.	Sometimes.
4)	Surface O	wner(s) to	be served:	5) (a) Co	oal Operato	or:
- /			OBEY	Name	NONE	
	Address	1007 OAKWOOD	TERRACE	Address		
		ST. MARYS, W	V 26170			
	(b) Name				•	with Declaration
	Address _			Name		
	/ a \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Address .		
	(C) Name			Name		
	Address _			Address		
6)	Inspector	SAMUEL HERSM	AN	(c) Coal	Lessee wi	th Declaration
· •	Address _	ROUTE 1 BOX	240	Name		
			WV 26362-0240	Address		
	Telephone	e (304) – <u>628</u>	-3185			
		mo mur pri	RSON(S) NAMED	ABOUE TAKE	NOTICE THE	₹ ₩.
		TO THE EM	CONTO) NEWS	ADOVE SANE	1101202 1322	3 de 5
	racts by w	which I hol	d the right t	o extract o	il and gas	
X (3)					pter 22, A	rticle 6, Section
8 (a)			. Virginia (se		of the W	est Virginia Code
T ha	re certii)	copies of	equired under	and annlica	ation a $\frac{N}{2}$	ocation plat, and
T IIG	mpanving (documents p	ages 1 throug	h on th	e above na	med parties, by:
<u></u>			ce (Affidavit			
			. (Postmarked		eipt attach	led)
			Notice of Publ			
		NAMES AND ADDRESS				
to t	he terms a	and conditi	ons of any pe	rmit issued	l under thi	1-18, and I agree s application.
	I certify	y under per	nalty of law	that I have	personall	y examined and am
famı	liar with	the infor	mation submi	ted on thi	s applicat	cion form and all
atta	coments,	and that be	ased on my in	quiry of the	olieve tha	duals immediately the information
		rate, and o		acron, r be	eliese cua	
13 0	T am awa	re that th	ere are sign	ificant pen	alties for	submitting false
info			the possibilit			
			Well Operato			
			By:	Journe		
			Its:		F PRODUCTION	
			Address	P. O. BOX		
		·····	T 4 3	MANNINGTO		
OLWES	OFFIC	IAL SEAL	Telephone	304-986-2		MAY , 1996
Page 6		PSSPONER DE	fore me this,	by - day of		, 17 <u>90</u>
	CALL OF VALUE	" AINDINIA :				
1 / 1				J. Wais	u Dones	Notary Public
NO.	9/1 L. WAY	NE JONES	OCTOBER 26, 2	3, Way	ne Jones	Notary Public

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

FARM NAME	Robey, Richard	M.	OPERATOR V	OR WELL NO. Chapman #1837				
LOCATION	ELEVATION	817.00	QUADRANGI	E Pullman				
DISTRICT LATITUDE LONGITUDE		uth of 39 Deg. 12 est of 80 Deg. 55		ITY Ritch	ie			
COMPANY:		CARNEGIE NATO 800 REGIS AVEI PITTSBURGH, P	NUE	CASING/ TUBING SIZE	USED IN DRILLING	LEFT IN	CEMENT FILL UP CU. FT.	
AGENT:		TDOUGLAS R. NA	ΥY					
INSPECTOR: PERMIT ISSUED WELL WORK CO	MMENCED: MPLETED:	Sam Hersman 07/12/96 12/28/96 01/31/97			ADDITION R TO ORIG		Particular (1995)	
VERBAL PLUGG PERMISSION G ROTARY TOTAL DEPTH (FRESH WATER	RANTED ON: CABLE FEET):	RIG			Environmental Prote	Alion Alion		
SALT WATER D	EPTHS (FT):			Offic	Permini 1997	* ***********************************		
IS COAL BEING COAL DEPTHS (EA (Y/N)			Permitting 1997			
OPEN FLOW DA	TA				Cement Top a			
FINAL	OPEN FLOW PEN FLOW F OPEN FLOW	Berea & Weir Commingled BETWEEN INIT Psig	MCFD/d IAL AND FINA	DIL INITIA FINAL	ONE DEPTH (AL OPEN FLOW OPEN FLOW JRE) AFTER		Bbl/d Bbl/d Bbl/d HOURS HOURS	
FINAL	OPEN FLOW PEN FLOW PRESSURE	Commingled BETWEEN INIT: 510 Psig	MCF/d (MCF/d IAL AND FINA (SUR)	FINAL L TESTS FACE PRESSU	NTERVALS, FRAC	48	Bbl/d Bbl/d HOURS HOURS	
INCLUDING COAL			FOR:		IE NATURAL G			

Recompletion Data:

Set Bridge Plug @ 2250'

1st Stage:

Perforated Berea & Weir (2028'-2170', 14 shots)

Fractured with Energized Water, 500 gal 15% HCL, 5,000# 80/100 sand, 25,000# 20/40 sand, 457 BBLS TF, 41,000 SCF N₂, BD 2052 psi, MP 2595, ATP 2273 ISIP 1415 psi

2nd Stage:

Set Big Mouth Frac Plug @ 1850'

Perforated Big Injun (1766-1778, 12 shots)

Fractured with Energized Water, 500 gal 15% HCL, 30,000# 20/40 sand, 399 BBLS TF, 70,000 SCF N_2 BD 3219 psi, MP 3219, ATP 2494 ISIP, 1882 psi

Flowed well back drilled out frac plugs to original TD