



H T. HALL

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		COLUMN CO						7	DIL AND GAS DIVISION WY DEPARTMENT OF MINES
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REWORKING					BTA IN	ED	Address	RFD #1	*
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AND TUB	ING F	ROGRA	.M		•				
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ORM 11-35 Reverse)

[08-78]

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

9/22/81: Basin Surveys perforated Oriskany 4904-4914'(KB) with hollow steel arrier;

4 holes/ft; 40 holes.

Halliburton, BJ Hughes hydrofractured zone with 15,000# 80/100 sand; 37,500# 20/40 9/23/81: sand; 170,000 SCF of nitrogen; 826 BBL of water; 2008 hydraulic horsepower; 1500 gal. 28% HCL acid; average rate was 19 BPM; average treating pressure was 4250 psig; maximum pressure attained was 4900 psig; breakdown was 2900 psig; Instantaneous

shut in pressure was 3600 psig.

WELL LOG

Soil & Shale Siltstone Shale Sand 0 88 106 106 180	Remarks ndication of all fresh ter, coal, cil and jag
Soil & Shale 0 88 Siltstone 88 106 Shale 106 180 Sand 180 180	ser, coar, orr and jag
Shale 240 330 343 Shale & Siltstone 343 584 626 Sand 584 626 726 742 Shale & Siltstone 742 983 1022 983 1022 1092 1092 1286 1440 1738 1754 1836 1440 1738 1754 1836	3856,3904 4548 4613 4830,4870

(Attach separate sheets to complete as necessary:

<u>k</u>	AISER	EXPLO	RATION	AND M	MINING	COMPANY		
194 ¢	err Obe	rater						
ły	Z.	A.	P_				•	

Its _ General Manager

. Regulation 2.01(i) provides as ເຕີ ໄດ້ເດນຄະ

"The tent ligh or well lage shall mean a agreematic, detailed geologial record of the fermations, including sett, encountered in the drilling of a well."

| _ | Agent

Periting & Section

Win-	2.1	AIE C	ir wesi	VIRGI	NIA	CAD CASI	alula
DEPARTM	ent of	ENER	GY, DI	VISION	OF OI	L AND GAS	2111111
	WELL	WORK	PERMIT	' APPLI			

		12000	-^	ALLUA CALLUS		
l) Well Ope	rator:	Durst C	Dil and 6	es 146	80 (9)	338
				And the second of the second o	3) Ele	
4) Well typ	e: (a) (Dil_/	or Gas	X /		
	(b)	[f Gas:	Production	<u></u> ∠ Underg	round Storage	e/
			Deep	441	Shallo	4 /
) Proposed	Target I	Formation	(s): <u>Deve</u>	onian Brou	un Shale	
5) Proposed	Total De	epth: <u>43</u> 0	00' Plug Back	<u>T</u> Dfeet		
7) Approxim	ate fres	n water s	trata dept	hs:		·
B) Approxim	ate salt	water de	pths:		4 - 1 - 1 - 1 - 1	
9) Approxim	ate coal	seam dep	ths:	650'		
LO) Does lan	d contair	n coal se	ams tribut	ary to act	ive mine? Ye	∍s/ No <u>×</u>
11) Proposed of calscal (Well Wor	ck: OSet P	rermanent cass	timon bridge pla 14039001 w/	ug @ 4300 100 kg	e a dump bail
12) Shale w/7	5 Qualty Foc	ing . B) reison	5,000 lbs 20/	40 sand. (SUBMIT AN AFF	-104ULY OF
		CASIN	G AND TUBI	NG PROGRAM	PLUGGING A	FTER DLUG BA
TYPE	SI	PECIFICAT	IONS	FOOTAGE I	NTERVALS	CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
muluctor	1103/4	14	32.75	252'	252'	150 sk Class A
Fresh Water						
Coal				n in de la militario. La mala la militario	and the second	
Intermediate	7"	<i>K</i>	20.0	2666	2666	255K POZMIK 1005K CLUSSA
Production	41/2"	N	11,60	4981	4981	ZZ5 SK Pozmik
Pubing					Plus Back YD in 41/2@	
Liners				erang pandala. Peraga		
PACKERS : Kir	ıd.			e de la companya de l La companya de la companya de		
Siz	es oths set					
24		or Diviso	n of Oil a	and Gas Use	Only	
					lamation Fun	d I WPCF
Fee(s) r	naid: !V	r Well W	ork Permit	. I Rec	ramation run	u I WPCF

| Plat | W | V | WW-2B | Bond ____

77				12 ·
	1 of 3		Date: 6-17-90	
	WW2-A	2)	Operator's well number	
, (09 <i>/</i>	(87)		KEM-47 Barnette	
File	Сору	3)	API Well No: 47 - <u>053</u>	<u>0258-</u> fr
			State - County	y - Permit
		STATE OF WES	T VIRGINIA	
			DIVISION OF OIL AND GAS	RECEIL
	←			RECEIVED Division of Lawrence
		NOTICE AND ADDITION	FOR A WELL WORK PERMIT	Cf Line
		NOTICE AND AFFEICATION	FOR A WEBB WORK FERRITI	AUG 2 9 90
A 3	C	\	E) (=)	C 9 90
4)		wner(s) to be served:	5) (a) Coal Operator:	Per
		Ronald G. Chaffin	Name	Mil and 1880
	Address _	156 Hampshire Drive	Address	Ges Sertion
		St. Albans WV 25177		
	(b) Name		(b) Coal Owner(s) with 1	Declaration
	Address		Name <u>Appalachian Land</u> Address <u>Ashland</u> , KY	Co
	•		Address Achland KV	41101
	(c) Name			
	Address		Name	
	Mudiess -			
			Address	
6)	Inspector	Jerry Tephabock	(c) Coal Lessee with Dec	
	Address _	RTI BOX 101-A	Name	
		Ripley, WV	Address	
	Telephone	(304)- <u>372-6805</u>		
		TO THE PERSON(S) NAMED	ABOVE TAKE NOTICE THAT:	
Sect I ha	Included ion 8(d) o I certify ive served impanying o Pers	of the Code of West Virg y that as required under copies of this notice a	ired by Chapter 22B, Articinia (see page 2) Chapter 22B of the West Vend application, a location on the above named participated (see the control of the con	irginia Code plat, and
				_
, .			er 22B and 38 CSR 11-18, a	
to t			rmit issued under this app	
٠.			nat I have personally exam	
			ed on this application for	
atta	chments, a	and that based on my inqu	iry of those individuals	immediately
			tion, I believe that the i	nformation
is t	rue, accur	rate, and complete.		
	I am awar	re that there are signif	icant penalties for submit	ting false
info			y of fine and imprisonment	
			Durst Oil and Gas	-
			ld W. Durst JR	
			2 Box 538	
			nt Pleasant, WV 25550	
		rerepnone(304\675-3064	
~				
Subs	cribed and	sworn before me this 3	M day of July	, 19 <u>90</u>
Subs	scribed and	d sworn before me this 3	0	
	commission	2. Menis	0	, 19 <u>90</u> otary Public

of Energy JAN 0 9 91

State of West Virginia DEPARTMENT OF ENERGY Division of Oil and Gas

DIVISION OF	Oll and	Gas		
On and Well Operator's R	Report of	Well Work		
Farm name: CHAFFIN, RONALD G	Operator	Well No.:	KEM 47 B	ARNETTE
LOCATION: Elevation: 940.00 Quad				
District: UNION Latitude: 6700 Feet Sou Longitude 7600 Feet Wes	th of 38	ounty: MASC	50 500	C.
Company:DURST OIL & GAS CO., INC. ROUTE 2, BOX 538 POINT PLEASANT, WV 25550-053				
Agent: RONALD W. DURST, JR.		Drilling		
Inspector: JERRY TEPHABOCK Permit Issued: 09/14/90	Size			
Well work Commenced: 9-17-90 Well work Completed: 9-17-90 Werbal Plugging Permission granted on:	103/4	252	252	150sk Class A
Permission granted on: Rotary Cable Rig Fotal Depth (feet) 4300 Fresh water depths (ft) 200	7	25Z 2666	2666	1005EC/45
Salt water depths (ft)	41/2	4981	4981	225 SK Poz
Is coal being mined in area (Y/N)? N Coal Depths (ft):				
PEN FLOW DATA	P			
Producing formation Boun Shall Gas: Initial open flow 150 MCF, Final open flow 75 MCF, Time of open flow between in Static rock Pressure 1000 psice	/O Fi Titial and	nal open fi final tost	Low O	Bbl/d
Second producing formation W/Gas: Initial open flow MCF/Final open flow	/ <mark>d Oil: In</mark> /d Fi	Pay zone of the pay and open for the pay and open for the pay and open for the pay are the	depth (ft flow)Bbl/d Bbl/d
Time of open flow between in Static rock Pressurepsic	litial and	tinal test	· c	Hours Hours
OTE: ON BACK OF THIS FORM DITT TUE	FOLLOWING	1 \		

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: DURST OIL & GAS CO., INC.

- 1. 1) Set permanent cost ivon bridge plug @ 4300'
 Cover with Calseal
 - 2.) Perf 3900 to 4200 w/ 20 holes
 - 3.) Foam Frac w/ 75 Q Nz and 45000/65 sand
 - 2.) Geologic Records previously submitted (existing well)

DEPARTMENT OF MINES



Oil and Gas Division

THE DEPARTMENT OF MINES,

the well operator authorized to proceed.

OIL & GAS DIVISION

PERMIT NUMBER

OIL AND GAS WELL PERMIT APPLICATION OF MINES

Astronomy of as a me	מ	ATE JULY 16, 1981	•
Surface Owner Ronald G. Chaffin	с	ompany Kaiser Explorat	ion and Mining Company
Address 156 Hampshire Drive, St. Albans, L		ddress P. O. Box 8, Ra	
fineral Owner Mary Jane Barnette	F	arm Mary Jane Barnett	e Acres 73.8
ddress Evans, WV 25241	*	ocation (waters) Mudlick	
Marian Combide Cont Mines	•	ell No KEM #47	
dares 32 Sanderson Road, Clendenin, WV	00000		County Mason
Coal Operator Same as above	: Q	uzdzangle Flmwood	
. g g			
THIS PERMIT MUST BE POSTED AT THE WELL SITE			•
All provisions being in accordance with Chapter 22 of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved of the W Ya Code, the location is hereby approved the locatio	1		
of Redrilling . This permit sholl-expire	INSPE		ing the second of the second o
operations have not commenced by 3-30-82	TO BE	NOTIFIED Kenneth	Butcher
operations have the common and the c	ADDRE	SS <u>RFD #1</u> , Barboursv	ille, WV
Deputy Director - Oil & Gas Division	PHONE	736-4885	
entlemen:	,		
	non the above		
The undersigned well operator is entitled to drill use thereto, (or as the case may be) under grant or	lone detail	e named farm or tract of la	nd for oil and gas, having fee
Mary Jane Barnetake to Kaiser Explorati	on and Min	ing_Co, 1	6+b James Henry
79 in Mason County, Book	46 x	213	day of August
			steen general to
NEW WELLDRILL DEEPE	R	REDRILLFR	ACTURE OR STIMULATE
DIL AND GAS WELL ORIGINALLY DI	ULLED BEF	ORE JUNE 5, 1969.	<u>.</u>
The enclosed plat was prepared by a registered engue been notified as of the above date.	ineer or licer	nsed land surveyor and all	coal owners and/or operators
The above named coal owners and/or operator are I make by Section 3 of the Code, must be received b	neraby notifie y, or filed wi	d that any objection they with the Department of Mines	rish to make, or are required within ten (10) days.
Copies of this notice and the enclosed plat were ma coal owners at their above shown respective address ne day with the mailing or delivery of this copy to	iled by registe	ered mail, or delivered to the	above named coal operators
EASE SUBMIT COPIES OF ALL	Very t	truly yours,	•
OPHYSICAL LOGS DIRECTLY TO:	(Sign 1	Name) Well Oper	RIOF
ST VIRGINIA GEOLOGICAL AND			ion and Mining Company
ONOMIC SURVEY	Address	R A Pryce Street	
O. BOX 879	of li Operator	P. O. Box 8	
RGANTOWN, WEST VIRGINIA 26505 We -304 - 292-6331	*	Ravenswood City or Tow	n
		. <u>West Virginia</u>	26164
	•	State	Au V 1 V - F
		•	The state of the s

*SECTION 3 If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of ice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting 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

ACTUAL INFORMATION WILL BE SUBMITTED ON OG-70 UPON COMPLETION PROPOSED WORK ORDER TO X DRILL DEEPEN FRACTURE-STIMULATE DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT: NAME Clint Hurt & Associates, Inc. NAME Robert A. Pryce ADDRESS P. O. Box 388, Elkylew, WV 25071 ADDRESS P. O. Box 8, Ravenswood, WV 26164 TELEPHONE __273-5371_ ESTIMATED DEPTH OF COMPLETED WELL: 4890' ROTARY X CABLE TOOLS PROPOSED GEOLOGICAL FORMATION: _Oriskany OIL____ GAS_X_ COMB.___ TYPE OF WELL: ____ STORAGE ___ ___ DISPOSAL__ RECYCLING___ ____ WATER FLOOD_____ OTHER_ TENTATIVE CASING PROGRAM: CASING AND TUBING USED FOR LIST IN CEMENT FILL UP SIZE DRILLING WELL OR SACKS - CUBIC IT. 20 - 16 13 - 10 9 - 5/8 10 3/4" 250.1 250' Cement to surface 8 - 5/8 2650' 26501 65 sks pozmix 100 sks 5 1/2 <u>class A</u> 4 35 48901 4890' 225 sks 50/50 pozmix Perf. Top 2 Perf. Bottom Lincis Perf. Top Perf. Bottom APPROXIMATE FRESH WATER DEPTHS_____ __ FEET ____ __SALT WATER _____FEET__ APPROXIMATE COAL DEPTHS __ IS COAL BEING MINED IN THE AREA? ___None BY WHOM? 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 GG - 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, SHOW-ING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND. Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twentyfour (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 thercof. WAIVER: I the undersigned, Agent for ___ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location. Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

Official Title

For Coal Company