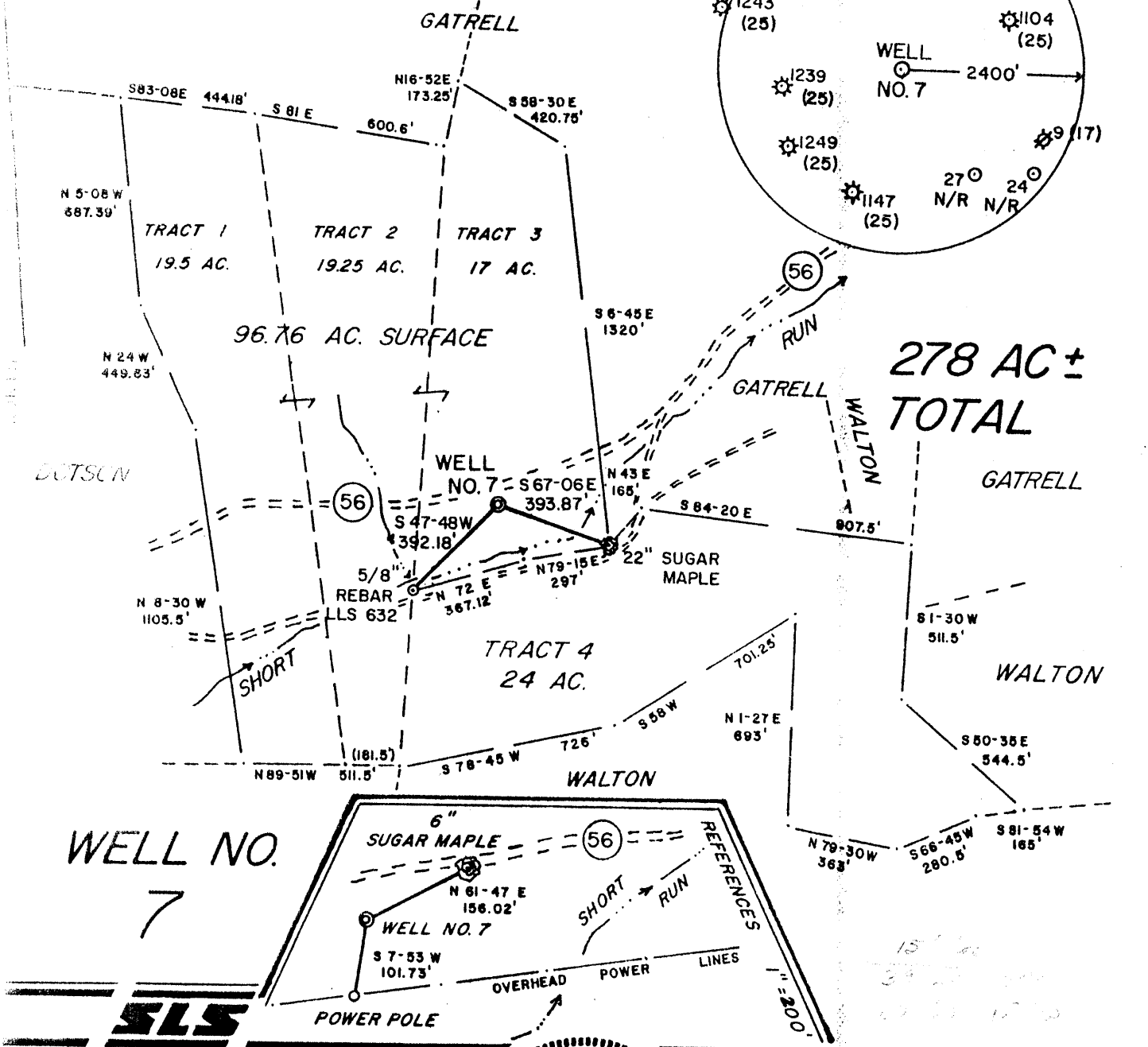


Janice 2/9/90

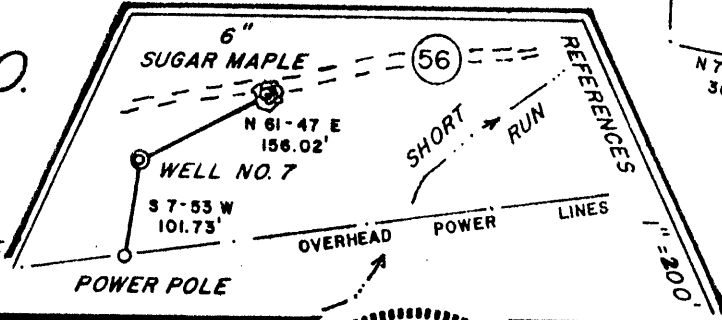
CAIN HEIRS LEASE

0.39 S
1.74 W



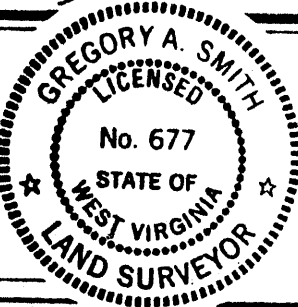
2070'
00-00-00 EQUINOCT

WELL NO. 7



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.


L.L.S. No. 677 Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE OCTOBER 20, 19 89
 OPERATORS: WELL NO. CAIN HRS. NO. 7
 API WELL NO. 47 - 095 - 1371
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 200 FILE NO. 2057(28-58)
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION 832' SCALE 1" = 500'

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 865' WATERSHED SHORT RUN

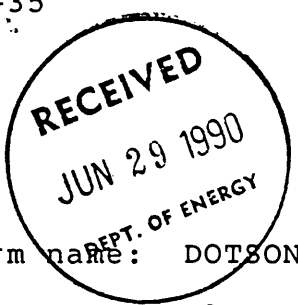
DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE WEST UNION 7.5
 SURFACE OWNER OPAL DOTSON ACREAGE 17 OF 96.76
 ROYALTY OWNER WILLIAM M. CAIN et al LEASE ACREAGE 278

PROPOSED WORK: LEASE NO. _____
 DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD
 FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION BENSON
 ESTIMATED DEPTH 4835'

WELL OPERATOR QUAKER STATE CORP. DESIGNATED AGENT FRANK ROTUNDA
 ADDRESS 1226 PUTNAM-HOWE DR. BELPRE, OHIO 45714 ADDRESS PO BOX 823 PARKERSBURG, WV 26102

66 Stanley (090) MAR 12 1990

COUNTY NAME PERMIT



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

Well Operator's Report of Well Work

Farm name: DOTSON, OPAL Operator Well No.: CAIN HEIRS #7

LOCATION: Elevation: 865.00 Quadrangle: WEST UNION

District: CENTERVILLE County: TYLER
 Latitude: 2070 Feet South of 39 Deg. 20Min. 0 Sec.
 Longitude 9310 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: QUAKER STATE CORPORATION
 P.O. BOX 189/1226 PUTNAM HOWE
 BELPRE, OH 45714-0189

Agent: FRANK R. ROTUNDA

Inspector: GLEN P. ROBINSON
 Permit Issued: 03/06/90
 Well work Commenced: 04/05/90
 Well work Completed: 04/17/90

Verbal Plugging
 Permission granted on: N/A
 Rotary X Cable Rig
 Total Depth (feet) 4836'
 Fresh water depths (ft) 40'

Salt water depths (ft) 950'

Is coal being mined in area (Y/N)? N
 Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
9 5/8"	259'	259'	75 sx.
7"	1416'	1416'	C.T.S.
4 1/2"	4807'	4807'	120 sx.

OPEN FLOW DATA

Producing formation Benson Pay zone depth (ft) 4707-13
 Gas: Initial open flow show MCF/d Oil: Initial open flow --- Bbl/d
 Final open flow 100 MCF/d Final open flow --- Bbl/d
 Time of open flow between initial and final tests --- Hours
 Static rock Pressure --- psig (surface pressure) after --- Hours

Second producing formation Riley Pay zone depth (ft) 4303-36
 Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d
 Final open flow comm. MCF/d Final open flow --- Bbl/d
 Time of open flow between initial and final tests --- Hours
 Static rock Pressure --- psig (surface pressure) after --- Hours

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: Frank Rotunda
 QUAKER STATE CORPORATION

By: Frank R Rotunda
 Date: 6-25-90

JUL 6 1990

Perf: 4707-4713 with 25 shots; 4303-4336 with 19 shots

Frac: 1st stage: 358 gal. foam, 465 sx. sand, 750 M SCF N2
2nd stage: 210 gal. foam, 250 sx. sand, 390 M SCF N2

LOG:

shale	0 - 317
sand	317 - 395
shale	395 - 458
sand	458 - 525
silt & shale	525 - 938
sand	938 - 986
shale	986 - 1050
sand	1050 - 1080
shale	1080 - 1115
sand	1115 - 1160
shale	1160 - 1215
salt sands	1215 - 1566
shale	1566 - 1666
Lime	1666 - 1680
shale	1680 - 1696
Big Lime	1696 - 1790
Big Injun	1790 - 1884
shale	1884 - 2048
Weir	2048 - 2161
shale & silt	2161 - 4836

10156

RECEIVED
 JAN 30 1990

095,1371
 Issued 3/6/90
 Page 3 of 9
 Expires 3/6/92

FORM WW-2B DIVISION OF OIL & GAS STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
 WELLS WORK PERMIT APPLICATION

- 1) Well Operator: 721 Quaker State Corporation 40400 (1) 670
- 2) Operator's Well Number: Cain Heirs #7 3) Elevation: 865'
- 4) Well type: (a) Oil / or Gas X /
 (b) If Gas: Production / Underground Storage /
 Deep / Shallow X /
- 5) Proposed Target Formation(s): Benson 435
- 6) Proposed Total Depth: 4835 feet
- 7) Approximate fresh water strata depths: 200' , 475'
- 8) Approximate salt water depths: 1090' , 1376'
- 9) Approximate coal seam depths: N/A Possible coal Basins 55-56' 265-266' 524-525'
- 10) Does land contain coal seams tributary to active mine? Yes / No X /
- 11) Proposed Well Work: Drill and stimulate new well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
<u>1/9/90</u> Conductor	11 3/4"	H-40	42	250'	250'	C.T.S.
Fresh Water						
Coal						<u>38CR 18 11.3</u> <u>38CR 18 11.2</u>
Intermediate	8 5/8"	H-40	23	1390'	1390'	C.T.S.
Production	4 1/2"	J-55	9.5	4835'	4835'	1200' or as required by 38CR 18 11.1
Tubing						
Liners						

PACKERS : Kind _____
 Sizes _____
 Depths set _____

For Division of Oil and Gas Use Only

19684
 Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond 50 Surety Agent
 (Type)

RECEIVED
JAN 30 1990

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

STATE OF WEST VIRGINIA

DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

47-645-1371

Date: October 27, 1989
Operator's well number Cain Heirs #7
API Well No: 47 - 095 - 1371
State - County - Permit

- 4) Surface Owner(s) to be served:
- (a) Name Opal Dotson
Address Route 1
Greenwood, WV 26360
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
- Name N/A
Address _____
 - (b) Coal Owner(s) with Declaration
Name N/A
Address _____
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name N/A
Address _____
- 6) Inspector Robert Lowther
Address General Delivery
Middlebourne, WV 26149
Telephone (304) - 758-4764

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

XX Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through _____ on the above named parties, by:

- _____ Personal Service (Affidavit attached)
- _____ Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Quaker State Corporation
By: Frank R. Rotunda
Its: Designated Agent
Address P.O. Box 823
Parkersburg, WV 26102
Telephone (614) 423-9543

Subscribed and sworn before me this 23rd day of January, 1990

Dolores L. Branch Notary Public

My commission expires _____

Dolores L. Branch
Notary Public, State Of Ohio
My Commission Expires March 14, 1990