

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS FIELD BOOK NO. 126-K

FILE NO. 89-7276 PARSONS SURVEY
 DRAWING NO. _____
 SCALE 1" = 200
 MINIMUM DEGREE OF ACCURACY 1 IN 2500
 PROVEN SOURCE OF ELEVATION U.S. B.M. - OHIO RIVER CROSSING 1934 - NO. 1 B
 ELEVATION 638.6

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.
 (SIGNED) Henry M. Parsons
 -R.P.E. _____ L.L.S. NO. 98



STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY OIL AND GAS DIVISION		DATE <u>APRIL 10</u> 19 <u>89</u> OPERATOR'S WELL NO. <u>37 BRINE WELL</u> API WELL NO. <u>47-051-0722-X</u>
WELL TYPE: OIL _____ GAS _____ LIQUID INJECTION <input checked="" type="checkbox"/> WASTE DISPOSAL _____ (IF "GAS,") PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____		COUNTY NAME _____ PERMIT _____
LOCATION: ELEVATION <u>637.6</u> WATER SHED <u>OHIO RIVER</u> DISTRICT <u>FRANKLIN 3</u> COUNTY <u>MARSHALL</u> QUADRANGLE <u>POWHATAN POINT OHIO-W VA 558 0268 Clarrington sc</u>		
SURFACE OWNER <u>PPG INDUSTRIES</u> ACREAGE <u>6.615</u> OIL & GAS ROYALTY OWNER <u>PPG INDUSTRIES</u> LEASE ACREAGE _____ LEASE NO. _____		
PROPOSED WORK: DRILL <input checked="" type="checkbox"/> CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____		
PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____ TARGET FORMATION <u>SALINA</u> ESTIMATED DEPTH <u>6800'</u> WELL OPERATOR <u>PPG INDUSTRIES, INC</u> DESIGNATED AGENT <u>K. S. WALBORN</u> MAY 22 1989 ADDRESS <u>P.O. BOX 191</u> ADDRESS <u>P.O. BOX 191</u> <u>NEW MARTINSVILLE, WV 20155</u> <u>NEW MARTINSVILLE, WV 20155</u>		

DEEP WELL - 6800' (10)

MAR 0 5 91

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

JIC Section

Well Operator's Report of Well Work

Farm name: PPG INDUSTRIES, INC. Operator Well No.: 37 BRINE WELL

LOCATION: Elevation: 637.60 Quadrangle: POWHATAN POINT

District: FRANKLIN County: MARSHALL
Latitude: 12350 Feet South of 39 Deg. 47Min. 30 Sec.
Longitude 8550 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: PPG INDUSTRIES, INC.

P. O. BOX 191
NEW MARTINSVILLE, WV 26155-0000

Casing & Tubing	Used in	Left	Cement Fill
16"	66.50'	66.50'	
13 3/8" e 48 #/ft	119.17'	118.33'	25
9 5/8" e 32.3 #/ft	2010'	1994.74'	797
7" e 26 #/ft	6706'	6693'	1128
4 1/2"		6701.8'	-

Agent: D. F. GOLLA

Inspector: MIKE UNDERWOOD
Permit Issued: 05/12/89
Well work Commenced: 8-10-89
Well work Completed: 1-25-90
Verbal Plugging
Permission granted on:
Rotary Cable _____ Rig _____
Total Depth (feet) 6735
Fresh water depths (ft) 21' to 65'
Salt water depths (ft) _____

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

OPEN FLOW DATA

Producing formation N/A Pay zone depth (ft) N/A
 Gas: Initial open flow N/A MCF/d Oil: Initial open flow N/A Bbl/d
 Final open flow N/A MCF/d Final open flow N/A Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure _____ psig (surface pressure) after _____ Hours

Second producing formation N/A Pay zone depth (ft) N/A
 Gas: Initial open flow N/A MCF/d Oil: Initial open flow N/A Bbl/d
 Final open flow N/A MCF/d Final open flow N/A 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: PPG INDUSTRIES, INC.

By: L.S. Wolborn
Date: 3/1/91

MAR 05 91

JIC Section

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Fill & Cinders			0	5	
Clay sand stones			6	36	
Sand & gravel			36	66	
Sand & shale			66	900	
<u>PENNSYLVANIA</u>					
Monongahela			100	230	Measured from K.B. of 637
Conemaugh			230	690	
Allegheny			690	986	
Pottsville			886	1094	
Shale			1094	1174	
<u>MISSISSIPPIAN</u>					
Maxton			1174	1214	
Mauch Chunk			1214	1266	
Greenbrier			1266	1290	
Loyalhanna			1290	1330	
Big Injun			1330	1444	
Shale			1444	1474	
Pocono			1474	1565	
Shale			1565	1710	
Weir			1710	1728	
Sunbury			1728	1908	
Berea			1908	1916	
<u>ONIAN</u>					
Conewango			1916	2021	
Catskill			2021	2853	
Riley			2853	2920	
Shale			2920	4800	
Hamilton			4800	5120	
Marcellus			5120	5600	
Onundaga			5600	5636	
Needmore			5636	5700	
Oriskany			5700	6186	
Helderberg			6186	6300	
<u>VRIAN</u>					
Keyser			6300	6360	
Salina			6360	6604	
Syracuse Salt			6604	6580	
Salt			6580	6664	
Rock			6664	6680	
(Attach separate sheets as necessary)					
Salt			6724	6730	
Rock			6730	6735	Total Depth

Well Operator

By: KSC Wilson

Date: 3/1/91

8809

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
 WELL WORK PERMIT APPLICATION

- 1) Well Operator: ⁶⁵⁶ PPG Industries 39600, 3, 557
- 2) Operator's Well Number: #37 Brine Well 3) Elevation: 637.6
- 4) Well type: (a) Oil or Gas or Salt Brine
 (b) If Gas: Production Underground Storage
 Deep Shallow
- 5) Proposed Target Formation(s): Salina 519
- 6) Proposed Total Depth: 6705 feet
- 7) Approximate fresh water strata depths: 70 feet
- 8) Approximate salt water depths: 1050 feet to 1600 feet
- 9) Approximate coal seam depths: 115'-117', 214'-218', 905'-909', 969'-971'
- 10) Does land contain coal seams tributary to active mine? Yes / No
- 11) Proposed Well Work: Drill new well
- 12)

RECEIVED
 APR 28 1989

CASING AND TUBING PROGRAM

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY
 CEMENT

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS			
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	13 5/8" 16"	H-40	48	70'	70'	
Fresh Water	13 3/8"	H-40	48	120'	120'	38CSR18/11.22 CTS
Coal						38CSR18/11.3 CTS
Intermediate	9 5/8"	H-40	32.3	2000'	2000'	480 sks.
Production	7"	K-55	26	6725'	6705'	850 sks.
Tubing	4 1/2"	L-80	12.75	6725'	6710'	38CSR18/11.1
Liners						

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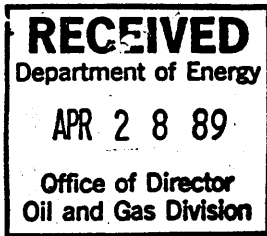
PACKERS : Kind DV Cementing Packer Guiberson Packer
 Sizes 7" 4 1/2"
 Depths set 6520' 6685'

For Division of Oil and Gas Use Only

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

(Type)

Page 1 of _____
Form WW2-A
(09/87)
File Copy



1) Date: April 18, 1989
2) Operator's well number
37
3) API Well No: 47 - 051 - 0722
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
- (a) Name PPG Industries, Inc.
Address P.O. Box 191
New Martinsville, WV 26155
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
- Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name PPG Industries, Inc.
Address P.O. Box 191
New Martinsville, WV 26155
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name _____
Address _____
- 6) Inspector _____
Address _____
Telephone (304)- _____

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

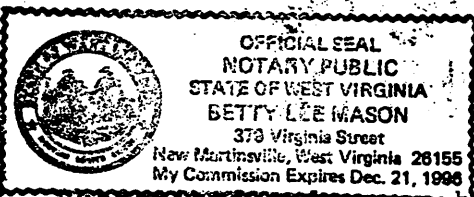
____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
____ Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

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 PPG Industries, Inc.
By: K.S. C. Delbow
Its: Agent
Address P.O. Box 191
New Martinsville, WV 26155
Telephone (304) 455-2200

Subscribed and sworn before me this 20th day of April, 19 89

My commission expires Dec. 21, 1996 Betty Lee Mason Notary Public

RECEIVED
Department of Energy
APR 28 89
Office of Director
Oil and Gas Division



- 1) Date: April 18, 19 89
- 2) Operator's Well No. #37 Brine Well
- 3) SIC Code 2812
- 4) API Well No. 47 - 051 - 0722
State County Permit
- 5) UIC Permit No. UIC 3505101AP

STATE OF WEST VIRGINIA X-2270-120-74
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
for the

DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

- 6) WELL TYPE: Liquid injection / Gas injection (not storage) / Waste disposal recy / Brine /
- 7) LOCATION: Elevation: 637.6 Watershed: Ohio River
District: Franklin County: Marshall Quadrangle: Powhatan Point, Ohio-W.Va
- 8) WELL OPERATOR PPG Industries, Inc. 9) DESIGNATED AGENT K. S. Walborn
Address P.O. Box 191 Address P.O. Box 191
New Martinsville, WV 26155 New Martinsville, WV 26155
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
Name Mike Underwood 11) DRILLING CONTRACTOR:
Address Rt. 2, Box 135 Name _____
Salem, WV 26426 Address _____

- 12) PROPOSED WELL WORK: Drill / Drill deeper _____ / Redrill _____ / Stimulate _____
Plug off old formation / Perforate new formation / Convert /
Other physical change in well (specify) _____
- 13) GEOLOGICAL TARGET FORMATION, Salina Depth 6580 feet(top) to 6705 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 6725 ft.
- 15) Approximate water strata depths: Fresh 70 feet; salt _____ feet.
- 16) Approximate coal seam depths: 115'-117', 214'-218', 905'-909', 969'-971'
- 17) Is coal being mined in the area? Yes / No /
- 18) Virgin reservoir pressure in target formation _____ psig. Source _____
- 19) Estimated reservoir fracture pressure _____ psig (BHFP)
- 20) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour: 39,000 gallon Bottom hole pressure 3900 psi
- 21) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES: Fresh water 1.0 SP.Gr.
Fuel oil for coating top of salt cavity - 0.90 Sp.Gr.
- 22) FILTERS (IF ANY): _____
- 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL: _____

24) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	16" 18 3/8"	H-40	48	X		70'	70'	-	Kinds DV Cementing
Fresh water	13 3/8"	H-40	48	X		120'	120'	CTS	Tool
Coal									Sizes 7"
Intermediate	9 5/8"	H-40	32.3	X		2000'	2000'	480 sacks	
Production	7"	K-55	26	X		6725'	6705'	850 sacks	Depths set 6520'
Tubing	4 1/2"	L-80	12.75	X		6725'	6710'		
Liners									Perforations: Top Bottom

- 25) APPLICANT'S OPERATING RIGHTS were acquired from Frank Boyer
by deed / lease _____ / other contract _____ / dated November 17, 19 47, of record in the
Marshall County Clerk's office in Moundsville, WV Book 252 at page 124

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.