

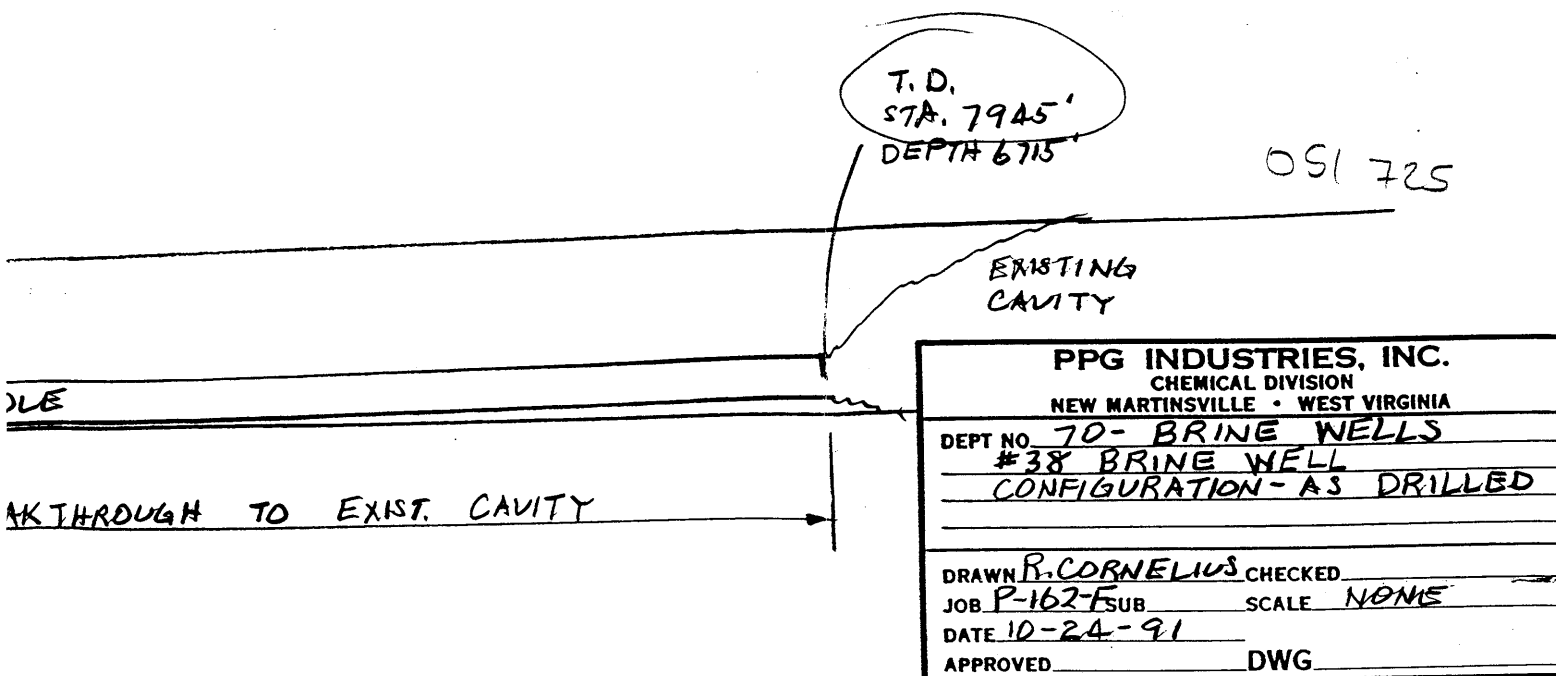
CONDUCTOR PIPE - 30" A-53, 118.7 LB/FT, 68' SET, NOT CEMENTED, WELDED
 FRESH WATER PIPE - 20" H-40, 94 LB/FT, 130' SET, CEMENTED TO SURFACE,
 8 RND THRD. & COUPLED, WELDED
 INTERMEDIATE - 13 3/8" K-55, 54.5 LB/FT, 1933' SET, CEMENTED TO SURFACE,
 8 RND THRD. & SHORT COUPLED, RANGE 3, ERW
 PRODUCTION - 9 5/8" K-55, 40 LB/FT, 6200' SET, CEMENTED TO 1000',
 8 RND THRD. & LONG COUPLED, RANGE 3, SEAMLESS
 LINER - 7" K-55, 26 LB/FT, 1424' SET, NOT CEMENTED, HYDRIL
 521 THRD., RANGE 3, SEAMLESS

PACKER BROWN TYPE SLP-R LINER PACKER, 7" 26 LB/FT & 9 5/8" 36-43.5
 LB/FT HYDRIL 521 PIN DOWN. 8.500" TOOL O.D. 6.250" TOOL I.D.
 6.625" O.D. LEFT HAND RELEASE, 50,000 LB RELEASE.

WELLHEAD ERC INDUSTRIES CIW, AW, 13 5/8" & 9 5/8" W/HANGER PROT.
 FLG.

VALVE 10" 900 LB FLG. GATE VALVE, CAST STEEL, SOLID WEDGE,
 13% CHROME TRIM, HARD FACED SEATS

T.D. 1255.9' N. OF SURFACE
 557.9' W. OF SURFACE
 DISTANCE = 1374.2'
 BEARING = N 23° 57' W



PPG INDUSTRIES, INC.	
CHEMICAL DIVISION	
NEW MARTINSVILLE • WEST VIRGINIA	
DEPT NO.	70- BRINE WELLS
	#38 BRINE WELL
	CONFIGURATION - AS DRILLED
DRAWN <u>P. CORNELIUS</u> CHECKED _____	
JOB	P-162-F SUB SCALE NONE
DATE	10-24-91
APPROVED _____	DWG _____

OCT 31 91
JHC Section

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

Reviewed: TMG
Recorded: _____

Well Operator's Report of Well Work

Farm name: PPG INDUSTRIES, INC Operator Well No.: (BRINE WELL) 38

LOCATION: Elevation: 639.00 Quadrangle: POWHATAN POINT

District: FRANKLIN County: MARSHALL
Latitude: 13600 Feet South of 39 Deg. 47Min. 30 Sec.
Longitude 8050 Feet West of 80 Deg. 50 Min. 0 Sec.

Company: PPG INDUSTRIES, INC.
P. O. BOX 191
NEW MARTINSVILLE, WV 26155-0191

Agent: KEN S. WALBORN

Inspector: DONALD ELLIS
Permit Issued: 04/08/91
Well work Commenced: 04/12/91
Well work Completed: 06/28/91
Verbal Plugging _____
Permission granted on: _____
Rotary x Cable _____ Rig _____
Total Depth (feet) 6713 ft.
Fresh water depths (ft) 50 ft.
Salt water depths (ft) _____
Is coal being mined in area (Y/N)? N
Coal Depths (ft): 104' to 108'

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Cu. Ft.
30"		68'	-0-
20"		130'	290 ft. ³
13 3/8"		1933'	1869 ft. ³
9 5/8"		6200'	2068 ft. ³
7"		1424'	-0-

OPEN FLOW DATA N.A. This well is for solution mining of salt

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

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

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATE 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: KS Walborn
Date: 10-24-91

P.P.G. #38 BRINE WELL
WELL LOG

All depths measured from a K.B. elevation of 659.0'

<u>FORMATION</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>REMARKS</u>
Substructure	0	20	
Fill and Cinders	20	25	
Clay, Sand & Gravel	25	61	
Sand & Gravel	61	91	Fresh water @ 70'
Sand & Shale	91	120	
<u>Pennsylvanian</u>			
Monongahela	120	240	Coal @ 124' to 128'
Conemaugh	240	702	
Allegheny	702	1016	
Pottsville	1016	1112	
Shale	1112	1168	
<u>Mississippian</u>			
Maxton	1168	1216	
Mauch Chunk	1216	1296	
Greenbrier	1296	1354	
Big Injun	1354	1504	
Pocono	1504	1578	
Shale	1578	1726	
Weir	1726	1744	
Sunbury	1744	1924	
Berea	1924	1928	
<u>Devonian</u>			
Conewango	1928	2032	
Catskill	2032	2896	
Riley	2896	2942	
Harrell Shale	2942	4814	
Hamilton	4814	5142	
Marcellus	5142	5642	
Onondaga	5642	5666	
Needmore	5666	5726	
Oriskany	5726	6212	
Helderberg	6212	6328	
<u>Silurian</u>			
Keyser	6328	6382	
Salina	6382	6770	
Syracuse Salt	6600	6692	Small rock stringers 6606 to 6626
Carbonate Rock	6692	6694	
Salt	6694	6700	
Carbonate Rock	6700	6706	
Salt	6706	6728	
Carbonate Rock	6728	6742	
Salt	6742	6749	
Carbonate Rock	6749	6770	
T.D.	6770		

State of West Virginia
Department of Energy
Division of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: PPG INDUSTRIES, INC.
API 47- 51-00725 B County: MARSHALL District: FRANKLIN
Farm Name: PPG INDUSTRIES, INC Well No: (BRINE WELL) 38

Discharge Dates/s From:(MMDDYY) _____ TO:(MMDDYY) _____
Discharge Times : From _____ TO _____

Disposal Option Utilized: UIC (2): Permit No. UIC3S05101AP (Liquid)
Centralized Facility (5): _____ Permit No. _____
Reuse (4): _____ Alternate Permit Number: _____
Offsite Disposal(3): _____ Site Location: _____
Land Application(1): (Include a topographical map of the Area.)
Other menthod(6): _____ (Include an explanation)

Follow Instructions below to determine your treatment category. SEE NOTE 1.

Optional Pretreatment test: _____ Cl- mg/l _____ DO Mg/l _____

1. Do you have permission to use expedited treatment from the Director or his representative? (Y/N) _____ If yes who? _____, and place a four (4) on line 7. If not go to line 2

2. Was Frac Fluid or flowback put into the pit? (Y/N) _____ If yes go to line 5 if not go to line 3

3. Do you have a chloride value pretreatment (see above)? (Y/N) _____ If yes go to line 4 if not go to line 5

4. Is that chloride level less then 5000 mg/l? (Y/N) _____ If yes then enter a one (1) on line 7

5 Do you have a pretreatment value for DO? (See above) (Y/N) _____ If yes then go to line 6 if not enter a three (3) in line 7.

6 Is that DO greater then 2.5 mg/l?(Y/N) _____ If yes then enter a two (2) on line 7 If not enter a three (3) on line 7.

7. _____ is the category of your pit. Use the Appropriate section.

Name of Principle Exec. Officer Mr. V. A. Sarni
Title of Officer Chairman of the Board
Date Completed: 10/24/91

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.

Signature of a Principle Exec. Officer or Authorized agent
K.S. Wilborn
Signature

NOTES FOR FORM WR-34 FOR #38 BRINE WELL

Note 1.

All liquid wastes from this well were reinjected into the brine cavity through #33 (API 47-051-0535) and #36 (API 47-051-0674) brine wells which are approved for injection under UIC permit UIC3S05101AP. The liquid wastes were used as injection fluid for solution mining of salt.

All solid wastes were solidified in the pits by PKC Environmental of Westover, West Virginia, with the pit liners intact, and were then covered with earth.

Note 2.

Sampling was not performed on the pit fluid because all of the pit fluid was reinjected into the cavity for solution mining of salt.

Category 1
Sampling Results
API NO 47- 51-00725

SEE NOTE 2.

Parameter	PredischARGE		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	.5	_____	.5	_____	mg/l
Cl	5000	_____	5000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Disposal Area		_____	Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results
API NO 47- 51-00725

Parameter	PredischARGE		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	.5	_____	.5	_____	mg/l
Cl*	12,500	_____	12500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Disposal Area		_____	Monitor	_____	Acres

* Can Be 25,000 with inspectors approval,
(Inspector): _____

Date: _____

** Include a description of your aeration technique.

*** Al is only reported if the pH is above 9.0

Category 3
Sampling Results
API NO 47- 51-00725

SEE NOTE 2.

Parameter	Predischarge		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	.5	_____	.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Grease and Oil		_____	Monitor	_____	mg/l
Disposal Area		_____	Monitor	_____	Acres

* Can Be 25,000 with inspectors approval,
(Inspector) _____

Date: _____

** Include a description of your aeration technique.

*** Al is only reported if the pH is above 9.0

Category 4
Sampling Results
API NO 47- 51-00725

Parameter	Predischarge		Discharge		Units
	Limit	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gals.
Flow		_____	Monitor	_____	Gals
Activated Carbon	.175	_____	N/A	N/A	lb./bl
Date Site Reclaimed	N/A	N/A		10 Days from Dis.	
Disposal Area		_____	Monitor	_____	Acres

* Can Be 25,000 with inspectors approval,
(Inspector) _____

Date: _____

051-0725
Issued 04/08/91

FORM WW-2B

Page ___ of ___
Expires 04/08/93

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

- 1) Well Operator: PPG Industries, Inc. ⁶⁵⁶ 39600 (3) 557
- 2) Operator's Well Number: 38 Brine Well (Production) 3) Elevation: 639
- 4) Well type: (a) Oil ___ / or Gas ___ / or Brine Production X /
(b) If Gas: Production ___ / Underground Storage ___ /
Deep ___ / Shallow ___
- 5) Proposed Target Formation(s): Salina 519 REC
Divis _____ y
Oil and Gas
- 6) Proposed Total Depth: 6720 feet **MAR 25 91**
- 7) Approximate fresh water strata depths: 70 Feet **JIC Section**
- 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 X /
- 11) Proposed Well Work:
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS			CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	20"	H-40	94	120'	120'	92
Fresh Water						
Coal						
Intermediate	13 3/8"	K-55	54.5	2000'	2000'	1583
Production	9 5/8"	K-55	40	6270'	6270'	1651
Tubing						
Liners	7"	K-55	26	1200'	1200'	

PACKERS : Kind Baker Hanger Packer
 Sizes 7"
 Depths set 5770'

For Division of Oil and Gas Use Only

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

0000107061

1) Date: February 22, 1991
2) Operator's well number
38 Brine Well (Production)
3) API Well No: 47 - 051 - 0725
State - County - Permit

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

REC
Division of Oil and Gas

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

MAR 25 91

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 _____
6) Inspector _____
Address _____
Telephone (304)- _____

5) (a) Coal Operator: JIC Section
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 _____

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. Williams
Its: Manager, Environmental Control
Address P. O. Box 191
New Martinsville, WV 26155
Telephone (304) 455-2200

Subscribed and sworn before me this 12th day of March, 1991

My commission expires March 23, 1992
Alice K. Johnson Notary Public