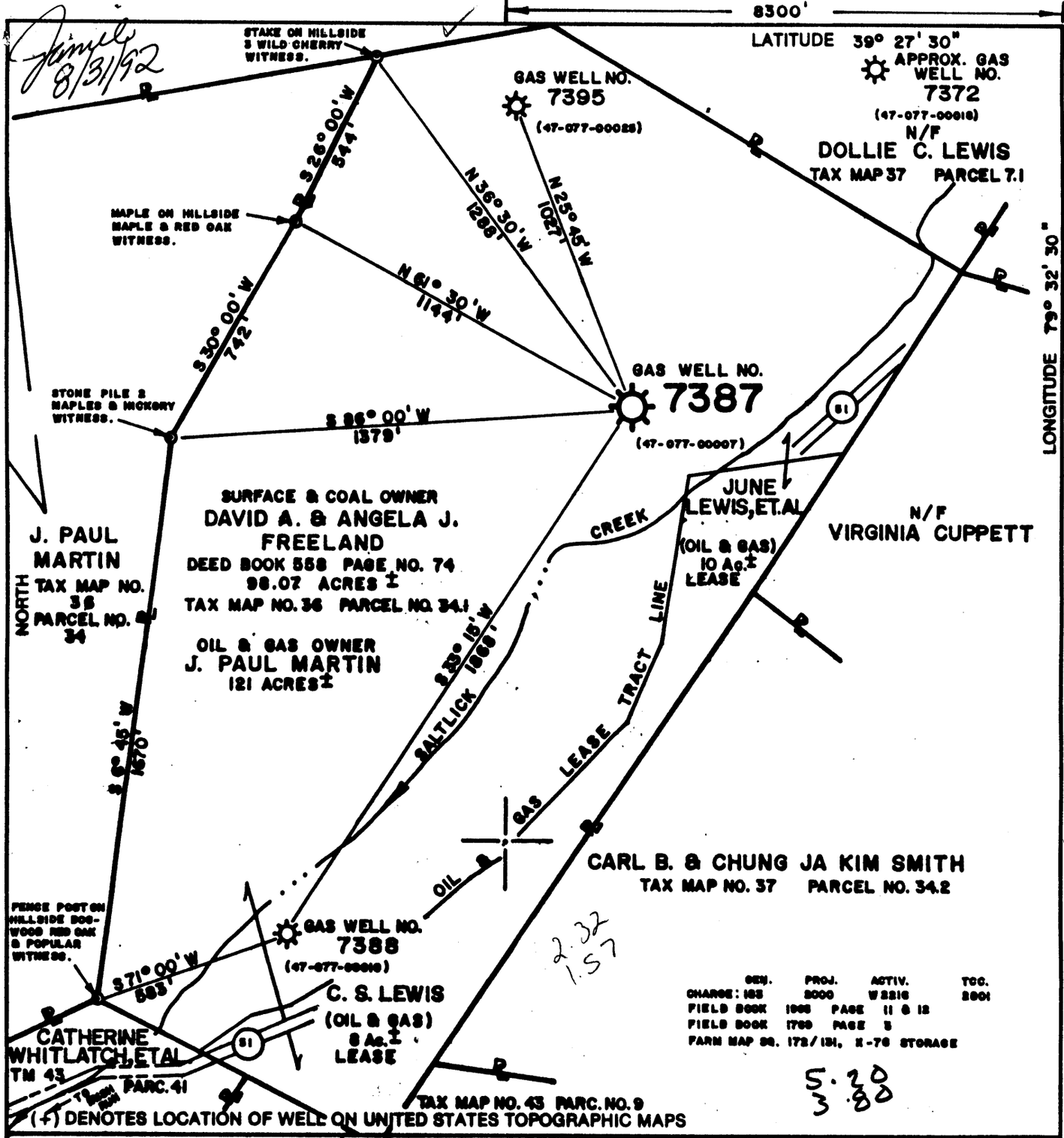


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 400'
MINIMUM DEGREE OF ACCURACY 1/200'
PROVEN SOURCE OF ELEVATION U.S.G.S.U.E. SPIKE IN ROOT OF DOUBLE WHITE OAK ON NORTHSIDE OF ROAD ABOUT 800' BELOW KIRSINGER RUN ELEV. 1676.15'

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) _____

R.P.E. _____ L.L.S. 819

PLACE SEAL HERE

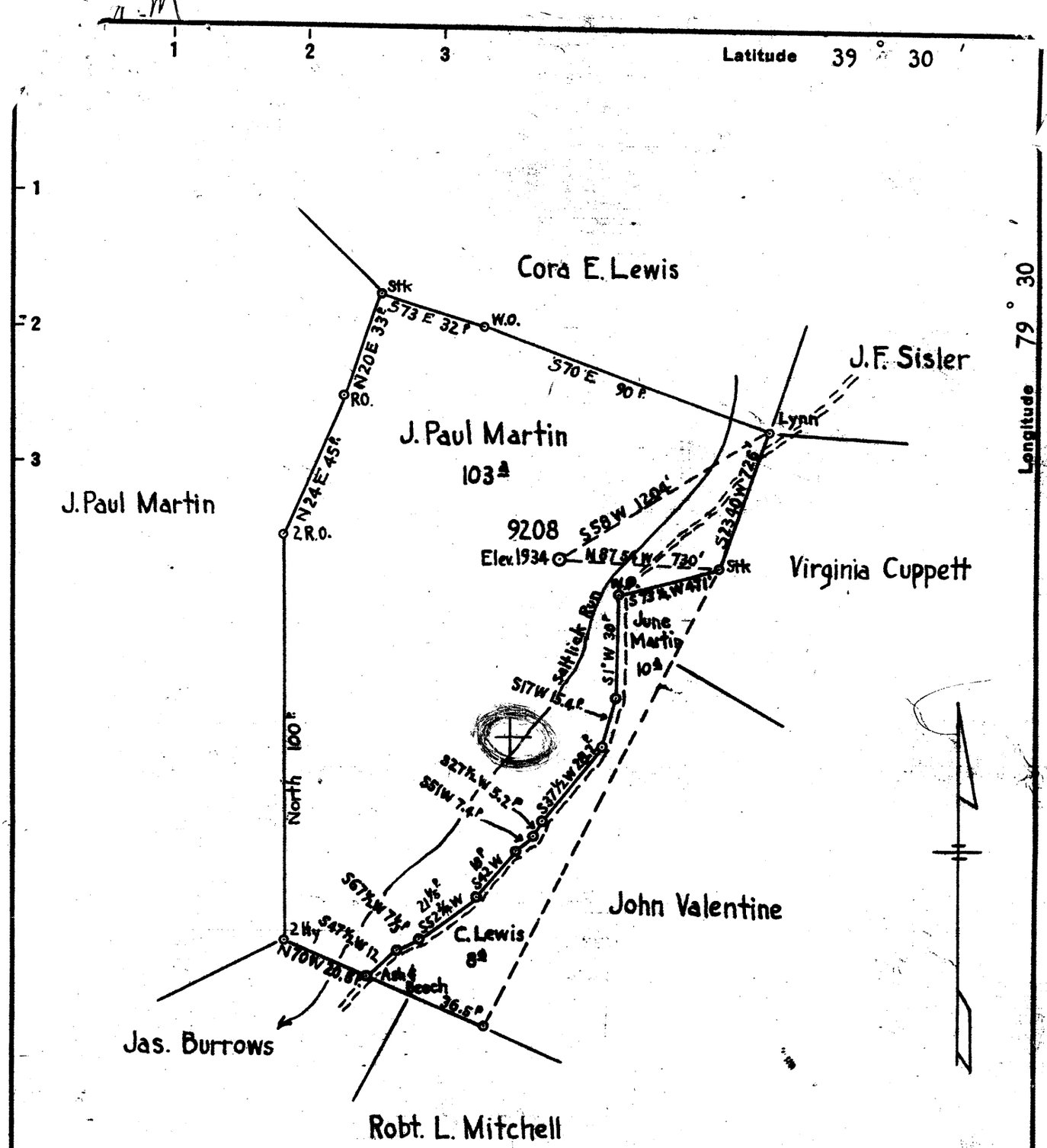
STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE JULY 11, 1992
OPERATOR'S WELL NO. 7387
API WELL NO. 47 - 077 - 00007 F
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION ___ STORAGE X DEEP ___ SHALLOW ___ According to DEP this workover was completed on 9-29-92
LOCATION: ELEVATION 1925.35 WATER SHED SALTLICK CREEK
DISTRICT PORTLAND 5 COUNTY PRESTON
QUADRANGLE TERRA ALTA, WV. CO-ORDINATES: LAT. 39°25'31" LONG. 79°34'16"
SURFACE OWNER DAVID A. & ANGELA J. FREELAND Long NE ACREAGE 98.07
OIL & GAS ROYALTY OWNER J. PAUL MARTIN LEASE ACREAGE 121
LEASE NO. 90335
PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) STORAGE RECONDITION
SEP 8 1992
PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION _____ ESTIMATED DEPTH _____
WELL OPERATOR COLUMBIA GAS TRANS. CORP. DESIGNATED AGENT ROBERT C. WEIDNER
ADDRESS P.O.BOX 1273 CHARLESTON, WV 25325 ADDRESS P.O.BOX 1273 CHARLESTON, WV 25325

PRESTON COUNTY NAME
7 PERMIT

FORM WW-6
HALLS INC. 068065



6-29-60
To be redrilled by: Atlantic Seaboard Corporation

Redrill ✓
New Location
Drill Deeper ☐
Abandonment ☐

~~5.2~~ 5.19-S
~~3.86~~ 3.83-W
1 SW (F-13)

FB 884 P31-35 No Map Squares

Company HOPE NATURAL GAS CO.
Address CLARKSBURG, W. VA.
Farm J. PAUL MARTIN
Tract ____ Acres 121 Lease No. 53822
Well (Farm) No. 1 Serial No. 9208
Elevation (Spirit Level) 1934
Quadrangle KINGWOOD - N.E.
County PRESTON District PORTLAND
Engineer Wm Bowers
Engineer's Registration No. 900
File No. ____ Drawing No. ____
Date 3 FEB. 48 Scale 1" = 40 P.

"IMPERIAL" TRACING CLOTH

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP

FILE NO. PRES-7-REDRILL

✚ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing.

DEEP WELL

Form OG-1

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

WELL RECORD

Quadrangle Kingwood

Permit No. Pres - 7 - Redrill

Oil or Gas Well ~~Gas~~ Storage - Redrill (KIND)

Company Atlantic Seaboard Corporation
Address P.O. Box 1273, Charleston, W.Va.
Farm J. Paul Martin Acres 121
Location (waters) Salt Lick Creek
Well No. X-76-7387 Elev. 1934'
District Portland County Preston
The surface of tract is owned in fee by J. Paul Martin
98 South 33rd St. Address Newark, Ohio
Mineral rights are owned by J. Paul Martin
98 South 33rd St. Address Newark, Ohio
Drilling commenced 7-31-60
Drilling completed 9- 1-60
Date Shot - From - To -
With -
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume 5,635 M Cu. Ft.
Rock Pressure 570 lbs. 48 hrs.
Oil - bbls., 1st 24 hrs.
WELL ACIDIZED See below

WELL FRACTURED -

RESULT AFTER TREATMENT See below
ROCK PRESSURE AFTER TREATMENT See below
Fresh Water - Feet - Salt Water - Feet -

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
16			Kind of Packer
13			
10			Size of
8¼			
7" ~~8¼~~ x 23#	4799'	4799'	Depth set
5 3/16			
4½" 12.6#	5472'	5472'	Perf. top
2			Perf. bottom
Liners Used			Perf. top
			Perf. bottom

CASING CEMENTED ___ SIZE ___ No. Ft. ___ Date
See below

COAL WAS ENCOUNTERED AT None FEET ___ INCHES
___ FEET ___ INCHES ___ FEET ___ INCHES
___ FEET ___ INCHES ___ FEET ___ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Chert			5234'	5402'			
Shale			5402'	5418'			
Oriskany			5418'	5465'	Gas		

Well ASC X-76-7387 (formerly Hope 9208) was drilled out with rotary using mud to original total depth and was completed as a storage gas injection and withdrawal well. The 7" 23# casing was cemented with 300 sacks of 4% gel cement. This string of casing was run to control a caving and loss circulation condition.

Following redrilling to the original total depth the 4½", 12.6# casing was run and cemented with 110 sacks of Latex cement. The 4½" casing was perforated with capsule jets from 5421' - 5462' with 4 shots/ft. Following perforating, there was a show of gas. Following acidization with 500 gallons mud cleanout acid, the open flow was 231 MCF. Following 4000 gallons HCL acid, open flow was 2,250 MCF. Following final acid job of 8,000 gallons of HCL Acid, open flow was 5,635 MCF.

48 Hour rock pressure following final shut-in was 570 psi.

(over)

WEST VIRGINIA DEPARTMENT OF MINES
OIL & GAS DIVISION
W E L L R E C O R D

Permit No. Pres 7
Kingwood Quad.
Company — Hope Natural Gas Company
Address — 445 W. Main St., Clarksburg, W.Va.
Farm — J.Paul Martin Acres 121
Location
Well No. — 9208 Elev. 1934
District — Portland Preston County
Surface — J.Paul Martin, Terra Alta, W.Va.
Mineral
Commenced — March 27,1948
Completed — Sept. 25,1948
Not shot
Open flow — 24/10ths M in 5"
Volume — 4762 MCF
Rock Pressure — 2090 lbs. 45 hrs.
Fresh Water — 45' H.F.; 340' 3 blrs. hr.
Salt Water — None recorded

Gas Well
CASING & TUBING

16	19½	19½
11	331	331
9	1588	1588
7	5085	5085

Casing cemented:
7" 300' When run
Cemented from 4785 to 5085

No coal recorded

Gravel	0	22
Lime	22	237
Slate	237	275
Lime	275	300
Slate	300	305
Lime	305	540
Shale	540	965
Lime	965	1040
Shale	1040	1155
Lime	1155	1209
Benson	1209	1238
Lime	1238	1472
Shale	1472	1585
Lime	1585	1604
Slate	1604	1840
Lime	1840	1860
Shale	1860	2300
Slate & Shells	2300	2400
Lime	2400	2700
Slate &Shells	2700	3425
Lime	3425	3590
Slate & Shells	3590	3620
Brown Shale	3620	3850
Black Slate	3850	3900
Lime	3900	3930
Dark Shale	3930	4224
Lime Tully	4224	4232
Shale	4232	4350
Slate	4350	4365
Shale	4365	4498
Lime	4498	4505
Shale Gr	4505	4580
Black Shale	4580	4987
Hard Shale Black	4987	4990
M.Shale	4990	5180
Gritty Lime	5180	5183
Brown Shale	5183	5190
Corniferous Lime Gray	5190	5212
Chert Gray	5212	5264
Corniferous Lime Shelly	5264	5409
Oriskany	5409	
Total Depth		5443

Gas 5245-5264 119 M
Gas 5411-5432 4762MCF

5190 5409
1934 1934
-3256 -3475

MAY 2 1949

(C)

J. Paul Martin No. 1(9208) Well.

Portland District, Preston County, W. Va.
By Hope Natural Gas Company, Clarksburg, W. Va.
Located 5.32 Mi. South of 39° 30' and 3.93 Mi. W. of 79° 30'.
Kingwood Quadrangle - NE
Elevation 1934' L.
Permit - Preston No. 7.
Drilling commenced March 27, 1948; completed September 25, 1948.
Well was not shot.
Gas Well; Volume 4,762,000 Cubic Feet.
Rock pressure 2090 lbs. in 45 hours.
Fresh water 45', hole full; 340', 3 bbls per hour.
Salt water; none recorded.
16" casing, 19½'; 11", 331'; 9", 1588'; 7", 5085'; all left in.
No coal recorded.
~~Section based on samples from 4208-5437½'.~~
Section based on samples from 4208-5437½' examined by Russell R. Flowers

Top	Bottom	Thickness	
4208	4238	30	Shale, grayish-black to black (highly carbonaceous) (interval corrected from 4238 to 4230), calcareous in part at the bottom
			Tully Limestone, 15 Feet.
4230	4245	15	Limestone, olive-gray to brownish-gray, very fine textured, shaly; a very large amount of dark-gray to black shale, calcareous in part; the limestone is probably not over half of this interval
			Hamilton and Marcellus shales, 937 feet.
4245	4285	40	Shale, dark-gray to grayish-black
4285	4297	12	No sample
4297	4310	13	Shale, medium dark gray to grayish-black, calcareous in part; small amount of pyrite
4310	4348	38	Shale, grayish-black, some dark-gray to grayish-black at the top
4348	4402	54	Shale, dark-gray to grayish-black, some grayish-black to black (carbonaceous); small amount of white vein calcite
4402	4462	60	Shale, mostly grayish-black
4462	4480	18	Shale, dark-gray, some grayish-black; small amount of olive-gray, shaly limestone at the bottom
4480	4523	43	Shale, dark-gray to grayish-black
4523	4675	152	Shale, mostly grayish-black
4675	4685	10	Shale, dark-gray to olive-black, slightly calcareous; small amount of olive-gray, very shaly limestone; some grayish-black shale
4685	4690	5	Shale, dark-gray to grayish- and olive-black
4690	5018	328	Shale, grayish-black to black (highly carbonaceous), some grayish-black at the top and 4756-4762'
5018	5050	32	Shale, black (highly carbonaceous), grayish-black to black, pyritic; small amount of light gray, vein calcite

5050	5065	15	Shale, dark-gray to olive-black, calcareous; some dark-gray to grayish-black shale, calcareous in part
5065	5085	20	Shale, grayish-black to brownish-black, highly calcareous
5085	5111	26	Shale, dark-gray to grayish-black, somewhat calcareous, somewhat darker in color in the lower part
5111	5135	24	Shale, grayish-black to black (highly carbonaceous) some dark gray to grayish-black
5135	5176	41	Shale, black, some grayish-black to black, very highly carbonaceous, highly calcareous in part, pyritic in part, many pieces of this shale show slickensides; some white to light-gray, vein calcite
5176	5182	6	Shale, black, some grayish-black to black, much of this shale is highly calcareous; a moderate amount of olive-black to brownish-black, shaly, highly micaceous siltstone (bentonite?)

Huntersville Chert, 228 Feet.

5182	5208	26	Limestone (very shaly) to shale (calcareous), grayish-black to black; small amount is siliceous to chert (shaly); a large amount of olive-black to brownish-black, highly micaceous, shaly siltstone (bentonite ?) in the upper part; all of the samples contain large amounts of grayish-black to black shale (probably cavings); some grayish-black, glauconitic shale at the bottom
5208	5223	15	Chert, light-gray (transparent) to medium-gray (translucent), dark-gray to brownish and grayish-black (shaly), calcareous; a large amount of dark-gray to grayish-black shale at 5217-5219'
5223	5226	3	Chert, light- to medium-gray mottled with dark-gray to grayish-black shaly material, highly calcareous, very highly calcareous at the top, somewhat dolomitic
5226	5234	8	Chert, very light to medium-gray, translucent to opaque, calcareous, highly calcareous at the top, moderately dolomitic in the lower part
5234	5235	1	Chert, very light to medium light gray, somewhat calcareous and dolomitic
5235	5239	4	Chert, light- to medium-gray, translucent to "dead"; some dark-gray to grayish-black (shaly) in the upper part, somewhat calcareous and dolomitic
5239	5243	4	Chert, very light to medium light gray to transparent to translucent, mostly translucent at the top, slightly dolomitic, contains scattered siliceous sponge spacules (?)
5243	5247	4	Chert, very light to light-gray (with spots and streaks of dark-gray, shaly material), slightly dolomitic, mostly translucent, most of the chert contains siliceous (sponge ?) spicules
5247	5256	9	Chert, light-to medium light gray mottled with dark-gray to grayish-black (shaly) material, transparent to opaque, slightly dolomitic, somewhat darker in color at 5254 to 5255', contains large numbers of siliceous spicules (sponge spicules ?)

5256	5262	6	Chert, white (milky) to light-gray (translucent) mottled with dark-gray to grayish-black (very shaly, "dead"), slightly dolomitic, contains siliceous spicules (sponge spicules ?)
5262	5269	7	Chert, medium-gray (translucent to transparent) with dark-gray to grayish-black very silty, shaly streaks, most of the chert contains siliceous sponge spicules (?); a very small amount of dolomite
5269	5271	2	Chert, medium light to medium dark gray (with dark-gray to grayish-black, shaly spots and streaks), contains siliceous sponge spicules (?)
5271	5284	13	Chert, light-to medium light gray (transparent to translucent) mottled with dark-gray to grayish-black (very shaly), contains many siliceous spicules ((sponge ?) thoughout this interval; a very small amount of dolomite
5284	5286	2	Chert, medium- to dark-gray, translucent to "dead", silty; some dark-gray to grayish-black, very silty, shaly chert; a very small amount of dolomite
5286	5293	7	Chert to siltstone, medium to medium dark gray and some dark-gray (very shaly), somewhat dolomitic; trace of glauconite
5293	5298	5	Chert, medium dark gray ("dead"), a large amount of dark-gray to grayish-black (very shaly), silty, highly glauconitic in part at the bottom; small amount of white dolomite
5298	5302	4	Chert, medium dark to dark-gray ("dead"), some light- to medium-gray (transparent), some dark-gray to grayish-black (very shaly), silty, small amount is dolomite
5302	5315	13	Chert, medium dark gray (silty) to grayish-black (very shaly, silty), mostly dark-gray to grayish-black at the top
5315	5317	2	Chert (shaly) to shale (siliceous) grayish-black, some dark gray; small amount of medium dark gray chert
5317	5331	14	Chert, medium-to medium dark gray, silty; some dark-gray to grayish-black, very shaly chert to siltstone
5331	5343	12	Chert, medium dark gray to dark-gray, a large amount of dark-gray to grayish-black (very shaly)
5345	5350	7	Chert, dark-gray to grayish-black, very shaly to siliceous shale; some medium dark gray chert
5350	5360	10	Chert, medium dark gray to a siliceous shale, grayish-black
5360	5369	9	Chert to siliceous shale, grayish-black
5369	5382	13	Shale, grayish-black, siliceous
5382	5405	23	Shale, grayish-black, some grayish-black to black; small amount of pyrite and white to light-gray vein calcite
5405	5410	5	Limestone (very shaly) to calcareous shale, grayish-black; a large amount of brownish-black to grayish-black shale, sandy and glauconitic at the bottom

Oriskany Sandstone, 27½ Feet.

5410	5414	4	Sandstone, white to light-gray, fine- to medium-grained, some coarse grains, subrounded to rounded (mostly clear and glassy quartz) calcareous; the largest part of the sample of this interval is grayish-black shale
5414	5425	11	Sandstone, light-gray, very fine to fine-grained, subrounded, some medium to coarse rounded grains, calcareous
5425	5435	10	Sandstone, light-gray, very fine to medium grained, subrounded to rounded, highly calcareous
5435	5437½	2½	Sandstone, light-gray, broken too fine to describe in detail
	5443		TOTAL DEPTH

J. [illegible] MARTIN NO. 1 (9288) WELL.

Portland District, Preston County, W. Va.
By Hope Natural Gas Co., Clarksburg, W. Va.
Located 5.32 mi. S. of 39° 30' and 3.93 mi. W. of 79° 30' - M - Kingwood quadrangle.
Elevation, 1976' +.
Permit - Preston-7.
Drilling commenced March 27, 1948; completed September 25, 1948.
Well was not shot.
Gas well; volume, 4,762,000 cu. ft.
Rock pressure, 2090 lbs. in 45 hrs.
Fresh water, 45', hole full; 360', 3 bbls. per hour.
Salt water, none recorded.
16" casing, 109'; 11", 331'; 9", 1585'; 7", 5085'; all left in.
No coal recorded.
Section based on samples from 4238 to 5477'; examined by Russell S. Flowers.
Record to [illegible] from Flowers May 2, 1951.

Top.	Bottom.	Thickness.	
4208 -	4238	30	Shale, greyish-black to black (highly carbonaceous) (interval corrected from 4218 to 4230'm), calcareous in part at the bottom
			[illegible] LIMESTONE IS PART
4230 -	4245	15	Limestone, olive-grey to brownish-grey, very fine textured, shaly; a very large amount of dark-grey to black shale, calcareous in part; the limestone is probably not over half of this interval
			[illegible] AND MARCELLUS SHALE, 937 FEET
4245 -	4285	40	Shale, dark-grey to greyish-black
4285 -	4297	12	No sample
4297 -	4310	13	Shale, medium dark grey to greyish-black, calcareous in part; small amount of pyrite
4310 -	4348	38	Shale, greyish-black, some dark-grey to greyish-black at the top
4348 -	4402	54	Shale, dark-grey to greyish-black, some greyish-black to black (carbonaceous); small amount of white vein calcite
4402 -	4462	60	Shale, mostly greyish-black
4462 -	4470	18	Shale, dark-grey, some greyish-black; small amount of olive-grey, shaly limestone at the bottom
4470 -	4523	47	Shale, dark-grey to greyish-black
4523 -	4675	152	Shale, mostly greyish-black
4675 -	4685	10	Shale, dark-grey to olive-black, slightly calcareous; small amount of olive-grey, very shaly limestone; some greyish-black shale
4685 -	4690	5	Shale, dark-grey to greyish- and olive-black
4690 -	5018	328	Shale, greyish-black to black (highly carbonaceous), some greyish black at the top and 4756-4762'
5018 -	5050	32	Shale, black (highly carbonaceous), greyish-black to black, pyritic; small amount of light-grey vein calcite
5050 -	5065	15	Shale, dark-grey to olive-black, calcareous; some dark-grey to greyish-black shale, calcareous in part
5065 -	5085	20	Shale, greyish-black to brownish-black, highly calcareous
5085 -	5111	26	Shale, dark-grey to greyish-black, somewhat calcareous, somewhat darker in color in the lower part
5111 -	5135	24	Shale, greyish-black to black (highly carbonaceous); some dark-grey to greyish-black
5135 -	5176	41	Shale, black, some greyish-black to black, very highly carbonaceous, highly calcareous in part, pyritic in part, many pieces of this shale show slickensides; some white to light-grey vein calcite

(over, p. 2)

Top.	Bottom.	Thickness.	
5176 -	5182	6	Shale, black, some grayish-black to black, much of this shale is highly calcareous; a moderate amount of olive-black to brownish-black, shaly, highly siliceous siltstone (bentonite?)
5182 -	5208	26	Limestone (very shaly), to shale (calcareous), grayish-black to black; small amount is siliceous to chert (shaly); a large amount of olive-black to brownish-black, highly siliceous, shaly siltstone (bentonite?) in the upper part; all of the samples contain large amounts of grayish-black to black shale (probably cavings); some grayish-black, glauconitic shale at the bottom
5208 -	5223	15	Chert, light-gray (transparent) to medium-gray (translucent), dark-gray to brownish and grayish-black (shaly), calcareous; a large amount of dark-gray to grayish-black shale at 5212-5219'
5223 -	5226	3	Chert, light- to medium-gray, mottled with dark-gray to grayish-black shaly material, highly calcareous, very highly calcareous at the top, somewhat dolomitic
5226 -	5234	8	Chert, very light to medium-gray, translucent to opaque, calcareous, highly calcareous at the top, moderately dolomitic in the lower part
5234 -	5235	1	Chert, very light to medium light gray, somewhat calcareous and dolomitic
5235 -	5239	4	Chert, light- to medium-gray, translucent to "dead"; some dark-gray to grayish-black (shaly) in the upper part, somewhat calcareous and dolomitic
5239 -	5243	4	Chert, very light to medium light gray to transparent to translucent, mostly translucent at the top, slightly dolomitic, contains scattered siliceous sponge spicules (?)
5243 -	5247	4	Chert, very light to light-gray (with spots and streaks of dark-gray, shaly material), slightly dolomitic, mostly translucent, most of the chert contains siliceous (sponge?) spicules
5247 -	5256	9	Chert, light- to medium light gray, mottled with dark-gray to grayish-black (shaly) material, transparent to opaque, slightly dolomitic, somewhat darker in color at 5250 to 5255', contains large numbers of siliceous spicules (sponge spicules ?)
5256 -	5262	6	Chert, white (milky) to light-gray (translucent), mottled with dark-gray to grayish-black (very shaly, "dead"), slightly dolomitic, contains siliceous spicules (sponge spicules ?)
5262 -	5269	7	Chert, medium-gray (translucent to transparent), with dark-gray to grayish-black very silty, shaly streaks, most of the chert contains siliceous sponge spicules (?); a very small amount of dolomite
5269 -	5271	2	Chert, medium light to medium dark gray (with dark-gray to grayish-black, shaly spots and streaks), contains siliceous sponge spicules (?)
5271 -	5284	13	Chert, light- to medium light gray (transparent to translucent), mottled with dark-gray to grayish-black (very shaly), contains many siliceous spicules (sponge?) throughout this interval; a very small amount of dolomite
5284 -	5286	2	Chert, medium- to dark-gray, translucent to "dead", silty; some dark-gray to grayish-black, very silty, shaly chert, a very small amount of dolomite

(Continued on p. 3).

Top.	Bottom.	Thickness.	
5286	5293	7	Chert to siltstone, medium to medium dark gray and some dark-gray (very shaly), somewhat dolomitic; traces of glauconite
5293	5298	5	Chert, medium dark gray ("dead"), a large amount of dark-gray to grayish-black (very shaly), silty, highly glauconitic in part at the bottom; small amount of white dolomite
5298	5302	4	Chert, medium dark to dark-gray ("dead"), some light- to medium-gray (transparent), some dark-gray to grayish-black (very shaly), silty, small amount of dolomite
5302	5315	13	Chert, medium dark gray (silty) to grayish-black (very shaly, silty), mostly dark-gray to grayish-black at the top
5315	5317	2	Chert (shaly) to shale (siliceous), grayish-black, some dark-gray; small amount of medium dark gray chert
5317	5331	14	Chert, medium- to medium dark gray, silty; some dark-gray to grayish-black, very shaly chert to siltstone
5331	5343	12	Chert, medium dark gray to dark-gray, a large amount of dark-gray to grayish-black (very shaly)
5343	5350	7	Chert, dark-gray to grayish-black, very shaly to siliceous shale; some medium dark gray chert
5350	5360	10	Chert, medium dark gray to a siliceous shale, grayish-black
5360	5369	9	Chert to siliceous shale, grayish-black
5369	5382	13	Shale, grayish-black, siliceous
5382	5405	23	Shale, grayish-black, some grayish-black to black; small amount of pyrite and white to light-gray vein calcite
5405	5410	5	Limestone (very shaly) to calcareous shale, grayish-black; a large amount of brownish-black to grayish-black shale, sandy and glauconitic at the bottom
5410	5414	4	[illegible] SANDSTONE, ??) [illegible] Sandstone, white to light-gray, known fine- to medium-grained, some coarse grains, subangular to rounded (mostly clear and glassy quartz), calcareous; the largest part of the sample of this interval is grayish-black shale
5414	5425	11	Sandstone, light-gray, very fine to fine-grained, subrounded, some medium to coarse rounded grains, calcareous
5425	5435	10	Sandstone, light-gray, very fine to medium-grained, sub-rounded to rounded, highly calcareous
5435	5437½ 5443	2½	Sandstone, light-gray, broken too fine to describe in detail Total depth

077-0007-Fra
Issued 9/2/92

FORM WW-2B AUG 0 7

Expires 9/2/94

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

1) Well Operator: COLUMBIA GAS TRANSMISSION CORP. 1045 (5) 636 (175)

2) Operator's Well Number: 7387 3) Elevation: 1934

4) Well type: (a) Oil __/ or Gas X /

(b) If Gas: Production __/ Underground Storage X /
Deep X / Shallow __/ (475)

5) Proposed Target Formation(s): Oriskany Sandstone

6) Proposed Total Depth: 5472' feet

7) Approximate fresh water strata depths: unknown

8) Approximate salt water depths: 1100' (est.)

9) Approximate coal seam depths: none

10) Does land contain coal seams tributary to active mine? Yes ___/ No X /

11) Proposed Well Work: Acidize Oriskany Sand to restore or improve deliverability.

12)

CASING AND TUBING PROGRAM Existing Well.

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor						
Fresh Water	11-3/4"	-	-	331'	331'	unk.
Coal						
Intermediate	7"	N	23	4799'	4799'	300 sx.
Production	4-1/2"	J	12.6	-	5472'	110 sx.
Tubing						
Liners						

Existing well record from Well Records

PACKERS : Kind none
Sizes
Depths set

1404

0018053-1
-79

For Divison of Oil and ~~Gas~~ Use Only

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