11,225

Latitude 38° 17' 30"

Longitude 81° 30' 00"

11,780

Jamie 1/11/94

1998 1871 2007 1999 374 361 2939 2934 2935 2938

2400'

A-12

United Fuel Gas Co Fee

Nellie B Tompkins

N 71° 25' E - 345'

Graves & Hibbard

N 18° 40' E - 185'

N 30° 5' E - 812'

N 8° 15' E - 135'

N 49° 10' W - 165'

N 16° 40' E - 615'

S 46° 25' E - 410'

Well # 494
Elev. 1436.8

S 45° 10' E - 1720'

2.25s
2.14w

7.5' topo spot

L A Meyers et al

H. D. Shrewsbury

Hollow

Woodlawn

Branch

Julia E. Donnally

Scott Hollow

Simons

5.13
2.14

| | |
|---|---|
| Company | Cabot Oil & Gas Corporation 149 |
| Address | Pittsburgh, PA |
| Farm | L. A. Meyers et al |
| Tract | Acres 117.1 Lease No. 170 |
| Well (Farm) No. | 12 Serial No. 494 |
| Quadrangle | Charleston East, WV SE |
| County | Kanawha |
| District | Malden |
| Engineer | T. S. Flowers |
| Engineer's Registration No. | 269 |

STATE OF WEST VIRGINIA
DIVSION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL & GAS
NITRO, WEST VIRGINIA

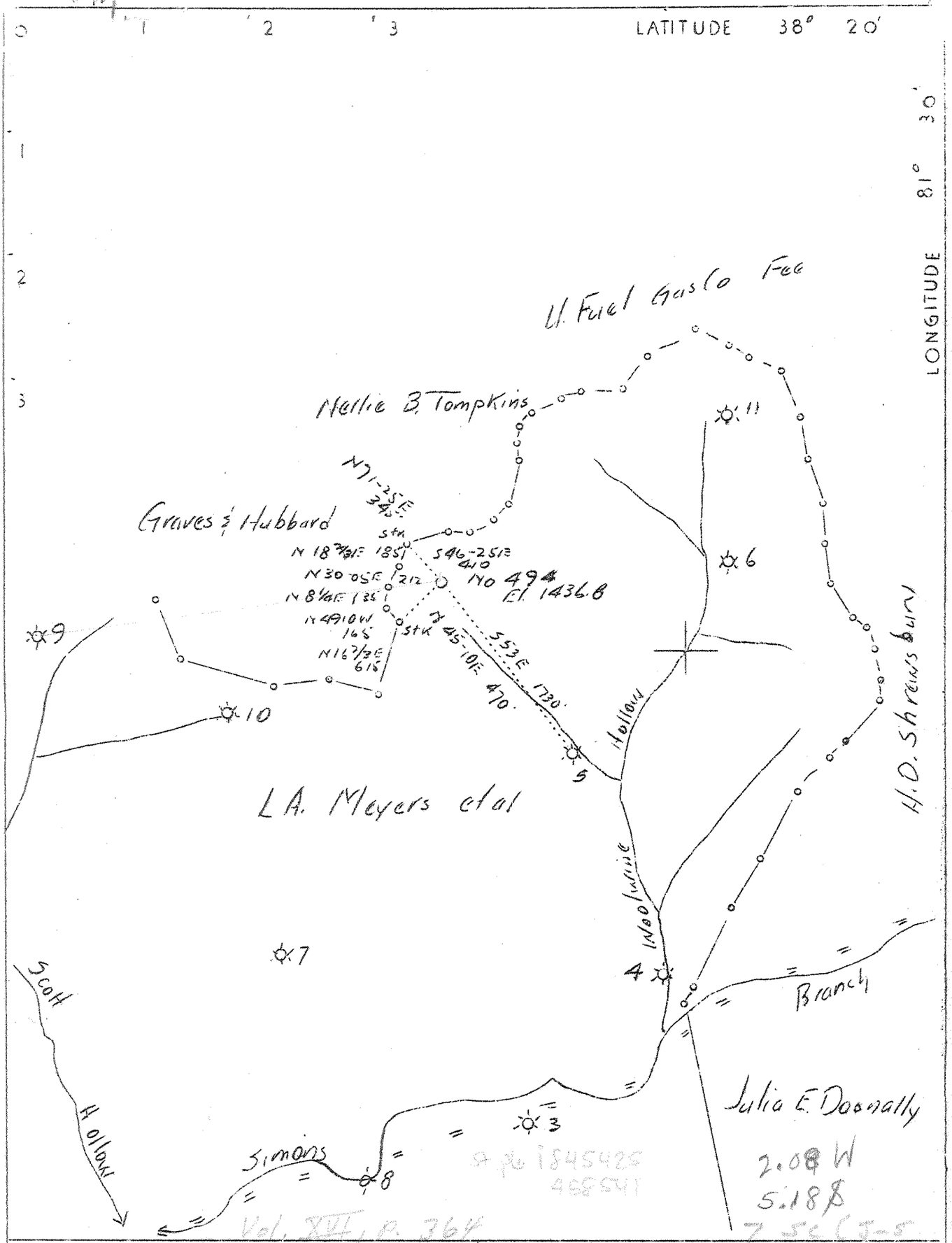
**WELL LOCATION MAP**

API Well No. 47-039-00471-Frac

Partial Plug Back ✓

Well drilled in 1938, production from Oriskany Sand - 5303'-5308' TD 5330', Rework Plug back to @ 2500' Frac Big Injun

DEEP WELL




| | |
|---|---|
| Company | The Owens Libbey-Owens Gas Dept. |
| Address | Box 1375 , Charleston, W.Va. |
| Farm | L.A.Meyers et al |
| Tract | Acres 1171 Lease No. 370 |
| Well (Farm) No. | 12 Serial No. 494 |
| Quadrangle | Charleston |
| County | Kanawha |
| District | Malden |
| Engineer | T.S.Flournoy |
| Engineer's Registration No. | 269 |
| File No. | Drawing No. |
| Date | Sept. 10,1937 Scale 1"-1000' |

STATE OF WEST VIRGINIA
Department of Mines
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP

File No. KA14-471

+ 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.

Samples 30-G (5204-5330') 6-6 & 14 deep well

WEST VIRGINIA DEPARTMENT OF MINES

OIL AND GAS DIVISION

# W E L L  R E C O R D

Permit No. Kan. 471 — Gas Well

Charleston Quad. — CASING & TUBING

| | | | | |
|---|---|---|---|---|
| Company | The Owens, Libbey-Owens Gas Dept. | 10 | 886 | 886 |
| Address | P.O.Box 1375, Charleston, W.Va. | 6 5/8 | 5234 | 5234 |
| Farm | L.A.Meyers Acres 1171 | 2 | 5308 | 5308 |
| Location | Simmons Creek | | | |
| Well No. | 494 Elev. 1426.2 | Perf. top | | 5302 |
| District | Malden County Kanawha | Perf. bottom | | 5308 |
| Surface | L.A.Meyers, Newport News, Va. | | | |
| Mineral | Same | | | |
| Drilling | Commenced Oct. 13,1937 | | | |
| | Completed Jan. 31,1938 | | | |
| Date Shot | 1/27/38 Depth 5299-5312' | | | |
| Volume | 496,000 Cu.Ft. | | | |

1426.2 K.B. or 1426 T.S. 1080 Prod. 1426.2 almost certain

| Formation | Color | Hard or Soft | Top | Base | Result |
|---|---|---|---|---|---|
| Sand | Yellow | H | 0 | 20 | |
| Sand | Gray | H | 20 | 40 | |
| Sand | White | H | 40 | 75 | |
| Slate | Dark | S | 75 | 100 | |
| Sand | Dark | H | 100 | 115 | |
| Slate | Dark | S | 115 | 120 | |
| Sand | Gray | H | 120 | 201 | |
| Slate | Dark | S | 201 | 230 | |
| Coal | Black | S | 230 | 233 | |
| Slate&Shells | Dark | S | 233 | 256 | |
| Sand | White | S | 256 | 315 | |
| Slate&Shells | Dark | S | 315 | 349 | |
| Sand | White | H | 349 | 410 | |
| Slate | Dark | S | 410 | 447 | |
| Slate &Shells | Dk. | S | 447 | 491 | |
| Sand | White | H | 491 | 531 | |
| Slate | Dark | S | 531 | 549 | |
| Coal | Black | S | 549 | 551 | |
| Slate | Dark | S | 551 | 558 | |
| Sand | Dark | H | 558 | 576 | |
| Slate&Shells | Dk. | S | 576 | 648 | |
| Sand | Gray | H | 648 | 681 | |
| Coal | Black | S | 681 | 683 | |
| Slate & Shells | Dk. | S | 683 | 716 | |
| Sand | Gray | H | 716 | 759 | |
| Slate | Dark | S | 759 | 764 | |
| Slate&Shells | Light | S | 764 | 803 | |
| Sand | White | H | 803 | 819 | |
| Slate | White | S | 819 | 823 | |
| Sand | White | H | 823 | 851 | |
| Coal | Black | S | 851 | 853 | |
| Sand | White | H | 853 | 911 | |
| Slate&Shells | Dk. | S | 911 | 949 | |
| Slate | Dark | S | 949 | 969 | |
| Sand | White | H | 969 | 1171 | Water |
| Slate | Black | S | 1171 | 1176 | 1098' |
| Sand | Dark | H | 1176 | 1193 | ½ Bail |
| Slate | Dark | S | 1193 | 1199 | pr.hr. |
| Sand | White | H | 1199 | 1409 | |
| Slate | White | S | 1409 | 1413 | Water |
| Sand | White | H | 1413 | 1423 | 1265' |
| Slate | White | S | 1423 | 1427 | Hole |
| Sand | Gray | H | 1427 | 1475 | Full |
| Sand | Dark | H | 1475 | 1608 | |
| Slate | Dark | S | 1608 | 1628 | |
| Lime | Dark | H | 1628 | 1641 | |
| Sand | Gray | H | 1641 | 1686 | |
| Sand | Dark | H | 1686 | 1756 | |
| Lime | Dark | H | 1756 | 1778 | |
| Lime | White | H | 1778 | 1792 | |
| Slate | Dark | S | 1792 | 1796 | |
| Big Lime | White | H | 1796 | 1979 | |
| Injun Sand | Red | H | 1979 | 2018 | |
| Lime Shells | Dark | H | 2018 | 2175 | |
| Slate | Dark | S | 2175 | 2195 | |
| Shells | Dark | H | 2195 | 2227 | |
| Sand | Dark | H | 2227 | 2240 | |
| Slate | Dark | S | 2240 | 2242 | |
| Sand | Dark | H | 2242 | 2270 | |
| Slate | Dark | S | 2270 | 2300 | Sh. |
| Lime Shell | Dark | H | 2300 | 2410 | Gas |
| Slate | Dark | S | 2410 | 2420 | 2254' |
| Shale | Brown | S | 2420 | 2433 | |
| Lime | Gray | H | 2433 | 2465 | |
| Lime Shell | Dark | H | 2465 | 2491 | |
| Lime | Gray | H | 2491 | 2540 | |
| Slate | White | S | 2540 | 2550 | |
| Lime Shell | Dark | H | 2550 | 2838 | |
| Slate&Shells | Dark | H | 2838 | 3169 | |
| Slate | Gray | S | 3169 | 3183 | |
| Lime Shell | Dark | H | 3183 | 3199 | |
| Slate | Dark | S | 3199 | 3218 | |
| Shells | Gray | S | 3218 | 3257 | |
| Slate &Shells | Dark | H | 3257 | 3298 | |
| Slate | Dark | S | 3298 | 3323 | |
| Shells | Dark | H | 3323 | 3354 | |
| Slate&Shells | Dark | M | 3354 | 3396 | |
| Slate | Dark | S | 3396 | 3410 | |
| Shells | Dark | H | 3410 | 3496 | |
| Slate &Shells | Dark | H | 3496 | 3608 | |
| Shells | Dark | H | 3608 | 3958 | |
| Slate &Shells | Dark | H | 3958 | 4053 | |
| Shell | Dark | H | 4053 | 4151 | |
| Slate&Shells | Dark | H | 4151 | 4181 | |
| Slate | Dark | S | 4181 | 4252 | |
| Slate&Shells | Dark | S | 4252 | 4381 | |
| Slate&Shells | Gray | S | 4381 | 4478 | |
| Slate | Gray | S | 4478 | 4508 | |
| Slate | Dark | S | 4508 | 4533 | |
| Slate&Shells | Dark | M | 4533 | 4564 | |
| Slate&Shells | White | S | 4564 | 4601 | |
| Slate&Shells | Dark | M | 4601 | 4664 | |
| Slate&Shells | Gray | M | 4664 | 4725 | |
| Slate&Shells | Dark | M | 4725 | 4783 | |
| Slate | Gray | S | 4783 | 4857 | |
| Slate | Dark | S | 4857 | 5068 | |
| Shale | Brown | S | 5068 | 5095 | |
| Slate | Dark | S | 5095 | 5162 | |
| Shale | Brown | S | 5162 | 5194 | |
| Shale | Brown | S | 5194 | 5212 | |
| Corniferous Lime | Gr. | H | 5212 | 5234 | |
| Corniferous Lime | Dk. | H | 5234 | 5251 | |
| Corniferous Lime | Gr. | H | 5251 | 5291 | |
| Corniferous Lime | Dk. | H | 5291 | 5299 | |
| Oriskany Sand | Gray | H | 5299 | 5311 | Gas |
| Lime | Gray | H | 5311 | 5330 | 5303-5308 |
| TOTAL DEPTH | | | | | 450,000 |

5212 5299 5311
1426 1426 1426
3786 3873 3885

WR-35

API #47- 39-00471 F

RECEIVED
WV Division of Environmental Protection
JAN 19 1996
Permitting
Office of Oil & Gas

WELL OPERATOR'S REPORT

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas
Well Operator's Report of Well Work

Farm name: MOORE, JUDITH SEABOLT  Operator Well No.: L. MEYERS A-12

Location: Elevation: 1,436.80  Quadrangle: CHARLESTON EAST

District: MALDEN  County: KANAWHA
Latitude: 11780 Feet South of 38 Deg. 17 Min. 30 Sec.
Longitude: 11225 Feet West of 81 Deg. 30 Min. 0 Sec.

Company: CABOT OIL & GAS CORPORATION
400 FAIRWAY DRIVE, SUITE 400
CORAOPOLIS, PA 15108

Agent: DAVID G. MCCLUSKEY

Inspector: CARLOS HIVELY
Permit Issued: 01/12/94
Well Work Commenced: 03/02/94
Well Work Completed: 03/14/94
Verbal Plugging
Permission granted on: _____
Rotary x Cable _____ Rig _____
Total Depth (feet) 5330'
Fresh water depths (ft) n/a

Salt water depths (ft) 1098', 1265'

Is coal being mined in area (Y/N)? Y
Coal Depths (ft): 230-233, 549-551, 681-683, 851-853,

| Casing & Tubing | Used in Drilling | Left in Well | Cement Fill Up Cu. Ft. |
|---|---|---|---|
| 10" | 886' | 886' | |
| 6-5/8" | 5234' | 2754' | |
| 4-1/2" | - | 2425' | 530 sks Class A |
| 2-3/8" | 2185' | 2185' | |
| | | | |

OPEN FLOW DATA

Producing formation INJUN  Pay zone depth (ft) 1993-2006
Gas: Initial open flow - MCF/d  Oil: Initial open flow N/A Bbl/d
Final open flow 189 commingled MCF/d  Final open flow N/A Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 245 commingled psig (surface pressure) after 5 Days

Second Producing formation WEIR  Pay zone depth (ft) 2105-2230
Gas: Initial open flow - MCF/d  Oil: Initial open flow N/A Bbl/d
Final open flow 189 commingled MCF/d  Final open flow N/A Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 245 commingled psig (surface pressure) after 5 Days

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: CABOT OIL & GAS CORPORATION
By: David G McCluskey
Date: 1/17/96

JAN 22 1996

039 471 Frac

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

Perf Weir from 2,105'-2,106'; from 2,111'-2,112'; from 2,188'-2,190'; from 2,208'-2,212'; from 2,226'-2,230'. Foam frac w/59,600# 20/40 mesh sand in 75 Q foam. AIR = 4.4 bpm & 10,120 scfm. Total SCF/$N_2$ 437,500 SCF. Perf Injun from 1,993'-2,006' Set 4-1/2" LMA frac plug @ 2,070. Foam frac w/60,000# 20/40 mesh sand in 75 Q foam. AIR = 4.1 bpm & 8,060 scfm. Total SCF/$N_2$ 354,300 SCF. Set 200' cement plug from 5308-5108, 6% gel 5108-2500 and cement plug from 2500-2415. Ran 4-1/2" to 2415 and cemented w/530 sks.

| FORMATION | TOP | BOTTOM |
|---|---|---|
| SAND | 0 | 75 |
| SLATE | 75 | 100 |
| SAND | 100 | 115 |
| SLATE | 115 | 120 |
| SAND | 120 | 201 |
| SLATE | 201 | 230 |
| COAL | 230 | 233 |
| SLATE & SHELLS | 233 | 256 |
| SAND | 256 | 315 |
| SLATE & SHELLS | 315 | 349 |
| SAND | 349 | 410 |
| SLATE | 410 | 447 |
| SLATE & SHELLS | 447 | 491 |
| SAND | 491 | 531 |
| SLATE | 531 | 549 |
| COAL | 549 | 551 |
| SLATE | 551 | 558 |
| SAND | 558 | 576 |
| SLATE & SHELLS | 576 | 648 |
| SAND | 648 | 681 |
| COAL | 681 | 683 |
| SLATE & SHELLS | 683 | 716 |
| SAND | 716 | 759 |
| SLATE | 759 | 764 |
| SLATE & SHELLS | 764 | 803 |
| SAND | 803 | 819 |
| SLATE | 819 | 823 |
| SAND | 823 | 851 |
| COAL | 851 | 853 |
| SAND | 853 | 911 |
| SLATE & SHELLS | 911 | 949 |
| SLATE | 949 | 969 |
| SAND | 969 | 1171 |
| SLATE | 1171 | 1176 |
| SAND | 1176 | 1193 |
| SLATE | 1193 | 1199 |
| SAND | 1199 | 1409 |
| SLATE | 1409 | 1413 |
| SAND | 1413 | 1423 |
| SLATE | 1423 | 1427 |
| SAND | 1427 | 1608 |
| SLATE | 1608 | 1628 |
| LIME | 1628 | 1641 |

039-471 Frac.

| FORMATION | TOP | BOTTOM |
|---|---|---|
| SAND | 1641 | 1756 |
| LIME | 1756 | 1792 |
| SLATE | 1792 | 1796 |
| BIG LIME | 1796 | 1979 |
| INJUN SAND | 1979 | 2018 |
| LIME SHELLS | 2018 | 2175 |
| SLATE | 2175 | 2195 |
| SHELLS | 2195 | 2227 |
| SAND | 2227 | 2240 |
| SLATE | 2240 | 2242 |
| SAND | 2242 | 2270 |
| SLATE | 2270 | 2300 |
| LIME SHELL | 2300 | 2410 |
| SLATE | 2410 | 2420 |
| SHALE | 2420 | 2433 |
| LIME | 2433 | 2465 |
| LIME SHELL | 2465 | 2491 |
| LIME | 2491 | 2540 |
| SLATE | 2540 | 2550 |
| LIME SHELL | 2550 | 2838 |
| SLATE & SHELLS | 2838 | 3169 |
| SLATE | 3169 | 3183 |
| LIME SHELL | 3183 | 3199 |
| SLATE | 3199 | 3218 |
| SHELLS | 3218 | 3257 |
| SLATE & SHELLS | 3257 | 3298 |
| SLATE | 3298 | 3323 |
| SHELLS | 3323 | 3354 |
| SLATE & SHELLS | 3354 | 3396 |
| SLATE | 3396 | 3410 |
| SHELLS | 3410 | 3496 |
| SLATE & SHELLS | 3496 | 3608 |
| SHELLS | 3608 | 3958 |
| SLATE & SHELLS | 3958 | 4053 |
| SHELL | 4053 | 4151 |
| SLATE & SHELLS | 4151 | 4181 |
| SLATE | 4181 | 4252 |
| SLATE & SHELLS | 4252 | 4381 |
| SLATE & SHELLS | 4381 | 4478 |
| SLATE | 4478 | 4533 |
| SLATE & SHELLS | 4533 | 4783 |
| SLATE | 4783 | 5212 |
| CORNIFEROUS | 5212 | 5299 |
| ORISKANY SAND | 5299 | 5311 |
| LIME | 5311 | 5330 |
| TD | | 5330 |