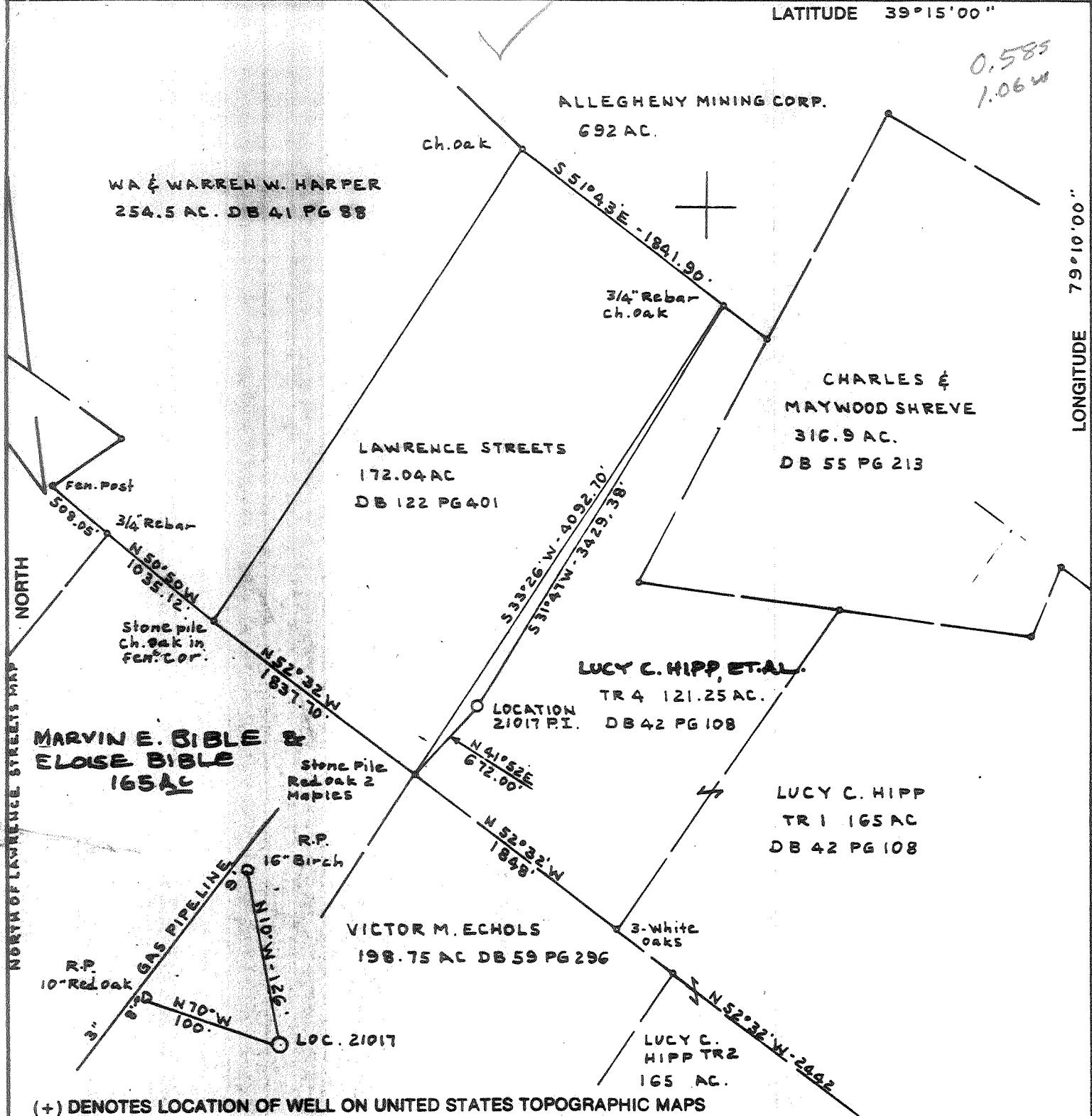


0.585
1.064



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

FILE NO. _____
 DRAWING NO. 21017-P.I.
 SCALE 1"=1000'
 MINIMUM DEGREE OF ACCURACY 1:2500'
 PROVEN SOURCE OF ELEVATION USGS BMJ-77
bridge over Abram creek on Rt 42 El. 2765'

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) C. J. Valley Jr.
 R.P.E. _____ I.S. 92

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE NOV. 19, 1993
 OPERATOR'S WELL NO. 21017 P.I.
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 3251.46 WATERSHED ABRAM CREEK
 DISTRICT UNION COUNTY GRANT
 QUADRANGLE GREENLAND GAP

SURFACE OWNER LUCY C. HIPPI ACREAGE 579
 OIL & GAS ROYALTY OWNER LUCY C. HIPPI, ET AL. LEASE ACREAGE 579 (630 AC UNIT)
 LEASE NO. 178985

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR
 STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW
 FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION CORRIGANVILLE ESTIMATED DEPTH 10350
 WELL OPERATOR COLUMBIA NATURAL RESOURCES DESIGNATED AGENT J. E. CAMPBELL
 ADDRESS P.O. BOX 6070 CHARLESTON WV 25362 ADDRESS P.O. BOX 6070 CHARLESTON WV 25362

SEP 13 1993

H.T. HALL 48673 FORM WW-6

COUNTY NAME GRANT PERMIT 0081

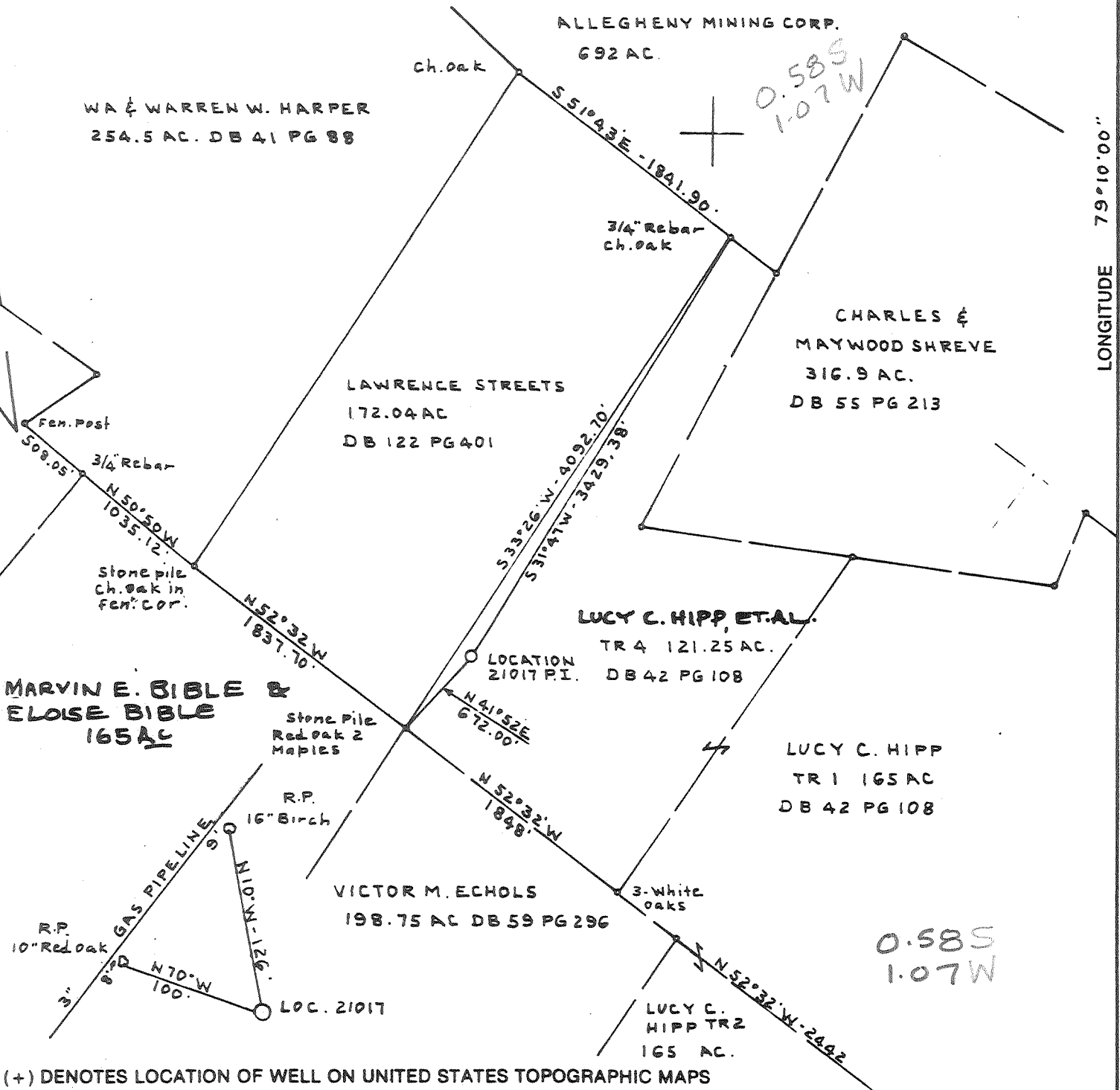
5575

LATITUDE 39°15'00"

3050

LONGITUDE 79°01'64"

NORTH
NORTH OF LAWRENCE STREETS MAP



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

FILE NO. _____
 DRAWING NO. 21017-P.I.
 SCALE 1"=1000'
 MINIMUM DEGREE OF ACCURACY 1:2500'
 PROVEN SOURCE OF ELEVATION USGS BM J-77
Bridge over Abram Creek on Rt 42 E1. 2765'

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) C. J. Valley Jr.
 R.P.E. _____ U.S. 92 _____

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE NOV. 19, 19 93
 OPERATOR'S WELL NO. 21017 P.I.
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 3251.46 WATERSHED ABRAM CREEK
 DISTRICT UNION COUNTY GRANT
 QUADRANGLE GREENLAND GAP NW

SURFACE OWNER LUCY C. HIPPI ACREAGE 579
 OIL & GAS ROYALTY OWNER LUCY C. HIPPI, ET AL. LEASE ACREAGE 579 (630 AC UNIT)
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PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION CORRIGANVILLE ESTIMATED DEPTH 10350'
 WELL OPERATOR COLUMBIA NATURAL RESOURCES DESIGNATED AGENT J. E. CAMPBELL
 ADDRESS P.O. BOX 6070 CHARLESTON WV 25362 ADDRESS P.O. BOX 6070 CHARLESTON, WV 25362

COUNTY NAME
PERMIT

21017

DEEP WELL

1013
6-6-93

JAN 31 1995

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

Permitting
Office of Oil & Gas

Well Operator's Report of Well Work

Farm name: HIPP, LUCY ETAL.

Operator Well No. 21017

LOCATION: Elevation 3,251.46 Quadrangle: GREENLAND GAP

District: UNION County: GRANT
Latitude: 3050 Feet South of 39 Deg. 15 Min. Sec.
Longitude: 5575 Feet West of 79 Deg. 10 Min. Sec.

Company: COLUMBIA NATURAL RESOURCES
P. O. BOX 6070
CHARLESTON, WV 25362-0070

Agent: JOSEPH E. CAMPBELL

Inspector: PHILLIP TRACY
Permit Issued: 02/01/94
Well Work Commenced: 08/22/94
Well Work Completed: 12/30/94

Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig
Total Depth (feet) 10173
Fresh water depths (ft) 380
946'
Salt water depths (ft) 3735

Casing & Tubing	Used in Drilling	Left in Well	Fill Up Cu. Ft.
13-3/8	601	585	416
9-5/8	3240	3224	1014
5-1/2	10159	10144	215
2-3/8	-	1066	-

Is coal being mined in area (Y/N)? N
Coal Depths (ft): 365 - 370

OPEN FLOW DATA

Producing formation Corriganville Pay zone depth (ft) 10120
Gas: Initial open flow - MCF/d Oil: Initial open flow - Bbl/d
Final open flow 500 MMCF/d Final open flow - Bbl/d
Time of open flow between initial and final tests 168 Hours
Static rock Pressure 3600 psig (surface pressure) after 168 Hours

Second producing formation - Pay zone depth (ft) -
Gas: Initial open flow - MCF/d Oil: Initial open flow - Bbl/d
Final open flow - 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: COLUMBIA NATURAL RESOURCES, INC.
By: Joseph E. Campbell
Date: 1-30-95

WELL 21017

FORMATIONS

Sand/Shale/Rock	0	-	1316
Greenbrier	1316	-	1706
^{Fore} Koneknobs	3787	-	5683
Scherr	5683	-	7797
Brallier	7797	-	8838
Harrell	8838	-	8978
Tully	8978	-	8986
Upper Marcell ^s	9412	-	9562
Purcell	9562	-	9624
Lower Marcell ^s	9624	-	9685
Needmore	9685	-	9816
Oriskany	9816	-	9997
Heldenburg	9997	-	10055
Shriver Chert	10055	-	
DTD	10173		

WELL 21017

Perforations:

Stage 1, Atlas select fire .39 " 15 holes from 10056 - 10085

Fracturing:

Stage 1 Pumped crosslink water frac; Frac had 30% Pad w/1012 BBL fluid

1st stage from 10056 - 10082, 2500 gal. 15% HCL,
Fill-up Breakdown w/N₂ @ 3185 PSI, Avg. Rate 19.2 BPM
ATP 4900 PSI, Total H₂O 1012 Bbl., Total _____ - sand,
_____ # Total N₂ _____ Scf.

FEB 15 2014

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

Issued 09/13/96
383
Expires 09/13/98

- 1) Well Operator: COLUMBIA NATURAL RESOURCES 10460 ⁰¹³ (3)
- 2) Operator's Well Number: 21017 3) Elevation: _____
- 4) Well type: (a) Oil ___ / or Gas X /
(b) If Gas: Production X / Underground Storage ___ /
Deep X / Shallow ___ / ⁴⁸⁵
- 5) Proposed Target Formation(s): ORISKANY, SHRIVER/CHERT
- 6) Proposed Total Depth: 10173 feet
- 7) Approximate fresh water strata depths: 380, 946
- 8) Approximate salt water depths: 3735
- 9) Approximate coal seam depths: 365-370
- 10) Does land contain coal seams tributary to active mine? Yes ___ / No X /
- 11) Proposed Well Work: SET BRIDGE PLUG @ APPROX. 10,000', PERFORATE AND FRACTURE ORISKANY SAND.
- 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						
Fresh Water	13 3/8	H	54.5	601	585	416
Coal						
Intermediate	9 5/8	J	40	3240	3224	1014
Production	5 1/2	N	17	10159	10144	215
Tubing	2 3/8	N	4.7		10,066	
Liners						

PACKERS : Kind NONE
Sizes _____
Depths set _____

For Division of Oil and Gas Use Only

60/10009482
28

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

1) Date: AUGUST 29, 1996
2) Operator's well number 21017
3) API Well No: 47 - 023 - 00031-F
State County Permit

STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served: (a) Coal Operator:
- (a) Name HARRY & JANET THOMPSON Name _____
Address RR 180A, MAXSON HILL ROAD Address _____
ASHAWAY, RI 02804
- (b) Name _____ (b) Coal Owner(s) with Declaration _____
Address _____ Name SAME
Address _____
- (c) Name _____ (c) Coal Lessee with Declaration _____
Address _____ Name _____
Address _____
- 6) Inspector PHILLIP TRACY (c) Coal Lessee with Declaration _____
Address ROUTE 2, BOX 37A Name _____
MONTROSE, WV 26283 Address _____
Telephone (304)- 636-8798

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
 X Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22 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:

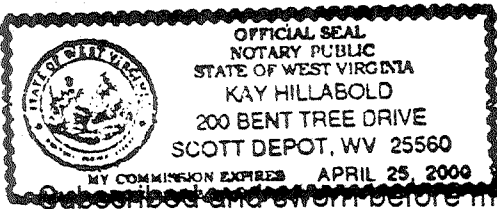
- Personal Service (Affidavit attached)
 X Certified Mail (Postmarked postal receipt attached)
 Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 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 COLUMBIA NATURAL RESOURCES
By: [Signature]
Its: VICE PRESIDENT, OPERATIONS
Address 900 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302
Telephone (304) 353-5000



Subscribed and sworn before me this 29 day of AUGUST, 1996

[Signature] Notary Public
My commission expires APRIL 25, 2000