

SOURCE OF ELEVATION : FROM CROSS ROADS
 LOCATED 1150 FEET SOUTH OF GRAHAM BOUNDARY
 (868).

- New Location .
- Drill Deeper
- Redrill
- Abandonment

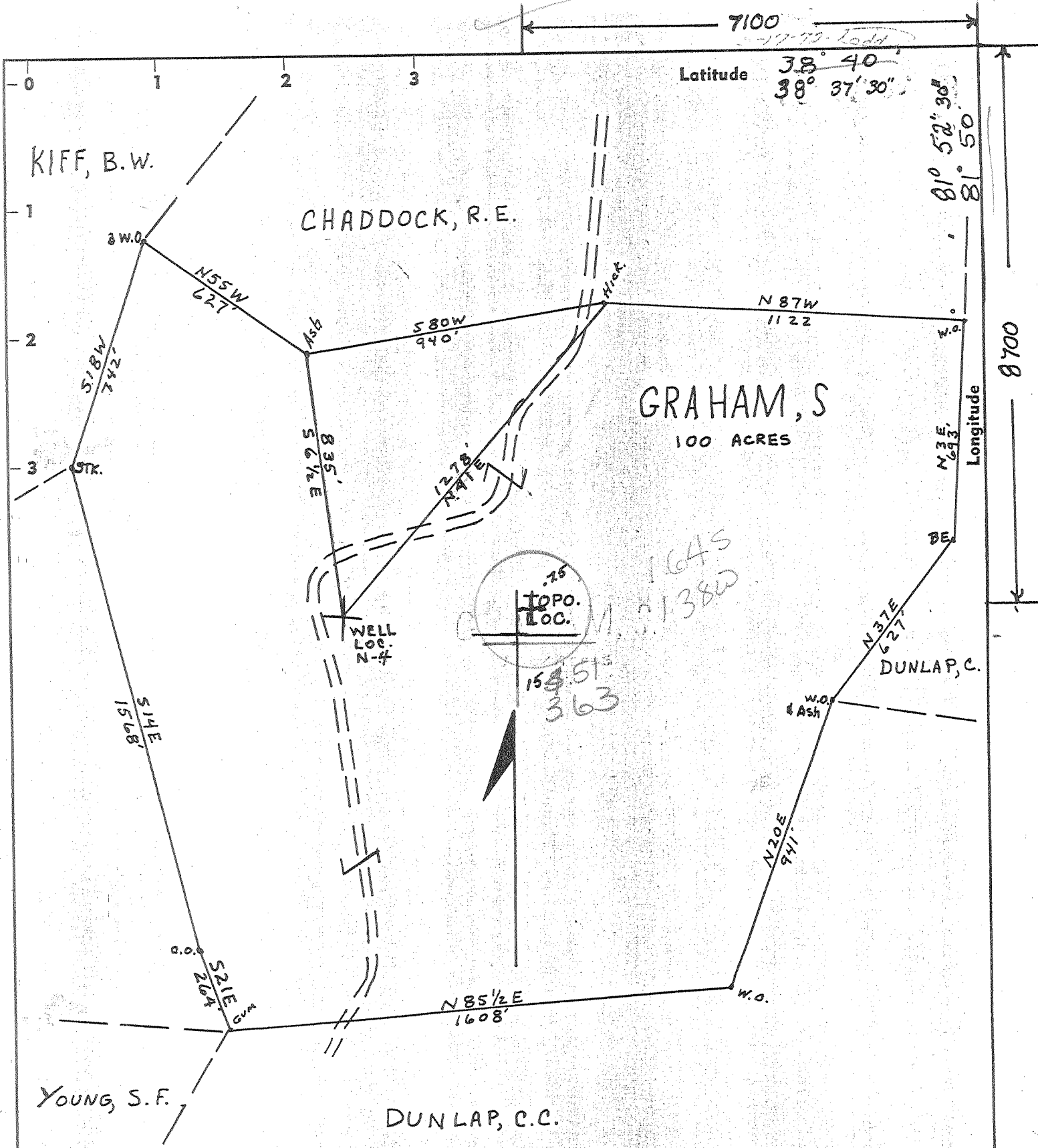
MINIMUM ERROR OF CLOSURE 1 IN 200
 "I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."

Company	TEAVER OIL & GAS	
Address	1901 KANAWHA VALLEY BLD. CHARLESTON, W. VA.	
Farm	GRAHAM	
Tract	Acres 100	Lease No.
Well (Farm) No.	N-4	Serial No.
Elevation (Spirit Level)	843.76	
Quadrangle	WINFIELD 75	
County	PUTNAM	District BUFFALO
Engineer	JOHN GALPIN	
Engineer's Registration No.	875	
File No.	Drawing No.	
Date	5-15-72	Scale 1" = 400'

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

WELL LOCATION MAP
 FILE NO. Put-770-F
Fracture Cancelled
 + 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.

DEC 14 1990



SOURCE OF ELEVATION : FROM CROSS ROADS
 LOCATED 1150 FEET SOUTH OF GRAHAM BOUNDARY
 (868).

MINIMUM ERROR OF CLOSURE : 1 IN 200
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- New Location .
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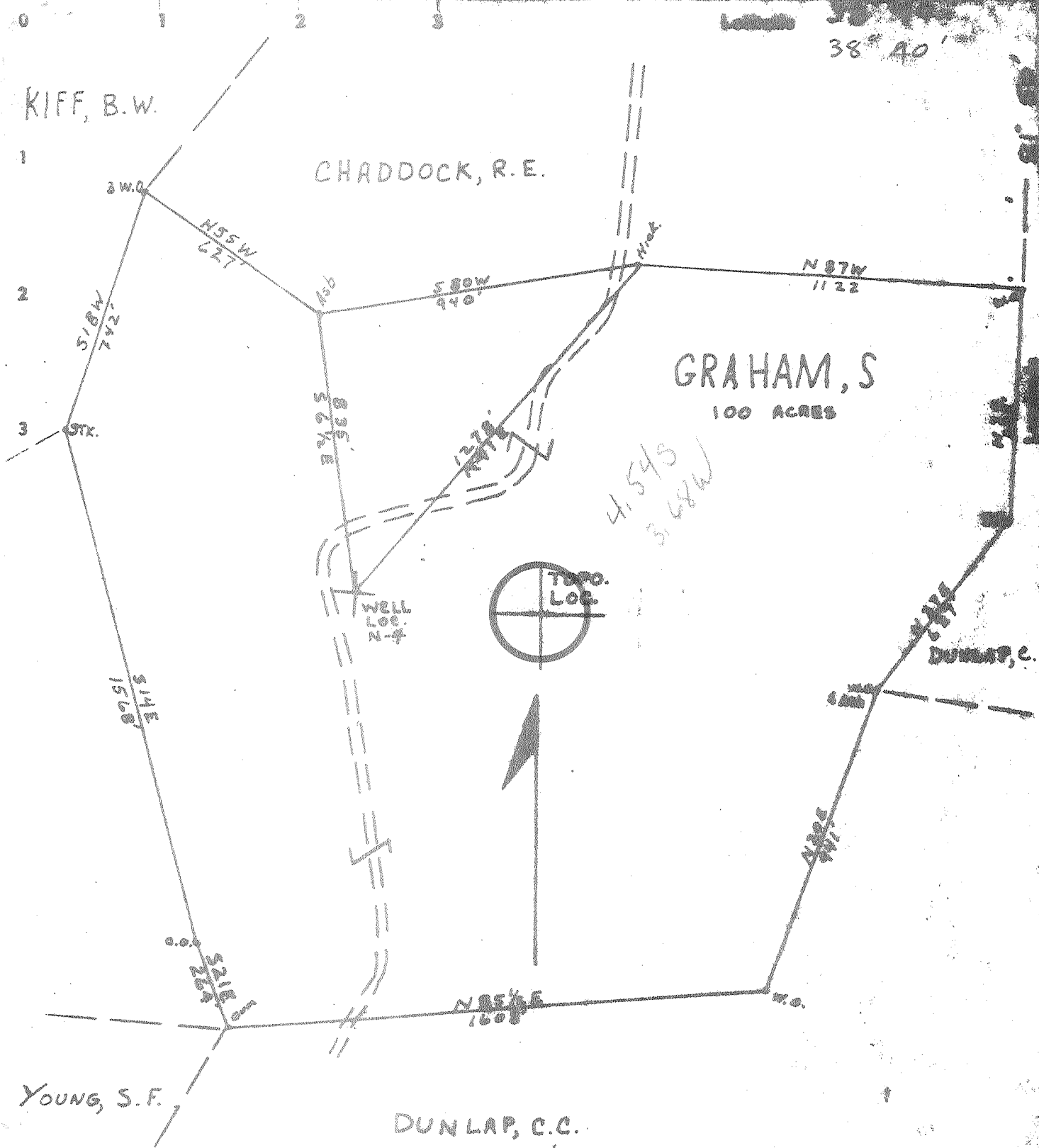
Company	TEAVER OIL & GAS	
Address	1901 MANAWHA VALLEY BLDG. CHARLESTON, W. VA.	
Farm	GRAHAM	
Tract	Acres 100	Lease No.
Well (Farm) No.	N-4	Serial No.
Elevation (Spirit Level)	843.76	
Quadrangle	WINFIELD 75 688 139 CS	
County	PUTNAM	District BUFFALO 1
Engineer	JOHN GALPIN	
Engineer's Registration No.	875	
File No.	Drawing No.	
Date	5-15-72	Scale 1" = 400'

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

WELL LOCATION MAP
 FILE NO. Put-770-F

+ 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.
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38° 40'



SOURCE OF ELEVATION : FROM CROSS ROADS
 LOCATED 1150 FEET SOUTH OF GRAHAM BOUNDARY
 (860).

- New Location
- Drill Deeper
- Redrill
- Abandonment

Minimum ~~width~~ ^{width} OF CLOSURE 1 IN 200
 "I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."

Company NATURAL RESOURCE MGT.
 Address 701 KANAWHA VALLEY DR. CHARLESTON, WEST VIRGINIA
 Farm GRAHAM
 Tract _____ Acres 100 Lease No. _____
 Well (Farm) No. N-4 Serial No. _____
 Elevation (Spirit Level) 843.76
 Quadrange WINEFIELD C
 County PYTNAM District BUFFALO
 Engineer JOHN GALPIN
 Engineer's Registration No. 875
 File No. _____ Drawing No. _____
 Date 5-18-72 Scale 1" = 400'

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

WELL LOCATION MAP
 FILE NO. Put-770

+ 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 square on border lines of original tracing.

Deep well



RECEIVED
MAR 16 1973

OIL & GAS DIVISION
DEPT. OF MINES

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Rotary Oil
Cable Gas NO. 1
Recycling Comb.
Water Flood Storage
Disposal (Kind)

Quadrangle Winfield

Permit No. PUT 770

Company Natural Resource Management, Corp.
Address 1901 Kanawha Valley Building, Chas.
Farm Sidney Graham Acres 100
Location (waters) Dad's Branch
Well No. N-4 Elev. 843.76
District Buffalo County Putnam
The surface of tract is owned in fee by Sidney and Margaret Graham
Address Buffalo, West Virginia
Mineral rights are owned by _____
Address _____
Drilling Commenced 5/23/72
Drilling Completed 6/13/72 *Dev. Sh.*
Initial open flow 33,000 M cu. ft. _____ bbls.
Final production _____ cu. ft. per day _____ bbls.
Well open 4 hrs. before test 475 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10" 11 3/4	351	351	50 bags
9 5/8			
8 5/8	2142	2142	50 bags
7			
5 1/2			
4 1/2			
3 3/4		4747	Cementing by Well Service, Inc
2			
Liners Used			

Well treatment details:

Attach copy of cementing record.

Fractured Oriskany 7/11/72, with 120 CWT bulk sand, 22,302 gallons water, 15.5 Barrels per minute injection rate.

Coal was encountered at _____ Feet _____ Inches
Fresh water _____ Feet _____ Salt Water 920 Feet 1030
Producing Sand Oriskany *? Dev. Sh.* Depth _____

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Clay		soft	0	140		
Red Rock			140	310		
Red Rock & Shale			310	765		
Sand & Shale			765	863		
Sandy Lime			863	1040		
Sand & Shale			1040	1210		water at 920
Shale & Red Rock			1210	1366		water increase 1030
Sandy Shale			1366	1800		
Sand			1800	1950		
Shale & Red Rock			1950	1998		
Lime			1998	2080		
Shale			2100	2195		
Sandy Shale			2195	2210		
Sand			2210	2300		
Shale			2300	2509		
Sand			2509	2534		
Sand & Shale			2534	4110		Gas show 379
Shale			4110	4627		Gas show 3817- 10/10 1"W
Coniferous Lime			4621	4698		
<u>Oriskany</u>			4698	4708		= 33 Mcf
Lime			4708	4746		Dev. Sh.

4621 4698
844 844
3777 3854

4746
4621
125 expl. ft.

* Indicates Electric Log tops in the remarks section.

(over)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED
MAY 17 1972

Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE May 15, 1972

Surface Owner Sidney & Margaret Graham
Address _____
Mineral Owner Same as surface
Address _____
Coal Owner _____
Address _____
Coal Operator _____
Address _____

Company Natural Resource Mgt.
Address 1901 Kanawha Valley Building
Charleston, West Virginia
Farm Graham Acres 100
Location (waters) Dad's Branch
Well No. N-X 4 Elevation 843.76
District Buffalo County Putnam
Quadrangle Winfield - 15' Winfield - 72'

W. Kenneth Butcher
INSPECTOR TO BE NOTIFIED
R.F. #1
Barboursville, PH: 436-4885
W. Va.

THIS PERMIT MUST BE POSTED AT THE WELL SITE
all provisions being in accordance with Chapter 22,
of the W. Va. Code, the location is hereby approved
for Drilling. This permit shall expire if
operations have not commenced by Sept. 17, 1972
Robert H. Ford
Deputy Director - Oil & Gas Division

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated _____ 19____ by _____ made to _____ and recorded on the _____ day of _____ 19____, in Putnam County, Book 52 Page 55
 NEW WELL _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. *

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address _____ day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

Very truly yours,

(Sign Name) *J. Wayne Rye*
Well Operator

Address _____
of _____
Well Operator

1901 Kanawha Valley Building
Street
Charleston
City or Town
West Virginia
State

*SECTION 3 . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made, by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

Put-770 PERMIT NUMBER

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO DRILL DEEPEN FRACTURE-STIMULATE

DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME Nedco Inc. NAME Dick Allen
 ADDRESS 1901 Kanawha Valley Building ADDRESS 1901 Kanawha Valley Building
Charleston, West Virginia Charleston, West Virginia
 TELEPHONE 342-2125 TELEPHONE 342-2125

ESTIMATED DEPTH OF COMPLETED WELL: 4500 ROTARY CABLE TOOLS

PROPOSED GEOLOGICAL FORMATION: Oriskany

TYPE OF WELL: OIL GAS COMB. STORAGE DISPOSAL
 RECYCLING WATER FLOOD OTHER

TENTATIVE CASING PROGRAM

CASING AND TUBING SIZE	USED FOR DRILLING	LIFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 8	150 Feet	150 Feet	98 Sacks
8 - 8			
7	1980 Feet	1980 Feet	15 Sacks
5 1/2			
4 1/2			
3	4450 Feet	4450 Feet	Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 60 FEET SALT WATER 1800 FEET
 APPROXIMATE COAL DEPTHS None anticipated
 IS COAL BEING MINED IN THE AREA? No BY WHOM? _____

TO DRILL:
 SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:
 SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:
 OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.
 OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.
 Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for _____ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.
 We the _____ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

 For Coal Company
 Official Title

(Obverse)
RECEIVED
AUG 19 1987



1) Date: 6/17/87, 19 87
 2) Operator's Well No. Graham N # 4
 3) API Well No. 47 079-0770-F
 State County Permit

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

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

- 4) WELL TYPE: A Oil / Gas X /
 B (If "Gas", Production X / Underground storage / Deep X / Shallow)
- 5) LOCATION: Elevation: 843.76 Watershed: Dads Branch 687
 District: Buffalo County: Putnam 079 Quadrangle: Winfield WV
- 6) WELL OPERATOR Teavee Oil & Gas CODE: 48900 7) DESIGNATED AGENT Dwane Bowers
 Address 1901 Kanawha Valley Bldg. Address P.O. Box 27
Charleston WV 25301 Winfield WV 25213
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Jerry Tephabock
 Address Rt 1, Box 101-A
Ripley WV 25271
- 9) DRILLING CONTRACTOR: Name N/A
 Address N/A
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate X /
 Plug off old formation X / Perforate new formation /
 Other physical change in well (specify) squeeze and Fracture Brown shale
- 11) GEOLOGICAL TARGET FORMATION, Brown shale
- 12) Estimated depth of completed well, 4200 feet
- 13) Approximate traat depths: Fresh, 160 feet; salt, 1000 feet.
- 14) Approximate coal seam depths: N/A Is coal being mined in the area? Yes / No X
- 15) 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	<u>1</u>								Kinds
Fresh water	<u>11 3/4</u>					<u>351</u>	<u>351</u>	<u>to surface</u>	
Coal									Sizes
Intermediate	<u>8 5/8</u>					<u>2160</u>	<u>2160</u>	<u>50 bags</u>	
Production	<u>3 1/2</u>					<u>4747</u>	<u>4747</u>	<u>120 bags</u>	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-079-0770-F Date August 19 19 87

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.

Permit expires August 19, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u> </u>	Agent: <u> </u>	Fee <u>227</u> <u>5776</u>	WPCP <u> </u>	S&E <u> </u>	Other <u> </u>
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John H. Johnston by Margaret J. Hasse
 Director, Division of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

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