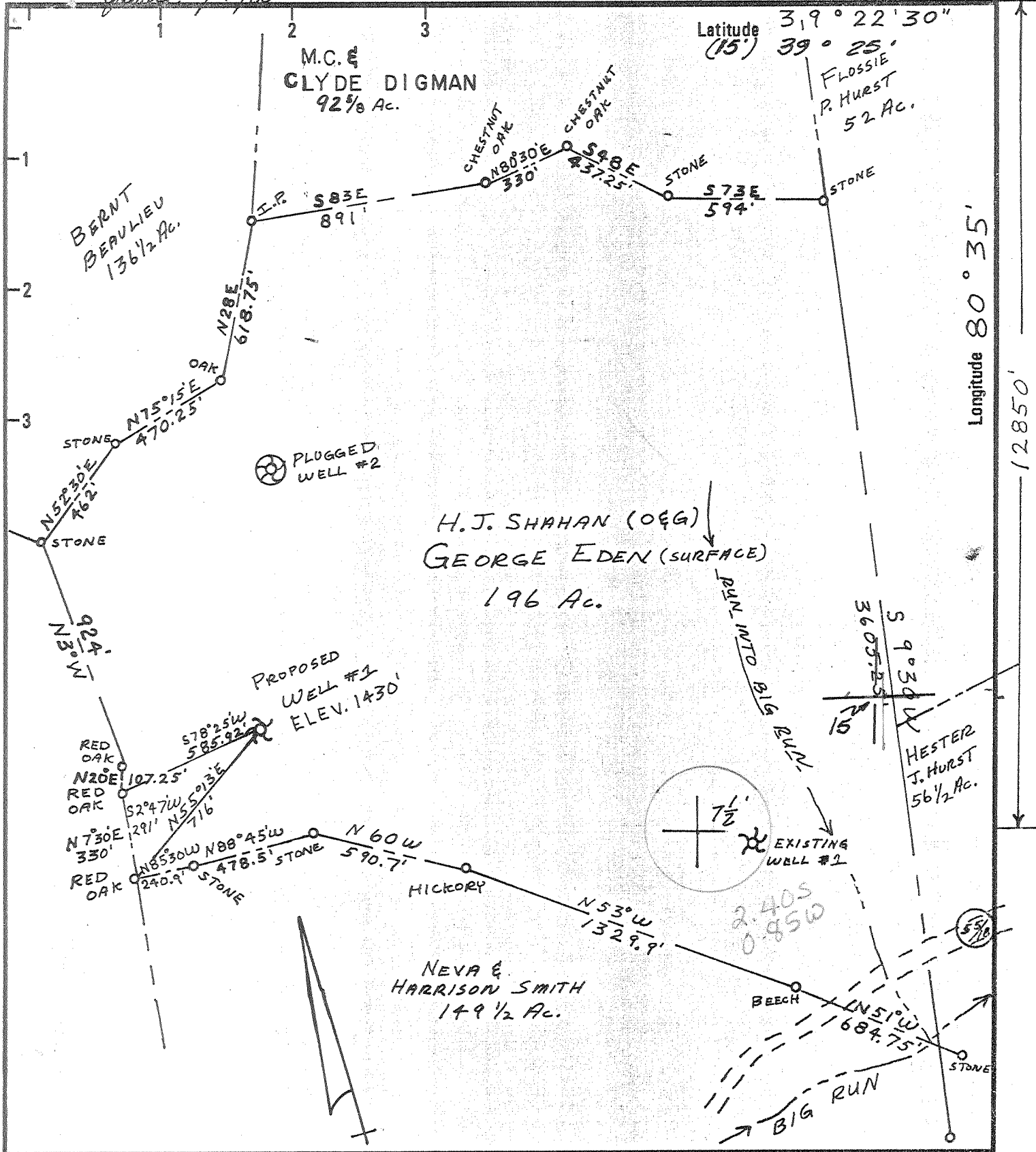


Done 5/20/88

4520' 5/8/78



New Location Drill Deeper Abandonment

Minimum Error of Closure 1 IN. 200
 Source of Elevation B.M. TOP OF KNOB 1700' N. OF LOCATION
B.M. ELEV. = 1430'

"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." *Paul G. Dean*

Company PETROLEUM DEVELOPMENT CORP.
 Address PO. BOX 26 103 E. MAIN BRIDGEPORT W.VA.
 Farm H. J. SHAHAN, GEORGE EDEN
 Tract 1 Acres 196 Lease No. _____
 Well (Farm) No. #1 Serial No. _____
 Elevation (Spirit Level) 75.1430'
 Quadrangle SALEM, CENTER POINT 15
 County DODDRIDGE District MCCLELLAN 5
 Engineer PAUL G. DEAN
 Engineer's Registration No. 1856
 File No. _____ Drawing No. _____
 Date 5/3/78 Scale 1" = 500'

687

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

WELL LOCATION MAP
 FILE NO. DODD-1900 - Frac

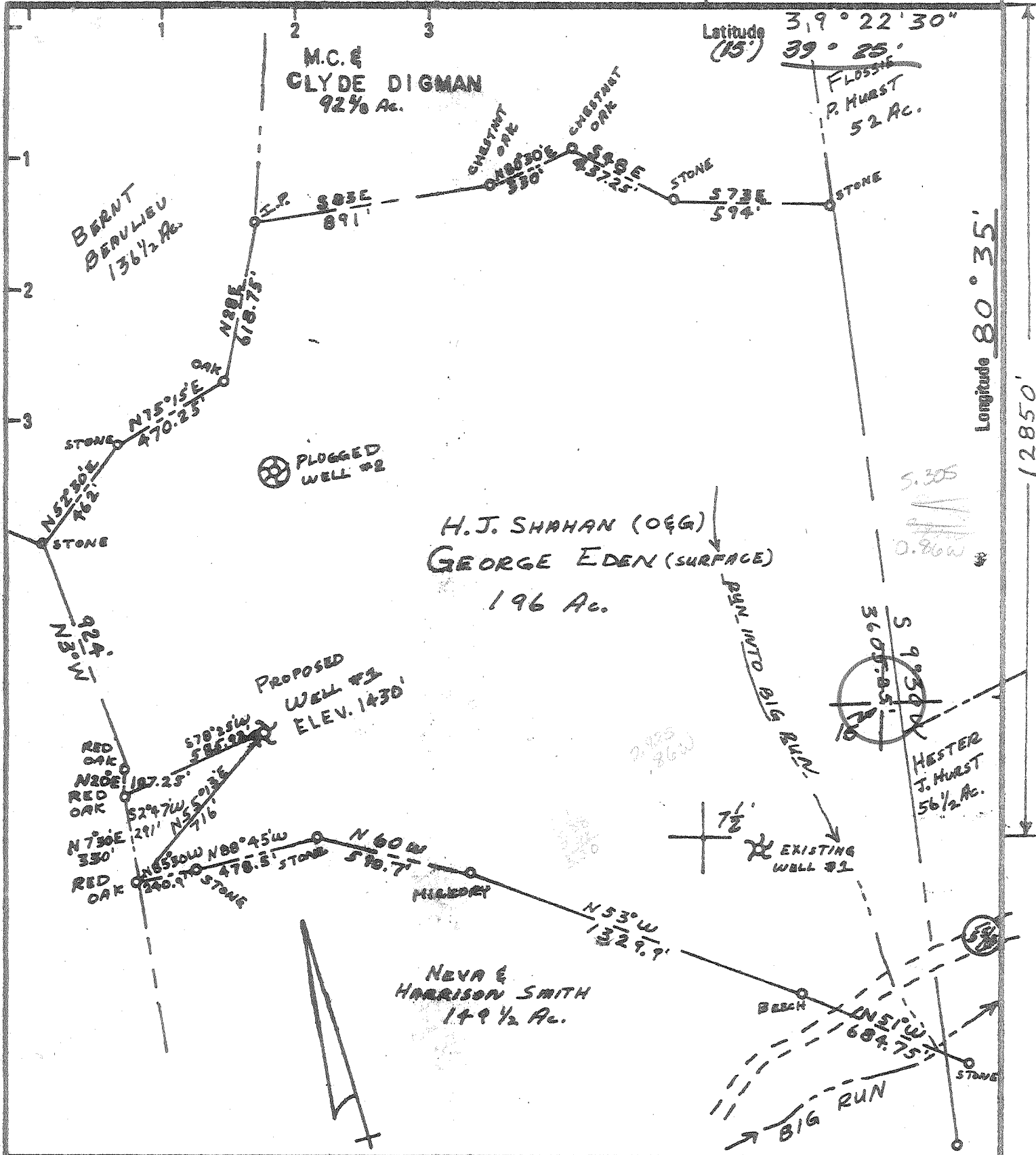
596
 522
 5

+ 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.

47-017

4500' Benson 6-6 Smithton-Flint-Sedal JUN 3 1988 (099)

4520' *5/8/78*



Latitude $39^{\circ} 22' 30''$
 (15') $39^{\circ} 25'$
 Longitude $80^{\circ} 35'$
 12850'

Minimum Error of Closure 1 IN 200
 Source of Elevation B.M. TOP OF KNOB 1700' N. OF LOCATION
B.M. ELEV. = 1430'
 "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." *Paul G. Dean*

New Location
 Drill Deeper
 Abandonment

Company PETROLEUM DEVELOPMENT CORP.
 Address PO BOX 26 103 E. MAIN BRIDGEPORT W. VA.
 Farm H. J. SHAHAN, GEORGE EDEN
 Tract 1 Acres 196 Lease No. _____
 Well (Farm) No. #1 Serial No. _____
 Elevation (Spirit Level) 1430' *C*
 Quadrangle SALEM, CENTERPOINT 15'
 County DODDRIDGE District MCCLELLAN
 Engineer PAUL G. DEAN
 Engineer's Registration No. 1856
 File No. _____ Drawing No. _____
 Date 5/3/78 Scale 1" = 500'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
 FILE NO. DODD-1900

+ 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.

47-017 JUN 1 1978

4500' Benson *SMITHTON-FLINT-SEDALIA 99 99*

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

Well Operator's Report of Well Work

Farm name: EDEN, GEORGE W. Operator Well No.: H.J. SHAHAN 1

LOCATION: Elevation: 1430.00 Quadrangle: SALEM

District: MCCLELLAN County: DODDRIDGE
Latitude: 12850 Feet South of 39 Des. 22Min. 30 Sec.
Longitude 4520 Feet West of 80 Des. 35 Min. 0 Sec.

Company: PETROLEUM DEVELOPMENT COR
P. O. BOX 26
BRIDGEPORT, WV

Asent: STEVEN R. WILLIAMS

Inspector: MIKE UNDERWOOD
Permit Issued: 06/03/88
Well work Commenced: 10/12/88
Well work Completed: 01/21/89
Verbal Plussings
Permission granted on:
Rotary XX Cable Ris
Total Depth (feet) see original
Fresh water depths (ft)
Salt water depths (ft)
Is coal beins mined in area (Y/N)?
Coal Depths (ft):

Casins	Used in	Left	Cement
2			Fill Up
Tubins	Drillins	in Well	Cu. Ft.
Size			
see original			

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JAN 23 1989

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

squeeze 4 1/2" at 2500' 250 sks

OPEN FLOW DATA

Producing formation Big Injun Pay zone depth (ft) 2235
 Gas: Initial open flow 187 MCF/d Oil: Initial open flow Bbl/d
 Final open flow 184 MCF/d Final open flow Bbl/d
 Time of open flow between initial and final tests Hours
 Static rock Pressure 60 psig (surface pressure) after 24 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: PETROLEUM DEVELOPMENT CORP.

By: Steven R. Williams, President
Date: January 20, 1989

JAN 23 1989

STAGE	FORMATION	PERFS	80/100 SKS	20/40 SKS	ACID GAL	FLUID (BBL)
1ST	BENSON	18 (5215-5273)	150	300	500	662
2ND	RILEY	12 (4950-4953)	100	200	500	595
RECOMPLETION DATE: 12/88						
1ST	BIG INJUN	10 (2211 - 2235)	0	500	500	599

W E L L L O G

FORMATION	TOP FEET	BOTTOM FEET
clay	0	45
shale	45	65
sand	65	125
red rock	125	135
sand, shale	135	468
red rock	468	478
sand	478	585
sand, shale	585	617
coal	617	622
sand, shale	622	875
coal	875	887
sand, shale	887	1001
red rock	1001	1011
sand, shale	1011	1085
red rock	1085	1127
sand, shale	1127	2149
Big Lime	2149	2196
Big Injun	2196	2310
sand, shale	2310	2885
Gordon St/Gordon	2885	3018
sand, shale	3018	3034
4th	3034	3110
sand, shale	3110	4045
Balltown	4045	4540
sand, shale	4540	4622
Bradford	4622	4829
sand, shale	4829	5213
Benson	5213	5276
sand, shale	5276	5446
		5448

REMARKS: FRESH & SALT
WATER, COAL, OIL & GAS

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JAN 23 1989

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Driller TD
Logger TD

7077



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AUG 23 1978

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

WELL RECORD 4

Quadrangle Salem
Permit No. DODD-1900

Rotary XX Oil _____
Cable _____ Gas XX
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind)

Company <u>Petroleum Development Corporation</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Address <u>P.O. Box 26, Bridgeport, W.V. 26330</u>				
Farm <u>HJ Shahan</u> Acres <u>196</u>	Size			
Location (waters) <u>Big Run</u>	20-16			
Well No. <u>one</u> Elev. <u>1430</u>	Cond.			
District <u>McClellan</u> County <u>Doddridge</u>	13-10"			
The surface of tract is owned in fee by _____	9 5/8			
<u>George Eden</u>	8 5/8	1198	1198	400 sks
Address <u>4628 Burnett Ave., Silver Spring, MD</u>	7			
Mineral rights are owned by <u>O.C. Haught et al</u>	5 1/2			
Address <u>Salem, W.V.</u>	4 1/2	5329'	5239'	140 sks
Drilling Commenced <u>5/20/78</u>	3			
Drilling Completed <u>7/11/78</u>	2			
Initial open flow <u>show</u> cu. ft. _____ bbls.	Liners Used			
Final production <u>237 m</u> cu. ft. per day _____ bbls.				
Well open <u>2</u> hrs. before test <u>1550</u> /RP.				

Well treatment details:

Attach copy of cementing record.

<u>Benson</u> 662 bbls	15,000#	80/100 sand
	30,000#	20/40 sand
<u>Riley</u> 595 bbls	10,000#	80/100 sand
	20,000#	20/40 sand

Coal was encountered at 617'-622'; 875-877' Feet 5'; 2' Inches
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Benson, Riley Depth 5215; 4950

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Clay			0	45		
Shale			45	65		
Sand			65	125		
Red Rock			125	135		
Sand & Shale			135	195		
Sand			195	440		
Sand & Shale			440	468		
Red Rock			468	478		
Sand			478	585		
Sand & Shale			585	607		
Coal			617	622		
Sand & Shale			622	625		
Sand			625	875		
Coal			875	887		
Sand & Shale			887	1001		
Red Rock			1001	1011		
Sand & Shale			1011	1085		
Red Rock			1085	1127		
Sand & Shale			1127	1803		
Shale			1803	2149		

(over)

* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Big Lime						-2149
Big Injun						2196
Berea						2674
50'						750
Gordon Stray						2884
Gordon						2943
4th						3034
5th						3168
Warren						3537
Upper Speechly						3744
Speechly						3885
Balltown						4045
Bradford						4622
Riley						4945
Benson						5214
Lower Benson						5268
T.D.						5448

Date August 17, 1978

APPROVED PETROLEUM DEVELOPMENT CORP. Owner

By John C. Moore
 (Title)
 PETROLEUM ENGINEER

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

- 1) Well Operator: Petroleum Development Corporation ⁶⁸⁷ 38200, 5, 595
- 2) Operator's Well Number: H. J. Shahan #1 3) Elevation: 1430
- 4) Well type: (a) Oil / or Gas XY
 (b) If Gas: Production XY Underground Storage /
 Deep / Shallow /
 Recement & Recomplete
- 5) Proposed Target Formation(s): Big Injun 3715 Perf & Frac New Formation
- 6) Proposed Total Depth: 5448 feet Perf Big Injun @ 2211-2235
- 7) Approximate fresh water strata depths: NA
- 8) Approximate salt water depths: NA
- 9) Approximate coal seam depths: NA
- 10) Does land contain coal seams tributary to active mine? Yes / No NA /
- 11) Proposed Well Work:

12) ****EXISTING****
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						
Coal						
Intermediate	8 5/8			1198	1198	400 sks
Production	4 1/2				5239	140 sks **
Tubing						
Liners						

** Recementing Data on Back of Form

PACKERS : Kind _____
 Sizes _____
 Depths set _____

RECEIVED
MAY 19 1988

7077

04/05/99
15
JH

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

Fee(s) paid: Well Work Permit Reclamation Fund WPCP

Plat WW-9 WW-2B Bond 50 Blanket Agent
 (Type)

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MAY 19 1988

- 1) Date: May 11, 1988
- 2) Operator's well number
H. J. Shahan #1
- 3) API Well No: 47 - 017 - 1900-FRAC
State - County - Permit

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 4) Surface Owner(s) to be served:
 - (a) Name George W. Eden
Address 9628 Brunette Ave.
Silver Springs, MD 20901
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 6) Inspector Mike Underwood
Address Route #2, Box 135
Salem, WV 26426
Telephone (304)- 782-1043

- 5) (a) Coal Operator:
 - Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name Consolidation Coal Company
Address P. O. Box 1613
Morgantown, WV 26505
 - 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
XX 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 5 on the above named parties, by:

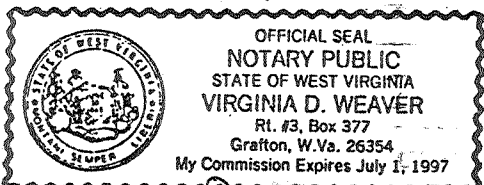
- _____ Personal Service (Affidavit attached)
- XX Certified Mail (Postmarked postal receipt attached)
- _____ Publication (Notice of Publication attached)

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 Petroleum Development Corporation
 By: [Signature]
 Its: President
 Address P. O. Box 26
Bridgeport, WV 26330
 Telephone 304-842-6256



Subscribed and sworn before me this 11th day of May, 1988

[Signature] Notary Public
My commission expires July 1, 1997



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

RECEIVED
MAY - 8 1978

OIL & GAS DIVISION
DEPT. OF MINES

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

DATE May 5, 1978

Surface Owner George Eden

Company Petroleum Development Corporation

Address 4628 Burnett Ave Silver Spring MD

Address P O Box 26 Bridgeport WV 26330

Mineral Owner O. C. Haught etal

Farm H J Shaban Acres 196

Address Salem WV

Location (waters) Big Run

Coal Owner Consolidation Coal Co.

Well No. One Elevation 1430'

Address Morgantown WV

District McClellan County Doddridge

Coal Operator _____

Quadrangle Salem

Address _____

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 9-15-78

INSPECTOR

TO BE NOTIFIED Paul Garrett

ADDRESS Clarksburg, West Virginia 26301

PHONE 622-3871

Robert Z. ...
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 May 23rd 1977 by O. C. Haught etal made to Clarence N. Mutschelknaus and recorded on the Send for recording 19 , in _____ County, Book _____ Page _____

XX 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.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND
ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN, WEST VIRGINIA 26505
AC-304 - 292-6331

Very truly yours,
PETROLEUM DEVELOPMENT CORPORATION
(Sign Name) _____

Well Operator

P O Box 26

Street

Bridgeport

City or Town

West Virginia 26330

State

BLANKET BOND

*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.

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

PROPOSED WORK ORDER TO XX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME Unknown NAME Petroleum Development Corporation
 ADDRESS _____ ADDRESS P O Box 26 Bridgeport WV 26330
 TELEPHONE _____ TELEPHONE 842-6256
 ESTIMATED DEPTH OF COMPLETED WELL: 4500' ROTARY XX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Benson
 TYPE OF WELL: OIL _____ GAS XX COMB. _____ STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10 <u>11 3/4</u>	<u>40'</u>	<u>40'</u>	<u>Surface</u>
9 - 5/8			
8 - 5/8	<u>300'</u>	<u>300'</u>	<u>Surface</u>
7			
5 1/2			
4 1/2		<u>4900'</u>	-----
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 30' FEET 90' SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS 350'
 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