



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

FILE NO. _____	CO: 081	PMT: 715
DRAWING NO. _____	Loc Digitized from OGIS 7.5' Mylar	
SCALE <u>1" = 2000'</u>	QUAD: 547	DATE: 12-JUN-90
MINIMUM DEGREE OF ACCURACY <u>1 in 10,000</u>	LAT: 37 52.5	Miles South: 0.23
PROVEN SOURCE OF ELEVATION <u>BM Elev. 1440</u>	LONG: 81 32.5	Miles West: 1.29
<u>9600' west of location</u>	MENT OF MINES. <u>Howard Lewis</u>	
	(SIGNED)	
	R.P.E. _____	U.S. <u>669</u>



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

DATE February 4, 19 86
OPERATOR'S WELL NO. 38A
API WELL NO. 47-081-0715

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 2100 WATERSHED Irene Hollow of Hazy Creek of Marsh Fork
DISTRICT Marsh Fork 2 COUNTY Raleigh
QUADRANGLE Pilot Knob - 7.5' 547 000 PC, Bald Knob

SURFACE OWNER Berwind Land Company ACREAGE 8044
OIL & GAS ROYALTY OWNER Berwind Land Company LEASE ACREAGE 8044
LEASE NO. 8391

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

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION Weir ESTIMATED DEPTH 3850
WELL OPERATOR MRM Petroleum Corporation DESIGNATED AGENT Dave Cash, MRM Petroleum Corp.
ADDRESS Foster Plaza VI, 601 Anderson Drive ADDRESS 501 56th St., Suite 111, Energy Center
Pittsburgh, PA 15220 Charleston, WV 25304

FEB 18 1986

FORM IV-6 (8-78) H.T. HALL

COUNTY NAME PERMIT

6-6 transferred (2) (247)





WR-35

Date February 5, 1986

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Operator's Well No. #38A
Farm Berwind Land
API No. 47 - 081 - 0715

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gasx / Liquid Injection / Waste Disposal /
(If "Gas," Productionx / Underground Storage / Deep / Shallowx /)

LOCATION: Elevation: 2108' GL Watershed Irene Hollow, Hazy Creek of Marsh Fork of Big Coal River
District: Marsh Fork County Raleigh Quadrangle Pilot Knob 7 1/2'

COMPANY NATURAL RESOURCE MANAGEMENT CORPORATION *

ADDRESS 681 Anderson Dr., Foster Plaza, Pgh., PA 15220

DESIGNATED AGENT Dave Cash, NRM, 501 56th Street,

ADDRESS Suite 111, Energy Center, Charleston, WV 25305

SURFACE OWNER Berwind Land Company

ADDRESS 1050 One Valley Square, Charleston, WV 25301

MINERAL RIGHTS OWNER Same as surface owner.

ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK Rodney G.

Dillon ADDRESS P.O. Box 1526, Sophia, WV 25921

PERMIT ISSUED 2/06/86

DRILLING COMMENCED December 21, 1985

DRILLING COMPLETED January 4, 1986

IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Table with 4 columns: Casing Tubing Size, Used in Drilling, Left in Well, Cement fill up Cu. ft. Rows include sizes 20-16 Cond., 13-3/8", 9 5/8, 8 5/8, 7, 5 1/2, 4 1/2, 3, 2, and Liners used.

*successor by merger to NRM PETROLEUM CORPORATION

GEOLOGICAL TARGET FORMATION Weir Sandstone Depth 3580 feet

Depth of completed well 3850 feet Rotary x / Cable Tools

Water strata depth: Fresh 180 feet; Salt reported none feet

Coal seam depths: Approx. 436', 542', 860' Is coal being mined in the area? yes

OPEN FLOW DATA

Producing formation Weir Sandstone Pay zone depth 3581'-3614' feet

Gas: Initial open flow TSTM Mcf/d Oil: Initial open flow --- Bbl/d

Final open flow (5.1 M) Mcf/d Final open flow --- Bbl/d

Time of open flow between initial and final tests 24 hours

Static rock pressure 730 psig (surface measurement) after 72 hours shut in

(If applicable due to multiple completion--)

Second producing formation N/A Pay zone depth feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d

Final open flow Mcf/d Oil: Final open flow Bbl/d

Time of open flow between initial and final tests hours

Static rock pressure psig (surface measurement) after hours shut in

FOF 5,100 Mcf

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

Chased cement plug with acid. Spotted 500 gallons 15% HCl. Perforated ^{up well} 3581' to 3614'. Total shots 22. Brokedown formation hydrostatically. Injected 800 Bbls. gelled water and 500 gallons MeOH, 50,000# 20/40 sand, 84 MSCF of N₂. Average treating rate was 30 BPM with 150 SCF N₂/Bbl. Average pressure was 1200 psi. Maximum sand concentration was 3 PPG. SI pressure AF was 400 psi.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
FROM DRILLER'S LOG:					
Sub Base			0'	10'	Wet @ 180'
Rock			10'	830'	SW - none reported
Rock & Shale			830'	1020'	Approximate coal seam depths: 436'
Sand & Shale			1020'	1830'	542'
Sand			1830'	2030'	860'
Sand & Shale			2030'	2340'	
Sand			2340'	2465'	
Shale			2465'	2494'	
Limestone			2494'	2525'	
Shale			2525'	2584'	
Sand			2584'	2980'	
Limestone			2980'	3015'	
Shale			3015'	3050'	
Limestone			3050'	3540'	GC @ 3500']
Shale			3540'	3560'	3620'] NO SHOW
Sand & Shale			3560'	3580'	3700']
Sand			3580'	3610'	
Sand & Shale			3610'	3630'	
Shale			3630'	3700'	
Sand & Shale			3700'	3740'	
Shale			3740'	TD	
D.T.D.			3850'		
L.T.D.			3871'		
FROM CDL: ✓					
Ravencliff SS			2357'	2400'	
Avis Limestone			2502'	2540'	
Maxton Stray			2596'	2624'	
Upper Maxton SS			2684'	2839'	
Lower Maxton SS			2839'	2950'	
Little Lime			3062'	3144'	
Big Lime			3144'	3580'	
Upper Weir SS			3580'	3616'	
Lower Weir SS			3704'	3750'	

(Attach separate sheets as necessary)

NATURAL RESOURCE MANAGEMENT CORPORATION successor by merger to NRM PETROLEUM CORPORATION

Well Operator
 By: Catherine A. Zagorski
 Catherine A. Zagorski, Geological Technician
 Date: February 5, 1986

Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including ... encountered in the drilling of a well."

RECEIVED
FEB 6 1986



1) Date: January 22, 1986
 2) Operator's Well No. Berwind Land #38A
 3) API Well No. 47-081-0715
 State County Permit

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

- 4) WELL TYPE: A Oil / Gas x
 B (If "Gas", Production x / Underground storage / Deep / Shallow x)
 5) LOCATION: Elevation: 2108' GL / Watershed: Irene Hollow, Hazy Creek of Marsh Fork of Big Coal River
 District: Marsh Fork 611 / County: Raleigh / Quadrangle: Pilot Knob 7 1/2'
 * 6) WELL OPERATOR NRM PETROLEUM CORP. CODE: 35150 7) DESIGNATED AGENT Dave Cash, NRM PETROLEUM CORP.
 Address 681 Anderson Dr., Foster Plaza VI / Address 501 56th St., Suite 111, Energy Center
Pittsburgh, PA 15220 / Charleston, WV 25315
 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Rodney G. Dillon 9) DRILLING CONTRACTOR: Name Clint Hurt & Associates
 Address P.O. Box 1526 / Address P.O. Box 388, N. 170, Edensfork Road Exit
Sophia, WV 25921 / Charleston, WV 25311
 10) PROPOSED WELL WORK: Drill x / Drill deeper / Redrill / Stimulate x
 Plug off old formation / Perforate new formation
 Other physical change in well (specify)
 11) GEOLOGICAL TARGET FORMATION, Weir Sandstone 367
 12) Estimated depth of completed well, 3850 feet
 13) Approximate trata depths: Fresh, 180 feet; salt, none feet.
 14) Approximate coal seam depths: 436', 542', 860' Is coal being mined in the area? Yes x / No

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	13-3/8		48	x		30'	30'	conductor	Kinds
Fresh water									
Coal	9-5/8		32.3	x		890'	890'	85 sks. <u>RULE 15.05</u>	
Intermediate	7	J55	17	x		2317'	2317'	85 sks.	
Production	4 1/2	J55	10.5	x		3830'	3830'	75 sks.	Depths set
Tubing									<u>OR AS REQUIRED BY</u>
Lin.									<u>RULE 15.01</u>
									Perforations:
									Top Bottom

* NATURAL RESOURCE MANAGEMENT CORPORATION successor by merger to NRM PETROLEUM CORPORATION

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-081-0715

February 6 1986
 Date

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 February 6, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>ALB</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>NF</u>	WPCP: <u>NF</u>	S&E: <u>AS</u>	Other: <u> </u>
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Rig skidded from Ral 711 John H. Johnston by Margaret J. Abou
 Director Division of Oil and Gas

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

File

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

