



REVISED 12-9-80

Well to Property Corner 1 —
 S63°18'45"E, 495.90'

Well to Property Corner 2 —
 S22°43'44"W, 67.91

Property Corner 1 to Conc. Monument —
 N69°59'36"E, 254.00'

FILE NO. E170-148-105
 DRAWING NO. 1
 SCALE 1" = 600'
 MINIMUM DEGREE OF ACCURACY 1:10,000
 PROVEN SOURCE OF ELEVATION WV Dept. of Highways Interstate Construction

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 MINES

(SIGNED) Ronald E. Barley Jr.
 R.P.E. 8021 L.L.S. _____

PLACE SEAL HERE

(-) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6
 18-781



DATE REVISED DECEMBER 9, 1980
 OPERATOR'S WELL NO. 2
 API WELL NO. _____
47-079-1015
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW ___
 LOCATION: ELEVATION 704.52' WATER SHED HURRICANE CREEK
 DISTRICT TEAYS VALLEY COUNTY PUTNAM
 QUADRANGLE SCOTT DEPOT
 SURFACE OWNER WESTERN DEVELOPMENT CORPORATION ACREAGE 67 ± ACRES
 OIL & GAS ROYALTY OWNER WESTERN DEVELOPMENT CORPORATION LEASE ACREAGE 67 ± ACRES
 LEASE NO. _____
 PROPOSED WORK: DRILL X 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 DEVONIAN SHALE ESTIMATED DEPTH 4200' Burdett-St Albans
 WELL OPERATOR BUFFALO RESOURCES DESIGNATED AGENT S. M. SPENCER DEEP WELL
 ADDRESS 818 OAKWOOD ROAD, SUITE 102 ADDRESS 818 OAKWOOD ROAD, SUITE 102
CHARLESTON, WV 25314 CHARLESTON, WV 25314

JAN 2 1981



Date _____
 Operation _____
 Well No. _____
 Farm Western Development
 API No. 47 - 079 - 1015

West Virginia
 Department of Mines
 Oil and Gas Division

WELL OPERATOR'S REPORT
 OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___
 (If "Gas," Production X / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 704.52 Watershed Hurricane Creek
 District: Teays Valley County Putnam Quadrangle Scott Depot

COMPANY Buffalo Resources Corp.

ADDRESS 818 Oakwood Rd, Charleston, WV

SIGNATED AGENT John M. Foster

ADDRESS 818 Oakwood Rd., Charleston, WV

INTERFACE OWNER Western Development Corp.

ADDRESS c/o Charleston Fed. Savings & Loan

GENERAL RIGHTS OWNER Western Development

ADDRESS Same

LAND AND GAS INSPECTOR FOR THIS WORK Martin

ADDRESS Clendenin, WV

PERMIT ISSUED Revised 12-9-80

DRILLING COMMENCED 12-3-80

DRILLING COMPLETED 12-18-81

APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
WORKING. VERBAL PERMISSION OBTAINED
12-17-81

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	30'	30'	cmtd. to surface
9 5/8	272'	272'	"
8 5/8			
7	1903'	1903'	340
5 1/2			
4 1/2	4300'	4300'	250
3			
2			
Liners used			

LOGICAL TARGET FORMATION Devonian Shale Depth 4100 feet

Depth of completed well 4324 feet Rotary X / Cable Tools _____

Water strata depth: Fresh 80 feet; Salt 1820 feet

Coal seam depths: None Logged Is coal being mined in the area? No

FLOW DATA

Producing formation Devonian Shale Pay zone depth 3650-4100 feet

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

Final open flow 72 Mcf/d 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

(If applicable due to multiple completion--)

Second producing formation Berea Pay zone depth 2230 feet

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

Final open flow 211 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

(Continue on reverse side)

DETAILS OF PERFORMED

ADJUSTING,

CHANGE, ETC.

WELL LOG WESTERN LAND # 2
 47-079-1015

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Soil and Rock			0	20	
Sandy Shale			20	80	
Shale and Silt			80	240	
Sandstone			240	260	Water flow noted
Sandy Shale			260	380	
Shale and Silt			380	500	
Shale			500	550	
Sand			550	670	
Shale			670	730	
Silty Shale			730	1110	
Lime			1110	1160	
Shale			1160	1250	
Lime			1250	1660	Big Lime Formation
Shale			1660	1730	
Sandstone			1730	1815	Big Injun Formation
Shale			1815	1905	

(Attach separate sheets as necessary)

Well Operator _____

By: _____

Date: _____

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 strata, encountered in the drilling of a well."

079-1015

INTERVALS: 4308' (2 shots), 3766' (2 shots),
 Shot) 24 (2 shots), 3766' (2 shots),
 with 30 lbs. 20-40 sand, 30,000 lbs. 20-100 sand, 460,000 scf
 and 289 barrels treated water (foam frac).

Berea Sandstone:

Perforated from 2236-2240 (6 shots), 2241-2243 (3 shots), 2248-2250 (3 shots)
 Foam fractured with 630,000 scf nitrogen, 14,000 gallons treated water and
 30,000 lbs. 20-40 sand.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sand and Shale			1905	1998	
Shale			1998	2230	
Sand (Berea)			2230	2257	Show of gas
Shale			2257	4214	Show of gas
Lime (Corniferous)			4214	4324	
Total Depth			4324		

(Attach separate sheets as necessary)

Buffalo Resources Corporation
Well Operator

By: _____
 Date: December 22, 1981

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



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

RECEIVED
NOV 26 1980

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,

Charleston, W. Va.

Western Development Corporation
Surface Owner c/o Charleston Federal Savings & Loan Association
Address 1320 Kanawha Blvd., E., Charleston, WV
Mineral Owner Same as Above
Address _____
Coal Owner Same as Above
Address _____
Coal Operator None
Address _____

DATE November 19, 1980
Company Buffalo Resources Corporation
Address 818 Oakwood Rd., Charleston, WV, Suite 10.
Farm Fletcher Acres ± 67 Acres
Location (waters) Hurricane Creek
Well No. Western Lands #2 Elevation 704.52'
District Teays Valley County Putnam
Quadrangle Hurricane

THIS PERMIT MUST BE POSTED AT THE WELL SITE

provisions being in accordance with Chapter 22, the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 7-26-81.

INSPECTOR TO BE NOTIFIED Martin Nichols
ADDRESS P. O. Box 554, Clendenin, WV
PHONE 548-6993

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 September 22 1980 by Western Development Company made to Buffalo Resources Corp. and recorded on the 28th day of October 1980 in Putnam County, Book 61 Page 782

X 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 N.A. day N.A. 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:

OFFICE OF OIL AND GAS
1615 Washington Street, East
Charleston, West Virginia
Area Code 304 -348-3092 348-3096

Address of Well Operator

Very truly yours,
(Sign Name) W.M. Spencer, Jr.
Well Operator
818 Oakwood Road
Street
Charleston, WV 25314
City or Town
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.

BLANKET BOND

47-079-1015 PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by _____

[Handwritten signature]

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

PROPOSED WORK ORDER TO X DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME Clint Hurt & Associates NAME S. M. Spencer
 ADDRESS Edens Fork ADDRESS 818 Oakwood Road, Charleston, WV
 TELEPHONE 344-2401 TELEPHONE 345-9232 Suite 102
 ESTIMATED DEPTH OF COMPLETED WELL: 4200' ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Brown Shale
 TYPE OF WELL: OIL _____ GAS X 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 13"	25'	25'	None
9 - 5/8 9 5/8 "	1800'	1800'	Cement to Surface
8 - 5/8			
7			
5 1/2			
4 1/2 4 1/2"	4200'	4200'	Cement w/200-300 SX
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 80' FEET _____ SALT WATER 1500' FEET 1900'
 APPROXIMATE COAL DEPTHS _____ 250'
 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