

BERWIND-WINIDFREDE LEASE

11,377.10 ACRES± TOTAL BERWIND-WINIFREDE #4

00°05'18" EMLIGNON

14.900'

610.019"

COUNTY NAME **KAN**

PERMIT **5556**

BERWIND-WINIFREDE #4
STATE PLANE
COORDINATES
NAD 1927

(N) 425,450
(E) 1,846,982

PENN VIRGINIA
OPERATING CO. LLC
4,301.22 AC.±
(SURFACE)

4668

COOPERS
HOLLOW

LITTLE

PENN VIRGINIA
OPERATING CO. LLC
4,301.22 AC.±
(SURFACE)

CREEK

4725

NORTH

4676

BERWIND-WINIFREDE #4
STATE PLANE
COORDINATES
NAD 1983

(N) 425,497
(E) 1,815,533

N 81°50' W
6129.43'

N 63°04' W
5018.49'

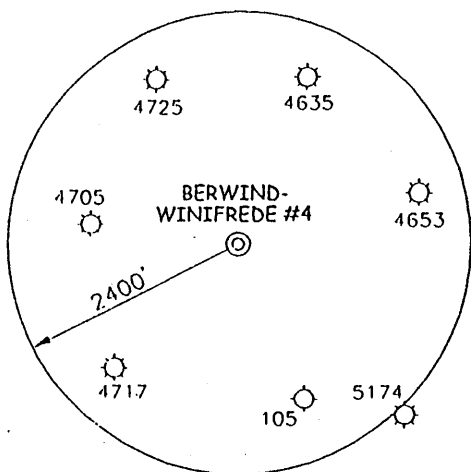
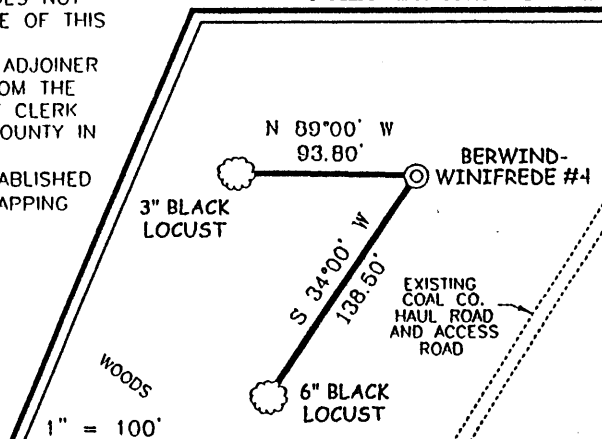
N 25°04' W
2004.53'

BERWIND-WINIFREDE #4

NOTES ON SURVEY

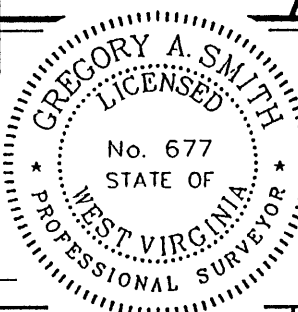
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 1/06/03.
3. LEASE BOUNDARY DOES NOT APPEAR WITHIN THE SCOPE OF THIS PLAT.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF KANAWHA COUNTY IN JANUARY, 2003.
5. WELL LAT./LONG. ESTABLISHED BY DGPS(SUBMETER MAPPING GRADE).

REFERENCES



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 DIVISION OF ENVIRONMENTAL PROTECTION.


P.S. 677 *Gregory A. Smith*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE JANUARY 6, 20 02
 OPERATORS WELL NO. BERWIND-WINIFREDE #4
 API WELL NO. 47 - 39 - 05556
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4242AP4 (140-12)
 SCALE 1" = 1000'
 PROVEN SOURCE OF ELEVATION JUNCTION OF ROADS ELEVATION = 706'

STATE OF WEST VIRGINIA
 DIVISION OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS



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

LOCATION :
 ELEVATION 1,376' WATERSHED LITTLE CREEK
 DISTRICT CABIN CREEK COUNTY KANAWHA QUADRANGLE BELLE 7.5'

SURFACE OWNER PENN VIRGINIA OPERATING COMPANY LLC ACREAGE P/O 4,301.22
 ROYALTY OWNER CLAY COUNTY BERWIND LIMITED PARTNERSHIP LEASE ACREAGE 11,377.10

PROPOSED WORK :
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION BEREA
 ESTIMATED DEPTH 3,500'

WELL OPERATOR NORTHSTAR ENERGY CORPORATION DESIGNATED AGENT W. THOMAS WHITE
 ADDRESS 1 MEADOW ROAD, DUNBAR, WV 25064 ADDRESS 1 MEADOW ROAD, DUNBAR, WV 25064

JAN 10 2003

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas
Well Operator's Report of Well Work

AB

Farm Name: Berwind-Winifrede Operator Well No. BW #4
Location: Elevation: 1376' Quadrangle: Belle 7.5'
District: Cabin Creek County: Kanawha
Latitude: 14,900' Feet South of 38 Degrees 12 Minutes 30 Seconds
Longitude: 9,300' Feet West of 81 Degrees 32 Minutes 30 Seconds

Company: Northstar Energy Corporation
1018 Ka. Blvd. E., Suite 309
Charleston, WV 25301

Agent: W. Thomas White
Inspector: Carlos Hively
Permit Issued: 1-21-03
Well work Commenced: 1-11-03
Well work Completed: 1-18-03
Verbal Plugging Permission granted on: N/A
Rotary x Cable Tool _____ Rig
Total Depth (feet): LTD- 2994' DTD-2985'
Fresh water depths (ft): 145'
Salt water depths (ft): 1264'
Is coal being mined in area: no
Coal Depths: none recorded

Casing & Tubing Size	Used in Drilling	Left in well	Cement Fill Up Cu. Ft.
13 3/8"	28'	-	-
9 5/8"	517'	517'	221
7"	2129.25'	2129.25'	426
4 1/2"	-	2951.80'	147

Office of Oil & Gas Permitting
JUN 16 2003
WV Department of Environmental Protection

OPEN FLOW DATA:

Producing formation(s): Big Lime, Big Injun, Weir, Berea Pay zone depth (ft) See back
Gas: Initial open flow show MCF/D Oil: Initial open flow _____ Bbl/d
Final open flow 198 MCF/D Final open flow _____ Bbl/d
Time of open flow between initial and final tests: 168 Hours
Static rock Pressure 340 psig (surface pressure) after 168 Hours

Second producing formation(s): _____ Pay zone depth (ft) See back
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: Northstar Energy Corporation
BY: W. Thomas White
DATE: 6-12-03

AUG 01 2003

KAN 55556

1-23-2003

MIRU Fisher Well Surveys, run GR/CTL/CCL. Logger's TD - 2972'. Calc TOC - 1735', Actual TOC - 1945'. Marker joint at 2302-2312'. Perforate Berea.

1-24-2003

MIRU DS Schlumberger Oilfield Services to conduct 5-stage completion. Top pressure set at 4000 psi. 250 gals. 15% HCl in hole. Break on fluid.

1st Stage - Berea (2860-2863', 12 holes) 75 Quality Clear Frac

6 Bbls. (250 gals) 15% HCl, 20,352 lbs. 20/40 sand, 1-4 ppg, 100 Bbls. Twtr, 140 Mscf, N₂ flush
BKDN - 1799 psi, ATP - 1900 psi, AIR - 20 BPM, ISIP - 1800 psi

Perforate Weir. 3 3/8" baffle at 2706'. Dropped frac ball in 6 Bbls. (250 gals) 15% HCl, followed by N₂ breakdown.

Shutdown after Lower Weir breakdown to perforate Upper Weir.

2nd Stage - Lower Weir (2624-2638', 8 holes) 75 Quality Clear Frac

6 Bbls. (250 gals) 15% HCl, 15,507 lbs. 20/40 sand, 1-4 ppg, 66 Bbls. Twtr, 159 Mscf, N₂ flush
BKDN - 2930 psi, ATP - 2550 psi, AIR - 20 BPM

Dropped 12 perf balls in 6 Bbls. HCl to ballout Lower Weir.

3rd Stage - Upper Weir (2536-2539', 7 holes) 75 Quality Clear Frac

6 Bbls. (250 gals) 15% HCl, 25,901 lbs. 20/40 sand, 1-4 ppg, 109 Bbls. Twtr, 227 Mscf, N₂ flush
BKDN - 2952 psi, ATP - 2680 psi, AIR - 20 BPM, ISIP - 1856 psi

Perforate Big Injun. 3 9/16" baffle at 2488'. Dropped frac ball in 6 Bbls. (250 gals) 15% HCl, followed by N₂ breakdown.

Shutdown after Big Injun breakdown to perforate Big Lime.

4th Stage - Big Injun (2426-2436', 14 holes) 75 Quality Clear Frac

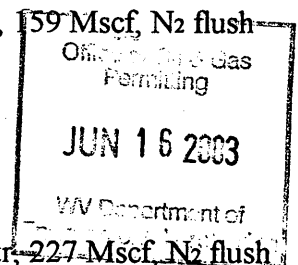
6 Bbls. (250 gals) 15% HCl, 25,431 lbs. 20/40 sand, 1-4 ppg, 102 Bbls. Twtr, 222 Mscf, N₂ flush
BKDN - 2347 psi, ATP - 2275 psi, AIR - 20 BPM

Dropped 17 perf balls to ballout Big Injun, followed by acid for treatment in the Big Lime.

5th Stage - Big Lime (2313-2385', 14 holes) N₂ Energized Acid Frac

36 Bbls. (1500 gals) 15% HCl, 62 Bbls. Twtr, 50 Mscf, N₂ flush. Dropped 8 perf balls thru job.
BKDN - 2737 psi, ATP - 2570 psi, AIR - 9 BPM, ISIP - 1780 psi

RDMO DS Schlumberger and Fisher Well Surveys. RU flowback and open well on 1/4" choke.



AUG 01 2003

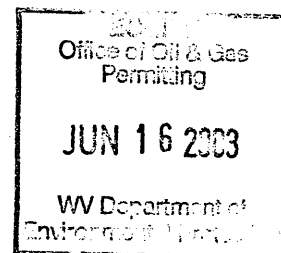
Formation Depths taken from Gamma Ray Log

Sub Base	0 - 10'	
Sand	10 - 65'	
Shale	65 - 82'	
Sand	82 - 142'	
Shale	142 - 172'	Hole damp at 145'
Sand & Shale	172 - 279'	
Shale	279 - 304'	
Sand & Shale	304 - 355'	
Sand	355 - 393'	
Shale	393 - 425'	
Sand & Shale	425 - 525'	
Shale	525 - 557'	
Sand	557 - 615'	
Shale	615 - 625'	
Sand	625 - 670'	
Shale	670 - 769'	
Sand & Shale	769 - 840'	
Shale	840 - 885'	
Sand	885 - 929'	
Shale	929 - 972'	
Sand	972 - 1051'	
Sand & Shale	1051 - 1098'	
Shale	1098 - 1185'	
Salt Sand	1185 - 1700'	Wet at 1264'
Sand & Shale	1700 - 1833'	
Maxton	1833 - 1977'	
Sand & Shale	1977 - 2130'	
Little Lime	2130 - 2174'	
Sand & Shale	2174 - 2202'	
Big Lime	2202 - 2421'	
Big Injun	2421 - 2453'	
Silt & Shale	2453 - 2521'	
Weir	2521 - 2644'	
Shale	2644 - 2841'	
Sunbury	2841 - 2857'	
Berea	2857 - 2866'	
Shale	2866 -	

Total Depth

2994'

Well logged by Allegheny Wireline Services, Inc.



AUG 01 2003

KAN 5556