

36-009-00365
581

APPLICATION TO DRILL OIL OR GAS WELL
STATE OF OREGON • DEPT OF GEOLOGY & MINERAL INDUSTRIES • 229 BROADALBIN ST SW • ALBANY OR 97321

(In compliance with rules and regulations pursuant to ORS 520.)

(1) Permittee Information

Name	NW Natural
Mailing Address	220 NW Second Ave.
City/State/Zip	Portland, OR 97209
Telephone	503-226-4211
Fax	503-220-2586
Email	Todd.Thomas@nwnatural.com
Prepared by	Todd Thomas
On Site Contact	Ed Vader
Phone (day)	780-712-2986
Phone (night)	
Other	

(2) Well Information

County	Columbia
Lease	Northwest Natural Gas
Well No.	IW 23adh-3-65
Location	1/4 SW S 3 T 6N R 5W
Wildcat or Field	Mist Storage
Elevation	1073 ft.
Surveyed SHL coordinates; include BHL for directional wells	Horizontal well, will be drilled from existing IW 23b-3-65 well pad, permit #405. Surface location: 610 ft S and 1585 E of W 1/4 corner Sec. 3 T6NR5W. Top C&W Sandstone location: 110 ft. S and 1065 ft. E of surface. BHL: 135 ft S and 1600 ft. E of surface.
Geologic Objective	Clark and Wilson (C&W) Sandstone
Proposed Depth	3630 ft

RECEIVED
MLHR

Todd Thomas
Signature

Project Manager
Title

9/20/06
Date

(3) Lease/Ownership (if other than applicant)

	Lessor (mineral owner)	Surface Owner	Lessee
Name	Northwest Natural Gas	Longview Fibre Co.	Northwest Natural Gas
Mailing Address	220 NW Second Ave.	P.O. Box 667	220 NW Second Ave.
City/State/Zip	Portland, OR 97209	Longview, WA 98632	Portland, OR 97209
Telephone	503-226-4211	360-575-5100	503-226-4211
Fax	503-220-2586	360-575-5932	503-220-2586
Email	Todd.thomas@nwnatural.com		Todd.thomas@nwnatural.com

(4) Proposed Well Design (use additional sheets if necessary)

Size of hole	Size of Casing	Weight (pounds per foot)	Grade/Type	Depth	Type and Amount of Cement
17 1/2"	13 3/8"	48	H-40	600	111 bbls.
12 1/4"	9 5/8"	32	J-55	3025	212.5 bbls.
					bbls.
					bbls.

(5) Slurry Design for each String (use additional sheets if necessary)

String 1	Annulus height	HT. left in casing	Excess	Density
Tail	206 ft.	1 ft.	13 bbls.	14.0 ppg.
Lead	394 ft.	1 ft.	24 bbls.	13.5 ppg.

String 2	Annulus height	HT. left in casing	Excess	Density
Tail	1651 ft.	40 ft.	23 bbls	14.8 ppg.
Lead	1374 ft.	0 ft.	11 bbls	13.0 ppg.

(6) Geologic Information - if known (use additional sheets if necessary)

	1	at
Assumed fracture gradient of rock vs. depth	.77 psi/ft	ft.
Pore gradient of rock vs. depth (if known)	.441 psi/ft	ft.

2	at
.86 psi/ft	ft.
.441 psi/ft	ft.

3	at
psi/ft	ft.
psi/ft	ft.

APPLICATION TO DRILL OIL OR GAS WELL
STATE OF OREGON • DEPT OF GEOLOGY & MINERAL INDUSTRIES • 229 BROADALBIN ST SW • ALBANY OR 97321