

**BEFORE THE ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON**

In the Matter of the Amendment)	
of the Underground Storage)	APPLICATION FOR
Facility Site Certification)	
Agreement Between the State of)	SITE CERTIFICATE
Oregon Acting By and Through its)	
Energy Facility Siting Council)	AMENDMENT
and Northwest Natural Gas Company)	

APPLICATION FOR SITE CERTIFICATE AMENDMENT

Northwest Natural Gas Company ("NNG") hereby applies to the Energy Facility Siting Council ("EFSC" or "Council"), pursuant to Parts V and VII of the Mist Underground Storage Facility Site Certificate Agreement ("Certificate"), as amended, for authority to amend the Certificate to add four injection/withdrawal wells, two of which are replacements for nonfunctioning or marginal injection/withdrawal wells and two of which are additional injection/withdrawal wells.

I. INTRODUCTION

The Certificate for underground storage of natural gas at the Mist site was issued by the Council on September 30, 1981 to Oregon Natural Gas Development Corporation ("ONG"), a subsidiary of NNG. The assets of the Mist storage project were transferred from ONG to NNG effective April 11, 1988, subsequent to approval by the Oregon Public Utility Commission. (OPUC Order 88-375, Docket UP 38). Therefore NNG is the entity applying for this Amendment. By its terms the Certificate contemplated this

transfer and applies equally to NNG and ONG: "Any reference herein to ONG shall also include NNG". Certificate, p. 1.

The Certificate was granted after public hearings pursuant to ORS 469. It approved construction and operation of an underground storage facility for natural gas in the Flora and Bruer reservoirs and related facilities.

Two amendments have been made to the Certificate: Amendment No. 1, executed on October 29, 1987, extended the construction time for the project. In addition, Amendment No. 1 states as follows at Part V.1 of the Certificate:

"It is agreed by ONG and EFSC that construction or replacement of any monitoring well, injection/withdrawal well, pipeline or gathering line * * shall require an amendment of this agreement as provided in Part VII below." Amendment 1, Part V.1.

Amendment No. 2, executed on August 2, 1988 added one monitoring well.

II. PERFORMANCE OF INJECTION/WITHDRAWAL WELLS

The completed storage facility began full-scale operations with injection of natural gas during the summer of 1989 and full withdrawal during the 1989/1990 heating season. One full annual injection withdrawal cycle has now been completed

and the operation is in its second injection cycle.

NNG has examined the results obtained during the first year's experience with the storage project with regard to the performance of the injection/withdrawal wells and system capacity needs. Two improvements are necessary: more reliable withdrawal performance and additional capacity for withdrawal.

III. REPLACEMENT WELLS

There are three injection/withdrawal wells in each of the Flora and Bruer reservoir pools. In each pool, one of the wells has been a "dud": one well in the Flora pool (IW 33d-3) delivers virtually no gas (0.039 million therms or 0.2 percent of the total Flora pool flow in 1989-1990) and one in the Bruer pool (IW 22d-10) performs at a very low rate (1.108 million therms or 4.3 percent of the total Bruer pool flow for the same time period.)

Well IW 33d-3 in the Flora pool encountered a fault zone at the top of the reservoir sand which reduced the thickness of the gas column exposed in the well bore. Subsequent attempts to produce the well have clearly shown that the well is useless for injection/withdrawal. The low production well in the Bruer pool, IW 22d-10, is marginal due to a combination of lower quality reservoir rock and a thin gas column.

NNG now relies heavily on the two producing wells in

each pool. This could result in damage to the producing wells or reservoirs during peak usage periods.

NNG proposes to drill two replacement wells, one in each reservoir. The replacement well in the Flora pool will be drilled to a target 200 feet west of the present bottom hole location of the IW 33d-3. Although on the same well pad as the non-functioning well, we believe this bottom hole location to be out of the fault zone which has interfered with IW 33d-3. The bottom hole location of the replacement well in the Bruer pool will be sited 470 feet east southeast of the marginal 22d-10 well.

The nonfunctioning well in the Flora pool will be retained only as a monitoring well since it produces virtually no gas. We propose to continue use of the marginal well in Bruer, which, along with the replacement well, will contribute to a reliable 80 MMcfd peak day flow in winter 1990-1991. This flow rate, the initial rate planned for the project, cannot be reliably sustained at present because of the two poorly functioning wells.

The original wells and their proposed replacements are identified on Exhibit A. The replacement wells are identified as IW 32c-10 and IW 33ac-3. They will be drilled on sites immediately adjacent to existing well pads.

Timing For Replacement Wells

The replacement wells must be drilled in the fall of 1990 for two reasons. First, the flow from the replacements will be needed to meet peak demand in the 1990-1991 heating season. Second, the optimum time to drill any well in the storage field is at the end of the injection cycle when the reservoir is full. This optimal time is in the late fall, when the reservoir has been injected with gas for use at winter peak days. If the reservoir pressure is too low, mud from the drilling may invade the reservoir sand and create significant risk of formation damage.

IV. TWO NEW WELLS

Two additional wells are proposed for the existing reservoirs. The main purpose of these two wells is to bring the capability of the system to 100 million cubic feet per day ("MMcfd") from the current design of 80 MMcfd. The additional wells will add some flexibility to the system so that it can more easily adjust to peak demands and/or provide a degree of redundancy to minimize any production or mechanical problems in an existing well.

The booming economy in the northwest region has accelerated NNG's peak load requirements. NNG added 11,000 new residential and 2,000 new commercial customers in 1989. We project that the current firm peak day requirement of 580 MMcfd

(the amount required system wide in case of extremely cold weather) may increase by as much as 25 MMcfd annually if the current rate of increase in new customers continues. Thus we propose to expand the Mist system capacity to 100 MMcfd.

The facilities now in place at Mist, including the pipeline to Portland and associated systems, are capable of handling 100 MMcfd, but the current withdrawal capacity even with two successful replacement wells cannot sustain reliability over 80 MMcfd. With the two additional wells, we expect to be able to withdraw sufficient quantities of gas to meet the increasing level of demand using the 100 MMcfd capability of the current reservoirs and associated facilities.

The location of the two new wells is described on the map at Exhibit A to this document. They are identified as IW 23d-3 and IW 13b-11. Both are entirely within the boundaries of the Certificate. These wells will be located on new drill pads. One will be located in a recent clear cut area and the other in trees less than twelve years old. Each site is located adjacent to existing access roads and will be no larger than 200 feet by 250 feet in size.

Timing for Two New Wells

NNG plans to drill the two new wells in 1991.

V. PUBLIC HEALTH, SAFETY AND WELFARE

Pursuant to Section VII F. of the Certificate, amendments which do not affect the public health, safety, and welfare may be granted at a regular Council meeting without public hearings if Company and EFSC agree that the amendment is desirable. The proposed amendment will not adversely affect the public health, safety, or welfare.

NNG has made application for permits for the four wells through the Oregon State Department of Geology, Minerals and Industries; Columbia County conditional use permitting; the Mist Birkenfeld Fire District; and the Oregon Department of Forestry. These applications are attached to this document as Exhibit B.

To the best of NNG's knowledge, the four wells will meet all applicable rules of the State of Oregon and all applicable criteria warranted in the Certificate. The location of the wells as demonstrated on Exhibit A is adjacent to areas in which there are already operating wells and no new access roads will be required. Likewise, the proximity of all four wells to existing wells means that very little new pipe will be needed to connect the new wells to the system.

Vibration Monitoring

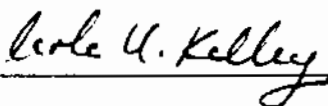
Under the Certificate, a vibration monitoring program has been in effect at the Mist site since December 18, 1987. Under the terms of the program, local residents were given forms to file vibration reports if they believed vibrations to have occurred. Only four such incident reports have been filed, all within the same week in February 1988. The incident was determined to have had the characteristics of an airborne disturbance unrelated to the underground storage operation.

No reports have been submitted since the full operation of the storage area began with the injection of gas in July 1989. Thus full underground storage operations with injection/withdrawal wells have had no vibration impact on the area. There is no reason to expect any different result with the four new wells.

VI. CONCLUSION

Based on the foregoing, NNG respectfully requests that EFSC amend the Certificate in accordance with the attached Exhibit A and pursuant to Section VII F. of the Certificate.

Dated: August 3, 1990



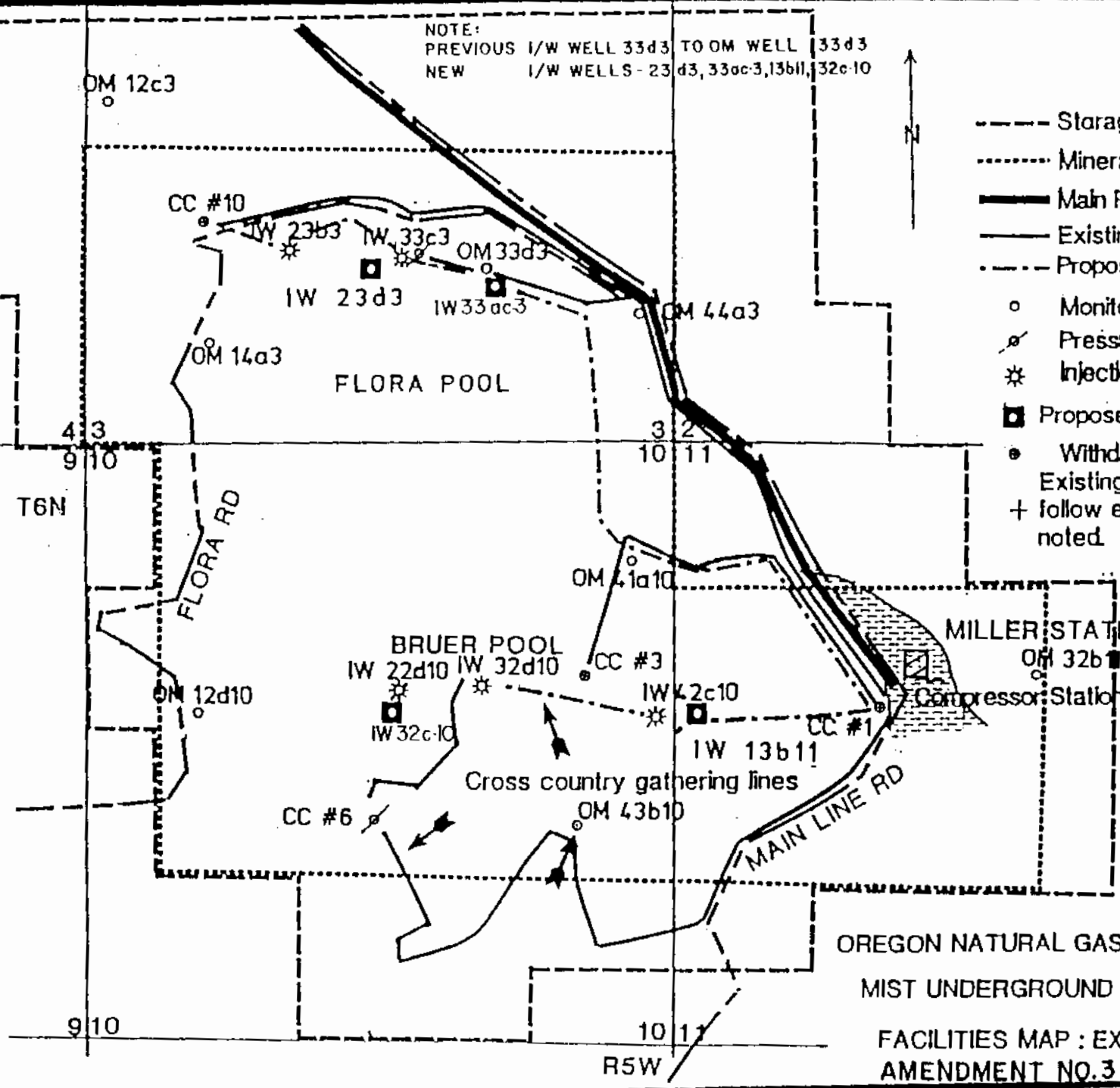
Carla U. Kelley
Assistant Counsel
Northwest Natural Gas Company

NOTE:
PREVIOUS I/W WELL 33d3 TO OM WELL 33d3
NEW I/W WELLS - 23d3, 33ac3, 13b11, 32c-10

LEGEND

- Storage Lease
- Mineral Ownership
- Main Pipeline
- Existing Gathering Line
- - - Proposed Gathering Line
- Monitoring Well
- ⊗ Pressure Monitoring Well
- ⊛ Injection/Withdrawal Well
- Proposed Injection/Withdrawal Well
- Withdrawal Well
- Existing and proposed pipelines
+ follow existing roads except where noted. No new roads planned.

MIST A MD3 DOC1



SCALE: 1" = 1350'

OREGON NATURAL GAS DEVELOPMENT CORP
MIST UNDERGROUND STORAGE PROJECT
FACILITIES MAP : EXISTING AND PROPOSED
AMENDMENT NO.3

EXHIBIT B

	<u>Pages</u>
State of Oregon Department of Geology and Mineral Industries	1-21
Columbia County Land Development Services	22-41
Mist-Birkenfeld Rural Fire Protection District	42-47
Department of Forestry/Application for Permits	48-51

APPLICATION FOR PERMIT TO DRILL AN OIL OR GAS WELL

(To be accompanied by a \$100 permit fee, a surety bond conditioned as provided by law, and evidence of mineral rights ownership or lease.) This application becomes a permit to drill when signed and dated by DOGAMI in box below.

In compliance with rules and regulations pursuant to ORS 520, application is hereby made for permit to drill

(a gas well) to be known as Northwest Natural Gas Company NNG TW 13b-11
 (an oil well) (Company or operator) (Lease) (Well No.)

in SW 1/4 of Sec. 11, T. 6N, R. 5W W.B.&M. Directional? No Yes X

Survey Coordinates: 80' South and 250' East from the West 1/4 corner (bottom hole location)

Wildcat: _____ (or) Field Name: Mist Underground Storage County: Columbia

Elevation of ground above sea level is 850 feet. All depth measurements are taken from _____
Kelly Bushing, which is 11.4 feet above ground.

Lessor (Mineral Owner): Northwest Natural Gas Co.

Address: 220 N.W. Second Ave., Portland, Or. 97209

Surface Owner: Cavenham Forest Industries

Address: 62424 N. Nehalem Highway, Vernonia, Or. 97064

Lessee: Northwest Natural Gas Co.

Address: 220 N.W. Second Ave., Portland, Or. 97209

We propose to use the following strings of casing and to land or cement them as herein indicated:

Size of hole	Size of casing	Weight in pounds per foot	Grade/Type	Depth	Amount of cement
17 1/2"	13 3/8"	54.5	K-55	450'	545 sx
12 1/4"	8 5/8"	36.0	K-55	2100'	950 sx

Geologic Objectives Clark and Wilson Sand

Proposed Depth 2600' TVD

Company/Operator Oregon Natural Gas Development

Signature Todd Thomas

Position Senior Operations Superintendent

Date 8/3/90

SEND WELL COMMUNICATION TO:

Name Todd Thomas

Address 221 N.W. Second Ave.

Portland, Or. 97209

Phone 220-2573 (Day) 359-4956 (Night)

DOGAMI Approved _____, 19____

By _____

NOTE: (1) Issuance of this permit is not a finding of compliance with the Statewide Planning Goals or the acknowledged comprehensive plan. (2) Permit expires one year from date of issue. (3) Land use approval must be obtained from the county or city in which the drilling takes place. (4) Unless specifically exempted, permittee is obligated to comply with all current applicable statutes and rules including those adopted after permit issuance.

APPLICATION FOR PERMIT TO DRILL AN OIL OR GAS WELL

(To be accompanied by a \$100 permit fee, a surety bond conditioned as provided by law, and evidence of mineral rights ownership or lease.) This application becomes a permit to drill when signed and dated by DOGAMI in box below.

In compliance with rules and regulations pursuant to ORS 520, application is hereby made for permit to drill

(a gas well) to be known as Northwest Natural Gas Co. NNG IW33ac-3
 (an oil well) (Company or operator) (Lease) (Well No.)

in SE 1/4 of Sec. 3, T. 6N, R. 5W W.B.&M. Directional? No Yes X

Survey Coordinates: 2025' West and 750' South from the East 1/4 corner (bottom hole location)

Wildcat: _____ (or) Field Name: Mist Underground Storage County: Columbia

Elevation of ground above sea level is 1080 feet. All depth measurements are taken from Kelly Bushing, which is 11.4 feet above ground.

Lessor (Mineral Owner): Northwest Natural Gas Co.

Address: 220 N.W. Second Avenue, Portland, OR 97209

Surface Owner: Cavenham Forest Industries

Address: 62424 N. Nehalem Highway, Vernonia, OR 97064

Lessee: Northwest Natural Gas Co.

Address: 220 N.W. Second Avenue, Portland, OR 97209

We propose to use the following strings of casing and to land or cement them as herein indicated:

Size of hole	Size of casing	Weight in pounds per foot	Grade/Type	Depth	Amount of cement
17 1/2"	13 3/8"	54.5	K-55	450'	545SX
12 1/4"	8 5/8"	36.0	K-55	2600'	1175SX

Geologic Objectives Clark and Wilson Sand

Proposed Depth 2900 TVD

Company/Operator Oregon Natural Gas Development

Signature Todd Thomas

Position Senior Operations Superintendent

Date 8/3/90

SEND WELL COMMUNICATION TO:

Name Todd Thomas

Address 221 N.W. Second Ave.

Portland, OR 97209

Phone 220-2573 (Day) 359-4956 (Night)

DOGAMI Approved _____, 19____

By _____

NOTE: (1) Issuance of this permit is not a finding of compliance with the Statewide Planning Goals or the acknowledged comprehensive plan. (2) Permit expires one year from date of issue. (3) Land use approval must be obtained from the county or city in which the drilling takes place. (4) Unless specifically exempted, permittee is obligated to comply with all current applicable statutes and rules including those adopted after permit issuance.

APPLICATION FOR PERMIT TO DRILL AN OIL OR GAS WELL

(To be accompanied by a \$100 permit fee, a surety bond conditioned as provided by law, and evidence of mineral rights ownership or lease.) This application becomes a permit to drill when signed and dated by DOGAMI in box below.

In compliance with rules and regulations pursuant to ORS 520, application is hereby made for permit to drill

(a gas well) to be known as Northwest Natural Gas Company NNG IW23d-3
 (an oil well) (Company or operator) (Lease) (Well No.)

in SW 1/4 of Sec. 3, T. 6N, R. 5W W.B.&M. Directional? No Yes X

Survey Coordinates: 800' South and 2500' East from the west 1/4 corner (bottom hole location)

Wildcat: _____ (or) Field Name: Mist Underground Storage County: Columbia

Elevation of ground above sea level is 1100 feet. All depth measurements are taken from _____
Kelly Bushing, which is 11.4 feet above ground.

Lessor (Mineral Owner): Northwest Natural Gas Company

Address: 220 N.W. Second Avenue, Portland, OR 97209

Surface Owner: Longview Fibre Company

Address: P.O. Box 667, Longview, WA 98630

Lessee: Northwest Natural Gas Company

Address: 220 N.W. Second Avenue, Portland, OR 97209

We propose to use the following strings of casing and to land or cement them as herein indicated:

Size of hole	Size of casing	Weight in pounds per foot	Grade/Type	Depth	Amount of cement
17 1/2"	13 3/8"	54.5	K-55	450'	545 SX
12 1/4"	8 5/8"	36.0	K-55	2700'	1200 SX

Geologic Objectives Clark & Wilson Sand

Proposed Depth 3000' TVD

Company/Operator Oregon Natural Gas Development

Signature Todd A. Thomas

Position Senior Operations Superintendent

Date 8/3/90

SEND WELL COMMUNICATION TO:

Name Todd A. Thomas

Address 221 N.W. Second Ave.

Portland, OR 97209

Phone 220-2573 (Day) 359-4956 (Night)

DOGAMI Approved _____, 19____

By _____

NOTE: (1) Issuance of this permit is not a finding of compliance with the Statewide Planning Goals or the acknowledged comprehensive plan. (2) Permit expires one year from date of issue. (3) Land use approval must be obtained from the county or city in which the drilling takes place. (4) Unless specifically exempted, permittee is obligated to comply with all current applicable statutes and rules including those adopted after permit issuance.

APPLICATION FOR PERMIT TO DRILL AN OIL OR GAS WELL

(To be accompanied by a \$100 permit fee, a surety bond conditioned as provided by law, and evidence of mineral rights ownership or lease.) This application becomes a permit to drill when signed and dated by DOGAMI in box below.

In compliance with rules and regulations pursuant to ORS 520, application is hereby made for permit to drill

(a gas well) to be known as Northwest Natural Gas Co. NNG IW32c-10
 (an oil well) (Company or operator) (Lease) (Well No.)

in NE 1/4 of Sec. 10, T. 6N, R. 5W W.B.&M. Directional? No Yes
 Survey Coordinates: 110' North and 2715' East from the West 1/4 corner (bottom hole location)

Wildcat: _____ (or) Field Name: Mist Underground Storage County: Columbia

Elevation of ground above sea level is 790 feet. All depth measurements are taken from _____
Kelly Bushing, which is 11.4 feet above ground.

Lessor (Mineral Owner): Northwest Natural Gas Company

Address: 220 N.W. Second Ave., Portland, OR 97209

Surface Owner: Longview Fibre Company

Address: P.O. Box 667, Longview, WA 98630

Lessee: Northwest Natural Gas Company

Address: 220 N.W. Second Ave., Portland, OR 97209

We propose to use the following strings of casing and to land or cement them as herein indicated:

Size of hole	Size of casing	Weight in pounds per foot	Grade/Type	Depth	Amount of cement
17 1/2"	13 3/8"	54.5	K-55	450'	545 SX
12 1/2"	8 5/8"	36.0	K-55	2000'	950 SX

Geologic Objectives Clark and Wilson Sand

Proposed Depth 2600' TVD

Company/Operator Oregon Natural Gas Development

Signature Todd Thomas

Position Senior Operations Superintendent

Date 8/3/90

SEND WELL COMMUNICATION TO:

Name Todd Thomas

Address 221 N.W. Second Ave.

Portland, OR 97209

Phone 220-2573 (Day) 359-4956 (Night)

DOGAMI Approved _____, 19____

By _____

NOTE: (1) Issuance of this permit is not a finding of compliance with the Statewide Planning Goals or the acknowledged comprehensive plan. (2) Permit expires one year from date of issue. (3) Land use approval must be obtained from the county or city in which the drilling takes place. (4) Unless specifically exempted, permittee is obligated to comply with all current applicable statutes and rules including those adopted after permit issuance.



SURETY RIDER

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
FIRST NATIONAL INSURANCE COMPANY
OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

To be attached to and form a part of

Bond No. 5269368

Type of Bond: Oil and Gas Well Bond

dated effective June 24, 1986
(MONTH-DAY-YEAR)

executed by OREGON NATURAL GAS DEVELOPMENT CORPORATION .as Principal,
(PRINCIPAL)

and by SAFECO INSURANCE COMPANY OF AMERICA .as Surety.

in favor of STATE OF OREGON, Department of Geology and Mineral Resources
(OBLIGEE)

in consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to changing the name of the Principal herein
FROM: OREGON NATURAL GAS DEVELOPMENT CORPORATION
TO: OREGON NATURAL GAS DEVELOPMENT CORPORATION and NORTHWEST NATURAL GAS COMPANY

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated.

This rider is effective August 1, 1990
(MONTH-DAY-YEAR)

Signed and Sealed August 1, 1990
(MONTH-DAY-YEAR)

OREGON NATURAL GAS DEVELOPMENT CORPORATION and NORTHWEST NATURAL GAS COMPANY
(PRINCIPAL)

Treasurer
By: *[Signature]*
(PRINCIPAL)

Vice President
By: *[Signature]*

SAFECO INSURANCE COMPANY OF AMERICA
By: *[Signature]*
(ATTORNEY-IN-FACT) Muriel M. van Veen



POWER OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

No. 6907

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

-----MURIEL M. VAN VEEN, Portland, Oregon-----

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 20th day of January, 19 84

CERTIFICATE

Extract from the By-Laws of SAFECO INSURANCE COMPANY OF AMERICA
and of GENERAL INSURANCE COMPANY OF AMERICA:

"Article V, Section 13. — FIDELITY AND SURETY BONDS . . . the President, any Vice President, the Secretary, and any Assistant Vice President appointed for that purpose by the officer in charge of surety operations, shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the company in the course of its business . . . On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

Extract from a Resolution of the Board of Directors of SAFECO INSURANCE COMPANY OF AMERICA
and of GENERAL INSURANCE COMPANY OF AMERICA adopted July 28, 1970.

"On any certificate executed by the Secretary or an assistant secretary of the Company setting out,

- (i) The provisions of Article V, Section 13 of the By-Laws, and
- (ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and
- (iii) Certifying that said power-of-attorney appointment is in full force and effect,

the signature of the certifying officer may be by facsimile, and the seal of the Company may be a facsimile thereof."

I, Boh A. Dickey, Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 1st day of August, 19 90

In the following document:

- OREGON NATURAL GAS
 1. The principal shall be DEVELOPMENT CORPORATION, a corporation organized under the laws of the State of Oregon and existing thereby, and having its headquarters at 220 N.W. Second Avenue in the county of Multnomah State of Oregon.
2. The surety shall be SAFECO INSURANCE COMPANY OF AMERICA a corporation organized under the laws of the State of Washington and existing thereby, and authorized to transact a surety business in the State of Oregon.

This document jointly obligates the principal and the surety to the State of Oregon for the sum of \$150,000.00, for the payment of which we obligate our respective successors and assignees.

The principal intends to _____:
(drill, re-drill, deepen, or rework)

1. A well located in Sec. _____, T. _____, R. _____ W.3.M., _____ County Oregon, Survey Coordinates _____ and has applied for a permit to do so. (\$25,000 bond)
2. More than one well in the State of Oregon and has applied for a permit or permits to do so. (\$150,000 bond)

If the principal complies with all of the provisions and rules of ORS Chapter 520 and obeys all orders of the State Geologist and the Governing Board of the State Department of Geology and Mineral Industries (DOGAMI), this bond may be terminated and cancelled and the surety relieved of all obligations thereunder, otherwise it shall remain in full force and effect. This bond will not be cancelled unless the well, the subject of this bond, has been abandoned pursuant to ORS Chapter 520, or until another valid bond for such well has been submitted and approved by the Board. If the Governing Board declares a well to be unlawfully abandoned, and that certain work shall be done, the surety shall be responsible for arranging to have it done according to DOGAMI's specifications and time schedule.

Principal: OREGON NATURAL GAS DEVELOPMENT CORPORATION
 Signature: [Handwritten Signature]
 Position: VICED PRESIDENT
 Date: JUNE 25/86

Surety: SAFECO INSURANCE COMPANY OF AMERICA
 Signature: [Handwritten Signature]
 Position: Attorney-in-fact
 Date: June 24 1986

SPECIAL WARRANTY DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys and specially warrants to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, its overriding royalty interest which Grantor received from Wesley G. Bruer and Odetha P. Bruer by Special Warranty Deed dated April 4, 1986 and recorded at Book 261, page 774 in the deed records of Columbia County, State of Oregon, free of encumbrances.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

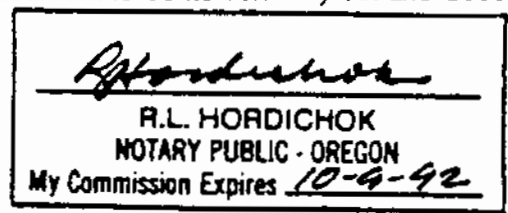
OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne J. Foley President
By C.J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.
7-31-90

Personally appeared DWAYNE FOLEY and C.J. RUE who, each being first duly sworn, did say that the former is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.



(Official Seal)

Before me: _____
Notary Public for Oregon; My commission expires _____

SPECIAL WARRANTY DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantee's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

QUITCLAIM DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys, releases and quitclaims to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights which Grantor received from Wesley G. Bruer and Odetha P. Bruer by Quitclaim Deed dated April 4, 1986 and recorded at Book 261, Page 784, in the deed records of Columbia County, State of Oregon.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Wayne J. Foley President

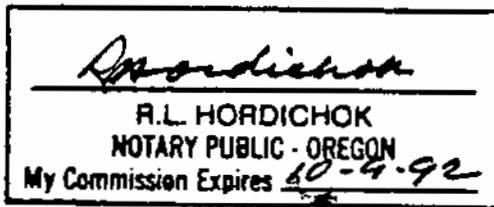
By C.J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90
Personally appeared DWAYNE L FOLEY and C J RUE
who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)



Before me: _____
Notary Public for Oregon; My commission expires _____

QUITCLAIM DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantor's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
)
County of _____)

I certify that the within instrument was received for record on the ____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title

By _____ Deputy

SPECIAL WARRANTY DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys and specially warrants effective to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), April 11, 1988, the overriding royalty interest which Grantor received from Charles O. Newell and Sally N. Newell by Special Warranty Deed dated April 1, 1986 and recorded at Book 261, Page 766, in the deed records of Columbia County, State of Oregon, free of encumbrances.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne L Foley President
By C. J. Linn Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90
Personally appeared DWAYNE L FOLEY and C J LINN
who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

Before me: _____
Notary Public for Oregon; My commission expires _____

SPECIAL WARRANTY DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantor's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M., and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

QUITCLAIM DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys, releases and quitclaims to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights which Grantor received from Charles O. Newell and Sally N. Newell by Quitclaim Deed dated April 1, 1986 and recorded at Book 261, Page 750 in the deed records of Columbia County, State of Oregon.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne L. Foley President
By C. J. Rue Secretary

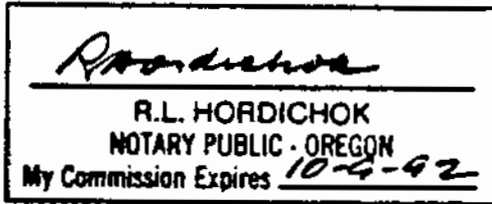
(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90

Personally appeared DWAYNE L FOLEY and C J RUE who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)



Before me: _____
Notary Public for Oregon; My commission expires _____

QUITCLAIM DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantee's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M. and recorded in book/roll/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

WARRANTY DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys and warrants to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights which Grantor received from Longview Fibre Company by Warranty Deed dated April 7, 1986 and recorded at Book 261 Page 753 in the deed records of Columbia County, State of Oregon, free of encumbrances.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne J. Foley President
By C. J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90
Personally appeared DWAYNE L FOLEY and C J RUE
who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

Before me: _____
Notary Public for Oregon; My commission expires _____

WARRANTY DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantor's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name _____ Title _____
By _____ Deputy

BARGAIN AND SALE DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys and releases to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights Grantor received from Columbia County by Bargain and Sale Deed dated July 2, 1986 and recorded at Book 262, Page 946 in the deed records of Columbia County, State of Oregon.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwaine L. Foley President

By C. J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90

Personally appeared DWAYNE L FOLEY and C J RUE

who, each being first duly sworn, did say that the former is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

Before me: _____
Notary Public for Oregon; My commission expires _____

BARGAIN & SALE DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantor's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____ at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

QUITCLAIM DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys, releases and quitclaims to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights which Grantor received from Columbia County by Quitclaim Deed dated July 2, 1986 and recorded at Book 262, Page 968 in the deed records of Columbia County, State of Oregon.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne L. Foley President
By C. J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90

Personally appeared **DWAYNE L. FOLEY** and **C J RUE** who, each being first duly sworn, did say that the former is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

Before me: _____
Notary Public for Oregon; My commission expires

QUITCLAIM DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantor's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

**ASSIGNMENT
of
UNDERGROUND GAS STORAGE LEASES**

Oregon Natural Gas Development Corporation, an Oregon corporation with its principal place of business at 221 N.W. Second Avenue, Portland, Oregon ("Assignor"), does hereby assign and convey to Northwest Natural Gas Company, an Oregon corporation with its principal place of business at 220 N.W. Second Avenue, Portland, Oregon ("Assignee") all of its right, title and interest in the underground storage leases described in Exhibits A, B and C attached hereto.

The true consideration for this Assignment is Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

This Assignment is made without representation of warranty of title, either express or implied, and shall be binding upon and inure to the benefit of the Assignor and Assignee, and their successors and assigns, and shall be effective for all purposes as of April 11, 1988.

Assignor:
OREGON NATURAL GAS DEVELOPMENT CORPORATION

By *Duwayne J. Foley*

STATE OF OREGON

County of MULTNOMAH s.s.

On this 31 day of JULY, 1990 before me, the undersigned, a Notary Public in and for said County and State, personally appeared DWAYNE J. FOLEY known to me to be the PRESIDENT of Oregon Natural Gas Development Corporation, the corporation that executed the within instrument, and known to me to be the person who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same pursuant to its by-laws or a resolution of its board of directors.

Assignee:
NORTHWEST NATURAL GAS COMPANY

By *C. J. Rue*

STATE OF OREGON

County of MULTNOMAH s.s.

On this 31 day of JULY, 1990 before me, the undersigned, a Notary Public in and for said County and State, personally appeared C. J. RUE known to me to be the SECRETARY of Northwest Natural Gas Company, the corporation that executed the within instrument, and known to me to be the person who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same pursuant to its by-laws or a resolution of its board of directors.

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

EXHIBIT A
to
OREGON NATURAL GAS DEVELOPMENT CORPORATION'S
ASSIGNMENT of
UNDERGROUND GAS STORAGE LEASES

Description of Lease

That underground gas storage lease agreement dated January 31, 1983, by and between Oregon Natural Gas Development Corporation, an Oregon corporation, (Lessee) and Crown Zellerbach Corporation, a Nevada corporation, (Lessor) covering certain land situated in the County of Columbia, State of Oregon, described as follows, to wit:

Township 6 North, Range 5 West of Willamette Meridian

Section 2: W 1/2 SW 1/4, W 1/2 SE 1/4 SW 1/4

Section 3: SE 1/4

Section 10: NE 1/4

Section 11: SW 1/4 NE 1/4, NW 1/4, NW 1/4, SE 1/4

(containing 645 acres more or less)

Crown Zellerbach Corporation transferred its interest in this underground storage lease to Cavenham Forest Industries, Inc., a Delaware corporation, on April 23, 1986. Said transfer was recorded on May 2, 1986, at Book 262, Page 58, in the deed records of Columbia County, State of Oregon.

EXHIBIT B

to

OREGON NATURAL GAS DEVELOPMENT CORPORATION'S**ASSIGNMENT of****UNDERGROUND GAS STORAGE LEASES****Description of Lease**

That underground gas storage lease agreement dated November 1, 1983, by and between Oregon Natural Gas Development Corporation, an Oregon corporation, ("Lessee") and Thomas Sweet ("Lessor") covering certain land situated in the County of Columbia, State of Oregon, described as follows, to wit:

Township 6 North, Range 5 West of the Willamette Meridian

Section 2: SW 1/4 NW 1/4

Section 3: S 1/2 NE 1/4

(containing 120 acres more or less)

EXHIBIT C

to

OREGON NATURAL GAS DEVELOPMENT CORPORATION'S**ASSIGNMENT of****UNDERGROUND GAS STORAGE LEASES****Description of Lease**

That underground gas storage lease agreement dated July 6, 1984, by and between Oregon Natural Gas Development Corporation, an Oregon corporation, ("Lessee") and Longview Fibre Company, a Delaware corporation ("Lessor") covering certain land situated in the County of Columbia, State of Oregon, described as follows, to wit:

Township 6 North, Range 5 West of the Willamette Meridian

Section 3: S 1/2 NW 1/4, SW 1/4

Section 4: SE 1/4 NE 1/4, NE 1/4 SE 1/4, E 1/2 SE 1/4
SE 1/4

Section 10 E 1/2 NW 1/4, E 1/2 NW 1/4 NW 1/4, SW 1/4
NW 1/4, NE 1/4 SW 1/4, E 1/2 NW 1/4 SW 1/4,
E 1/2 SE 1/4 SW 1/4, W 1/2 SE 1/4, NE 1/4
SE 1/4, N 1/2 SE 1/4, SE 1/4

Section 11: N 1/2 SW 1/4, N 1/2 SW 1/4 SW 1/4 SW 1/4

(containing 800 acres more or less)

QUITCLAIM DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys, releases and quitclaims to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), effective April 11, 1988, the property rights which Grantor received from the Assignment Agreement entered into by Reichhold Energy Corporation ("REC"), Diamond Shamrock Exploration Company ("DSC"), as assignors, and Grantor, as assignee, on November 1, 1984 wherein REC and DSC assigned all of their right, title and interest in and to the Bruer and Flora pools to Grantor.

The true consideration for this conveyance is \$10.00 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne L Foley President
By C J RUE Secretary

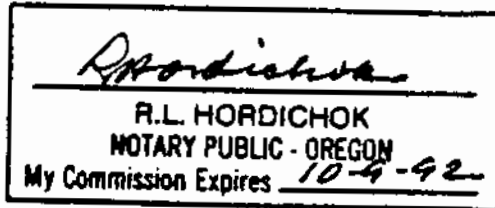
(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90

Personally appeared DWAYNE L FOLEY and C J RUE who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)



Before me: _____
Notary Public for Oregon; My commission expires _____

QUITCLAIM DEED

Oregon Natural Gas Development Corporation
Grantor
Northwest Natural Gas Company
Grantee
220 N.W. Second Avenue
Portland, OR 97209
Grantee's Address, Zip

After recording return to:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209
Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:
Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)
County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____, Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title
By _____ Deputy

WARRANTY DEED

Oregon Natural Gas Development Corporation, an Oregon corporation ("Grantor"), hereby conveys and warrants effective April 11, 1988, to Northwest Natural Gas Company, an Oregon corporation ("Grantee"), the real property described on Exhibit A attached hereto situated in Columbia County, Oregon, free of encumbrances.

The true consideration for this conveyance is \$88,366 and other good and valuable consideration.

Done by order of the grantor's board of directors with its corporate seal affixed on July 31, 1990.

THIS INSTRUMENT DOES NOT GUARANTEE THAT ANY PARTICULAR USE MAY BE MADE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT. A BUYER SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

OREGON NATURAL GAS DEVELOPMENT CORPORATION

By Dwayne L. Foley President

By C. J. Rue Secretary

(Corporate Seal)

STATE OF OREGON, County of Multnomah) ss.

7-31-90

Personally appeared DWAYNE L. FOLEY and C. J. RUE

who, each being first duly sworn, did say that the former is the president and that the latter is the secretary of Oregon Natural Gas Development Corporation, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

(Official Seal)

R. L. Hordichok
R.L. HORDICHOK
NOTARY PUBLIC - OREGON
My Commission Expires 10-9-92

Before me: _____
Notary Public for Oregon; My commission expires _____

WARRANTY DEED

Oregon Natural Gas Development Corporation

Grantor

Northwest Natural Gas Company

Grantee

220 N.W. Second Avenue
Portland, OR 97209

Grantee's Address, Zip

After recording return to:

Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

Name, Address, Zip

Until a change is requested, all tax statements shall be sent to the following address:

Northwest Natural Gas Company
Risk & Land Management
220 N.W. Second Avenue
Portland, OR 97209

STATE OF OREGON,)

County of _____)

I certify that the within instrument was received for record on the _____ day of _____, 19____, at _____ o'clock _____ M, and recorded in book/reel/volume No. _____ on page _____ or as document/fee/file/instrument/microfilm No. _____. Record of Deeds of said county.

Witness my hand and seal of County affixed.

Name Title

By _____ Deputy

EXHIBIT A
to
WARRANTY DEED
of
OREGON NATURAL GAS DEVELOPMENT CORPORATION

Property Description

A tract of land located in the northwest quarter of Section 11, Township 6 North, Range 5 West of the Willamette Meridian, Columbia County, Oregon, more particularly described as follows:

Beginning at a point that bears South 88° 51' 00" East, 1,908.21 feet from the west quarter corner of said Section 11; thence North 14° 18' 08" East, 561.56 feet; thence on the arc of a 255.00 foot radius curve to the left with a chord that bears North 17° 00' 08" West, 264.99 feet, an arc distance of 278.65 feet; thence North 48° 18' 25" West, 338.55 feet; thence on the arc of a 350.00 foot radius curve to the right with a chord that bears North 20° 54' 25" West, 322.14 feet, an arc distance of 334.76 feet; thence North 06° 29' 36" East, 100.74 feet; thence on the arc of a 32.00 foot radius curve to the right with a chord that bears North 70° 56' 14" east, 57.74 feet, an arc distance of 71.99 feet to a point of compound curve; thence on the arc of a 280.00 foot radius curve to the right with a chord that bears South 33° 53' 41" East, 104.20 feet, an arc distance of 104.82 feet; thence South 236,36 10' 14" East, 184.00 feet; thence on the arc of a 360.00 foot radius curve to the left with a chord that bears South 52° 1' 31" East, 347.47 feet, an arc distance of 362.60 feet; thence South 80° 52' 48" East, 85.22 feet; thence on the arc of a 180.00 foot radius curve to the right with a chord that bears South 60° 42' 10" East, 124.17 feet, an arc distance of 126.78 feet to a point of reverse curve; thence on the arc of a 330.00 foot radius curve to the left with a chord that bears South 57° 29' 7" East, 192.52 feet, an arc distance of 195.36 feet; thence South 74° 26' 42" East, 79.20 feet; thence on the arc of a 60.00 foot radius curve to the right with a chord that bears South 29° 41' 37" East, 84.48 feet, an arc distance of 93.73 feet; thence South 15° 03' 28" West, 209.50 feet; thence South 28° 50' 51" West, 108.11 feet; thence on the arc of a 273.50 foot radius curve to the left with a chord that bears South 01° 37' 57" West, 250.16 feet, an arc distance of 259.82 feet; thence South 25° 34' 58" East, 183.86 feet to a point that bears North 88° 51' 00" West, 161.48 feet from the center of said Section 11; thence North 88° 51' 00" West, 602.58 feet to the point of beginning.

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Division
Courthouse, St. Helens, Oregon 97051

397-1501

- | | |
|--|---|
| <input type="checkbox"/> Zone Change | <input type="checkbox"/> Non-Conforming Use |
| <input checked="" type="checkbox"/> Conditional Use Permit | <input type="checkbox"/> Variance |
| <input type="checkbox"/> Planned Development | <input type="checkbox"/> Temporary Use Permit |
| <input type="checkbox"/> Willamette River Greenway Permit | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Exception | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Special Review Permit | |

Name of applicant or agent: Northwest Natural Gas Co.

Mailing Address: 220 N.W. Second Ave. Phone: Office 220-2573
Portland, Or. 97209 Home 359-4956

Location or County Road See below Total Acreage _____

Tax Account Number _____ Township 6N Range 5W Section 11

List other contiguous property under your ownership: _____

1. Proposed use(s), sequence of construction, anticipated timetable for project, and specific reason for the request:

Drilling of gas well for the injection and withdrawal
of natural gas for underground storage

See Exhibit "A"

Wellsite IW 13b-11 Cavenham Forest Industries - Surface Owner

Surface location: 270' North and 350' East from the west

1/4 corner of section 11; Bottom hole location: 80' South and

250' East from the West 1/4 corner

2. Present use of the property: Forest Land

3. Method of sewage disposal: _____

4. Water Supply: Well _____ Community _____ Other _____

5. Has Subsurface Sewage Department approved this request? Yes _____ No X
Not Consulted X

6. Total employees and/or occupants: Present _____ Proposed _____

7. Present Zoning Primary Forest Land

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge and belief.

8/3/90
Date

[Signature]
Applicant or Agent

For Office Use Only

Receipt No. _____ Fee _____ Date Received _____
Hearing Date _____ Staff Member _____
Present Zoning _____

NOTE: Attach accurate and detailed plot plan indicating such items as property lines, dimensions, and all existing and proposed facilities, etc.

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Commission Division
Courthouse, St. Helens, Oregon 97051
Phone: 397-1501

CONDITIONAL USE PERMIT FACT SHEET

Please complete the following:

1. What type of use will occur on the property if the conditional use is allowed?

Drilling Well to inject and withdraw natural gas for underground storage.

2. Why is the property in question suitable for this use? Located in

developed gas storage field and is compatible with surrounding area.

3. Is the use compatible with surrounding uses? Yes X No

In what way? The Well installation for injection and withdrawal is very

localized with minimal impact on present use of property.

4. Will the use affect the existing public facilities or surrounding property or neighbors? No.

5. Will a public need or convenience be met by this use that is not already being met in the general area? Yes.

In what way?

This Well will assist in the operation of the Mist Underground

Storage Field which will contribute to providing an energy source for the area's

future demands.

The applicant must submit the following 35 DAY PRIOR to the Planning Commission hearing regularly scheduled for the 1st Monday of each month.

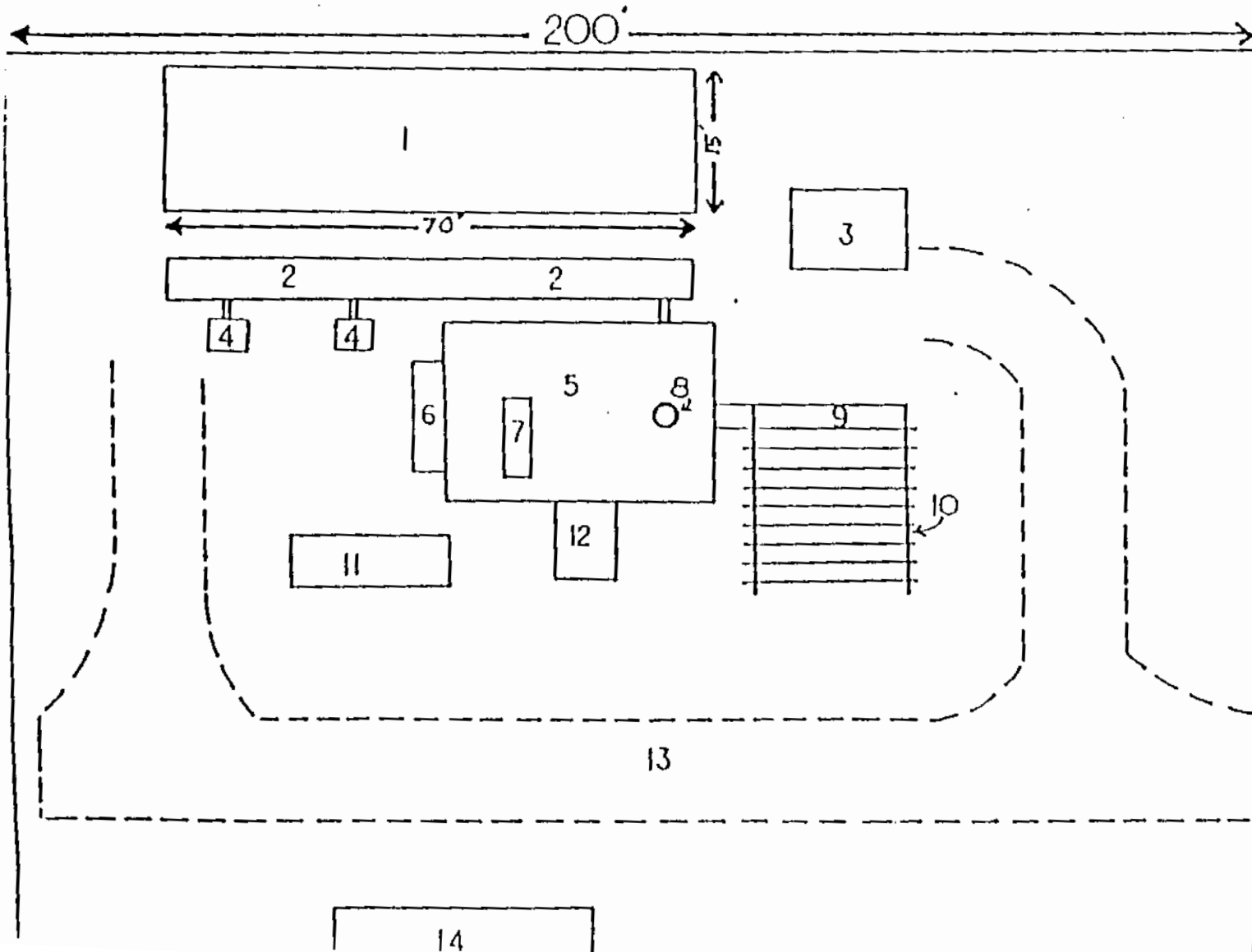
1. Answers to the above questions.
2. The application form attached.
3. Vicinity map.
4. One hundred and twenty-five dollar ^{4175.00} ~~(125.00)~~ fee

EXHIBIT A

NORTHWEST NATURAL GAS COMPANY COLUMBIA COUNTY CONDITIONAL USE PERMIT APPLICATION DRILLING & CONSTRUCTION PROCEDURE

1. Drill pad is constructed and gravelled, as required, per site plan. Reserve pit is dug according to DOGAMI requirements. Conductor casing is set and rat hole is drilled.
2. Drilling rig is moved in and rigged up.
3. Drilling operations commence. A 17 1/2" hole is drilled to approximately 450' and surface casing is run and cemented to surface.
4. Weld on wellhead, rig up blow out preventer test per DOGAMI requirements.
5. Drill a 12 1/4" hole to the top of the zone of interest. Evaluate hole with wire line tools.
6. Casing is run to bottom and cemented to surface.
7. Drilling continues to the objective total depth. The open hole below casing is evaluated with wireline tools.
8. A slotted liner is run and set below the casing. Gravel is placed behind the liner and production tools and tubing are run and the production tree installed.
9. The reserved pit is cleaned and back filled. Any portion of the drill site location no longer needed is restored to original condition.

COLUMBIA COUNTY
 Site Plan
 Drill Site for Observation and Monitoring
 Underground Gas Storage Field
 OREGON NATURAL GAS DEVELOPMENT CORPORATION
 Taylor Drilling Company, Rig #5



1. Drill Cuttings Sump
2. Drilling Muds Tanks
3. Mud Loggers Trailer
4. Mud Pumps
5. Drill Rig Floor
6. Diesel Tank
7. Draw Works
8. Drill Hole
9. Cat Walk
10. Pipe Racks
11. Water Tank
12. Dog House
13. Location Roads
14. Tool House and Gene. Building

WATER SOURCE: TRUCKED I

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Division
Courthouse, St. Helens, Oregon 97051

397-1501

- Zone Change
- Conditional Use Permit
- Planned Development
- Willamette River Greenway Permit
- Exception
- Special Review Permit
- Non-Conforming Use
- Variance
- Temporary Use Permit
- _____
- _____

Name of applicant or agent: Northwest Natural Gas Company

Mailing Address: 220 N.W. Second Avenue Phone: Office 220-2573
Portland, OR 97209 Home 359-4956

Location or County Road See below Total Acreage _____

Tax Account Number _____ Township 6N Range 5W Section 3

List other contiguous property under your ownership: _____

1. Proposed use(s), sequence of construction, anticipated timetable for project, and specific reason for the request:

Drilling of gas well for the injection and withdrawal of
natural gas for underground storage

See Exhibit "A"

Wellsite IW33ac-3 Cavenham Forest Industries - surface owner

Surface location: 1700' West and 1070' South from the east
1/4 corner of Sec. 3. Bottom hole location: 2025' west
and 750' South from the East 1/4 corner

2. Present use of the property: Forest Land/Existing I/W wellsite

3. Method of sewage disposal: _____

4. Water Supply: Well _____ Community _____ Other _____

5. Has Subsurface Sewage Department approved this request? Yes _____ No X
Not Consulted X

6. Total employees and/or occupants: Present _____ Proposed _____

7. Present Zoning Primary forest land

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge and belief.

8/3/90
Date

[Signature]
Applicant or Agent

For Office Use Only

Receipt No. _____ Fee _____ Date Received _____
Hearing Date _____ Staff Member _____
Present Zoning _____

NOTE: Attach accurate and detailed plot plan indicating such items as property lines, dimensions, and all existing and proposed facilities, etc.

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Commission Division
Courthouse, St. Helens, Oregon 97051
Phone: 397-1501

CONDITIONAL USE PERMIT FACT SHEET

Please complete the following:

1. What type of use will occur on the property if the conditional use is allowed?

Drilling well to inject and withdraw natural gas for underground storage.

2. Why is the property in question suitable for this use? Located in

developed gas storage field and is compatible with surrounding area.

3. Is the use compatible with surrounding uses? Yes X No

In what way? The well installation for injection and withdrawal is very
localized with minimal impact on present use of property.

4. Will the use affect the existing public facilities or surrounding property or neighbors? No

5. Will a public need or convenience be met by this use that is not already being met in the general area? Yes

In what way? This well will assist in the operation of the Mist
underground storage field which will contribute to providing an energy
source for the area's future demands.

The applicant must submit the following 35 DAY PRIOR to the Planning Commission hearing regularly scheduled for the 1st Monday of each month.

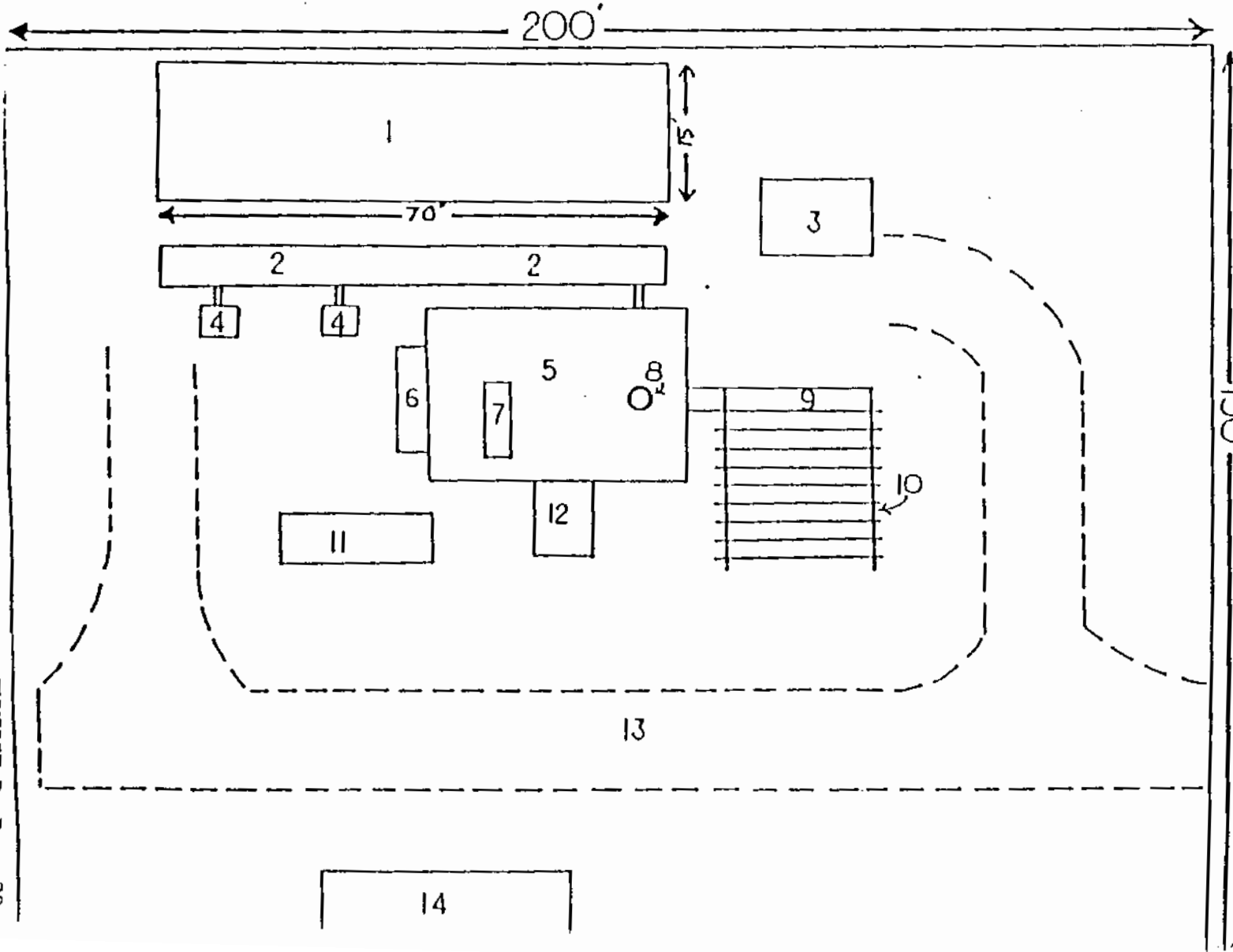
1. Answers to the above questions.
2. The application form attached.
3. Vicinity map.
4. One hundred and twenty-five dollar ^{4,175.00} ~~(\$125.00)~~ fee

EXHIBIT A

NORTHWEST NATURAL GAS COMPANY COLUMBIA COUNTY CONDITIONAL USE PERMIT APPLICATION DRILLING & CONSTRUCTION PROCEDURE

1. Drill pad is constructed and gravelled, as required, per site plan. Reserve pit is dug according to DOGAMI requirements. Conductor casing is set and rat hole is drilled.
2. Drilling rig is moved in and rigged up.
3. Drilling operations commence. A 17 1/2" hole is drilled to approximately 450' and surface casing is run and cemented to surface.
4. Weld on wellhead, rig up blow out preventer test per DOGAMI requirements.
5. Drill a 12 1/4" hole to the top of the zone of interest. Evaluate hole with wire line tools.
6. Casing is run to bottom and cemented to surface.
7. Drilling continues to the objective total depth. The open hole below casing is evaluated with wireline tools.
8. A slotted liner is run and set below the casing. Gravel is placed behind the liner and production tools and tubing are run and the production tree installed.
9. The reserved pit is cleaned and back filled. Any portion of the drill site location no longer needed is restored to original condition.

COLUMBIA COUNTY
 Site Plan
 Drill Site for Observation and Monitoring
 Underground Gas Storage Field
 OREGON NATURAL GAS DEVELOPMENT CORPORATION
 Taylor Drilling Company, Rig #5



1. Drill Cuttings Sump
2. Drilling Muds Tanks
3. Mud Loggers Trailer
4. Mud Pumps
5. Drill Rig Floor
6. Diesel Tank
7. Draw Works
8. Drill Hole
9. Cat Walk
10. Pipe Racks
11. Water Tank
12. Dog House
13. Location Roads
14. Tool House and General Building

WATER SOURCE: TRUCKED I

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Division
Courthouse, St. Helens, Oregon 97051

397-1501

- Zone Change
- Conditional Use Permit
- Planned Development
- Willamette River Greenway Permit
- Exception
- Special Review Permit
- Non-Conforming Use
- Variance
- Temporary Use Permit
- _____

Name of applicant or agent: Northwest Natural Gas Company

Mailing Address: 220 N.W. Second Avenue Phone: Office 220-2573
Portland, OR 97209 Home 359-4956

Location or County Road See below Total Acreage _____

Tax Account Number _____ Township 6N Range 5W Section 3

List other contiguous property under your ownership: _____

1. Proposed use(s), sequence of construction, anticipated timetable for project, and specific reason for the request:

Drilling of gas well for the injection and withdrawal of
natural gas for underground storage

See Exhibit "A"

Wellsite IW 23d-3 Longview Fibre Co. surface owner

Surface location: 330' South and 2470' East from the West 1/4 corner
of Sec. 3. Bottom hole location: 800' South and 2500' East from the
west 1/4 corner

2. Present use of the property: Forest land

3. Method of sewage disposal: _____

4. Water Supply: Well _____ Community _____ Other _____

5. Has Subsurface Sewage Department approved this request? Yes _____ No X
Not Consulted X

6. Total employees and/or occupants: Present _____ Proposed _____

7. Present Zoning primary forest land

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge and belief.

8/3/90
Date

Yadd A. Thomas
Applicant or Agent

For Office Use Only

Receipt No. _____ Fee _____ Date Received _____
Hearing Date _____ Staff Member _____
Present Zoning _____

NOTE: Attach accurate and detailed plot plan indicating such items as property lines, dimensions, and all existing and proposed facilities, etc.

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Commission Division
Courthouse, St. Helens, Oregon 97051
Phone: 397-1501

CONDITIONAL USE PERMIT FACT SHEET

Please complete the following:

1. What type of use will occur on the property if the conditional use is allowed?
Drilling well to inject and withdraw natural gas for underground storage.
2. Why is the property in question suitable for this use? Located in
developed gas storage field and is compatible with surrounding area.
3. Is the use compatible with surrounding uses? Yes X No
In what way? The well installation for injection and withdrawal is very
localized with minimal impact on present use of property.
4. Will the use affect the existing public facilities or surrounding property or neighbors? No
5. Will a public need or convenience be met by this use that is not already being met in the general area? Yes
In what way? This well will assist in the operation of the Mist underground
storage field which will contribute to providing an energy source for the
area's future demands.

The applicant must submit the following 35 DAY PRIOR to the Planning Commission hearing regularly scheduled for the 1st Monday of each month.

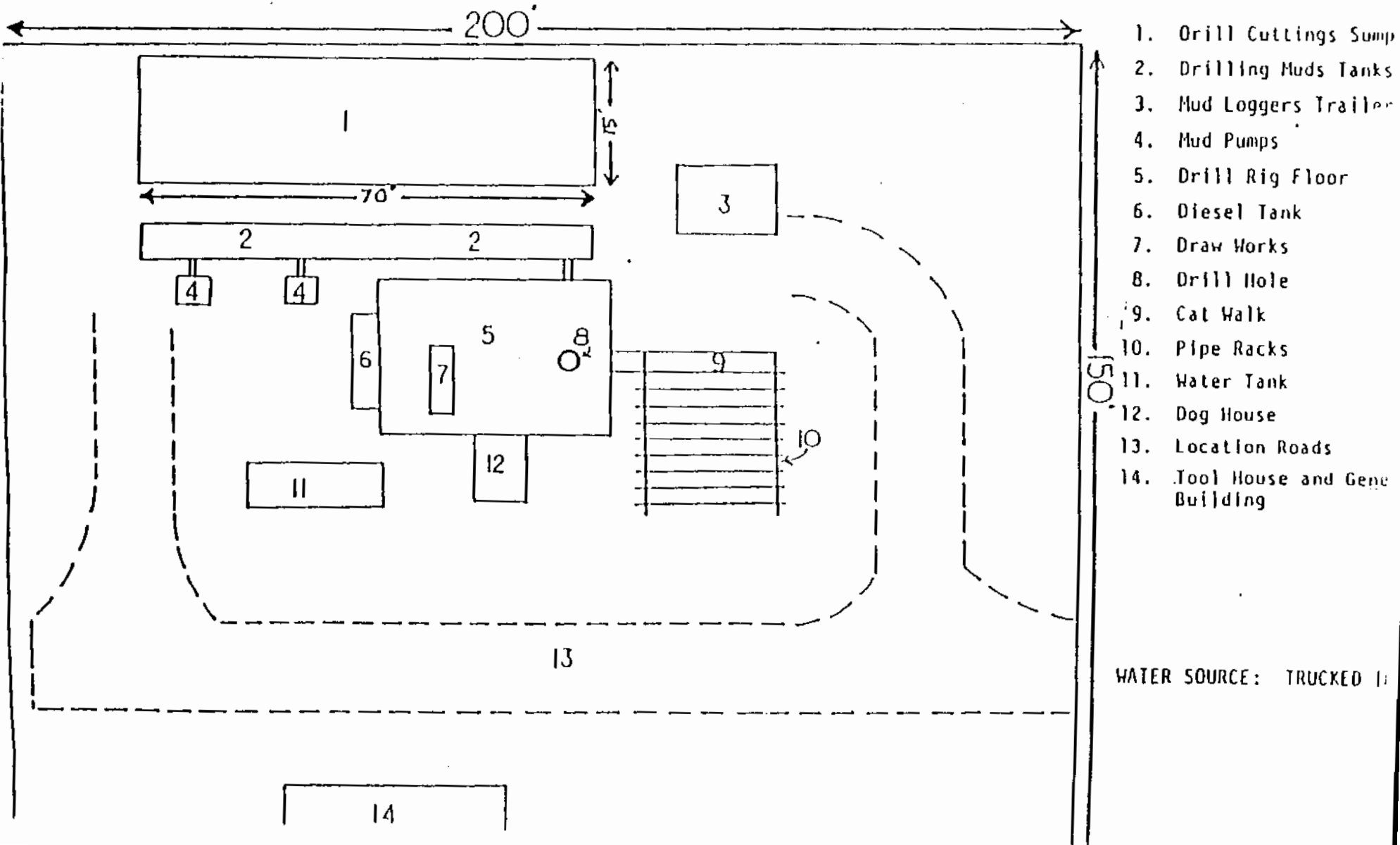
1. Answers to the above questions.
2. The application form attached.
3. Vicinity map.
4. One hundred and twenty-five dollar ^{4,175.00} ~~(3125.00)~~ fee

EXHIBIT A

NORTHWEST NATURAL GAS COMPANY COLUMBIA COUNTY CONDITIONAL USE PERMIT APPLICATION DRILLING & CONSTRUCTION PROCEDURE

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COLUMBIA COUNTY
 Site Plan
 Drill Site for Observation and Monitoring
 Underground Gas Storage Field
 OREGON NATURAL GAS DEVELOPMENT CORPORATION
 Taylor Drilling Company, Rig #5



1. Drill Cuttings Sump
2. Drilling Muds Tanks
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WATER SOURCE: TRUCKED IN

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Division
Courthouse, St. Helens, Oregon 97051

397-1501

- | | |
|--|---|
| <input type="checkbox"/> Zone Change | <input type="checkbox"/> Non-Conforming Use |
| <input checked="" type="checkbox"/> Conditional Use Permit | <input type="checkbox"/> Variance |
| <input type="checkbox"/> Planned Development | <input type="checkbox"/> Temporary Use Permit |
| <input type="checkbox"/> Willamette River Greenway Permit | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Exception | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Special Review Permit | |

Name of applicant or agent: Northwest Natural Gas Co.

Mailing Address: 220 N.W. Second Ave. Phone: Office 220-2573
Portland, OR 97209 Home 359-4956

Location or County Road See below Total Acreage _____

Tax Account Number _____ Township 6N Range 5W Section 10

List other contiguous property under your ownership: _____

- Proposed use(s), sequence of construction, anticipated timetable for project, and specific reason for the request:
Drilling of gas well for the injection and withdrawal of natural gas for underground storage
See Exhibit "A"
Wellsite IW32c-10 Longview Fibre-Surface ownership
Surface location; 2670' E and 285' N from the west 1/4 corner of Sec. 10. Bottom hole location: 110' North and 2715' east from the west 1/4 corner
- Present use of the property: Forest land/existing I/W well site
- Method of sewage disposal: _____
- Water Supply: Well _____ Community _____ Other _____
- Has Subsurface Sewage Department approved this request? Yes _____ No X
Not Consulted X
- Total employees and/or occupants: Present _____ Proposed _____
- Present Zoning Primary forest land

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge and belief.

8/3/90 Date [Signature] Applicant or Agent

For Office Use Only

Receipt No. _____ Fee _____ Date Received _____
Hearing Date _____ Staff Member _____
Present Zoning _____

NOTE: Attach accurate and detailed plot plan indicating such items as property lines, dimensions, and all existing and proposed facilities, etc.

COLUMBIA COUNTY LAND DEVELOPMENT SERVICES
Planning Commission Division
Courthouse, St. Helens, Oregon 97051
Phone: 397-1501

CONDITIONAL USE PERMIT FACT SHEET

Please complete the following:

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Drilling well to inject and withdraw natural gas for underground storage.

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developed gas storage field and is compatible with surrounding area.

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In what way? The well installation for injection and withdrawal is very
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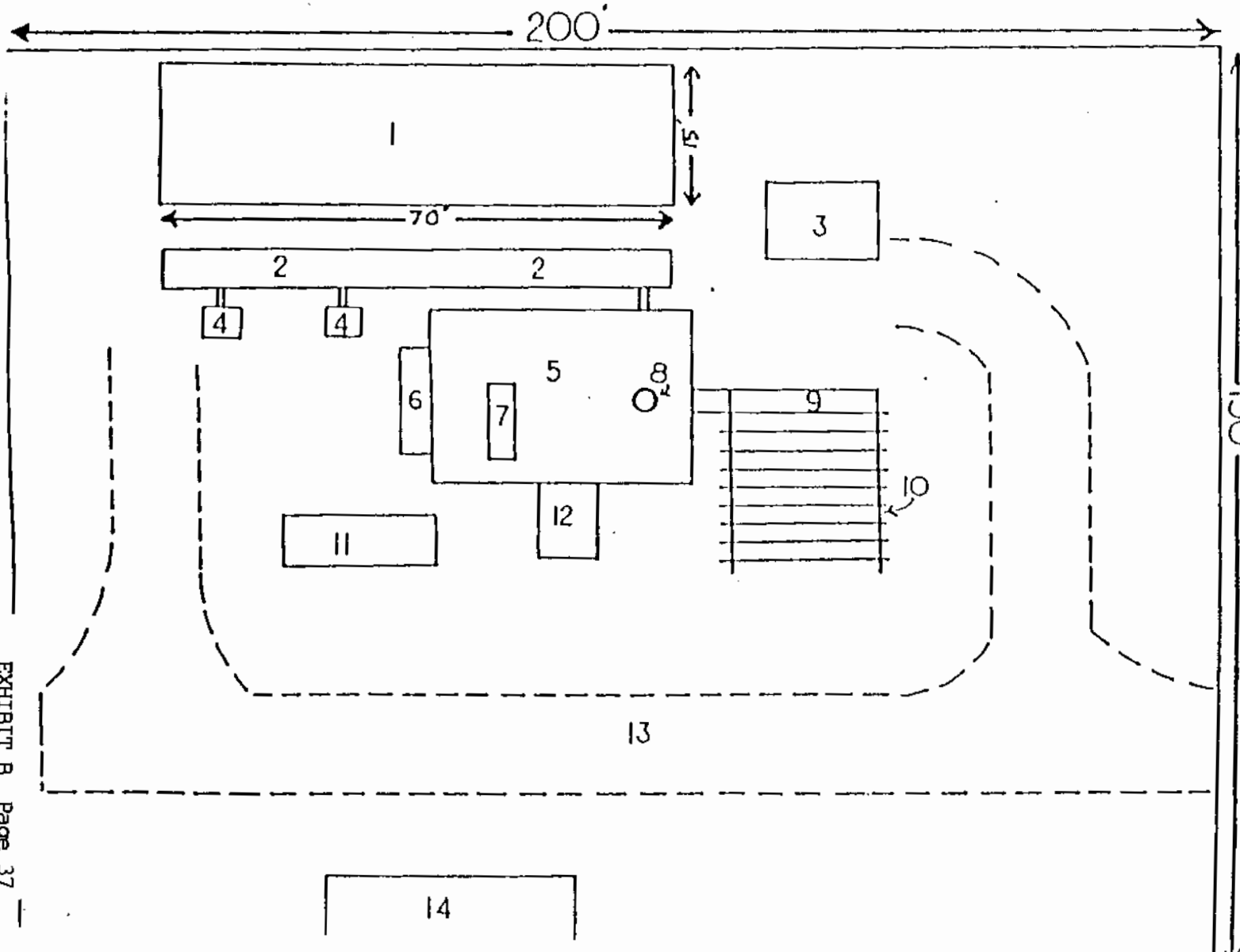
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COLUMBIA COUNTY
 Site Plan
 Drill Site for Observation and Monitoring
 Underground Gas Storage Field
 OREGON NATURAL GAS DEVELOPMENT CORPORATION
 Taylor Drilling Company, Rig #5



1. Drill Cuttings Sump
2. Drilling Muds Tanks
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6. Diesel Tank
7. Draw Works
8. Drill Hole
9. Cat Walk
10. Pipe Racks
11. Water Tank
12. Dog House
13. Location Roads
14. Tool House and General Building

WATER SOURCE: TRUCKED IN

T. 7 N., R. 5 W.

T. 6 N., R. 5 W.

L.F. Co.

M/L

3

Δ 120-3

○ CC-1A3

○ CC 32-3

○ CC 33-3
Δ 33C-B
W 33ac-3

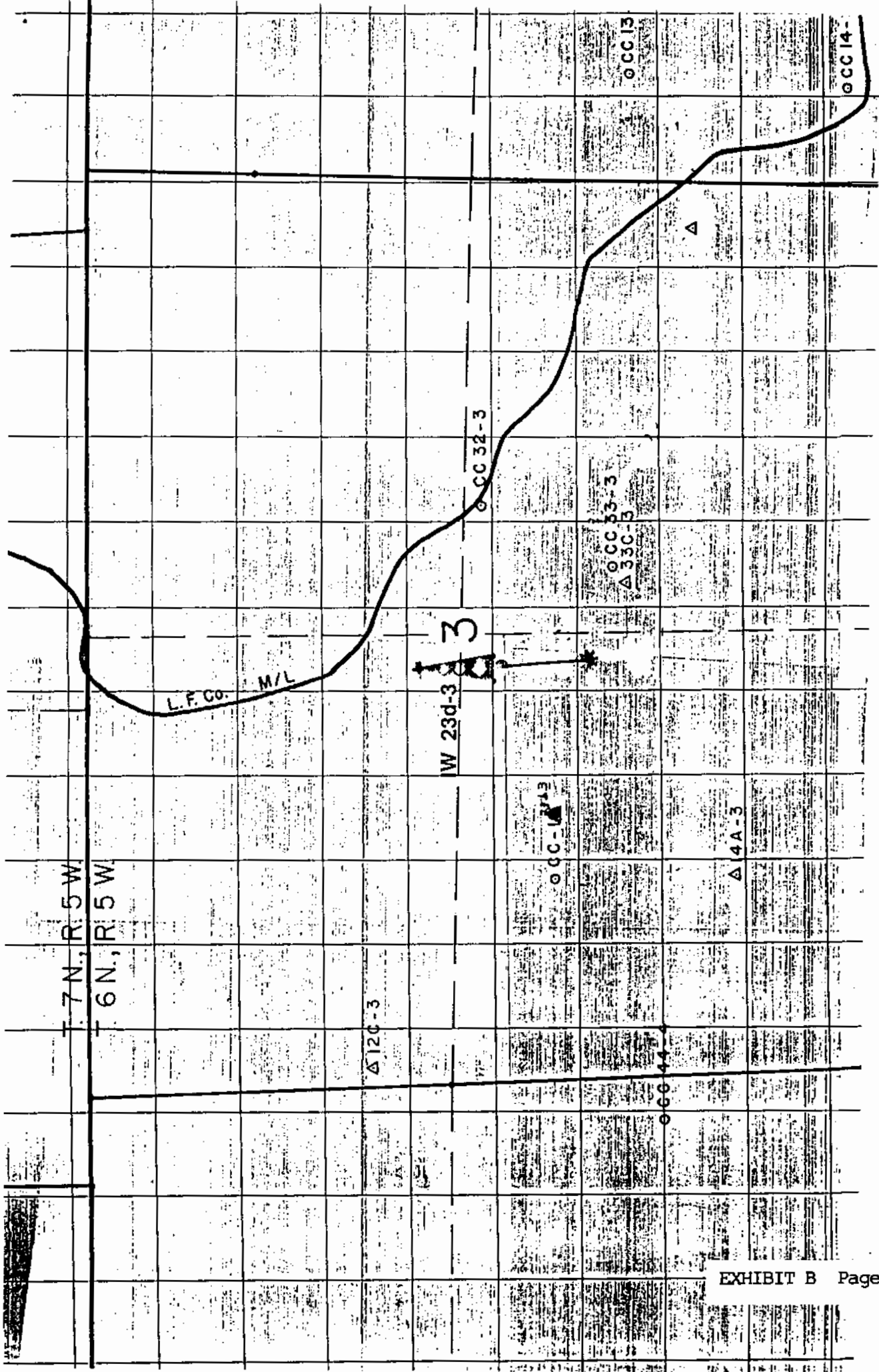
○ CC 13

○ CC 4A

Δ 4A-3

Δ

○ CC 14-



**MIST-BIRKENFELD RURAL
FIRE PROTECTION DISTRICT**

MAILING

ADDRESS: Olympic Road, Mist Route
Clatskanie, Oregon 97016

LOCATION: Olympic Road
Mist, Oregon

TELEPHONE NO.: (503) 220-2573

APPLICATION TO DRILL, OWN, OPERATE OR MAINTAIN OIL WELL

DATE: July 31, 19 90

PERMISSION IS HEREBY REQUESTED OF THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT TO DRILL, OWN, OPERATE OR MAINTAIN IN ACCORDANCE WITH THE DISTRICT FIRE PREVENTION CODE THE FOLLOWING DESCRIBED OIL WELL:

OWNER Northwest Natural Gas Co.

ADDRESS 220 N.W. Second Ave., Portland, Or. 97209

APPLICANT Northwest Natural Gas Co.

ADDRESS 220 N.W. Second Ave., Portland, Or. 97209

NAME OR NO. OF WELL IW 13b-11 **LEASE NAME** Northwest Natural Gas Co.

LOCATION (NEAREST STREET ADDRESS OR LEGAL DESCRIPTION) 270' North and 350' East

from the west 1/4 corner of section 11 T.6N: R.5W

Cavenham Forest Industry - Surface owner

NAME OF OIL FIELD Mist Underground Storage

BY *Ella A. Jones*

TELEPHONE NO. (503) 220-2573

REMARKS: SUBMIT PLOT PLAN SHOWING LOCATION OF EACH WELL

PERMIT FEE OF \$100.00 MUST BE PAID WHEN APPLICATION IS MADE AND REMITTANCE MUST BE IN CASH, CHECK OR MONEY ORDER PAYABLE TO THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT.

 PERMIT ISSUED **PERMIT NUMBER** **RECEIPT NUMBER**

**MIST-BIRKENFELD RURAL
FIRE PROTECTION DISTRICT**

MAILING

ADDRESS: Olympic Road, Mist Route
Clatskanie, Oregon 97016

LOCATION: Olympic Road
Mist, Oregon

TELEPHONE NO.: (503) 220-2573

APPLICATION TO DRILL, OWN, OPERATE OR MAINTAIN OIL WELL

DATE: July 31, 19 90

PERMISSION IS HEREBY REQUESTED OF THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT TO DRILL, OWN, OPERATE OR MAINTAIN IN ACCORDANCE WITH THE DISTRICT FIRE PREVENTION CODE THE FOLLOWING DESCRIBED OIL WELL:

OWNER Northwest Natural Gas Co.

ADDRESS 220 N.W. Second Avenue, Portland, OR 97209

APPLICANT Northwest Natural Gas Co.

ADDRESS 220 N.W. Second Avenue, Portland, OR 97209


NAME OR NO. OF WELL IW33ac-3 **LEASE NAME** Northwest Natural Gas Co.

LOCATION (NEAREST STREET ADDRESS OR LEGAL DESCRIPTION) 1700' West and 1070' South

from the east 1/4 corner of Sec. 3; T6N; R5W

Cavenham Forest Industries - surface owner

NAME OF OIL FIELD Mist Underground Storage

BY 

TELEPHONE NO. (503) 220-2573

REMARKS: SUBMIT PLOT PLAN SHOWING LOCATION OF EACH WELL.

PERMIT FEE OF \$100.00 MUST BE PAID WHEN APPLICATION IS MADE AND REMITTANCE MUST BE IN CASH, CHECK OR MONEY ORDER PAYABLE TO THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT.

PERMIT ISSUED _____ **PERMIT NUMBER** _____ **RECEIPT NUMBER** _____

MIST-BIRKENFELD RURAL
FIRE PROTECTION DISTRICT

MAILING

ADDRESS: Olympic Road, Mist Route
Clatskanie, Oregon 97016

LOCATION: Olympic Road
Mist, Oregon

TELEPHONE NO.: (503) 220-2573

APPLICATION TO DRILL, OWN, OPERATE OR MAINTAIN OIL WELL

DATE: July 31, 1990

PERMISSION IS HEREBY REQUESTED OF THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT TO DRILL, OWN, OPERATE OR MAINTAIN IN ACCORDANCE WITH THE DISTRICT FIRE PREVENTION CODE THE FOLLOWING DESCRIBED OIL WELL:

OWNER Northwest Natural Gas Company

ADDRESS 220 N.W. Second Avenue, Portland, OR 97209

APPLICANT Northwest Natural Gas Company

ADDRESS 220 N.W. Second Avenue, Portland, OR 97209

NAME OR NO. OF WELL IW23d-3 LEASE NAME Northwest Natural Gas Co.

LOCATION (NEAREST STREET ADDRESS OR LEGAL DESCRIPTION) _____

330' South and 2470' East from the west 1/4 corner of Sec. 3; T6N; R5W

Longview Fibre Co. - surface owner

NAME OF OIL FIELD Mist Underground Storage

By *Jedd Thomas*

TELEPHONE NO. (503) 220-2573

REMARKS: SUBMIT PLOT PLAN SHOWING LOCATION OF EACH WELL

PERMIT FEE OF \$100.00 MUST BE PAID WHEN APPLICATION IS MADE AND REMITTANCE MUST BE IN CASH, CHECK OR MONEY ORDER PAYABLE TO THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT.

_____ PERMIT ISSUED _____ PERMIT NUMBER _____ RECEIPT NUMBER _____

MIST-BIRKENFELD RURAL
FIRE PROTECTION DISTRICT

MAILING

ADDRESS: Olympic Road, Mist Route
Clatskanie, Oregon 97016

LOCATION: Olympic Road
Mist, Oregon

TELEPHONE NO.: (503) 220-2573

APPLICATION TO DRILL, OWN, OPERATE OR MAINTAIN OIL WELL

DATE: July 31, 1990

PERMISSION IS HEREBY REQUESTED OF THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT TO DRILL, OWN, OPERATE OR MAINTAIN IN ACCORDANCE WITH THE DISTRICT FIRE PREVENTION CODE THE FOLLOWING DESCRIBED OIL WELL:

OWNER Northwest Natural Gas Company

ADDRESS 220 N.W. Second Avenue, Portland, OR 97209

APPLICANT Northwest Natural Gas Company


ADDRESS 220 N.W. Second Avenue, Portland, OR 97209

NAME OR NO. OF WELL IW32c-10 LEASE NAME Northwest Natural Gas Co.

LOCATION (NEAREST STREET ADDRESS OR LEGAL DESCRIPTION) 285' North and 2670' East from
the west 1/4 corner of Sec. 10 T6N; R5W

Longview Fibre Co. surface owner

NAME OF OIL FIELD Mist Underground Storage

BY 

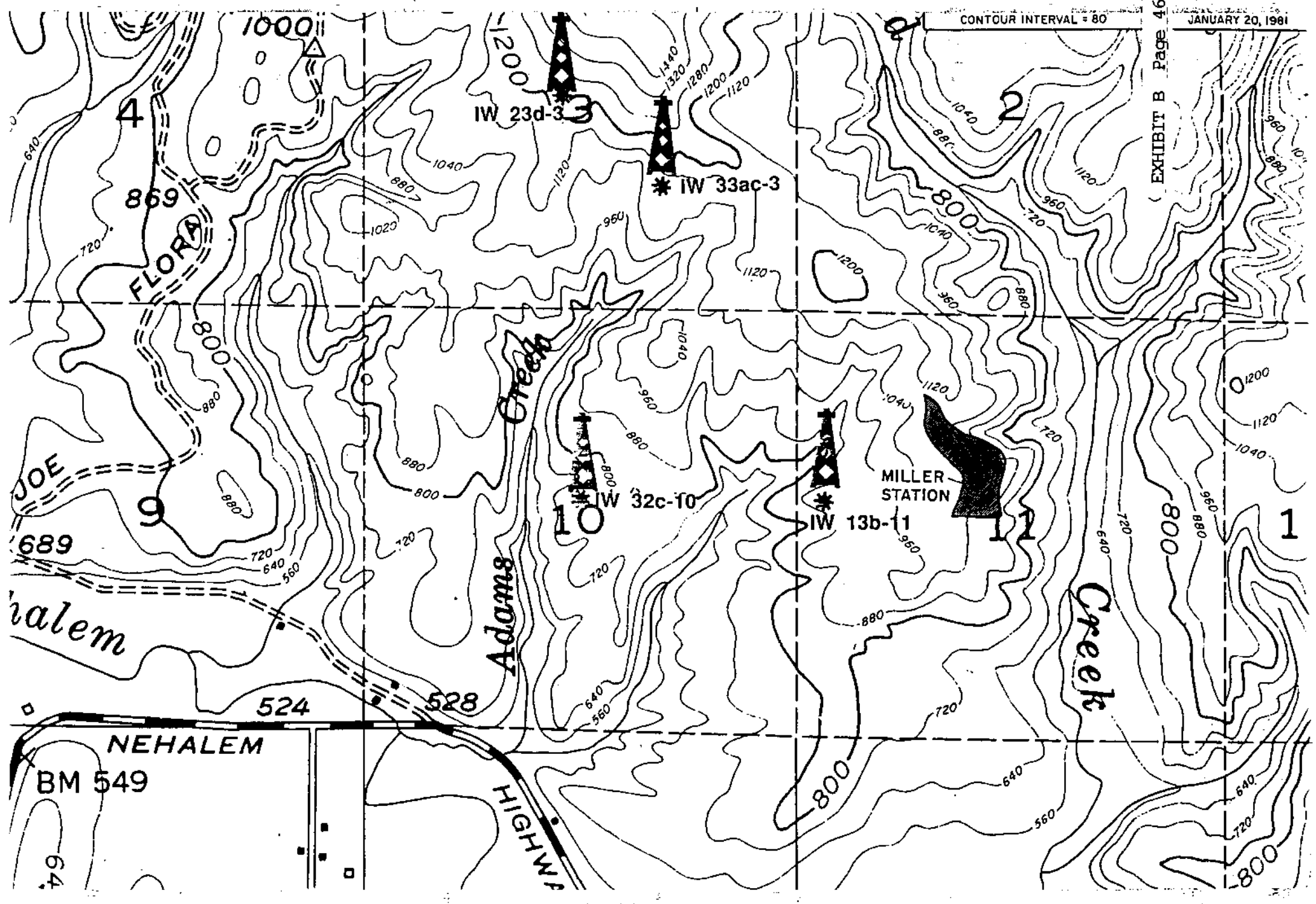
TELEPHONE NO. (503) 220-2573

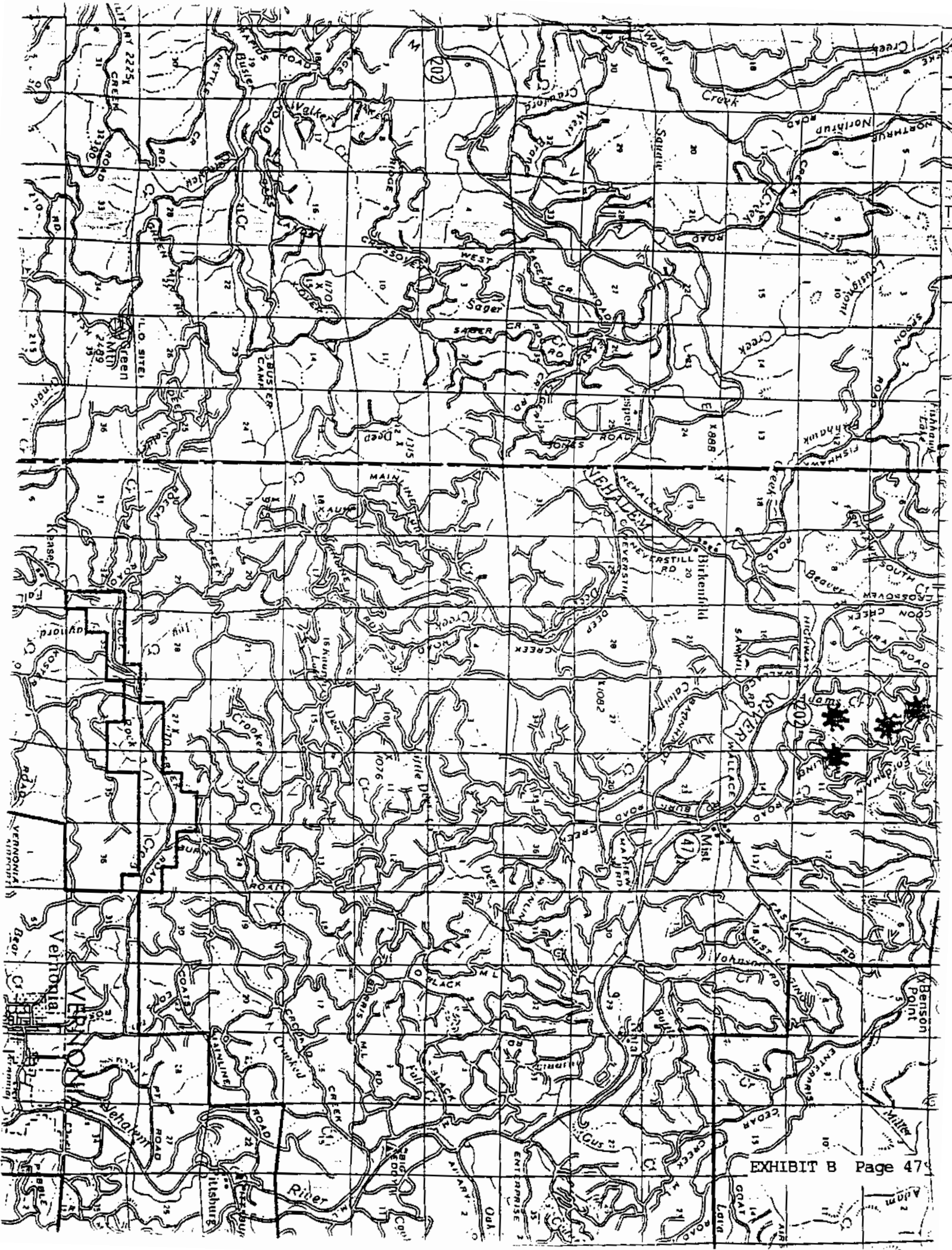
REMARKS: SUBMIT PLOT PLAN SHOWING LOCATION OF EACH WELL

PERMIT FEE OF \$100.00 MUST BE PAID WHEN APPLICATION IS MADE AND REMITTANCE MUST BE IN CASH, CHECK OR MONEY ORDER PAYABLE TO THE MIST-BIRKENFELD RURAL FIRE PROTECTION DISTRICT.

 PERMIT ISSUED PERMIT NUMBER RECEIPT NUMBER

CONTOUR INTERVAL = 80





SIDE ONE

NOTIFICATION OF OPERATION / APPLICATION FOR PERMITS STATE OF OREGON DEPARTMENT OF FORESTRY DEPARTMENT OF REVENUE			Notification No. _____
1 County (Enter only one): <u>Columbia</u>			Previous Notification No. _____
2	Check Appropriate Boxes (2A, 2B, 2C, or 2D):		FPH Tax Class: _____
	<input checked="" type="checkbox"/>	2A NOTICE TO THE STATE FORESTER THAT OPERATION WILL BE CONDUCTED ON LANDS DESCRIBED ON REVERSE (ORS 527.670).	Date Received: _____
	<input type="checkbox"/>	2B APPLICATION FOR PERMIT TO OPERATE POWER DRIVEN MACHINERY (ORS 477.625). Expires at end of calendar year.	Time Received: _____
	<input type="checkbox"/>	2C APPLICATION FOR PERMIT TO CLEAR RIGHTS-OF-WAY (ORS 477.685).	
<input type="checkbox"/>	2D NOTICE TO THE STATE FORESTER AND THE DEPARTMENT OF REVENUE OF THE INTENT TO HARVEST TIMBER (ORS 321.550).		
3 Person to be contacted in case of Fire Emergency (Designated Representative). Phone No. PLEASE PRINT! <u>Todd A. Thomas (503) 220-2573 (day)</u> <u>(503) 359-4956 (night)</u>			District: _____
CHECK ONE BOX IN THE FAR LEFT COLUMN TO INDICATE WHO FILLED OUT THE APPLICATION.			
<input checked="" type="checkbox"/>	4 Operator Information	Name/Title <u>Todd Thomas - Senior Operations Superintendent</u>	Office: _____
		Company Name <u>Northwest Natural Gas Co.</u>	Subscriber: _____
		Mailing Address - Street <u>220 N.W. Second Ave.</u>	Subscriber: _____
		City, State and Zip Code <u>Portland, OR 97209</u>	Subscriber: _____
		Phone No. <u>(503) 220-2573</u>	Subscriber: _____
<input type="checkbox"/>	5 Landowner Information	Name/Title	RC: _____
		Company Name <u>Longview Fibre Co.</u>	EG: _____
		Mailing Address - Street <u>P.O. Box 667</u>	S: _____
		City, State and Zip Code <u>Longview, WA 98630</u>	Names of Class 1 Waters: _____
		Phone No. <u>(206) 425-1550</u>	
<input type="checkbox"/>	6 Timberowner and Harvest Tax Payer	Name/Title	
		Company Name <u>Longview Fibre Co.</u>	
		Mailing Address - Street <u>P.O. Box 667</u>	
		City, State and Zip Code <u>Longview, WA 98630</u>	
		Phone No. <u>(206) 425-1550</u>	
		Timberowner Employer Identification Number _____ or _____ Social Security Number _____	Other Notes: _____
<input type="checkbox"/>	7 Timber Sale Name and/or No.		
8 WESTERN OREGON PRIVATE LAND ONLY! Is any timber being harvested certified under the Western Oregon Small Tract Optional Tax (WOSTOT) program? None <input type="checkbox"/> Part <input type="checkbox"/> All <input type="checkbox"/>			WOSTOT Certificate Number _____
If you have checked "Part" or "All" please list the number in the "WOSTOT" Certificate Number box.			

SIDE ONE

NOTIFICATION OF OPERATION / APPLICATION FOR PERMITS
STATE OF OREGON
 DEPARTMENT OF FORESTRY
 DEPARTMENT OF REVENUE

1 County (Enter only one): Columbia	Check appropriate boxes (2A, 2B, 2C, or 2D). <input checked="" type="checkbox"/> 2A NOTICE TO THE STATE FORESTER THAT OPERATION WILL BE CONDUCTED ON LANDS DESCRIBED ON REVERSE (ORS 527.670). <input type="checkbox"/> 2B APPLICATION FOR PERMIT TO OPERATE POWER DRIVEN MACHINERY (ORS 477.629). Expires at end of calendar year. <input type="checkbox"/> 2C APPLICATION FOR PERMIT TO CLEAR RIGHTS-OF-WAY (ORS 477.685). <input type="checkbox"/> 2D NOTICE TO THE STATE FORESTER AND THE DEPARTMENT OF REVENUE OF THE INTENT TO HARVEST TIMBER (ORS 321.550). Person to be contacted in case of Fire Emergency (Designated Representative), Phone No. (503) 220-2573 (day) (503) 329-4926 (n12hc)	Notification No. _____ Previous Notification No. _____ FPH Tax Class: _____ Date Received: _____ Time Received: _____ District: _____ Officer: _____ Subscriber: _____ Subscriber: _____ Subscriber: _____ RC: _____ EG: _____ S: _____ Names of Class 1 Waters: _____
CHECK ONE BOX IN THE FAR LEFT COLUMN TO INDICATE WHO FILLED OUT THE APPLICATION.		
4 Operator Information	Name/Title Todd Thomas - Senior Operations Superintendent Company Name Northwest Natural Gas Co. Mailing Address - Street 220 N.W. Second Ave. City, State and Zip Code Portland, OR 97209 Phone No. (503) 220-2573	Subscriber: _____ Subscriber: _____ Subscriber: _____
5 Landowner Information	Company Name Cavenham Forest Industries Mailing Address - Street 62424 N. Nehalem Highway City, State and Zip Code Vernonia, OR 97064 Phone No. (503) 429-6102	Subscriber: _____ Subscriber: _____ Subscriber: _____
6 Timberowner and Harvest Tax Payer	Company Name Cavenham Forest Industries Mailing Address - Street 62424 N. Nehalem Highway City, State and Zip Code Vernonia, OR 97064 Phone No. (503) 429-6102	Subscriber: _____ Subscriber: _____ Subscriber: _____
7 Timber Sale Name and/or No.	Timberowner Employer Identification Number _____ or _____ Social Security Number _____	Other Notices: _____
8 WESTERN OREGON PRIVATE LAND ONLY Is any timber being harvested certified under the Western Oregon Small Tract Optional Tax (WOSTOT) program? None <input type="checkbox"/> Part <input type="checkbox"/> All <input type="checkbox"/>		
WOSTOT Certificate Number _____		Other Notices: _____

SIDE TWO

8. ACTIVITY CODES						10. LOCATION OF OPERATION																11 a.		11 b.		12. WEST. OREGON	13. SITE CONDITIONS			WRITTEN PLANS AND PRIOR APPROVALS:		REGULATED USE AREA
FFP No(s)	Unit Number	Activity Codes	Methods Used	Quantity (by unit) Acres/Feet	Approx. MBF (by unit) Removed	LEGAL DESCRIPTIONS																STARTING DATE	ENDING DATE	SEVERANCE TAX UNIT NUMBER	D100, D1, D2, D3 T1, T2, T3 S1, S2, S3 DWS, WG, SW	SEE CODES.	SEE CODES.					
						N E				N W				S W				S E										S E C	T W P	R G E		
						ne	nw	sw	se	ne	nw	sw	se	ne	nw	sw	se	ne	nw	sw	se											
	1	3	Dozer, backhoe	.5A																		X	3	6N	5W	9/15/90	9/30/90		D3, T1, S2			
	2	3	Dozer, backhoe	.5A																			11	6N	5W	10/1/90	10/30/90		D3, T1, S2			

14. FILL IN GOVERNMENT LOT NUMBERS BELOW.						S E C			T W P			R G E			ACTIVITY		WEST. OR.	SITE CONDITIONS			WRITTEN PLANS AND PRIOR APPROVALS:		REGULATED USE AREA								
FFP No(s)	Unit Number	Activity Codes	Methods Used	Quantity (by unit) Acres/Feet	Approx. MBF (by unit) Removed	Complete For Areas Outside of Regular Sections.																ACTIVITY STARTING DATE	ACTIVITY ESTIMATED ENDING DATE	SEVERANCE TAX UNIT NUMBER	D100, D1, D2, D3 T1, T2, T3, S1, S2 S3, DWS, WG, SW	SEE CODES.	SEE CODES.				

15. If the applicant wants a waiver of the 15 day waiting period, check the box.

16 a. Print name of applicant here: Todd A. Thomas

16 b. Date application was signed: 8/3/90

15 day waiting period waived by: _____ Date: _____

17. I (applicant) certify that all information I have provided is true and correct. (Signature) Todd A. Thomas

EXHIBIT B Page 49-1

CONTOUR INTERVAL = 30

