

May 3, 2004

Mr. Matt Rader
Natural Resource Manager
Dept. of Natural Resources
550 W. 7th Avenue, Suite 800
Anchorage, Alaska, 99501

Re: Geophysical Exploration Permit:

MLUP/AK-04-05

Dear Mr. Rader:

On behalf of Andex Resources, L.L.C. PGS is submitting this permit application for a seismic program in the Nenana Basin, near Nenana, Alaska. The time frame for the proposed study will be from December 1, 2004, thru April 30, 2005.

The program will consist of approximately 200 miles of 2D seismic. (See attached map).

Recording Parameters;

110 geophone intervals
220 foot vibroseis point intervals
110 foot tail spreads

Operating Overview:

As the program area is mostly forested with spruce and/or alder, the program will have to be cleared. Mulchers will be used to clear a 14 foot wide trail for program and access. An additional D7 caterpillar will be deployed to drag and smooth out the mulched trail for use by four wheel drive trucks. A temporary seismic camp will be set up in the center of the program and will be supplied from Nenana.

Personnel:

1 - Party Manger
1 - Crew administrator
1 - HSE Coordinator
2 - Observers
2 - Surveyors

- 2 – Survey helpers
- 4 – Vibrator operators
- 1 – Vibrator technician
- 4 - Drivers
- 12 – Helpers.

Equipment:

400 groups of recording equipment, complete with recorder mounted on a four wheel drive truck, and all ancillary equipment.

4 – Track mounted Vibrators

2 – Tucker Snow-Cats

4 – ATV's

6 to 8 – Four wheel drive pick-ups

Enclosed:

4 – 1:250,000 Topo Map with Program (Public)

4 – 1:63,360 Topo Maps (Confidential)

1 – Geophysical Exploration Permit Application

1 – Hold Harmless and Indemnity Agreement

1 – Check in the amount of \$250.00

Thank you for your attention to this application. If you have any questions please contact me.

Sincerely,

Larry Watt
Area Manager - Alaska

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
GEOPHYSICAL EXPLORATION PERMIT

Applicant/Permittee: PGS Onshore, Inc
341 West Tudor Road, Suite 206
Anchorage, AK. 99503

Phone: 907 569 4049
Fax: 907 569 4047

Contractor: _____

Phone: _____
Fax: _____

Contact: Larry Watt
Address: 341 West Tudor Road, Suite 206
_____ Anchorage, AK. 99503

Title: Area Manager-Alaska
Phone: 907 569 4049
Fax: 907 569 4049

General Location: Nenana Basin

Period Requested: From: Dec. 1, 2004 To: April 30, 2005

Geophysical Technique: Seismic (complete below) Other (attached description)

A) Marine: Vessel Name: _____
Registered Owner: _____
Official Number: _____
Radio Call Number: _____

Airguns: Total cubic inches (ci) in array: _____
Maximum Operating Pressure: _____
Minimum Water Depth: _____
Streamer Length: _____

Other Energy Source: _____ (attach description)

B) Uplands: Vibroseis: Track Mounted Wheel Mounted
_____ Shallow Hole: Hole Depths _____
_____ Surface Shot: Charge Heights _____
Explosives: Type: _____
Lbs/Shot/Hole: _____ Distance Between Charges _____
Number of Helicopters _____ Fixed Wing Aircraft _____

C) Number of line miles (2D) 200 and/or square miles (3D) to be acquired: _____

D) Line Location Map: The applicant is required to submit a map(s) showing the exact location of all proposed seismic lines. The applicant may request that this map be maintained confidential as provided in AS 38.05.035(a) (9). Do you request confidentiality? Yes No _____

Housing for Project Personnel:

A) Housing type: _____ Existing Facilities _____
 Temporary Camp, please describe Mobile Seismic Camp _____

- B) Number of Personnel: 35
- C) Drinking Water Supply: Bottled Water
- D) Disposal of Solid Wastes: Incinerated or removed to waste site at Nenana
- E) Disposal of Liquid Wastes: Treated and dispersed to the ground.

Fuel Storage:

- A) Type of Fuel: Diesel Fuel Amount Stored: 5000 gallons
- C) Method of Storage/Containment: In mobile fuel storage tanks with 110% containment.
- D) Location of Stored Fuel: Near Base Camp

Surface Travel:

- A) The applicant must provide a list of all surface contact vehicles to be used.
- B) Will use of this equipment require clearing of vegetation? X, if yes, describe method and amount of clearing required. A 14 foot wide trail will be prepared with the use of "Mulchers"
- C) Will river crossing be required? Yes, Major drainages: Nenana, Teklanika, Tanana West Middle, and East Middle Rivers.

Indemnity: Amount: \$100,000.00 Bond ID Number #RLB005129
 Bonding Company: RLI Insurance Company Type: X Statewide Bond
 Address: _____ _____ Single Program

The applicant agrees that operations shall be conducted in conformance with applicable Federal, State and local laws and regulations now, or hereafter, in effect during the life the permit. The applicant agrees that operations shall be conducted in strict compliance with the provisions of the Alaska Miscellaneous Land Use Regulations, and permit stipulations.

The applicant certifies that he has read and is familiar with the Alaska Miscellaneous Land Use Regulations.

Signature: _____ Date _____
 Print Name: _____
 Title _____

DO NOT WRITE BELOW THIS LINE

LAND USE PERMIT

The DIVISION OF OIL AND GAS grants to _____ the right to use State of Alaska lands, as described in this application, subject to 11 AAC 96.0 10 thru 96.250, Miscellaneous Land Use Regulations, and the attached stipulations.

Effective dates for permit: _____ to _____

STATE OF ALASKA

BY: _____ Date _____
 TITLE: _____

ATTACHMENT “A”

OPERATING PLAN

NENANA BASIN SEISMIC SURVEY

MOBILIZATION:

As soon as operating conditions permit in early January, with sufficient frost and ice thickness, survey and line clearance will commence. The advance and line clearance crew will be based in Nenana until a portable camp can be assembled and situated in the center of the prospect.

When sufficient line clearance has been prepared a temporary portable seismic camp will be set up and the remainder of the crew will be mobilized. This camp will meet all State and Federal specifications, and will include portable fuel storage units that will have 110% self containment to protect the environment from unlikely occurring fuel spills.

LINE CLEARANCE:

Programmed seismic lines will be cleared with use of “mulchers” (see attached photos) which will clear a trail without disturbing the top mat of the soil of sufficient width to allow the passage of the vibroseis energy source units without disturbing the deployed recording cables and geophones. This trail will be approximately 14 feet in width. The “mulcher” is mounted on a low pressure vehicle exerting only 3 to 4 PSI. Using this machine will minimize environmental impact, reducing all trees to a minimum allowing rapid reforestation if trails are not used by the local population.

In addition to the aforementioned line clearance procedures, a 50 foot buffer will be maintained from all streams and navigable rivers. At approximately 50 feet from the banks the line clearing equipment will deviate from a straight line at approximately 45 degrees to not allow sight access to anyone who may be traveling on the streams or rivers.

LOCAL CONTACT:

PGS Onshore, Inc. has a policy in place to hire local people to support this temporary project and use as many local services as possible. A list of all positions to be filled will be supplied to the local population prior to start up and our procurement staff will afford local business' the first opportunity to supply operating supplies and services that will be required for this project.

During the permit process a public meeting will be held in Nenana for a presentation of the proposed program to the local population, at which time any interests or concerns of the people can be addressed.

