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DAWN MINING COMPANY  
PO BOX 25  
FORD WASHINGTON 99013

April 28, 1981

Mr. D. Gillen  
Nuclear Regulatory Commission  
7915 Eastern Ave  
Silver Springs, MA 209



Dear Mr. Gillen:

Persuant to your telephone conversation enclosed you will find a copy of the Hovater-Way Engineers, Inc. Quality Control Proposal. Mr. Ambrose McCready is the Field Technical Assistant at the job site. Turning to the question of the "Temperature Window", Gundie Plastics has successfully installed HDPE linings in temperatures from 4°C (39°F) to 49°C (120°F). No temperature windows have been specified previously due to the seaming method used. The liner is preheated and the extrudate weld is placed at a temperature of 220°C (428°F) to 280°C (536°F) thus nullifying the problems encountered with other liner materials i.e. solvent action, etc. In spite of the above, the liner contractor has committed himself to a 39°F to 120°F temperature window, and Dawn will monitor compliance during the job.

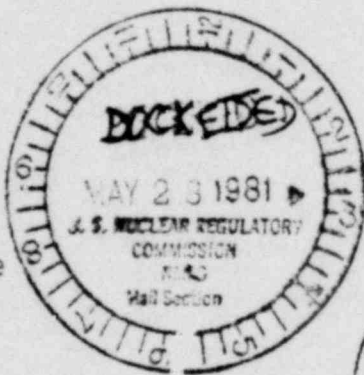
If this is not satisfactory, please let me know soon. Liner placement began today.

Yours truly,

DAWN MINING COMPANY

*Jack E. Thompson*  
Jack E. Thompson  
Resident Manager

JET:jc  
cc: File



**FEE EXEMPT**

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Add'l info



**HOVATER-WAY**  
ENGINEERS, INC.

Consulting Engineers

23011 Moulton Parkway, Suite F-5  
Laguna Hills, CA 92653, 714 830-4050

PROPOSAL  
FOR  
CONSULTING SERVICES  
QUALITY CONTROL OF LINING INSTALLATION  
TAILINGS DISPOSAL PROJECT

DAWN MINING COMPANY

Ford, Washington

Prepared By:

HOVATER-WAY ENGINEERS, INC.  
23011 Moulton Parkway, Ste F-5  
Laguna Hills, CA 92653  
(714) 830-4050

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**HOVATER-WAY**  
ENGINEERS, INC.

Consulting Engineers

23011 Moulton Parkway, Suite F-5  
Laguna Hills, CA 92653, 714 830-4050

January 13, 1981

Mr. J. E. Thompson, Resident Manager  
Dawn Mining Company  
P.O. Box 25  
Ford, Washington 99013

Dear Mr. Thompson:

We are pleased to submit the attached proposal relative to the furnishing Consulting Engineering and Technical Assistance-Field services during installation of a membrane lining in a tailings pond proposed for construction at your Ford, Washington facility. This proposal is based upon information presently available to us and relates to a Quality Control (QC) Program. If a different program is desired, such as Quality Assurance (QA), we will be pleased to submit our proposal for such a program also. As you know, it is our desire to be of assistance on the project.

We will look forward to hearing from you soon.

Sincerely yours,

HOVATER-WAY ENGINEERS, INC.

*Louis R. Hovater*  
Louis R. Hovater  
President

LRH:lrb

Attachment

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PROPOSAL  
FOR  
CONSULTING SERVICES

QUALITY CONTROL OF LINING INSTALLATION  
TAILINGS DISPOSAL PROJECT

DAWN MINING COMPANY  
Ford, Washington

I. DESCRIPTION OF PROPOSAL

A. General. This proposal describes the Consulting Engineering and Technical Field services for the Quality Control of an HDPE Alloy Lining installation at the Dawn Mining Company Tailings Disposal Project at Ford, Washington.

The lining will cover a surface area of 1,150,800 square feet of a new Tailings Disposal Pond. The installation of the lining will be in accordance with Dawn Mining Company "Standard Specifications for HDPE Alloy Liner Material," dated 12/29/80 and Drawing No. 7914-13-004.

II. PROPOSED CONSULTING SERVICES

A. General. Hovater-Way Engineers, Inc. (HWEI) proposes to assign a qualified Field Technical Assistant (TA) on a full time



basis for the duration of the lining installation. Our past experience in quality control of large area lining installations has shown that best results are obtained with full time field assistance. In addition to the tasks outlined below, if desired, the Field Technical Assistant will train additional personnel of the Dawn Mining Company to assist in performing Quality Control activities as required.

1. Inspection. The Technical Assistant will observe the Lining Contractor's installation procedures including materials handling, subgrade preparation, field seaming procedures, repairs to the lining and placement of sand cover. He will record any defects or problems in the quality of the Contractor's workmanship. The Owner's representative will be advised of such problems so that corrective action may be taken in a timely manner.

2. Coordination of Testing. The Technical Assistant will obtain from the Contractor lining samples of seams for test purposes. Samples will be made using the same lining materials, seaming equipment, and procedures used to construct the field seams. These samples will be made at the start and end of each field seam without disturbing the completed lining and will not be taken from the installed lining. This method of non-destructive testing has worked well on previous projects and is highly recommended for this work.

The lining samples will be sent to an independent material testing laboratory for strength tests as required by the Specifications.



The test results will be reviewed and evaluated by the Technical Assistant and/or office engineering personnel. Corrective action will be recommended for seams where samples do not meet strength requirements.

3. Documentation. The installation will be documented by the Technical Assistant on a daily basis. Inspections, problems, repairs, weather, work conditions, lining samples and test results will be included. A copy of each daily report will be made available to the Owner's representative as requested.

C. Office Engineering. It will be necessary for HWEI office personnel to communicate with the Field Technical Assistant and provide assistance in documentation of the Quality Control work. The degree of participation by the office staff will depend on documentation requested by the Owner.

D. Lining Material Testing. It is recommended that an independent material testing laboratory in the local area (Washington State) be contracted to perform tests on the samples of the lining. The identification of samples and coordination of testing will be handled by the Field Technical Assistant.

E. Final Quality Control Report. A final report summarizing the Quality Control activities and material test results for the lining installation is recommended. This document will serve as a complete record of the installation and will include an As-Built



Drawing showing the layout of lining sheets and locations of test samples. This report is optional to the Owner.

### III. CONSULTING SERVICES FEE

#### A. Fee.

1. Field Technical Assistance. HWEI will provide a Field Technical Assistant for the duration of the lining installation on a TIME AND MATERIAL BASIS in accordance with the attached SCHEDULE OF FEES AND CONDITIONS OF AGREEMENT dated January 1, 1981, except that the hourly rate for the Technical Assistant-Field shall be \$37.50 per hour. Because the length of construction may vary considerably, the total cost for this work cannot be determined at this time.

2. Office Engineering. HWEI will provide office staff in support of the Field Technical Assistant on a TIME AND MATERIAL BASIS in accordance with the attached SCHEDULE OF FEES AND CONDITIONS OF AGREEMENT dated January 1, 1981. It is anticipated that this work will be performed mostly by Design Engineer, Assistant Engineer and Secretarial personnel. Because the degree of documentation required by the Owner is not clearly defined and the length of construction is unknown, the total cost for this phase of the work cannot be determined at this time.

3. Lining Material Testing. HWEI will contract with a material testing laboratory located in the local area in Washington





State to test samples from the lining. The fee for material testing will be the cost of laboratory services plus 10% for handling by HWEI. It is estimated that 5 seam specimens will be tested per acre. If desired, the Owner may choose to be billed directly for laboratory testing services.

4. Final Quality Control Report. If desired by the Owner, HWEI will produce a written Quality Control Report for the lining installation. The fee for the report will be on a TIME AND MATERIAL BASIS in accordance with the attached SCHEDULE OF FEES AND CONDITIONS OF AGREEMENT dated January 1, 1981

B. Payment for Services. The proposed method of payment for services performed by HWEI is by the hours expended monthly for the duration of the lining installation. Payment due for services will be reported on monthly invoices showing hours worked and classification of personnel. Other costs such as laboratory testing will be added to the invoice, if applicable.

IV. ATTACHMENTS

- A. HWEI Schedule of Fees and Conditions of Agreement
- B. HWEI Brochure





**HOVATER-WAY**  
ENGINEERS, INC.

Consulting Engineers

23011 Moulton Parkway, Suite F-5  
Laguna Hills, CA 92653, 714 830-4050

LIQUID CONTAINMENT PROJECTS

SCHEDULE OF FEES AND CONDITIONS OF AGREEMENT

January 1, 1981

<u>PERSONNEL</u>	<u>HOURLY RATE</u>
Principal Engineer	\$78.00
Design Engineer	54.00
Assistant Engineer	40.00
Draftsman	31.00
Secretary	22.00
Technical Assistant - Field	<del>44.00</del> \$37.50

Note: Travel time will be charged at the above hourly rates.

MISCELLANEOUS

All charges for miscellaneous outside costs such as travel expenses, telephone, printing, and reproduction and outside services such as surveying and consultants will be invoiced on the basis of cost plus 10%.

This schedule of charges is based on operational costs and is subject to revision as determined by cost fluctuations.